PUBLISHED BY
VOPROSY
EKONOMIKI
N. P.

Russian Journal of Economics 5 (2019) 277–296 DOI 10.32609/j.ruje.5.33497 Publication date: 21 October 2019 Russian
Journal of
Economics

www.rujec.org

# The effects of trust mediator and education level moderator on adoption of Islamic banking system in Tajikistan

Sharofiddin Ashurov\*, Anwar Hasan Abdullah Othman

Institute of Islamic Banking and Finance, International Islamic University Malaysia, Kuala Lumpur, Malaysia

#### Abstract

High levels of trust and education are essential factors in the banking industry, especially for an Islamic banking system that is Shariah-based. Therefore, this paper seeks to measure the impact of trust and educational level on the decision as to whether to adopt Islamic banking in Tajikistan for business activities. The data of the study was developed based on a survey and collected through a distributed questionnaire. A total of 408 respondents were obtained from 14 banks in Tajikistan. The study adopted the Structural Equation Modeling (SEM) approach (using AMOS version 22.00) to examine these relationships. The findings of the study revealed that relative advantage and product knowledge were statistically significant in influencing perceived trust in Islamic banks, while perceived trust in Islamic banks had a directly significant impact on the adoption of the Islamic banking system in Tajikistan. Also it found that perceived trust plays a mediating role between awareness and adoption of the Islamic Banking system. This indicates that banks' customers in Tajikistan have more trust in, and prefer dealing with, a banking system that is Shariah-based in line with their Islamic beliefs. In addition, the findings revealed that educational level plays a significant moderating role between the awareness of Islamic banks and the adoption of the Islamic banking system. The findings of the study therefore may assist policy makers to improve the current banking industry, by focusing on the Islamic banking system that would be able to restore trust and create interest among the Muslim majority population as they believe in the Islamic banking system, which will contribute positively to economic growth.

Keywords: Islamic banking system, mediating and moderators role, trust, education level, SEM, survey data, Tajikistan.

JEL classification: G2, G4.

<sup>\*</sup> Corresponding author, E-mail address: ashurov@iium.edu.my

#### 1. Introduction

Trust in the banking industry is very crucial to sustain customer interaction and maintain a high deposit rate as well as other important banking activities that will ensure banking productivity in any society. The element of trust is a strategic factor in creating a balanced and persistent operation for the banking industry as a whole in any country in the world. However, intermittent international banking turmoil leads banking customers to lose trust and confidence in dealing with the banking industry in general. In this regard, the banking system in Tajikistan is expected to play an important and crucial role in stabilizing economic growth that should stem from strong customer confidence and trust in the banking industry in the country. Despite the fact that the current conventional banking system has been in existence for more than ten decades in Tajikistan, statistical information from a study by Falkingham et al. (2009) and World Bank (2014) showed that less than 4% of the country's population are dealing with this conventional kind of banking system (Wang, 2010). This reluctance to deal with the banking system has led to slow economic growth and low productivity (Estrada et al., 2010). Resistance to dealing with the banking system may be due to several factors such as customer distrust, riba-based system, lack of awareness and knowledge besides the influence of social norms. These are considered the most challenging factors undermining the acceptance of the current banking system. Further, 95% of the population are Muslims, which means that their faith and beliefs do not allow them to deal with the conventional banking system, which is riba (interest)-based and violates Shariah rules. This belief creates the need to develop the Islamic banking system to build trust in such a way that it can be consistent with their Muslim faith and acceptable to the country's Muslim majority (Sharofiddin et al., 2018).

In addition, according to Al-Majali and Mat (2011), the relationship between perceived trust and the Islamic banking system (IBS) has received mixed reactions. Several previous studies such as those by Liao and Cheung (2002), Sohail and Shanmugham (2003), found that the relationship between perceived trust and IBS has a significant effect (see also: Eriksson et al., 2008; Sharofiddin et al., 2018). In this regard, according to Eriksson et al. (2008), social norms in theory provide a guide to understanding human actions for adopting decisions that have important implications for many industries in promotion and dissemination of innovation including banking and other financial systems. However, Rogers (2003) believes that improving social status and economic profitability are viewed as crucial by adopters in relation to advantages such as enjoying low opening cost, offering services, social prestige like greater security and trust, greater convenience and matching customer beliefs, besides economic profitability in the form of fast growth. All these are considered as relative advantages (Gerrard and Cunningham, 2003). Awareness is also a critical factor, which can guarantee that depositors are adequately informed about principles of an innovation, particularly in the early stages (Rammal and Zurbruegg, 2007). Creating awareness among the public should therefore be a regulatory duty.

There are several studies that have been conducted regarding the introduction of Islamic banking (IB) in various minority and majority Muslim countries. However, each of the studies has raised the prospects of diffusion of an Islamic

bank through the selection criteria such as fast and efficient customer services, reputation, and confidentiality (Erol and El-Bdour, 1989; Erol et al., 1990). Some other researchers have discussed the diffusion of IB through factors that affect significantly the adoption of IB such as greater religiosity, improved product quality, and quality management, among others (Zainol et al., 2008; Haque et al., 2009; Naser et al., 1999). In line with previous studies, this study aims to analyze trust as a mediating factor between awareness, product knowledge, relative advantage, social norms and adoption of IB with the impact of education as a demographic variable. Nevertheless, to the best of our knowledge, there has been a lack of empirical studies carried out to date to study trust as a mediator and level of education as a moderating effect in the diffusion of IBS in Tajikistan, a gap in the literature which this research hopes to bridge (Gresh and Nakhlah 2007; Sharofiddin et al., 2018). Last but not least, it suggests that a higher level of education is as important an element as that of religion; this is easing the perception of the Shariah requirements (Abdullah et al., 2012).

Hence this study aims to address the following research questions:

- 1. Do awareness, product knowledge, relative advantage, and social norms directly influence the adoption of IB in Tajikistan?
- 2. Do awareness, product knowledge, relative advantage, and social norms directly influence perceived trust in IB in Tajikistan?
- 3. Does perceived trust play a mediating role between awareness, product knowledge, relative advantage and social norms and adoption of IB in Tajikistan?
- 4. Does educational level play a significant role as a mediator between awareness, and adoption of IB in Tajikistan?

# 2. Structure of the paper

This paper first reviews the main literature related to the topic to determine the knowledge gap and originality of the study. Next, the paper highlights the methodology followed in the study which is quantitative in nature with regard to the data and other relevant mechanisms in the methodology section. This is followed by the results and discussion section which presents the details and steps of the methodology of the study and objectives behind the use of each of its analytic elements. Lastly, the conclusion of the study is drawn and presented.

#### 3. Literature review

This research adopted the popular theory of Rogers to study the respondents' prospects of introducing an Islamic bank in Tajikistan that is operated based on Islamic law (Rogers, 2003). Adoption of IB is related to some important factors such as awareness about the system, social norms, having knowledge about products and services, and relative advantage (Rogers, 1983; Sharofiddin et al., 2018). On top of that, trust is deemed to be one of the crucial factors that will influence adoption. For without trust no decision can be made to accept innovation such as the adoption of IB (Joubert and Van Belle, 2013). Several studies in the area of distribution of channel connections define trust as the belief of a company in the honesty of its business partner and other factors relevant to this concept. However, in terms of banking and finance clients must have

enough trust to deposit their savings and feel confident whenever they deal with the banking industry (Ganesan, 1994; Geyskens et al., 1998; Aryee et al., 2002). In this regard the other study used a cross-country analysis on the level and determinants of trust in banks, using World Values Survey data covering 52 countries during the period 2010-2014, which established the existence of widespread differences among countries in terms of their trust in banks and confirms the influence of several sociodemographic indicators. Other factors established that women tend to trust banks more than men; trust in banks tends to increase with income but decrease with age and education (Fungáčová et al., 2016). However, from a review of the literature, it is clear that not many past studies used adoption in SEM and the effect of trust as a mediating factor and demographic influences. However, there are some studies that have used the adoption of IB with the SEM model via mediator factor effect (Coulter and Coulter, 2002; Edwards and Lambert, 2007; Little et al., 2007; Misbach et al., 2013; Pucetaite and Novelskaite, 2014; Jamshidi et al., 2014). Awareness is among the important factors that affect the diffusion decision process directly and indirectly through other mediator variables as well (Popoola, 2013). In this regard, trust has been viewed as a necessary element of interactive behavior and economic transactions and thus its impact on the banking industry is also important. Besides, due to the level of perceived risk in transactions, services and principles, trust has become a vital element of banking acceptance today, depending on the level of awareness of the system (Wang, 2010; Arjoon and Rambocas, 2011).

In this study, *awareness* is defined as general knowledge of IB principles, the effectiveness of the system, and understanding of IB requirements, having awareness about the concept of IB as an innovation and overall awareness about the IBS operations. Hence, in this study we investigate the level of awareness with regard to the IBS, principles, Shariah compliance, operation and success of the system in the global context.

As for details about IB practices, there are five main permissible products in Islamic financing, classified into two main categories. First, an arrangement that involves the bank as a party in the transaction, sharing profit made with the other parties. Second, the bank claims a portion of the profit from the transaction (El-Gamal, 2000). In this regard, the first products category which is profit sharing based is including Musharakah (Partnership), Mduarabah (trust financing), Sukuk (Islamic Bond) and Takaful (Insurance) (Harun et al., 2015). However, this research excludes the last two products Sukuk and Takaful, due to time constraints and limitation of resources. On the other hand, product knowledge has a significant relationship with trust due to the fact that in order to have more trust in IB institutions, there is a need to have sufficient knowledge of the products and services of the system.

Trust has long been accepted as a variable that facilitates many buyer-seller transactions that lead to high consumer expectations for satisfactory exchange relationships. A review of the marketing literature shows that trust is mostly discussed in the context of relationship marketing (Dwyer et al., 1987; Ganesan, 1994; Morgan and Hunt, 1994; Doney and Cannon, 1997; Ganesan and Hess 1997; Sharofiddin et al., 2018). On the other hand, customers realize the relative advantage of the Islamic bank compared to the conventional banks in respect of knowledge of the new system, competence by way of more trusted banking staff,

personal friendliness, and religious customer prospects, security of the system, several products and easy access, as well as social prestige (Tara et al., 2014; Ayinde and Echchabi, 2012).

Furthermore, relative advantage is defined as the degree to which an innovation is perceived as being better than the idea that existed in different aspects such as customers' religion, the system is more secured and trusted, the services offered are more competitive and fast growing with regard to profitability and stability (Rogers, 2003; Thambiah et al., 2011; Sharofiddin et al., 2018). Safety and security are therefore two vital aspects of customer trust that could provide relative advantage towards the adoption decision. With regard to IB, researchers have investigated the factors that impact the adoption of an Islamic credit card as a banking activity, using an ethical Defining Issues Test (DIT) and trust with relative advantage as significant influences on the adoption of a credit card as a banking activity (Lassar et al., 2005). The significant impact of relative advantage on adoption has been mentioned by many researchers in different diffusion aspects (Al-Jabri and Sohail, 2012). In this study, relative advantage is assessed in terms of economic benefit and growth, efficiency in providing service, Shariah compliant activities, trustworthiness and higher security in terms of investment compared to conventional banking. Hence, this present study investigated the economics (services, growth, security) and friendliness (Shariah complaint) and whether there is trust, as in line with previous research.

Social norms are among the vital factors that involve positive influence on the adoption process due to dependence of the adoption decision on the environment of adopters such as close friends, family, colleagues and other related factors such as religious beliefs and cultures. However, social norms have been used for a long time as an important tool to influence the intention to make a decision. Particularly, in the context of IB, the determinants that influence social norms on Internet-banking acceptance among Islamic banking customers are investigated (Amin, 2007). Similarly, social norms, or normative pressures, refer to the person's perception that most people who are important to her or him should, or should not, perform the activities in question (Nysveen et al., 2005). Interestingly, results from the above empirical studies confirm the effect of social influence on adoption of Islamic financial products such as Islamic home financing, Islamic personal financing, Islamic credit cards, Islamic mobile phone banking and Internet banking with an Islamic bank (Amin, 2007; Alam et al., 2012; Sun et al., 2012; Ismail et al., 2014; Jamshidi et al., 2014; Abd. Aziz et al., 2015).

Therefore, "trust" is one of the beneficial variables in studies on IB adoption and this is still the case at present. However, this current study uses "trust" as a mediator variable between dependent variable and independent variables with the effect of demographic variables. This is because there is empirical evidence linking trust in society to other components such as commitment, the intention to adopt innovation and accept other relevant systems (Aryee et al., 2012). Similarly, this study, in line with past studies, uses trust as a mediating factor, and found the mediating impact on adoption and using SEM approach (Zak and Knack, 2001; Misbach et al., 2013). Likewise, trust has considerable effect on the decision to use Islamic banking services (World

Bank, 2014). In fact, trust has been determined as a widely accepted predictor of adoption in various studies and scholars have consistently stated that trust influences positively the adoption of various types of innovation, products and services (Gefen, 2000; Suh and Han, 2002; Sohail and Shanmugham, 2003; Gholami et al., 2012; Jamshidi and Hussin, 2013).

# 4. Data and methodology

This research applied the quantitative approach by developing an administered questionnaire adopted from previous studies. For example, variables of relative advantage, awareness and banks adoption were adopted from Thambiah et al. (2011) and Ayinde and Echchabi (2012). While product knowledge variable was adopted from Khattak and Kashif-Ur-Rehman (2010) and Naser et al. (1999). The variable of social norms was adopted from Aryee et al. (2002) and Ayinde and Echchabi (2012). And the variable of trust was adopted from Mcknight and Chervany (2002) and Mukherjee and Nath (2003). Copies of the questionnaire were sent to 500 respondents covering 14 banks in three major cities: Dushanbe, Khujand, and Qurghonteppa. Of the 500 respondents, 408 responses were utilized for this analysis. The study applied SEM to investigate the relationships and primers tests were conducted in this study including descriptive statistics, normality, multicollinearity, and linearity and correlation matrix. The data were analyzed using the packages AMOS and SPSS version 22.

#### 5. Results and discussion

The section covers the findings of the data analysis including descriptive statistics and normality of the data. The descriptive statistics analysis is important to describe the basic features of the data in a study. Descriptive statistics are broken down into measures of central tendency and measures of variability and spread. Measures of central tendency include the mean, median, and mode, while measures of variability include the standard deviation, variance, the minimum and maximum variables, and the kurtosis and skewness which is done in this study to confirm normality of the data. Following that, the study analyzes the correlation matrix which is crucial to test for linearity and homoscedasticity between the variables and to test the absence of any multicollinearity among the independent variables used. The data analysis begins with reliability analysis to check consistency among the items and provides information about the relationships between individual items in the scale using Cronbach's alpha tests to see if multiple-question Likert scale surveys are reliable. Then it is followed by exploratory factor analysis (EFA) which is crucial in quantitative study to identify the relationship between the manifest variables indicators in building a construct to determine whether it is acceptable to proceed for model analysis. Subsequently, Confirmatory Factor Analysis (CFA) for all variables is carried out to test whether the data fit the model established previously. Lastly, hypotheses testing results are carried out using the SEM model.

#### 5.1. Respondents' demographic profile

In the descriptive analysis, male respondents comprised 65.0% while females made up 35.0%. The age groups were: below 20 years (9.8%), 21–30 years (42.2%), 31–40 years (28.2%), 41–50 years (10.8%) and above 51 years (9%). In this survey, 30.4% held a certificate/diploma, 20.6% had professional qualifications, 20 % had bachelor degree, 19.4% master degree, and 9.6% were PhD holders. Table 1 indicates that 49.8% of the respondents were married whereas 41.4% and 8.8% were single and others respectively. Regarding the type of employment, 16.2% of the respondents were from the public sector, 28.2% were from the private sector, 33.4% were self-employed, and 22.2% were students. In the survey questionnaire, respondents were asked: "What type of banking service are you currently using?". It was found that 31.1% of the respondents indicated that they were using public bank services such as deposit and withdrawal transactions, while 37.5% of the respondents admitted using private banking services in relation to the company's transactions. However, 27.9% and 3.4% of the respondents did not use any public or private banking service such as consultancy services and used other types of banking services respectively such as money exchange and money transmission. The respondents were also asked about their banking account and on the basis of their responses it was found that 24.0% of the respondents were using a current account, whereas 39.2%, 34.1% and 2.6% were using savings accounts, transfer accounts, and other banking accounts respectively.

 Table 1

 Demographic profile of the respondents.

| B : ::             | Т.        | 0/   | <del></del>           | Т.        | 0/   |
|--------------------|-----------|------|-----------------------|-----------|------|
| Description        | Frequency | %    | Description           | Frequency | %    |
| Gender             |           |      | Higher Education      |           |      |
| Male               | 265       | 65.0 | Certificate / Diploma | 124       | 30.4 |
| Female             | 143       | 35.0 | Professional          | 84        | 20.6 |
|                    |           |      | Bachelor              | 82        | 20.0 |
| Age Group          |           |      | Master                | 79        | 19.4 |
| Below 20 years     | 40        | 9.8  | PhD                   | 39        | 9.6  |
| 21-30 years        | 172       | 42.2 | Marital status        |           |      |
| 31–40 years        | 115       | 28.2 | Married               | 203       | 49.8 |
| 41-50 years        | 44        | 10.8 | Single                | 169       | 41.4 |
| Above 51 years     | 37        | 9.0  | Others                | 36        | 8.8  |
| Type of employment |           |      | Banking Account       |           |      |
| Public sector      | 68        | 16.2 | Current account       | 98        | 24.0 |
| Private sector     | 115       | 28.2 | Savings account       | 160       | 39.2 |
| Self-employed      | 135       | 33.4 | Transferring account  | 139       | 34.1 |
| Students           | 90        | 22.2 | Others                | 11        | 2.6  |
| Banking Service    |           |      |                       |           |      |
| Public bank        | 127       | 31.1 |                       |           |      |
| Private bank       | 153       | 37.5 |                       |           |      |

27.9

3.4

114

Source: Authors' survey data.

None

Others

# 5.2. Normality test

Skewness demonstrates the deviation of the data from the mean while kurtosis reflects the relative peakedness of the distribution. For a normal distribution, the skewness value must be within  $\pm 3.00$  standard error of skewness and within  $\pm 5.00$  standard error of kurtosis (Hair et al., 2015). Statistics for skewness for awareness of IB was -1.554 while kurtosis was 2.987. Product knowledge had statistics for skewness of -1.795 and kurtosis was 2.987. Relative advantage showed statistics for skewness of -1.579 and kurtosis was 3.562. Next, social norms variable had statistics for skewness of -1.445 and kurtosis was 1.980. Perceived trust in IB had statistics of -1.803 and kurtosis was 3.555. Finally, adoption of IBS had statistics for skewness of -1.583 and kurtosis was 4.315. Therefore, based on the result mentioned here the data in this research was disturbed normally. Table 2 provides the skewness and kurtosis data for all variables.

#### 5.3. Correlation matrix result

The overall results in Table 3 indicate that there is satisfactory degree of relationship between all the exploratory variables in the model. In particular, it was noted that awareness of IB had a moderate relationship with product knowledge (p=0.463), relative advantage (p=0.566), social norm (p=0.531), perceived trust in IB (p=0.461) and adoption of IBS (p=0.634). Product knowledge had a moderate relationship with relative advantage (p=0.497), social norm (p=0.533) and perceived trust in IB but low relationship with adoption of IBS (p=0.321). Relative advantage had a moderate relationship with social norm

 Table 2

 Testing for normality using skewness and kurtosis.

| Variables             | Skewness  |            | Kurtosis  |            |  |
|-----------------------|-----------|------------|-----------|------------|--|
|                       | Statistic | Std. error | Statistic | Std. error |  |
| Awareness of IB       | -1.554    | 0.121      | 2.987     | 0.241      |  |
| Product knowledge     | -1.795    | 0.121      | 3.114     | 0.241      |  |
| Relative advantage    | -1.579    | 0.121      | 3.562     | 0.241      |  |
| Social norms          | -1.445    | 0.121      | 1.980     | 0.241      |  |
| Perceived trust in IB | -1.803    | 0.121      | 3.555     | 0.241      |  |
| Adoption of IBS       | -1.583    | 0.121      | 4.315     | 0.241      |  |

Source: Authors' calculations.

 Table 3

 Correlation matrix result among the variables.

| Variables             | Awareness<br>of IB | Product<br>knowledge | Relative<br>advantage | Social<br>norms | Perceived<br>trust in IB | Adoption of IBS |
|-----------------------|--------------------|----------------------|-----------------------|-----------------|--------------------------|-----------------|
| Awareness of IB       | 1.000              |                      |                       |                 |                          |                 |
| Product knowledge     | 0.463              | 1.000                |                       |                 |                          |                 |
| Relative advantage    | 0.566              | 0.497                | 1.000                 |                 |                          |                 |
| Social norms          | 0.531              | 0.533                | 0.585                 | 1.000           |                          |                 |
| Perceived trust in IB | 0.461              | 0.600                | 0.603                 | 0.522           | 1.000                    |                 |
| Adoption of IBS       | 0.634              | 0.321                | 0.539                 | 0.486           | 0.393                    | 1.000           |

(p = 0.585), perceived trust in IB (p = 0.603) and adoption of IBS (p = 0.539). Similarly, social norms had a moderate relationship with perceived trust in IB (p = 0.522) and adoption of IBS (p = 0.393). Finally, perceived trust in IB had a moderate relationship with adoption of IBS (p = 0.393). Table 3 shows the correlation analysis.

Even though all six variables have a significant correlation with one another, the correlations are low to moderate in strength. Therefore, the assumption can be made that linearity and homoscedasticity between the variables are attained (as variables are not highly correlated). This correlation matrix result also indicates the absence of any multicollnearity among the independent variables. The rule of thumb in judging the presence of multicollinearity is if variance inflation factors (VIFs) exceed 10 or if tolerance values are below 1. The results of this study indicated that the highest VIF was 1.803 which is less than rule of thumb value of 10 and the lowest tolerance value was 0.555 which is less than required value of 1. The multicollinearity test result is presented in Table 4.

#### 5.4. Reliability analysis

Reliability is an assessment of the degree of consistency between multiple measurements of variables (Hair et al., 2015; Zolkeplee et al., 2018). In this study, Cronbach's alpha was utilized to test internal consistency of 32 items for six dimensions. Cronbach's alpha score ranged from 0 to 1, with values close to 1 suggesting high consistency (Hair et al., 2015). Table 5 demonstrates the Cronbach's alpha for six factors of adoption of Islamic banking in Tajikistan. The alpha values ranged from 0.680 to 0.793, exceeding the minimum criterion of 0.60 Cronbach's alpha which represents the rule of thumb for a reliability test according to Byrne (2010).

**Table 4** Multicollinearity test results.

| Variables             | Collinearity statistics |       |  |  |  |
|-----------------------|-------------------------|-------|--|--|--|
|                       | Tolerance               | VIF   |  |  |  |
| Awareness of IB       | 0.621                   | 1.610 |  |  |  |
| Product knowledge     | 0.573                   | 1.746 |  |  |  |
| Relative advantage    | 0.567                   | 1.763 |  |  |  |
| Social norms          | 0.555                   | 1.803 |  |  |  |
| Perceived trust in IB | 0.564                   | 1.773 |  |  |  |

Source: Authors' calculations.

**Table 5** Reliability test results.

| Variables             | No. of item | Cronbach's Alpha |  |
|-----------------------|-------------|------------------|--|
| Awareness of IB       | 6           | 0.784            |  |
| Product knowledge     | 5           | 0.744            |  |
| Relative advantage    | 5           | 0.680            |  |
| Social norms          | 5           | 0.689            |  |
| Perceived trust in IB | 6           | 0.793            |  |
| Adoption of IBS       | 5           | 0.729            |  |

#### 5.5. Exploratory factor analysis (EFA)

Exploratory Factor Analysis (EFA) is an important process to cut down large numbers of instruments into sets of factors based on their strong correlations (Hair et al., 2010; Kline, 2011; Byrne, 2012). In the present study, 408 usable responses were utilized to conduct the analyses. EFA is using the principal component extraction method with direct varimax rotation employed on all the items of the questionnaire to determine the possible underlying factors. It is also important to note that prior to running the EFA, data were screened by examining the descriptive statistics on each item, correlations among variables, and necessary statistical assumption (Hair et al., 2010; Xiong et al., 2015). Hence, in this study, the minimum Kaiser-Meyer-Olkin (KMO) value was 0.916 for the factor of relative advantage, indicating that the present data are suitable for principal component analysis (Table 6). When results of both these tests (KMO and Bartlett's Test of Sphericity) are significant and it is referring to the sample adequacy for the study factor analysis (Hair et al., 2010; Hair et al., 2015), factor loading with a value above 0.4 can be regarded as important, while those above 0.5 are considered significant (Sharma et al., 2005). Based on the EFA, the minimum factor loading was 0.581, which meets the requirement. The overall results of EFA indicate that 6 factors are restricted and will use for further analysis. The summary results of EFA are reported in Appendix A1.

# 5.6. Confirmatory factor analysis (CFA)

The reason for a measuring model is its suitability as measurement instrument of the perceived indicators that represent a latent variable according to Kline (2011). The adequacy of a measurement model is determined by CFA; and in doing so, four fit indices are checked to confirm the fitting of the model with the data: chi-square statistic, normed chi-square, root mean square approximation (RMSEA) and comparative fit index (CFI). For model fit adequacy, general guidelines indicate cut-off values for such indices: Normed Chi-Square and RMSEA should be less than 5 and 0.088 respectively, while CFI values should exceed 0.9 (Hair et al., 2010; Byrne, 2010, 2012). Fig. 1 shows the CFAs results for the six constructs, namely awareness of IB, product knowledge, relative advantage, social norms, perceived trust in IB and adoption of the IBS, which are undertaken in this study. Also in this study, to improve the goodness-of-fit for the model the study excluded factors with factor loading of less than 0.53 such as a RA2 with 0.14 value, RA5 with 0.26 value, PKN3 with 0.45 value, TR1 with 0.51 value and SN2 with 0.53 value.

Table 6
KMO and Bartlett's test results.

| Kaiser-Meyer-Olkin Measure of Sampling Adequac | у                                | 0.916                    |
|--|----------------------------------|--------------------------|
| Bartlett's Test of Sphericity                  | Approx. Chi-Square<br>Df<br>Sig. | 4316.843<br>496<br>0.000 |

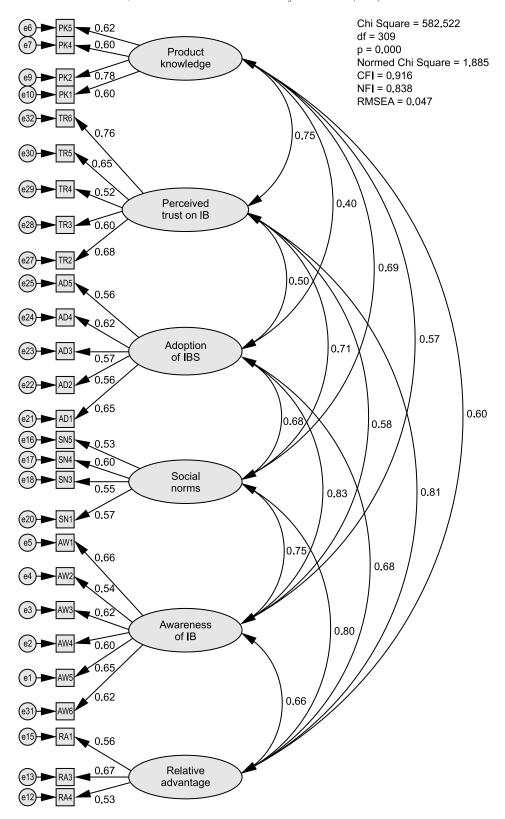


Fig. 1. Measurement model analysis.

Therefore, after dropping the above-mentioned values, the measurement of the structural model exhibited strong satisfactory goodness-of-fit with relative chi-square value CMIN/df of 1.885, CFI of 0.916, NFI of 0.838, RMSEA of 0.047 (see Fig. 1). The full structural model summary indicated the existence of absolute fit.

#### 5.7. Construct validity test

While determining the validity or non-validity of the measurement model steps should be taken to establish that the model passes the convergent and discriminant validity tests (Byrne, 2010). The result of validity test including Convergent validity, Average Variance Extracted (AVE), and Discriminant Validity (correlation) test which are shown in Table 7: the results indicate that the convergent validity is established since the value of convergent validity test (0.730) is higher than the values of AVE test which are more than 0.50. The discriminant validity is also established in all factors being studied as all AVE values are higher than correlations (Hair et al., 2015; Zolkeplee et al., 2018).

### 5.8. Analysis of the baseline structural model

Fig. 2 shows the Full Baseline model analysis results which are summarized in Table 8. It is observed that there are only three significant relationships that exist in the structural model such as the relationship between awareness of an Islamic bank and adoption of the IBS ( $\beta = 0.571$ , p-value = 0.000), relationship between product knowledge and perceived trust in Islamic bank ( $\beta = 0.515$ , p-value = 0.002), and relationship of relative advantage and perceived trust in Islamic bank ( $\beta = 1.024$ , p-value = 0.017). Moreover, the  $R^2$  for perceived trust was 81.4, indicating that all the variables under study contributed about 81% of the variance explained in perceived trust. On the other hand,  $R^2$  for adoption of IBS was 77.9%, indicating that all the variables under study contributed about 80% of the variance explained in the adoption of the IBS. Overall, it can

**Table 7**Result of convergent and discriminant validity test.

|                            | CR   | AVE  | MSV  | ASV  | AD   | AW   | PKN  | SN   | RA   | TR   |
|----------------------------|------|------|------|------|------|------|------|------|------|------|
| Adoption of IBS (AD)       | 0.73 | 0.55 | 0.49 | 0.31 | 0.89 |      |      |      |      |      |
| Awareness of IB (AW)       | 0.79 | 0.58 | 0.49 | 0.37 | 0.83 | 0.80 |      |      |      |      |
| Product knowledge (PKN)    | 0.75 | 0.53 | 0.46 | 0.38 | 0.5  | 0.57 | 0.76 |      |      |      |
| Social norms<br>(SN)       | 0.75 | 0.52 | 0.43 | 0.35 | 0.68 | 0.75 | 0.69 | 0.86 |      |      |
| Relative advantage (RA)    | 0.71 | 0.55 | 0.45 | 0.31 | 0.68 | 0.66 | 0.6  | 0.80 | 0.89 |      |
| Perceived trust in IB (TR) | 0.78 | 0.52 | 0.45 | 0.26 | 0.5  | 0.58 | 0.75 | 0.71 | 0.81 | 0.65 |

 $\textit{Note:} \ CR-composite \ reliability; \ MSV-maximum \ shared \ variance; \ ASV-average \ shared \ variance.$ 

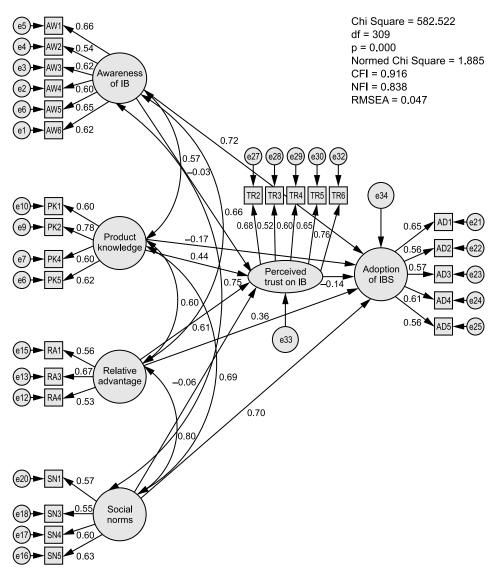


Fig. 2. Full baseline model analyses.

be summarized that significant relationships existed between awareness of an Islamic bank and adoption of the IBS, between product knowledge as well as relative advantage and perceived trust in Islamic bank. However, no significant relationships were observed between awareness of an Islamic bank as well as social norms and perceived trust in Islamic bank. Furthermore, the findings revealed that perceived trust plays a mediating role between awareness and adoption of IBS. This indicates that banks' customers in Tajikistan have more trust in and preferred to deal with a banking system that is Shariah-based to comply with their Islamic faith.

In addition, goodness-of-fit results of the Full Baseline model are shown in Table 9, which shows strong satisfactory goodness-of-fit with relative chi-square value CMIN/df of 1.885, CFI of 0.915, NFI of 0.838, RMSEA of 0.046.

**Table 8**Standardized regression analyses.

| Relationships                            | Estimates | S.E.  | <i>p</i> -value |
|--|-----------|-------|-----------------|
| Perceived trust in Islamic bank          | 0.494     | 0.105 | _               |
| ← Product knowledge                      |           |       |                 |
| Perceived trust in Islamic bank          | 0.694     | 0.186 | _               |
| ← Relative advantage                     |           |       |                 |
| Perceived trust in Islamic bank          | -0.028    | 0.104 | 0.791           |
| ← Awareness of Islamic bank              |           |       |                 |
| Perceived trust in Islamic bank          | -0.078    | 0.239 | 0.743           |
| ← Social norm                            |           |       |                 |
| Adoption of Islamic banking system       | 0.395     | 0.238 | 0.097           |
| ← Relative Advantage                     |           |       |                 |
| Adoption of Islamic banking system       | -0.185    | 0.134 | 0.167           |
| ← Product knowledge                      |           |       |                 |
| Adoption of Islamic banking system       | -0.132    | 0.170 | 0.438           |
| ← Perceived trust in Islamic bank        |           |       |                 |
| Adoption of Islamic banking system       | 0.728     | 0.122 | _               |
| ← Awareness of Islamic bank              | 0.000     | 0.004 | 0.505           |
| Adoption of Islamic banking system       | 0.088     | 0.234 | 0.707           |
| ← Social norm                            |           |       |                 |
| Perceived trust in Islamic bank mediates | 1.00      | 0.198 | _               |
| the relationship between awareness       |           |       |                 |
| of Islamic bank, product knowledge,      |           |       |                 |
| social norm, relative advantage and      |           |       |                 |
| adoption of Islamic banking system       |           |       |                 |

Table 9
Goodness-of-fit of the model.

| Types of measure  | Fit index                   | Model fit summary |                |  |
|---|-----------------------------|-------------------|----------------|--|
|   |                             | Acceptable value  | Observed value |  |
| Absolute Fit Index— to examine the level of effectiveness the model reproduces data | Normed Chi-Square (CMIN/df) | ≤ 3.0             | 1.885          |  |
|   | RMSEA                       | ≤ 0.08            | 0.046          |  |
| Incremental Fit Index — model fit to relative baseline model                        | Normed Fit Index (NFI)      | ≥ 0.9             | 0.838          |  |
|   | Comparative Fit Index (CFI) | ≥ 0.9             | 0.915          |  |

Source: Authors' calculations.

# 5.9. Moderator analysis result

The result of education level variable is presented in Table 10, showing that it is a significant moderator of variables between awareness and adoption of Islamic banking in Tajikistan. This indicates that there is a need to focus more on, and improve, the education level in society in order to enhance their awareness towards adoption of the IBS. This is in line with earlier studies which found that educational level is a significant moderating factor among Colombian customers (Sánchez-Torres et al., 2017). Moreover, other studies have presented a higher number of adopters with high levels of education (Bellman et al., 1999; Allred, et al., 2006; Porter and Donthu, 2006; Siyal et al., 2006). Furthermore,

**Table 10**Moderator variable.

|         | Undergraduate |                 | Postgraduate | Z-Score         |      |
|---------|---------------|-----------------|--------------|-----------------|------|
|         | Estimated-t   | <i>p</i> -value | Estimated-t  | <i>p</i> -value |      |
| AD ← AW | 0.467         | 0.804           | 0.542        | _               | 0.04 |

such authors argue a higher level of education comes with more information available on adopting innovation compared to others who do not have a sufficiently high level of information (Winkleby et al., 1992; Chen et al., 2014; Sánchez-Torres et al., 2017). Thus, the result in Table 10 answers the question of whether education level plays a significant role as a mediator between awareness and adoption of Islamic banking in Tajikistan. This therefore suggests that policy makers in Tajikistan may bring back their banks' clients by placing more focus on education level among society to improve customer knowledge toward adoption of Islamic banking system and enhance economic growth. Last but not least, it suggests that higher education is as important an element as that of religion; this is easing the perception of the Shariah requirements.

### 6. Conclusion

The selection of Islamic banking relies on different factors according to the adopter's background and society, but the levels of education and trust are among the crucial factors that have a significant impact on acceptance of the IBS. In this regard, the current study contributed to analyze the mediating effect of trust and educational level moderating effect on adopters' decision to accept IB in Tajikistan for their banking needs. The study used data developed from a survey and collected through a questionnaire distributed to 408 respondents from 14 banks in Tajikistan. The result provides empirical evidence that relative advantage and product knowledge are statistically significant influences on perceived trust in Islamic banks while perceived trust in Islamic banks has a direct and significant influence on the adoption of IBS in Tajikistan. Therefore, from the policy makers point of view, several steps should be taken to enhance the banking selection criteria to survive in the market, maintain the best positioning at the top and in order to compete with conventional banks that are losing their marketability among customers due to lack of knowledge and confidence. Some suggestions that should be considered include the Islamic banks investing in education and the development of human resources as well as establishing a motivating system to increase a feeling of trust and confidence among customers. However it is also crucial to improve the bankers' education level and skills to enable them to better handle their customers with improved service delivery and generally with greater efficiency in addressing customers issues and meeting customers' expectations with regard to the Islamic banking system in Tajikistan. The findings of this study therefore may assist policymakers to improve the current banking industry, by focusing on the IBS that would be able to revive trust and create interest among the Muslim majority population as they believe in the IBS. This will contribute significantly to the country's economic growth and the well-being and prosperity of the people.

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# Appendix A

**Table A1** Exploratory factor analysis.

| Factor name           | Items  | Factor loading |
|-----------------------|--|----------------|
| Awareness of IB       | I am generally aware of the principles of Islamic banking.   | 0.753          |
|                       | I am aware of the necessary pre-requisites of Islamic banking.   | 0.626          |
|                       | I have sufficient awareness of Islamic banking.  | 0.713          |
|                       | I am aware of the concept of Islamic banking.  | 0.668          |
|                       | I have overall awareness regarding the necessities of Islamic operations.  | 0.702          |
|                       | I am aware of the success of Islamic banking globally.   | 0.697          |
| Product knowledge     | I am generally familiar with the products of Islamic banks.  | 0.739          |
|                       | I am aware of Ijara (lease, lease purchase) financing as it is beneficial for my personal financing.                                       | 0.817          |
|                       | I am well aware of Musharakah (profit and loss-sharing) as<br>an important tool for Islamic banking products to achieve<br>social welfare. | 0.581          |
|                       | I believe in Mudarabah (trustee finance contract) financing as it is beneficial for me.  | 0.679          |
|                       | I am sure Murabaha (mark-up financing) financing is beneficial for personal financing.   | 0.691          |
| Relative advantage    | Islamic banking services are better than the conventional.   | 0.712          |
| renam ve ua vanaage   | Islamic banking system is growing faster than the conventional.  | 0.652          |
|                       | Islamic banking is more trusted than the conventional.   | 0.659          |
|                       | The Islamic banking system is more secure than the conventional.   | 0.664          |
|                       | Islamic banking products are more Shariah principle oriented than the conventional.  | 0.622          |
| Social norm           | My religion orders Islamic banking service and finance.  | 0.671          |
|                       | My parents recommend Islamic banking service.  | 0.647          |
|                       | My brother recommends Islamic banking service.   | 0.663          |
|                       | My close friend recommends Islamic banking service.  | 0.664          |
|                       | My colleagues recommend Islamic banking service.   | 0.694          |
| Perceived trust in IB | I have trust in Islamic banking services because its operations are based on Shariah law.  | 0.636          |
|                       | I have trust in Islamic banking system because it is more consistent in rules and regulations compared to other banking services.          | 0.743          |
|                       | I have trust in Islamic banking system because it is financially more successful compared to the conventional banking system.              | 0.660          |
|                       | I have trust in Islamic banking system because it deals with clients in a fair way.  | 0.636          |
|                       | I have trust in Islamic banking because it helps poor people.  | 0.750          |
|                       | I trust Islamic bank because it focuses more on social responsibility.   | 0.775          |
| Adoption of IBS       | I will seriously consider Islamic banking system in the future.  | 0.734          |
|                       | I intend to adopt Islamic banking services.  | 0.660          |
|                       | I will strongly advice my friends and others to adopt Islamic banking.   | 0.642          |
|                       | I will definitely choose Islamic banking products in the future.   | 0.728          |
|                       | I plan to consider Islamic banking.  | 0.699          |