An empirical examination of the moderating role of age and gender in consumer mobile banking use: A cross-national, quantitative study

Abstract

Purpose- Despite the benefits of mobile banking services in an increasingly digitised world, adoption rates remain unsatisfactory. The present cross-national study examines age- and gender-dependent variations of consumer intentions and use of mobile banking services.

Design/methodology/approach- The study analyses consumer mobile banking use by integrating factors such as with trust, security and privacy and it examines the effects of these factors among two demographic factors including age and gender. 897 Lebanese and British mobile banking users completed a survey. Data was analysed by partial least squares-structural equations modelling.

Findings- Consumer behavioural intention was significantly moderated by age through its relationship with facilitating conditions and trust among Lebanese respondents, and performance expectancy, effort expectancy, hedonic motivation, price value, and habit among their British counterparts. As for gender, a significant moderating effect was evidenced in the Lebanese, but not the British sample, on the level of performance expectancy, effort expectancy, facilitating conditions, price value and perceived security.

Originality/value- The findings provide evidence of the applicability of the new factors proposed in this research. The reflection of the influence of these demographic factors in a cross-national context provides insights into mobile banking adoption variation between different countries.

Keywords- Culture; trust; cross-national research; mobile banking; security and privacy

1. Introduction

Mobile banking as an innovative technology has been developing rapidly in the world and transformed the way the banking sector function (Shanmugam et al., 2015; Baabdullah et al., 2019). Mobile banking enables consumers to complete financial transactions such as checking

bank accounts, transferring money and making transactions without using traditional channels such as attending the bank branch, using the automated teller machine (ATM), calling the bank via the telephone, or using e-banking. Mobile banking provides innovative offerings that bring on convenience, effectiveness, and cost savings (Sharma et al., 2017; Kwateng et al., 2019). Despite the ubiquity of mobile phones and the advancement of mobile technology, as well as the increased benefits of mobile services for providers and customers alike, a considerable number of longitudinal studies have reported that the adoption of mobile banking requires further investigation (Shankar et al. 2020; Singh and Srivastava, 2020; Hassan and Wood, 2020). Farah et al. (2018) considered that the phenomenon of mobile banking in its current state is still considered in its initial phase of adoption even when high mobile penetration is evident. They urge the need to examine the adoption of mobile banking in underdeveloped countries as this will boost financial inclusion, enhance the banking system and ultimately have a positive impact on the economy. Furthermore, focusing on understanding technology advancements from customers' adoption perspective is essential for both researchers and practitioners (Alkhowaiter, 2020; Ananda et al., 2020).

The adoption of novel technologies, such as mobile banking, was attributable to the reluctance (Alalwan et al., 2017), as well as the performance concerns often expressed by consumers (Thusi and Maduku, 2020). The latter seemed to hesitate to adopt mobile banking when unsure about its security, its effectiveness, as well as the skills and conditions required for its use (Mullan et al., 2017). Social and culture-specific variations in the influence of individual predictors of mobile banking adoption were also noted by researchers (Venkatesh et al., 2012; Abbasi et al., 2015; Malik, 2020), and could provide valuable insights when introducing mobile banking in unpredictable markets, such as Lebanon (Tarhini et al., 2016). Hence, further studies remain necessary in order to explore security, privacy and trust in the context of mobile banking through extended theoretical models such as the extended unified theory of acceptance and use of technology (UTAUT2) (Venkatesh et al., 2012).

The potential influence of factors such as age, gender, experience, and voluntariness should be accounted for, as was attempted through their integration as moderators in the original UTAUT (Venkatesh et al., 2003) and recommended by Williams et al. (2015). That being said, a critical

review of both the UTAUT and UTAUT2 literature between September 2003 and December 2016 highlighted a gap in the literature in terms of studying the effects of these moderating factors within the framework of extended theoretical models (Venkatesh et al., 2016). The authors argued that gaining a better theoretical understanding of age differences is crucial in promoting individual adoption and sustained usage of new information technologies. Nevertheless, patriarchy and gender inequalities in the socioeconomic framework are still evident in the Middle Eastern and North African (MENA) region (Glas et al., 2018). A study by Glas et al. (2019) highlighted the substantial differences between countries within the Arab MENA in supporting gender equality. Therefore, it could be interesting to analyse the effects of the moderator variable gender in the extended UTAUT2 to provide a further understanding of how the model fits with individuals from different gender for the adoption of mobile banking in Lebanon and England. Furthermore, understanding the influence of gender differences on users' interaction with technology is an essential aspect in organisational psychology when attempting to manage organisational change (Duarte and Pinho, 2019).

Regardless, UTAUT2 literature is not comprehensive as the model remains relatively recent. Research gaps can be discerned, particularly on the level of cross-national and cross-cultural approaches. Moreover, the model has not been empirically validated in the context of all ICTs, with studies exploring the behaviour and intentions of Arab users using the UTAUT2 remaining limited (Ameen, 2017; Ameen et al., 2018). Hence, this study thus aims to offer three key contributions. Firstly, following the recommendation of Venkatesh et al., (2012) and Macedo (2017), this research proposes a new model of consumers' mobile banking use and examines its fitness in a cross-national context while accounting for gender and age. Secondly, this research advances the understanding of mobile banking adoption acceptance through the comparison of two different contexts, namely Lebanon and England. Furthermore, the present research is among the first to provide insights into the gender- and age variations in mobile banking adoption in a cross-national context between a developing country (Lebanon) and a developed country (England) in an extended UTAUT2 model. In terms of practical contributions, both bank and application managers alike could draw upon this research in order to formulate a demographically-oriented design and implementation strategies adapted to consumer needs and preferences across different

gender and age groups, and consequently, ensure optimal mobile banking adoption and customer satisfaction.

The paper has been divided into five sections. The next section proposes the conceptual framework and discuss the hypothesis development. The data collection section outlines the methodology used in collecting and analysing the data. It is followed by the results section. Finally, the discussion, implications to both theory and practice as well as limitations and future research are discussed in detail.

2. Conceptual model and hypothesis development

Figure 1 presents the proposed conceptual framework with the additional constructs, namely trust, perceived security and perceived privacy which were integrated as an extension of the UTAUT2 model. A detailed explanation of each factor is presented in the next subsections.

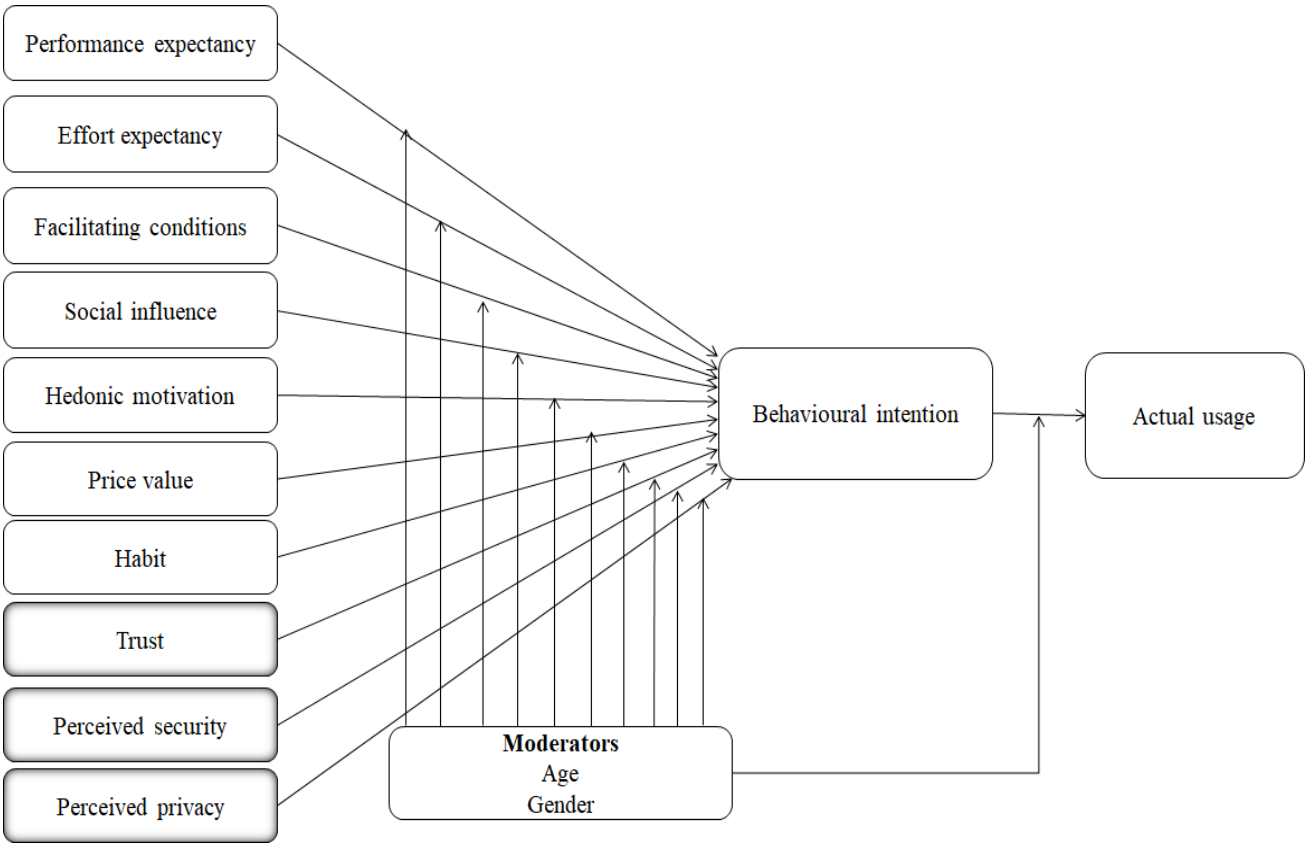

Figure 1. Proposed conceptual framework

2.1 Performance expectancy

Performance expectancy denotes the expected improvement in performance following usage of a particular technology, as perceived by its user (Venkatesh et al. 2003; El-Masri and Tarhini, 2017; Foroughi et al., 2019). Mobile banking systems are expected to provide consumers with the ease of use and permanent access critical for the acceleration and completion of routine mobile banking transactions. Performance expectancy in its turn is moderated by gender and age, with a stronger impact observed among men (Venkatesh et al., 2003) and younger users (Falk et al., 2007). In fact, older users (i.e. the elderly) generally emerge as resistant to change (Laukkanen et al., 2007) and virtual services (Falk et al., 2007), which accounts for their unwillingness to accept novel technology such as mobile banking (Arenas-Gaitan et al., 2015). As a result, we propose the following hypothesis:

H1a,b: Age and gender will moderate the effect of performance expectancy on behavioural intention.

2.2 Effort expectancy

Effort expectancy reflects the consumer's perception of a technology's ease of use (Venkatesh et al. 2012), positively affecting the behavioural intention to use said technology. In other words, the effort required to effectively utilise a technology significantly and positively impacts the user's inclination to adopt it should it prove to be simple or intuitive (Venkatesh et al., 2003, Venkatesh et al., 2012; AlAlwan et al., 2017). As a result, it stands to reason that effort expectancy exhibits a stronger influence on behavioural intention as well as technology usage among older users, as compared to young users. This is due to the concomitant increase in usage difficulty with age, which leads to the expenditure of more effort by technology users as age increases (Rahman et al., 2011). Greater effort is also expected among inexperienced users attempting to use a certain technology (Tarhini et al., 2016), which entails a stronger association between effort expectancy and behavioural intention among these users. As such, gender can be postulated as a moderator of effort expectancy among Arab populations owing to the gender gap in smartphone usage and consequently, the lesser experience among Arab women compared to men (GSMA, 2018). Based on this positive relationship, the following hypothesis is formulated:

H2a,b: Age and gender will moderate the effect of effort expectancy on behavioural intention.

2.3 Facilitating conditions

Facilitating conditions are defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh et al., 2003). Behavioural intention to adopt a technology is therefore significantly affected by its perceived facilitating conditions (Tarhini et al., 2016), which in turn influence actual technology usage (Tarhini et al., 2016). Mobile and internet banking usage remains largely dependent on the existence of various resources and infrastructures, such as smartphones and an internet connection. These requirements are not free of charge on the consumer level, which accounts for the observed effect of facilitating conditions in this context (Tarhini et al., 2016). Moreover, the effect of facilitating conditions on behavioural intention was significantly moderated by both age (Khechine et al., 2014; Servidio, 2014) and gender, with women emerging as more strongly affected by this construct (Venkatesh et al., 2012).

Therefore, we propose the following hypothesis:

H3a,b: Age and gender will moderate the effect of facilitating conditions on behavioural intention.

2.4 Social influence

Social influence as proposed by Venkatesh et al. (2012), is "The extent to which consumers perceive that important others believe they should use a particular technology". The perceived opinion and expectations of users' social sphere, be it family, friends or coworkers, thus significantly shape their behavioural intention to use a technology. This correlation was demonstrated to be statistically significant in the context of mobile banking (Talukder et al., 2014; Goncalves et al., 2018), and was shown to increase with age. Older individuals were more susceptible to other people's opinions as compared to their younger counterparts (Venkatesh et al., 2003), which could be attributed to the surge in affiliation needs generally associated with age (Morris and Venkatesh, 2000). Moreover, behavioural intention's variation according to social influence was found to be gender-dependent, with men less affected by social influence than women (Venkatesh et al., 2003). As a result, the subsequent hypothesis is proposed:

H4a,b: Age and gender will moderate the effect of social influence on behavioural intention.

2.5 Hedonic motivation

Hedonic motivation represents the amusement and pleasure experienced by consumers during technology usage (Venkatesh et al., 2012). Hedonic motivation, also known as perceived enjoyment, significantly impacted users' behavioural intention to use a technology, such as mobile banking (Alalwan et al., 2017). In other words, adoption and continued utilisation of a technology emerge as being critically dependent on the degree of enjoyment felt by its users. This holds especially true in the case of mobile banking, which essentially employs an entertainment gadget (mobile phones) as its platform (Venkatesh et al., 2012). The relationship between hedonic motivation and behavioural intention was itself moderated by both age and gender (Indrawati and Marhaeni, 2014). Gender was actually often included as a moderating variable in studies investigating technology usage (An et al., 2016; Venkatesh et al., 2000).

The influence of hedonic motivations was also found to vary according to age, with older age associated with a higher inclination towards affective experiences (Abbasi et al., 2015). The behavioural intentions of younger consumers are, therefore influenced by hedonic motivations, which loses its significance in favour of hedonic motivations concomitantly with increasing age (Oliver and Raney, 2011). We thus hypothesise that:

H5a,b: Age and gender will moderate the effect of social influence on behavioural intention.

2.6 Price value

Price value corresponds to the user-perceived benefit of a technology in comparison with the cost associated with its use (Brown and Venkatesh, 2005). The cost-benefit ratio thus emerges as a critical concern for users (Venkatesh et al., 2012) alike. Thus, research suggests that users are more likely to use a technology from which they stand to gain enough benefit to offset required monetary expenses (Oliveira et al. 2014). Moreover, the perception of price value was suggested to differ concomitantly with social roles (which vary according to gender and age), a theory that was later validated in the context IS studies (Venkatesh et al., 2012). The moderating role of age and gender has been demonstrated when examining the relationship between price value and behavioural intention (Indrawati and Marhaeni, 2014). Hence, we propose the following hypothesis:

H6a,b: Age and gender will moderate the effect of price value on behavioural intention.

2.7 Habit

Habit refers to the learning and subsequent automatic behaviour acquired through repeated use of a technology (Limayem et al., 2007). Habit constitutes a significant predictor of future technology use (Kim, 2016), as well as a moderator of the user's intentions towards actual technology usage (Limayem et al., 2007). This association was further moderated by age and gender (Indrawati and Marhaeni, 2014) and the consequent differences in information processing, which alter learning and habit formation. In fact, superior detailed information processing was observed in women when compared to men, with an increased reliance on habit in both genders as age increases (Darley and Smith, 1995). The automatic information processing generally observed in older people following the development of habits, render it difficult to generate new habits and adapt to new contexts (Laukkanen et al., 2007). Gender-specific differences in habit were similarly reported, with men emerging as more strongly affected by habit (Venkatesh et al., 2012). The propensity of males to exhibit a disposition towards habit will most likely be reflected in Arab populations owing to the superior smartphone usage exhibited by Arab men, as compared to women (GSMA, 2018).

We thus hypothesise that:

H7a,b: Age and gender will moderate the effect of habit on behavioural intention.

2.8 Trust

Trust is a pivotal consideration in the context of electronic transactions due to the inherent risks associated with this platform. In fact, users' concerns are often exacerbated by the issues linked to online transactions, such as fraud, data breaches and privacy issues. Trust remains a prevalent and justified concern in mobile banking, which manages sensitive crucial user information. Thus, trust exhibited a significant influence on electronic transactions in fields the likes of online commerce (Gefen et al., 2003) and mobile banking (Alalwan et al., 2017). In mobile banking, trust was suggested to be dual in nature, manifesting as trust in the technology itself (the platform) and trust in the institution providing the technology (Koksal, 2016). Based on the above, the subsequent hypothesis is proposed:

H8a,b: Age and gender will moderate the effect of trust on behavioural intention.

2.9 Perceived security

Considering the sensitivity of financial transactions, the digitisation of banking services has frequently met with security concerns. The latter were especially prominent among potential and current online banking users (Wills, 1996), and further extended to banks. Security concerns were thus held accountable for the reluctance of both financial establishments and consumers alike to gravitate towards mobile banking. However, security concerns were arguably not the sole barrier of mobile banking, with multiple other factors cited such as lack of awareness of digital banking services, non-user-friendly platforms and limited access to online devices or the internet (Pandey et al., 2012). When delving into the particularities of security concerns, age and gender-dependent variations were demonstrated. Females expressed more concerns about the security of mobile banking than males, who showed a predilection towards the effectiveness of the technology (Amin et al., 2008). Moreover, internet banking security concerns were found to be more prominent among older respondents (Mattila et al. 2003), and the following hypotheses are thus assumed:

H9a,b: Age and gender will moderate the effect of perceived security on behavioural intention.

2.10 Perceived privacy

Individuals retain the right to control any manipulation of their personal information, be it digital or non-digital. This concept is termed privacy and is often invoked, with concerns regarding the collection, use and unapproved disclosure of personal information (Harfouche and Robbin, 2012). Recent years have witnessed the rise of ethical privacy concomitantly with the increase in reliance on electronic information. The dissemination of the latter poses a significant threat in the modern digital world, where the collection and potentially, the sale of personal information constitutes a noteworthy bargaining chip and source of power. IS literature was not exempt from the integration of privacy concerns into relevant research models, as was reflected in multiple studies (Mullan et al., 2017). The determinants and influence of privacy and security concerns were consequently elucidated, thereby establishing their predominance among the female gender (Ameen et al., 2020). In fact, gender variations in privacy concerns were investigated and such concerns were found to be more prevalent among women in the context of online activities as well as internet banking (Shergill and Li, 2005).

Similarly, respondents of all ages expressed online privacy concerns (Kalinić et al., 2019). That being said, a clear trend could be established, with an increase in privacy concerns along with age (Burst Media, 2009). More specifically, younger individuals were less apprehensive of privacy aspects when compared to older individuals. However, despite their discernible concerns, older individuals still divulged a significant amount of personal data on online platforms (Youn, 2008). Based on the above, the following hypothesis is assumed:

H10a,b: Age and gender will moderate the effect of perceived privacy on behavioural intention.

2.11 Behavioural intention

Behavioural intention has been extensively studied in the context of information systems and technology acceptance and was conceptualised as an individual's tendency or cognitive readiness to execute a specific behaviour, and by extension, use a technology. It was evident across extant literature that behavioural intention was a critical antecedent of a consumer's behaviour (Venkatesh et al., 2003, 2012) and actual technology usage or adoption (Venkatesh et al., 2012). More importantly, this correlation was evidenced in multiple studies examining mobile banking adoption (Farah et al., 2018). As a result, this study proposes the following hypotheses:

H11a,b: Behavioural intention will positively influence customers' adoption of mobile banking among the age and gender groups.

3. Methodology

In order to establish mobile banking behaviour and the factors influencing it, the research design outlined in Figure 2 was used. A quantitative positivist approach served for the investigation of mobile banking acceptance and adoption consistently with IS literature and established paradigms for cross-cultural studies (Alalwan et al., 2020; Foroughi et al., 2019). To that end, questionnaires and surveys served for the measurement of model constructs among individual users (Foroughi et al., 2019; Kalinić et al., 2019) in line with existing literature. Examples of empirical studies that have used a survey to study the moderator impact of age and/or gender in different contexts include the study of Kim (2016), Arenas et al. (2015), Ameen and Willis (2018) and Ameen (2017). Generated data was then analysed and hypotheses were tested using a positivist-based Structural Equation Modelling technique (Foroughi et al., 2019), further validating the choice of a positivist quantitative approach.

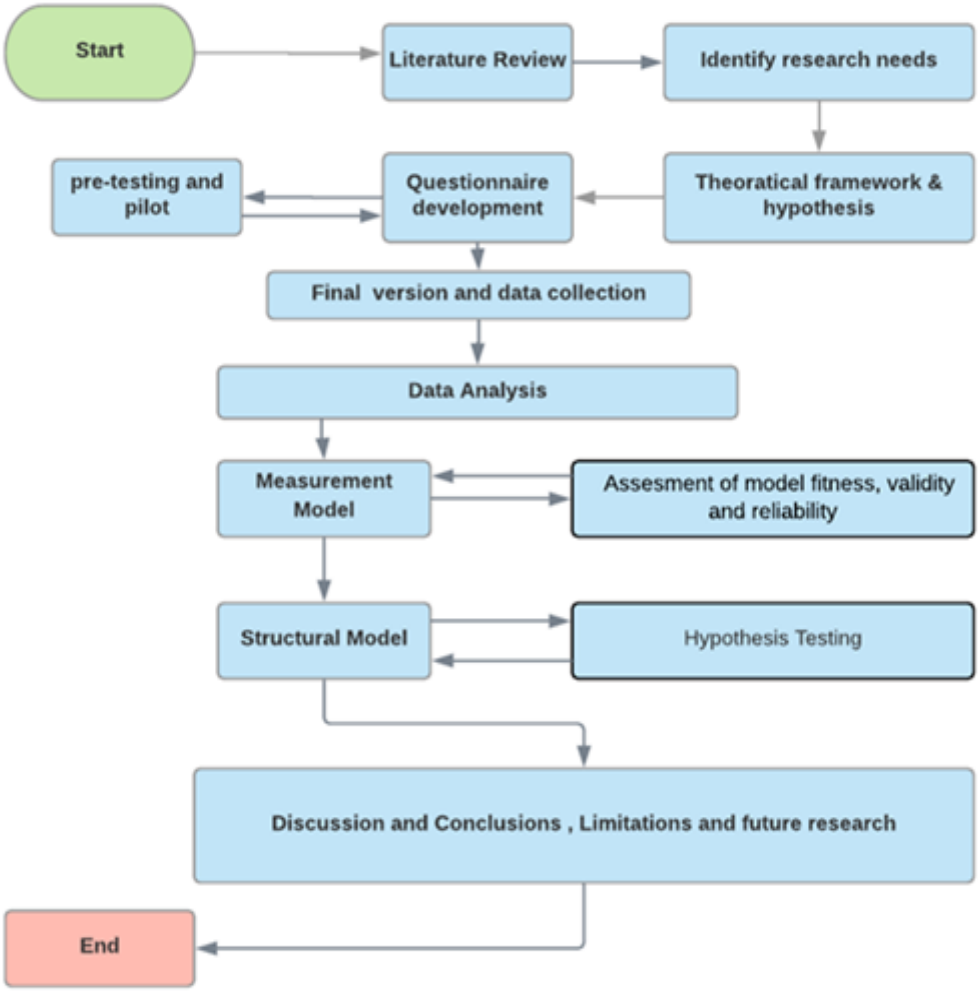

Figure 2: The research design

3.1 Data collection

This study collected primary data from Lebanese and British mobile banking users. The accuracy and reliability of the obtained data was ensured by the employment of a non-probabilistic sampling approach. This approach allowed the recruitment of experienced respondents capable of providing valuable information regarding mobile banking (Denzin and Lincoln, 2008), according to their availability.

The study participants were from different socio-cultural and economic backgrounds who willingly and voluntarily completed a questionnaire survey. Participant recruitment was undertaken in both physical and digital public settings, such as markets and shopping centres, in addition to the online distribution of the survey through social media. The survey was formulated in such a way as to cover opinion, behaviour and attribute variables, in addition to the items representing the Trust, Security and Privacy as well as the UTAUT2 constructs adapted from Featherman, and Pavlou (2003), Tarhini et al. (2014), Alalwan et al. (2017) and Venkatesh et al. (2003; 2012), respectively. A seven-point Likert scale ranging from 1 to 7 was employed to measure survey items, with one representing strongly disagree and seven strongly agree. Data regarding past experiences in addition to present and prospective ventures represented the measured behavioural variables, while attribute variables reflected participants' demographic data.

3.2 Data analysis

Partial least squares- structural equations modelling (PLS-SEM) was employed for data analysis, which was completed in SmartPLS 3.0 software. Considering the empirical nature of collected data, PLS-SEM was found suitable for the assessment of the validity of the proposed model. PLS-SEM generally allows the evaluation of relationships between latent constructs through two models, a measurement and a path model. The latter represents an extensive multiple regression model for the simultaneous estimation of multiple regressions and the determination of the structural relations between latent variables (Cohen et al., 2014).

According to Jarvis et al. (2003), constructs could be formative or reflective, as assessed by a series of four criteria. Researchers must first determine the direction of causality between an item and a construct. The construct is formative should the direction of causality be from item to construct, and reflective if the opposing direction was evidenced. This is followed by the assessment of the interchangeability of indicators, which are considered reflective in the case of similar content, or formative when differing content does not confer indicators with interchangeability. The covariance of indicators constitutes the third criteria proposed by Jarvis et al. (2003) and indicates formative or reflective indicators should absence or presence of covariance be found, respectively. Finally, the consequences of indicators, as represented by their nomological net, is considered.

Reflective indicators are suggested to present with a similar nomological net, as opposed to formative indicators which could have different consequences. Based on these criteria, usage was considered formative while the rest of the model constructs were reflective indicators. Data analysis was completed in two sequential stages, the first of which tested the reflective measurement model, followed by testing the formative measurement model.

Partial least squares- multi-group analysis (PLS-MGA) was then employed for the assessment of model relationships. The abnormal distribution of collected data in addition to the advantage of the non-parametric confidence set approach warranted the use of PLS-MGA (Sarstedt et al., 2011). The latter is a non-parametric approach for the comparison of PLS model estimates initially estimated from the path model in each group (Hair et al. 2014). PLS-MGA allows the analysis of data from relatively small groups, i.e. those not exceeding 200 individuals. A separate bootstrap analysis in which observed bootstrap outcomes are assessed, thereby preventing the need for distributional assumptions, serves for the assessment of the estimations in the PLS-MGA technique (Henseler, 2012). The bootstrap analysis involves the initial comparison of group estimates through a cantered bootstrap, followed by the determination of the significance of the difference between groups. This is achieved by the division of group difference by the total number of bootstrap samples, which yields a p-value reflective of the probability that a greater significance is evidenced in the second group, as compared to the first (Henseler, 2012). Significant differences between groups are inferred with p-values lower or equal to 0.05, or values equal to or greater than 0.95 (Henseler et al., 2009).

4. Results

4.1 Descriptive statistics

As can be shown in table 1, equal gender distribution was observed in both Lebanese and British samples, with the majority of participants from the former emerging as younger than 35 years of age. On the other hand, British respondents were predominantly above 26 years old, consistently with the technological advancement and maturity of England. The technological maturity of England is further reflected in respondents' noteworthy mobile experience, extending beyond two years in 83.3% of all cases compared to 44.8% in Lebanon.

<Table 1. Descriptive statistics of Lebanon and England>

4.2 Measurement model

When assessing reflective measurement models, Hair et al. (2010) recommend the determination of indicator loadings and consequently, item reliability. The latter is established should the explanatory power of loadings exceed 50% of indicator variance (value greater than 0.708 at a 0.05 significance level). The validity and reliability of the proposed measurement models was then assessed using Cronbach's alpha, convergent validity and the average variance extracted (AVE), as shown in Table 6. AVE values were greater than 0.5 in both study samples, thus reflecting satisfactory convergent validity (Hair et al., 2014).

<Table 2. Measurement Model of Lebanon and England>

Factor loadings were then examined, and items with loadings greater than 0.7 were retained as per the criteria suggested by Hair et al. (2014). In the Lebanese sample, two items, namely PS4 and PP1, were removed, seeing as they exhibited below-threshold loadings. As for the British sample, PS4 and FC4 were removed in consideration of their loadings of 0.630 and 0.440, respectively.

Discriminant validity is determined through the cross-loadings of each construct and is deemed satisfactory should factors exhibit higher correlation with their own indicators than those of other constructs (Chin, 1998). The square root of each construct's AVE is reflective of discriminant validity and was greater than its highest correlation with other constructs in both our samples (Hair, et al., 2010). Moreover, the collinearity of our model was examined according to the variance inflation factor (VIF) threshold value proposed by Hair et al. (2014). The latter suggested that VIF should be smaller than 5 and the tolerance value should exceed 0.2, which were both achieved in our samples.

4.3 Multi-group analysis

Multigroup analysis was employed in this research for the assessment of inter-group variations in individual data group model estimations. To that end, the PLS-MGA (partial least squares-multi-group analysis) approach was adopted for the comparison of group-specific bootstrapping PLS-SEM results. The examination of bootstrapping results of each individual data group included in the model constitutes the fundamental principle of PLS-MGA (Sarstedt et al. 2011), a non-parametric test that was proposed as an extension of Henseler's MGA (Sarstedt et al. 2011). The PLS-MGA is thus employed for the determination of statistically significant differences between predefined data groups, inferred from a p-value smaller than 0.05 or greater than 0.95 (Sarstedt et al. 2011). When equal variance was determined between groups, parametric tests were used to establish statistical significance. On the other hand, groups with unequal variances were subjected to the Welch-Satterthwaite test. As for result stability, SmartPLS was used to randomly conduct a large number of tests with a bootstrap on a subsample of 5000 derived from the original data set.

Age distribution in both samples was classified into three groups. Respondents aged between 18 and 25 years constituted group one, those aged between 26 and 35 years were allocated into group two, while those above 36 years of age were sorted into group three. 222 of the Lebanese respondents were allocated to group one, 157 to group two and 99 to group three. R^2 values for behavioural intention of each group were as follows: 0.712 (71%), 0.707 (71%) and 0.797 (78%) for groups one, two and three, respectively. As for USE, group one had an R2 value of 0.219 (22%), group two 0.323 (32%), and the highest value was evidenced in group three 0.508 (51%).

As can be shown in table 3, according to the PLS-MGA, the behavioural intention of group three compared to group one and two was more strongly influenced by facilitating conditions with a p-value of 0.965 and 0.992, respectively. On the other hand, the relationship between trust and behavioural intention was stronger among group one compared to group three (p=0.046). That being said, all three groups exhibited a significant correlation between behavioural intention and usage, H11a. (Table 3) H3a and H8a were thus supported among Lebanese respondents belonging to group one and three, respectively.

<Table 3. PLS-MGA results for the effect of age moderator in Lebanon>

British respondents for their part were predominantly distributed into groups two and three. Group one had an R^2 value of 0.794 (80%) and 0.093 (10%) for behavioural intention and usage, respectively. As for groups two and three, R2 values for behavioural intention and usage were 0.657(66%) and 0.264 (26%), and 0.680 (68%) and 0.383 (39%), respectively.

Table 4 represents the results of the PLS-MGA and the corresponding differences between age groups. H5a, H6a and H7a were therefore supported in group one, while H1a, H2a, and H11a were supported in group three in England. As for group 2, only two hypotheses were supported, namely H6a and H7a. That being said, all three groups exhibited a significant correlation between behavioural intention and actual mobile banking usage, thereby supporting hypothesis H11a.

<Table 4. PLS-MGA results for the effect of age moderator in England>

In the Lebanese sample, R2 values for each group was determined, with males exhibiting an R2 value of 0.725 (72%) for behavioural intention and 0.330 (33%) for USE. on the other hand, R2 was 0.727 (73%) and 0.291 (30%) for behavioural intention and USE of female users, respectively.

Table 5 represents the results of the PLS-MGA analysis, which reflected significant differences among the two gender groups, albeit with the significant influence of behavioural intention on actual mobile banking use evidenced among both groups (H11b). Hypotheses H1b, H2b, H3b, H6b and H9b were thus supported where H2b and H6b was stronger among male Lebanese users, and H1b, H3b and H9b stronger among their female counterparts.

<Table 5. PLS-MGA results for the effect of gender moderator in Lebanon>

As for the UK sample, R^2 values for behavioural intention and USE were different according to gender and were 0.625 (62%) and 0.303 (30%) for male users, and 0.690 (70%) and 0.454 (45%) for female users, respectively. However, no further differences could be established between male and female respondents, with no significant variances in the path co-efficient differences evidenced in the British sample among all proposed relationships (see Table 6). As a result, all

hypotheses for gender are rejected among British respondents except for behavioural intention, which was a significant predictor of mobile banking usage for both study groups (H11b).

<Table 6. PLS-MGA results for the effect of gender moderator in England>

<Table 7. Comparison of results: Lebanon vs England>

Table 11 represents hypotheses testing outcomes in Lebanon and England. The results showed the variation of model fitness between the two countries according to gender and age, as evidenced by the differences among males and females, as well as different age groups (group one, two and three). In Lebanon, H3a and H8a were supported, reflecting the superior influence of FC among older respondents, and the superior influence of TR on younger respondents. As for gender, H1b, H2b, H3b, H6b, H9b, and H11b were supported, indicating that the BI of female Lebanese respondents more affected by PE, FC and PS, while males were more concerned about EE and PV when formulation their BI towards mobile banking. As for the British sample, H1a was supported and PE exhibited a stronger effect on older respondents' BI, whereas younger respondents were more affected by EE, HM, PV, HB, thus supporting H2a, H5a, H6a, and H7a. The effect of gender was not significant in the British sample, and H1b-H11b were not supported.

5. Discussion, implications, limitations and future work

The present study constituted a cross-cultural investigation of age and gender as moderating variables of the UTAUT2 constructs, which were further extended with trust, security and privacy. Mobile banking is a relatively modern concept as evidenced by the limited number of IS studies applied in this context. This holds especially true in Lebanon and England where mobile banking remains understudied. The theoretical contribution of this study is therefore recognised and is critical for the advancement of IS knowledge and literature in the chosen cross-cultural contexts. More specifically, this study is the first, to the best of our knowledge, to examine the influence of the Age and Gender moderators between Lebanese and British mobile banking users' behavioural intentions using an extended UTAUT2 model. The results of this research validate the importance of moderating variables as a prerequisite for the formulation of a comprehensive and accurate

context-specific understanding of IT model fitness (Venkatesh et al., 2012). The differential influence of gender and age as moderators of behavioural intention and its associations with studied UTAUT2 constructs was evident in our study when comparing Lebanese and British respondents. As such, the achievement of maximal technology penetration and adoption requires the consideration of cultural as well as individual variations.

Consistent with the proposed hypotheses in Lebanon, age was evidenced as a significant moderator of the relationship between behavioural intentions and two constructs, namely facilitating conditions (H3a) and trust (H7a). Interestingly, the moderation of facilitating conditions and trust by age exhibited opposite patterns. Facilitating conditions were actually found to have a stronger effect on older respondents' behavioural intentions when compared to the youngest studied group. This association reflected findings of previous studies (Venkatesh et al., 2003; Moryson and Moeser, 2016; Nysveen and Pedersen, 2014) and emphasised the value of guaranteeing facilitating conditions, such as knowledge resources when developing and implementing technology services. This practice would be of particular interest among older users, whose usage of mobile banking or other technologies is seldom as intuitive as that of younger users. The clear disparity in the technological proficiency of young and old users explains the superior effect of trust on the behavioural intention of younger Lebanese respondents evidenced in our study as well as that of (Moryson and Moeser, 2016; Harfouche et al., 2016). While intentions were shown to be significantly dependent on trust by different researchers, young users show expectedly higher sensitivity to the security issues of technologies, particularly mobile banking. As such, simplicity, clarity and security of mobile banking applications should be emphasised in order to circumvent trust-specific adoption impediments among young users especially.

The results showed the significant moderating effect of age on respondents' behavioural intentions through performance expectancy (H1a), effort expectancy (H2a), hedonic motivation (H5a), price value (H6a), habit (H7a), but not facilitating conditions (H3a), trust (H8a), perceived security(H9a) and perceived privacy (H10a). Older respondents in the UK sample were more concerned with performance expectancy than younger users, which is in direct contrast with the findings of Venkatesh et al. (2012). This could be attributed to older individual's extensive needs and expectations from mobile banking, specifically through its inherent integration in daily

activities. Older respondents thus are more likely to require convenient and accelerated banking transactions than younger respondents, and consequently more stringent performance expectancy. Effort expectancy and habit exhibited the opposite profile, with younger users' behavioural intentions more strongly predicted by this construct. While previous studies report contradictory findings (Venkatesh et al., 2003; Wang et al., 2009), younger respondents have a higher familiarity with most technologies, translating into higher expectations in terms of ease of use, user-friendly interface and efficiency. Moreover, the influence of habit could be exploited through the integration of loyalty programs and other reward-based strategies targeting younger respondents in order to ensure increased customer retention. Such interventions are applicable in the context of IS, especially with the suggested effect of affecting beliefs on habit formation (Venkatesh et al., 2012). Enjoyment is increasingly recognised as a significant predictor of user intentions to adopt mobile technologies among young respondents (Venkatesh et al., 2012). This indicates that younger individuals exhibit more favourable intentions towards mobile applications, which include fun elements, a finding that could be advantageous in the case of mobile services that are not inherently enjoyable. This association was observed in our study, with younger users more likely to use mobile banking should they perceive it as enjoyable. The inclination of younger individuals towards novel, entertaining and fun content could be integrated into mobile banking applications via gamification elements and non-intrusive reward-associated advertisements. This would confer a great degree of enjoyability to mobile banking, thus increasing its appeal for young users. Another important consideration among young mobile banking users in the UK emerged as the price value of mobile banking, albeit in direct contrast with previous studies (Malak, 2020). It could be argued however that young users have limited resources and income when compared to older individuals, which could account for the superior influence of price value on young respondents' behavioural intention.

Our findings show that gender is a significant factor that moderates the effect of different factors with their relationship with behavioural intention namely performance expectancy (H1b), effort expectancy (H2b), facilitating conditions (H3b), price value (H6b) and perceived security (H9b) while the results from the PLS-SEM showed an insignificant relationship between gender and social influence, hedonic motivation, habit, trust and perceived privacy. This indicates that gender has no moderating effect of social influence (H4b), hedonic motivation (H5b), habit (H7b), trust (H8b) and perceived privacy (H10b) on Lebanese consumers' intention to adopt mobile banking.

The association between gender and performance expectancy has been relatively contradictory in IS studies. The findings of Match, Gefen and Straub (1997) support the superior influence of gender among females established in our study's Lebanese sample, suggesting that women are more concerned about a technology's usefulness than men. Women's perception of mobile banking's functionality thus significantly predicts their adoption of this platform, more so than their male counterparts. Conversely, the original UTAUT model proposed by Venkatesh et al., (2003) demonstrated that performance expectancy was a significant determinant of male, and not female, behavioural intention.

As for effort expectancy, gender was also a significant moderator of effort expectancy's relationship with behavioural intention, as evidenced among males. The tendency of gender's moderating influence for male as opposed to female Lebanese consumers is consistent with extant literature (Venkatesh et al., 2012) and could be attributed to the inferior technology experience among Arab women (GSMA, 2018), as compared to men. The provision of adequate training and technological support could successfully circumvent the gender gap in developing societies and improve mobile banking adoption among their female consumers. Lebanese men were further significantly concerned with mobile banking's price value, more so than women. The constraints imposed by the social structure of Arab culture makes it so that women remain predominantly financially dependent on men. As the bearer of the financial responsibility in Arab families, it is unsurprising that gender would emerge as a significant predictor of behavioural intention in regard to PV for males. The cost-effectiveness of mobile banking should thus be emphasised by banks in order to appeal to male customers, in addition to the fact that mobile banking services are available free of charge. The gender gap was also evident when examining the relationship between facilitating conditions and behavioural intention in the Lebanese sample. This study's results indicated the significant and superior moderating effect of gender on facilitating conditions among females, consistent with the findings of Venkatesh et al. (2012). That being said, the inverse relationship was evidenced by Yu (2012), where male behaviour in conjunction with facilitating conditions was more pronounced among men than women. Additionally, our results suggest that Lebanese women are more concerned than men with mobile banking's security. This was evident was examining the moderating effect of gender on the relationship between behavioural intention and perceived security in the Lebanese sample. Musa et al. (2015) have established a similar impression among Qatari consumers, which suggests the importance of emphasising security

measures and strategies when promoting mobile banking in Lebanon, particularly among females. The latter were shown to exhibit higher levels of computer anxiety than men, which could translate into noteworthy concerns and significant barriers for their adoption and use of mobile technologies, such as mobile banking (He and Freeman, 2009).

The results revealed the absence of a significant moderating effect of gender on all proposed model relationships. While unexpected, these results could be attributed to the established gender equality in England as compared to Lebanon, which remains a developing country with imperfectly balanced gender roles. More importantly, the gender gap in England could barely be distinguished in modern times, with women increasingly and comprehensively integrated into all aspects of society, such as the labour environment. The involvement of women in the latter was actually suggested to eliminate gender differences in ICTs (Venkatesh et al., 2003: Pan and Jordan- Marsh, 2010). This was evidenced by the insignificance of gender as a moderator of technology usage in the presence of compensatory variables such as prior experience and knowledge (Venkatesh et al., 2003). The results of this study thus conform to previous findings in the context of internet banking, the adoption of which did not exhibit significant differences according to gender. The absence of gender-mediated variation in adoption was reported both among respondents in a developing (Agudo-Peregrina et al., 2015), and developed country, as was the case in our study. The equal gender distribution of technology users, such as that reported among internet banking users in England (Malak, 2020), thus validates the insignificance of gender as a moderator of technology adoption behaviour.

5.1 Theoretical contributions

The model proposed in this study provided valuable insights into mobile banking adoption and actual usage in Lebanon and England and their moderation by age and gender. First, the present research bridges a notable gap in the technology adoption literature through its investigation of the fitness of a UTAUT2 model extended with relevant factors (trust, perceived security and perceived privacy) in addition to age and gender as moderators in a cross-national mobile banking setting. This study thus facilitates the advancement of the theoretical foundation of the UTAUT2 by outlining the moderating effect of both gender and age on customer intention as part of the few such attempts to reinforce the UTAUT2 model's consumer-oriented explanatory power

(Venkatesh et al., 2012) in the context of mobile banking. Second, our findings offer an unprecedented understanding of the role of gender and age in mobile banking adoption fluctuations between a developing country (Lebanon) and a developed country (England) through the extended UTAUT2 model. The limitation of previous applications of the UTAUT model embodied by the preclusion of these moderators (Williams et al., 2015) is thus validated, as evidenced by the differential influence of gender (exclusive to Lebanon) and age (cross-nationally significant) demonstrated in our study. The latter's contributions are further expounded by the noted differences between study groups, irrespective of the moderation of model relationships by demographic factors. Third, the inclusion of age and gender as moderators of mobile banking adoption provides empirical evidence and a deeper understanding of the predictors of consumer adoption and actual use, as well as their variation between a developing and a developed country. Fourthly, the delineation of mobile banking adoption in Lebanon and England undertaken in our comparative study promotes the elucidation of mobile banking acceptance through the comparison of two different contexts, namely Lebanon and England. Cross-national and cross-cultural studies remain rather limited, particularly in the Arab region (Ameen and Willis, 2015), and the present study thus extends the applicability of the UTAUT2-based proposed model to England and Lebanon. By comparing an Arab and non-Arab western country, our research contributes to the expansion of similar literature (e.g. Ameen and Willis, 2015; Saba et al., 2018). Our findings thus provide valuable insights into an under-studied field and advance the cognizance of mobile banking behaviour and its influences in contrasting cultural settings such as Lebanon and England. Finally, the present study is one of the few investigating UTAUT2 in the Lebanese mobile banking sector, and the first to examine Lebanese respondents' acceptance behaviour in a cross-national setting. As such, this study validated the extended UTAUT2 model and its respective measurement instrument in the specific context of Lebanon. This constitutes an important contribution to the UTAUT2 literature by developing and validating measurement models in settings dissimilar to the one the model was originally tested in (Straub et al., 2004).

5.2 Practical implications

This research provides valuable insight into the demographic variations in mobile banking adoption, which could guide bank and application managers' efforts to improve customer

satisfaction and acceptance of this technology across different gender and age groups. More importantly, our results delineate national variations in the influence of demographic moderators and emphasise the need for culturally adapted mobile banking strategies. Product managers are suggested to incorporate facilitating conditions such as knowledge resources into mobile banking design and marketing efforts, which could considerably improve adoption rate, especially among older, technologically-informed Lebanese consumers. Performance expectancy and facilitating conditions concerns were predominantly evidenced among female Lebanese mobile banking users. It is thus important to promote the availability, ease-of-use and advantages of mobile banking applications among female users, through the emphasis of application-device compatibility, low bandwidth consumption and high intuitive mobile banking functional capacity. Moreover, the implementation of the latest and best security standards (e.g. two- factor authentication, anti-phishing and hacking measures) in addition to the formulation of clear communication initiatives concerning mobile banking risks and available risk management plans are suggested to improve the technology's penetration among female Lebanese consumers. Lebanese males showed more pronounced cognisance of mobile banking's effort expectancy and price value, both of which could be addressed through the provision of educational and training material demonstrating the convenient and free features available in mobile banking applications.

While gender did not exhibit any moderating effect on users' intentions in the UK, older respondents showed notable consideration for performance expectancy when assessing mobile banking. Policymakers are thus recommended to emphasise the benefits and convenience of mobile banking applications through clear, easily accessible and comprehensible instructions of its features and by extension, enhanced application navigability and customer satisfaction. Younger consumers generally present with higher technologically proficiency, higher effort expectancy as well as more pronounced preference for novel and entertaining content when compared to older users. Mobile banking developers are suggested to exploit younger consumers' in the UK inclinations by providing a fun, efficient and user-friendly mobile banking application for their use. This could be achieved through the integration of an easy, straightforward user interface, in addition to gamification elements and non-intrusive reward-associated advertisements into mobile banking applications, which would greatly improve the perceived enjoyability and usefulness of the technology. Youth-oriented reward and loyalty programs could be formulated in

order to appeal to younger users in England and ensure habit-mediated customer retention. Such strategies are also important in light of younger consumers' higher price value concerns and could include monetary rewards for the use of mobile banking applications, in addition to the development of budget and cost-saving features to aid younger, often financially-challenged, users in better managing their expenses and transactions. Other strategies to boost the credibility of mobile banking include the enhancement of the application's positive ratings on platforms where it is available for download (e.g. Apple Store and Google Play). Application credibility should be clearly communicated along with the availability of security and insurance protocols to prevent and mitigate financial risks incurred by mobile banking use.

5.3 Limitations and future research

The present study investigated and established the moderating effects of gender and age groups on mobile banking adoption among Lebanese and British consumers. That being said, larger samples could provide better insights into mobile banking adoption in different cultural contexts and by extension, allow researchers to infer the population-specific differences in consumer intentions to accept and adopt mobile banking. Similarly, a more inclusive sample in terms of age would allow the examination of the previously reported influence of old age among Lebanese and British users. Moreover, national external confounding variables, namely mobile adoption rates and the maturity of the mobile banking sector, were not addressed in this study. Cultural factors could also be further examined through the integration of Hofstede's cultural dimensions into the research model in order to extensively account for cultural variations between countries. In line with the significant moderating effect of age and gender on consumer intentions, researchers could undertake the inclusion of other demographic variables (e.g. education and income), in future models. This will allow the formulation of a coherent, comprehensive and clear reflection of individual and national mobile banking consumer intentions.

Conclusion

The present study examined the determinants of mobile banking adoption, more specifically, age and gender as moderating variables of the UTAUT2 constructs, which were extended by trust, security and privacy. The fitness of an extended UTAUT2 model was demonstrated in a cross-cultural investigation of 897 samples from Lebanon and England, thus providing an important

avenue for the enhancement of the UTAUT2 theoretical framework. Age and gender exhibited a significant moderating effect, albeit differentially across studied samples. Surprisingly, the influence of gender on adoption was exclusive to Lebanon, while age manifested as a moderating variable in both countries following distinct country-specific moderating patterns. Researchers and practitioners alike stand to benefit from the present study's results, which provide deep insights into mobile banking customers' behaviour and intentions through its comparison of two different cultural contexts, namely Lebanon and England. Moreover, this research reflects the fitness of the UTAUT2 for the study of technology adoption in both developing and developed countries. It is thus suggested that mobile banking adoption could be improved through the adaptation of implementation and marketing strategies to different cultural contexts, particularly that of developing countries. This could be achieved by age- and gender-dependent market stratification in order to reduce the age and gender gap and consequent variations in technology adoption.

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Table 1. *Descriptive statistics of Lebanon and England*

		Lebanon		England	
Descriptions		Frequency	Percentage	Frequency	Percentage
Gender	Male	246	51.5%	205	48.9%
	Female	232	48.5%	214	51.1%
Age	18-25	222	46.5%	89	21.2%
	26 -35	157	32.8%	172	41.1%
	36 and above	99	20.7%	158	37.7%
Educational Qualification	Bachelor	252	53.0%	156	37.2%
	Master	125	26.1%	74	17.7%
	Others	101	20.9%	189	45.1%
Mobile Experience	up to 1 year	108	6.7%	29	6.9%
	1 to 2 years	40	48.5%	41	9.8%
	More than 2 Years	330	44.8%	349	83.3%

Table 2. Measurement Model of Lebanon and England

Lebanon	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
BI	0.903	0.940	0.838
EE	0.877	0.915	0.730
FC	0.848	0.892	0.623
HB	0.833	0.889	0.667
HM	0.884	0.928	0.812
PE	0.914	0.939	0.794
PP	0.840	0.894	0.740
PS	0.771	0.866	0.684
PV	0.783	0.874	0.699
SI	0.829	0.888	0.669
TR	0.888	0.917	0.690
Usage	1.000	1.000	1.000
England			
BI	0.817	0.891	0.733
EE	0.886	0.921	0.746
FC	0.811	0.876	0.639
HB	0.769	0.848	0.583
HM	0.891	0.932	0.821
PE	0.854	0.902	0.698
PP	0.848	0.873	0.639
PS	0.855	0.911	0.773
PV	0.873	0.922	0.797
SI	0.864	0.908	0.718
TR	0.870	0.905	0.657
Usage	1.000	1.000	1.000

Table 3. PLS-MGA results for the effect of age moderator in Lebanon

Lebanon		Group 1		Group 2		Group 3		Group 1 vs Group 2		Group 1 vs Group 3		Group 2 vs Group 3	
Hypothesis	Relationship	*T*	*p*	*T*	*p*	*t*	*p*	Path Coefficients differences	*p*	Path Coefficients differences	*p*	Path Coefficients differences	*p*
H11a	BI -> Usage	9.741	0.000	11.564	0.000	15.489	0.000	0.100	0.928	0.245	1.000*	0.145	0.981*
H2a	EE -> BI	0.128	0.898	0.562	0.575	1.344	0.179	0.062	0.696	0.216	0.123	0.278	0.066
H3a	FC -> BI	1.082	0.280	0.148	0.882	2.489	0.013	0.091	0.182	0.348	0.965*	0.44	0.992*
H7a	HB -> BI	7.751	0.000	5.831	0.000	2.257	0.024	0.021	0.578	0.145	0.149	0.166	0.119
H5a	HM -> BI	0.719	0.473	1.232	0.218	0.588	0.557	0.128	0.902	0.098	0.825	0.029	0.371
H1a	PE -> BI	3.905	0.000	2.586	0.010	1.632	0.103	0.083	0.225	0.031	0.444	0.051	0.632
H10a	PP -> BI	0.489	0.625	0.073	0.942	1.195	0.233	0.030	0.629	0.113	0.891	0.083	0.788
H9a	PS -> BI	1.761	0.079	1.026	0.305	2.833	0.005	0.021	0.597	0.099	0.125	0.120	0.103
H6a	PV -> BI	0.264	0.792	1.342	0.180	0.767	0.443	0.097	0.830	0.076	0.215	0.173	0.066
H4a	SI -> BI	0.638	0.524	1.394	0.164	1.865	0.063	0.134	0.074	0.117	0.880	0.251	0.991*
H8a	TR -> BI	3.203	0.001	1.690	0.092	0.706	0.481	0.070	0.243	0.153	0.046*	0.083	0.222

Table 4. PLS-MGA results for the effect of age moderator in England

England		Group 1		Group 2		Group 3		Group 1 vs Group 2		Group 1 vs Group 3		Group 2 vs Group 3	
Hypothesis	Relationship	*t*	*p*	*t*	*p*	*T*	*P*	Path Coefficients differences	*p*	Path Coefficients differences	*p*	Path Coefficients differences	*p*
H11a	BI -> Usage	2.970	0.003	9.419	0.000	8.468	0.000	0.209	0.969	0.314	0.995*	0.105	0.974*
H2a	EE -> BI	2.381	0.018	0.764	0.445	1.499	0.135	0.150	0.861	0.411	0.997*	0.261	0.963*
H3a	FC -> BI	2.649	0.008	1.638	0.102	0.539	0.590	0.110	0.142	0.161	0.105	0.051	0.321
H7a	HB -> BI	8.096	0.000	10.917	0.000	3.060	0.002	0.001	0.491	0.346	0.001*	0.346	0.000*
H5a	HM -> BI	2.501	0.013	0.962	0.337	0.912	0.362	0.220	0.006*	0.111	0.120	0.109	0.912
H1a	PE -> BI	1.086	0.278	1.447	0.149	2.907	0.004	0.023	0.568	0.231	0.960*	0.208	0.952*
H10a	PP -> BI	1.011	0.312	1.260	0.208	1.329	0.184	0.007	0.531	0.063	0.670	0.056	0.648
H9a	PS -> BI	1.096	0.274	0.268	0.789	2.694	0.007	0.102	0.765	0.143	0.174	0.245	0.016
H6a	PV -> BI	2.352	0.019	4.261	0.000	0.388	0.698	0.085	0.842	0.178	0.027*	0.263	0.001*
H4a	SI -> BI	1.517	0.130	1.099	0.272	0.758	0.449	0.179	0.063	0.068	0.246	0.111	0.902
H8a	TR -> BI	1.599	0.111	3.226	0.001	1.478	0.140	0.058	0.724	0.016	0.450	0.074	0.230

Table 5. PLS-MGA results for the effect of gender moderator in Lebanon

Lebanon							
		male users		female users		Path Coefficients: differences	P
Hypothesis	Relationship	*t*	*p*	*t*	*p*		(Male vs Female)
H11b	BI -> Usage	13.577	0.000	12.459	0.000	0.035	0.280
H2b	EE -> BI	1.393	0.164	1.135	0.257	0.188	0.032*
H3b	FC -> BI	0.137	0.891	2.074	0.039	0.156	0.950*
H7b	HB -> BI	8.926	0.000	7.024	0.000	0.088	0.130
H5b	HM -> BI	0.181	0.856	1.094	0.275	0.049	0.262
H1b	PE -> BI	1.466	0.143	5.734	0.000	0.273	0.996*
H10b	PP -> BI	1.739	0.083	0.380	0.704	0.063	0.188
H9b	PS -> BI	4.324	0.000	1.836	0.067	0.129	0.973*
H6b	PV -> BI	2.560	0.011	1.313	0.190	0.198	0.004*
H4b	SI -> BI	0.115	0.908	0.994	0.320	0.045	0.722
H8b	TR -> BI	2.412	0.016	3.401	0.001	0.058	0.771

Table 6. PLS-MGA results for the effect of gender moderator in England

England							
		male users		female users		Path Coefficients: differences	*p*
Hypothesis	Relationship	*t*	*P*	*t*	*p*		(Male vs Female)
H11b	BI -> Usage	7.746	0	7.614	0	0.057	0.274
H2b	EE -> BI	0.363	0.717	0.959	0.338	0.112	0.813
H3b	FC -> BI	2.030	0.043	0.823	0.411	0.087	0.178
H7b	HB -> BI	5.591	0.000	8.529	0.000	0.064	0.752
H5b	HM -> BI	0.911	0.363	1.285	0.200	0.006	0.530
H1b	PE -> BI	2.357	0.019	1.772	0.077	0.123	0.192
H10b	PP -> BI	1.169	0.243	2.337	0.020	0.093	0.761
H9b	PS -> BI	1.894	0.059	2.225	0.027	0.036	0.367
H6b	PV -> BI	2.015	0.045	3.152	0.002	0.021	0.607
H4b	SI -> BI	0.517	0.606	1.584	0.114	0.114	0.078
H8b	TR -> BI	1.254	0.211	3.472	0.001	0.133	0.937

Table 7. Comparison of results: Lebanon vs England

Hypothesis	Relationship	Hypotheses testing (Lebanon)	Greater effect for	Hypotheses testing (England)	Greater effect for
H1a	PE -> BI	Not Supported	N/A	Supported	Old
H2a	EE -> BI	Not Supported	N/A	Supported	Young
H3a	FC -> BI	Supported	Old	Not Supported	N/A
H4a	SI -> BI	Not Supported	N/A	Not Supported	N/A
H5a	HM -> BI	Not Supported	N/A	Supported	Young
H6a	PV -> BI	Not Supported	N/A	Supported	Young
H7a	HB -> BI	Not Supported	N/A	Supported	Young
H8a	TR -> BI	Supported	Young	Not Supported	N/A
H9a	PS -> BI	Not Supported	N/A	Not Supported	N/A
H10a	PP -> BI	Not Supported	N/A	Not Supported	N/A
H1b	PE -> BI	Supported	Female	Not Supported	N/A
H2b	EE -> BI	Supported	Male	Not Supported	N/A
H3b	FC -> BI	Supported	Female	Not Supported	N/A
H4b	SI -> BI	Not Supported	N/A	Not Supported	N/A
H5b	HM -> BI	Not Supported	N/A	Not Supported	N/A
H6b	PV -> BI	Supported	Male	Not Supported	N/A
H7b	HB -> BI	Not Supported	N/A	Not Supported	N/A
H8b	TR -> BI	Not Supported	N/A	Not Supported	N/A
H9b	PS -> BI	Supported	Female	Not Supported	N/A
H10b	PP -> BI	Not Supported	N/A	Not Supported	N/A
H11	BI->USE	Supported		Supported	