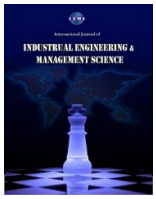
University of Hormozgan

International Journal of Industrial Engineering & Management Science

journal homepage: www.ijiems.com



# Adoption of Mobile insurance technology using TAM: A Case Study

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ARTICLE INFO

*Article history:*
Received: 2021-02-15
Received in revised form: 2021-08-23
Accepted: 2021-08-24

*Keywords:*
Mobile Insurance
Technology acceptance model (TAM)
Privacy policy
Perceived usefulness

ABSTRACT

This paper aims to investigate the factors that might have an impact on the adoption of mobile insurance through the Technology Acceptance Model (TAM). Data were collected by questionnaires to 150 Iran consumers who were actively using mobile insurance. The data were analyzed using partial least squares structural equation modeling (PLS-SEM) and multi-group analysis (MGA) in Smart PLS 3.0 software. Results show that attitude towards use, ease of use, perceived usefulness, and privacy policy, have a positive effect, and privacy risk harms intention to use. Furthermore, the results of MGA analysis indicate that in the ease of use and intention to use, males displaying a stronger relationship than females. In this study, however, we found that females tended to be less influenced by the ease of use when evaluating the use of mobile insurance technology. Moreover, the results revealed that gender can also moderate the relationship between privacy risk and intention to use, with a stronger relationship existing among females.

## 1. Introduction

The rapid evolution of mobile technology from voice-based functionality to multimedia exchanges, commercial transactions, social networking, and gaming has fueled the development of application software to satisfy the existing and potential needs of mobile users [67]. Smartphone apps have been defined as "end-user software applications that are mainly designed for a cell phone operating system which extend the phone's capabilities by enabling users to perform particular tasks" [61]. Mobile technology not only provided the anytime/anywhere learning environment to enhance employees' work capability but also facilitated immediate service to clients and finally made the company get rid of the existing energy-intensive and labor-intensive business environment, to create a so-called low-carbon economy [20, 45, and 69].

Malik, Kumra, and Srivastava [47] posit that mobile technology refers to the pairing of mobile devices with commercial transactions, giving customer service anywhere and anytime through wireless, internet-enabled devices and without the use of a computer. Lee, Cheng, and Cheng [41] find that the PDA mobile commerce system is indeed suitable for the insurance industry. Masinge [49] suggests that mobile technology is the next big wave of business. Several mobile commerce applications have been developed and are already in use, covering a wide range of business functions from advertising, to banking and insurance. The rapid development of mobile technology coupled with the changes in the behavior of consumers has made the firms change their traditional business paradigms and have created opportunities for them to offer their services via mobile. The decision-makers are aware that they need to become more customer-centered, do the business more efficiently, and be more responsive to customer's needs and expectations and tried to invest in new technologies for responding to the customers' needs [11]. The network effect of mobile phones and the development of applications for these devices has allowed many companies to reach a larger number of customers both potential and actual than was previously possible [36]. Mobile insurance technology has been the most emerging

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trend in recent years. Mobile insurance technology is introduced as an innovative IT miracle. This technology equips organizations with technologies and techniques to manage service and information for various purposes. Mobile technology has changed the way business is done. It represents the next wave of opportunity, whereby technology can perform millions of transactions in seconds. In the mobile world a consumer device, such as a smartphone collecting data could be the starting point, analyzing the data and presenting the data to the user and consumer with a tailor-made opportunity or business proposition in real-time. According Naicker and Van Der Merwe [51] conducted a study on Managers' perception of mobile technology adoption in the Life Insurance industry. The results found that perceived ease of use, perceived usefulness, perceived complexity, and perceived cost are important factors for adoption. However, perceived risk was a key factor in the adoption of mobile technology. Ndifon, Bawack, and Kamdjoug found that coping appraisal and technology appraisal is important for the adoption of mobile-supported health insurance systems (MHIS) in low- and middle-income countries (LMIC) [52].

As a breakthrough, mobile insurance technology offers valuable opportunities to insurance firms to grasp valued insights of behavior from their possible customers, create transparency, acquire more business value and competitive advantage. Changing human behavior is one of the key challenges managers face in their attempt to adopt mobile technology. IT managers should pursue their efforts in managing risks by implementing an adoption of mobile insurance. Managers, therefore, have the responsibility to make the right decisions as to how mobile technology is to be adopted and used in the organization. If IT managers were tooled with a greater understanding of the effect factors that influence adoption, they may be able to make informed decisions.

Summarizing the above discussion, mobile insurance technology is still in its initial phase and many companies are undecisive in its adoption. So far, much research has been conducted to discover potential benefits and capabilities, data quality process and analysis, and costs of mobile apps utilization in different organizations. However, organizational adoption of mobile insurance technology and the significant effects of mobile insurance technology adoption on the performance of companies are less explored in the literature. Torbati and Sayadi stated the successful performance of the insurance industry can create incentives for other industries for the development of their economy [68]. More specifically, the insurance-related mobile insurance technology research field is still not very clearly identified by scholars. Therefore, there is a need for more in-depth studies to identify the factors impacting the adoption of mobile insurance technology in the insurance industry. To fill this gap, the present paper proposes a conceptual model that integrates the main determining variables regarding user behavior related to the adoption of an innovative Mobile Insurance Technology. The article, using the TAM model as a theme framework and its subsequent extensions, aims to cope with the Mobile Insurance Technology user behavior through the relationships that exist between different variables such as perceived usefulness, perceived ease of use, attitude towards use, behavioral intention to use, actual usage to Adoption of Mobile Insurance Technology, etc. These relationships between variables will be explained in detail in the next section.

## 2. Research model and hypotheses development

To analyze the user behavior regarding the adoption of innovative technology, several behavioral decision theories, and intentional models have been developed by scientific literature over the last four decades. According to the aim of this study, and due to the relevance regarding the explanation of mobile insurance technology, we have used these attitudinal models and theories based on Social Psychology, such as the Technology Acceptance Model, or TAM [17]. The TAM model, which was first proposed by Davis [16], is the most influential of research models explaining information technology adoption and is considered useful for studying acceptance in various contexts related to information technology [38]. The central message of this model is that technology users make rational decisions regarding using a technology. The TAM model was designed based on the Theory of Reasoned Action, or TRA [7 and 24] to make predictions on acceptance and use of new information technologies and systems, by identifying the features that drive success for company's information systems and their adaptability to work-related needs [17]. The TAM has been regarded as the most robust, parsimonious, and influential model in innovation acceptance behavior [17 and 60], and therefore, we consider this theoretical model as a base for the present study. The TAM model states attitude toward the use of new technology as a construct explained by two perceived variables: usefulness and ease of use. We have focused our study on the original TAM model considered the most relevant, although we have also included the following external influences: privacy risk, privacy policy, and age. We have developed the model using privacy risk, privacy policy, and age.

### 2.1. Perceived Privacy Risk

Perceived risk is defined as the uncertainty of services or goods [48]. In social commerce, consumers can share product information with their friends and evaluate products with each other, which may lead to intrusion of privacy [32]. Some researchers have defined perceived risk regarding the purchase of goods in the context of e-commerce as customer perception of the uncertainty of buying a product or service through e-commerce [33 and 53]. Privacy risk is the frustration of online shopping [48]. Private information can be tracked and used on the Internet to share with others [48]. Privacy risk is the potential loss of control over personal information [23 and 35]. The final relationships that deal with mobile apps are the effects of Privacy Risks and benefits on behavioral reactions [26]. Similar to Privacy Concerns, Privacy Risks should increase the likelihood of engaging in privacy behaviors to protect the opportunistic use of personal information [73]. In another study, Lankton and Tripp [40] established that "Privacy Risk has no significant influence on change privacy settings but do significantly influence Usage Continuance Intention". In this study, the following hypothesis was proposed:

**Hypotheses 1:** Perceived privacy risks are expected to have a negative impact on the intention to use the proposed mobile insurance technology.

### 2.2. Privacy Policy

According to Callanan, Jerman-Blažič, and Blažič [9] user awareness of the privacy policy has a direct effect on using the mobile Internet. The presence of a solid website privacy policy heightens online shoppers' trust, and, in turn, reduces their privacy concerns [63]. Framing a rigorous privacy statement that shows organizational compliance with personal data protection regulations can significantly influence consumers' buying decisions [21]. Previous authors have emphasized the role of privacy statements in trust-building in other contexts, such as online shopping, website registration, and mobile Internet use. The completeness and transparency of online privacy statements influence online consumers' perceptions and behavioral intentions to purchase products [10]. In this study, the following hypothesis was proposed:

**Hypotheses 2:** Privacy policies are expected to have a negative impact on the intention to use the proposed mobile insurance technology.

### 2.3. Perceived ease of use

Perceived ease of use (PEOU) is defined as the degree to which a person believes that using a particular system would be free of effort within an organizational context [17]. The approximation to this construct is based on measures to determine how systems allow you to perform tasks faster, increase productivity, performance and work efficiency. The effect of perceived ease of use on attitude has been shown in various studies applied to different contexts [13 and 31]. Empirically, PEOU was found to be a predictor for technology acceptance [12, 22 and 62]. In connection with the above, we state the following hypotheses:

**Hypotheses 3:** Perceived ease of use has a positive effect on the intention to use the proposed mobile insurance technology.

**Hypotheses 4:** Perceived ease of use has a positive effect on attitude towards the use of the proposed mobile insurance technology.

### 2.4. Perceived usefulness

Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her performance" [15]. According to previous research, perceived usefulness is one of the most important factors driving consumers to adopt a technology [15]. Just like fun and social expectations, usefulness is a determining factor for the attractiveness of a product. Several studies have demonstrated the direct relationship between perceived usefulness and attitude [1, 39 and 50]. Also, further research to perceived usefulness as an antecedent for the behavioral intention of mobile services and online financial services endorsed its significant role as a key driver [29 and 55]. Substantiated by the aforementioned literature it is hypothesized that:

**Hypotheses 5:** Perceived usefulness has a positive effect on attitude towards the use of the proposed mobile insurance technology.

### 2.5. Attitude and Intention to Use

Individuals' positive or negative feelings towards performing the target behavior [24]. From TRA and TAM, individuals' belief regarding the consequences of their behavior significantly affects their attitude toward behaving in that manner. Both models posit that attitude significantly influences individual intentions toward behavior. According to [25], attitude can be defined as a multidimensional construct, consisting of three dimensions: cognitive (experience, beliefs, and opinions), affective or emotional (feelings, emotions, and subjective evaluations), and a conative or behavioral dimension (intention to purchase, respect to purchase and response to rejection). This relationship has been studied and found to be significant in various technologies such as e-banking [6], smart homes [66], virtual worlds [6], academic social networking sites [65], mobile application [64] and mobile payment services [43 and 59]. Therefore, we propose the following hypothesis:

**Hypotheses 6:** Attitude towards mobile insurance technology has a significant positive influence on the intention to use the proposed mobile insurance technology.

### 2.6. Gender

Social psychology literature has implied that there are significant behavioral differences between female groups and male groups in various decision-making situations [8]. It is generally considered the one most common and primary variable used by marketers for segmentation. Venkatesh and Morris [70] proved that women's perception of the usefulness of a technology influences adoption weakly compared with men. Venkatesh, Morris, and Ackerman [71] asserted that the males were greatly affected by attitude towards the adoption of new technology; while the females were more influenced by subjective norm and perceived behavioral control. Factors that affect the behavioral intentions of adopting technology products may differ by gender, which is one of the moderating drivers proposed in the TAM model. The adoptions of technology products that were examined in previous research while considering gender as a moderator include mobile internet [72], mobile payments [2, 42 and 44], mobile banking [37, and 57], mobile apps [58], and information communication technology(ICT) adoption in the public or private organization [3 and 4]. Mobile insurance technology is a new technology in the market, and hence, the adoption of the technology itself may vary across gender. To develop strategies catering to each gender, which have high success rates, it is necessary to understand differences between women and men regarding the adoption of mobile insurance technology. Hence, the following hypotheses were proposed in the context of mobile insurance technology for mobile using:

**Hypotheses 7:** There is a significant difference between genders in "a: Privacy Risk, b: Privacy Policy, c: perceived ease of use, d: perceived usefulness, e; attitude towards use and f: intention to use" of mobile insurance technology. Gender moderates the relationships in H1 to H3 and H6.

## 3. Research Methodology

In this study, a questionnaire survey was employed to investigate the mobile insurance technology adoption of insurance customers in Tehran. The survey items include perceived usefulness, perceived ease of use, attitude, and intention to use. All questionnaire items were measured using a 5-point Likert scale ranging from "strongly agree" to "strongly

disagree". The survey instrument consists of 4 items for perceived ease of use, 4 items for perceived usefulness, 4 items for privacy risk, 4 items for the privacy policy, 4 items for attitude toward using, and 5 items for intention to use. The survey questions employed in this study were developed based on the extant literature, discussed in the previous section (Table 1).

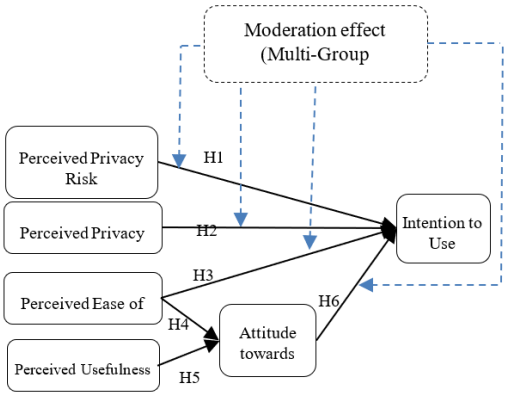


**Fig. 1.** The mobile insurance technology adoption model

**Table 1.** Survey questions information.

| Variable | Observed Variables | Items | Source |
|---|---|---|---|
| privacy risk (PR) | PR1 | The privacy statement clearly states the safeguards used to protect data from unauthorized access | Malhotra, Kim, and Agarwal [46] |
| | PR2 | The privacy statement clearly states the required actions to ensure personal data security during information sharing | |
| | PR3 | The privacy statement clearly explains the required technology to ensure cross-border data protection. | |
| | PR4 | The privacy statement informs the steps taken to prevent personal. | |
| privacy policy (PP) | PP1 | It is important to me that mobile insurance technology publish their information privacy policy. | Capistrano and Chen [10] |
| | PP2 | I got involved with reading through the information privacy policy. | |
| | PP3 | I am likely to read the privacy policy of mobile insurance technology I visit for the first time. | |
| | PP4 | Mobile insurance technology is obligated to protect privacy. | |
| perceived usefulness | PU1 | I find mobile insurance technology useful for the insured. | Davis [16] |
| | PU2 | Using mobile insurance technology makes it easier to catch individual insured needs. | |
| | PU3 | Using mobile insurance technology to buy insurance will enable me to accomplish transactions quickly. | |
| | PU4 | Using mobile insurance technology to buy insurance will enhance my effectiveness. | |
| perceived ease of use (PEOU) | PEOU1 | It is easy to become skillful at using mobile insurance technology. | Davis [16] |
| | PEOU2 | I find it easy to apply mobile insurance technology in buy insurance. | |
| | PEOU3 | Buy insurance using mobile insurance technology does not require great mental effort. | |
| | PEOU4 | Overall, I believe that using mobile insurance technology to buy insurance is easy. | |
| attitude toward using (ATT) | ATT1 | Using mobile insurance technology for shopping is good. | Davis et al. [17] |
| | ATT2 | It is a positive influence for me to use mobile insurance technology in buy insurance. | |
| | ATT3 | The use of mobile insurance technology is an extremely positive idea. | |
| intention to use (IU) | IU1 | I tend to use using mobile insurance technology to buy insurance. | Davis et al. [17] |
| | IU2 | I'd love to use mobile insurance technology to buy insurance. | |
| | IU3 | I intend to use mobile insurance technology. | |
| | IU4 | I would recommend my relatives and friends to use mobile insurance technology. | |

### 3.1. Data collection

Data were mainly collected from mobile insurance technology users in Tehran. The data were randomly collected online during November of 2020. In total, 180 volunteers participated in this study. Most of the participants took about 10 minutes to complete the survey, but only 150 of them completed the questionnaires properly. Questionnaires that contained incomplete or inappropriate answers were excluded from the analysis.

**Table 2.** Demographic Properties of Respondents

| Variable | | Freque | Percent % |
|---|---|---|---|
| Gender | Male | 65 | 43.3 |
| | Female | 85 | 56.7 |
| Age | 25 and under | 22 | 14.7 |
| | 26-34 years old | 68 | 45.3 |
| | 35-44 years old | 45 | 30 |
| | Above 45 years old | 15 | 10 |
| Education | high school/ vocational | 9 | 6 |
| | associate degree | 11 | 7.3 |
| | bachelor's degree | 44 | 29.3 |
| | masters | 72 | 48 |
| | postgraduate and above | 14 | 9.3 |

Table 2 summarizes the sample characteristics of respondents. The respondents comprised 56.7 percent females and 43.3 percent males. Their age classification is as follows: 25 and under years of respondents 14.7 percent, 26-34 years 45.3 percent, 35-44 years 30 percent, Above 45 years 10 percent. Most of the respondents hold a master's 48 percent.

## 4. Analysis and Results

Partial least squares–structural equations modeling (PLS-SEM) was employed for data analysis, which was completed in Smart PLS 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 [14]. In this study, because 6 variables were included to study complicated relationships between these variables and moderating effects, the PLS-SEM method was deemed to be relatively suitable and beneficial for the research purpose. The study utilized structural equation modeling (SEM) using Smart PLS 3.2.8 software. Partial least squares (PLS) were used with a 1000-subsample bootstrapping procedure, which was suggested by Hair Jr, Hult, Ringle, and Sarstedt [28]. Besides, SPSS 23 was used during data analysis for exploratory factor analysis and descriptive analysis.

Table 3 shows the details of the measurement model. When the Cronbach alpha values were analyzed, it was found that the internal consistency of the structures in the measuring scale was at a good level [54]. Composite reliability (CR) was ensured, as the reliability of the composite construct exceeded the minimum recommended value of 0.7 [27]. The convergent validity was obtained with the average variance extracted (AVE) values of all dimensions and standard factor loadings exceeding the recommended value of 0.5 [34].

**Table 3.** Outer loading, construct reliability, and validity results.

| Variables | Outer Loadings (CFA) | | Cronbach's Alpha | Composite Reliability | Average Variance Extracted (AVE) |
|---|---|---|---|---|---|
| attitude towards use | ATT1 | 0.752 | 0.751 | 0.858 | 0.669 |
| | ATT2 | 0.842 | | | |
| | ATT3 | 0.855 | | | |
| intention to use | IU1 | 0.737 | 0.770 | 0.852 | 0.591 |
| | IU2 | 0.821 | | | |
| | IU3 | 0.746 | | | |
| | IU4 | 0.769 | | | |
| ease of use | PEOU1 | 0.706 | 0.753 | 0.844 | 0.577 |
| | PEOU2 | 0.708 | | | |
| | PEOU3 | 0.865 | | | |
| | PEOU4 | 0.749 | | | |
| privacy policy | PP1 | 0.704 | 0.757 | 0.841 | 0.570 |
| | PP2 | 0.770 | | | |
| | PP3 | 0.814 | | | |
| | PP4 | 0.727 | | | |
| privacy risk | PR1 | 0.786 | 0.856 | 0.903 | 0.699 |
| | PR2 | 0.866 | | | |
| | PR3 | 0.847 | | | |
| | PR4 | 0.842 | | | |
| perceived usefulness | PU1 | 0.744 | 0.815 | 0.877 | 0.642 |
| | PU2 | 0.825 | | | |
| | PU3 | 0.859 | | | |
| | PU4 | 0.773 | | | |

According to Fornell and Larcker [27], the square root of the AVE of each construct should exceed the correlation shared between the construct and other constructs in the model to achieve discriminant validity. Table 4 demonstrates that the discriminant validity has a satisfactory level. Consequently, construct validity and reliability were provided.

The heterotrait–monotrait ratio of correlations (HTMT) was applied to assess discriminant validity. Discriminant validity ensures that each construct in the structural model measures a different concept [28 and 30]. Table 5 depicts discriminant validity. According to Henseler et al. [30] and Hair Jr et al. [28], the HTMT ratio should be less than 0.90 to establish discriminant validity. As the table demonstrates, the HTMT ratio is less than 0.90 among all constructs; discriminant validity was established.

**Table 4.** Fornell–Larcker criterion

| | ATT | PEOU | IU | PU | PP | PR |
|---|---|---|---|---|---|---|
| ATT | 0.818 | | | | | |
| PEOU | 0.544 | 0.760 | | | | |
| IU | 0.633 | 0.636 | 0.769 | | | |
| PU | 0.572 | 0.554 | 0.654 | 0.801 | | |
| PP | 0.437 | 0.606 | 0.605 | 0.477 | 0.755 | |
| PR | -0.550 | -0.616 | -0.635 | -0.674 | -0.579 | 0.836 |

Notes. ATT: attitude towards use; PEOU: ease of use; IU: intention to use; PU: perceived usefulness; PP: privacy policy; PR: privacy risk.

**Table 5.** Heterotrait-Monotrait Ratio (HTMT)

| | ATT | PEOU | IU | PU | PP | PR |
|---|---|---|---|---|---|---|
| ATT | | | | | | |
| PEOU | 0.717 | | | | | |
| IU | 0.823 | 0.833 | | | | |
| PU | 0.716 | 0.712 | 0.826 | | | |
| PP | 0.557 | 0.767 | 0.746 | 0.594 | | |
| PR | 0.685 | 0.772 | 0.770 | 0.818 | 0.705 | |

Notes. ATT: attitude towards use; PEOU: ease of use; IU: intention to use; PU: perceived usefulness; PP: privacy policy; PR: privacy risk

## 4.1. Assessment of the structural model and Test of Hypotheses

Figure 2 shows the results of the estimation of the structural model. A bootstrap resampling technique considering 1000 subsamples was used to determine the values of the t-test. The structural model was assessed through the coefficient of determination (R-square) and predictive relevance (Q-square), as suggested by Hair et al. (2017). To be considered moderate, the coefficient of determination (R-square) should be above 0.33 (Chin, 1998). Particularly, the R-square was 0.594 percent for intention to use and 0.402 percent for attitude towards use, indicating a medium predictive power of the corresponding constructs. This was also supported by the positive values of Q-square (0.333 percent for intention to use and 0.261 percent for attitude towards use).

As shown in Table 6, 6 hypotheses were statistically significant. As expected, perceived risks had a negative and significant impact on intention to use (ß= −0.210; p=0.086), supporting H1. Perceived risks presented the most important antecedent of intention to use. Individuals with higher risk are less likely to favor the use of intention to use mobile insurance technology. This is consistent with the idea that people with higher risk perception tend to have lower levels of use of mobile insurance technology. Privacy policy (β=0.227, p=0.000), Perceived ease of use (β=0.202, p=0.010), and Attitude towards (β=0.309, p=0.001) were positively related to intention to use, supporting H2, H3, and H6. The data also indicated that perceived usefulness (β=0.391, p=0.000) and Perceived ease of use (β=0.328, p=0.000) could positively influence Attitude towards therefore, H4 and H5 were supported.

**Table 6.** Hypothesis test results.

| | Hypotheses | β | STDEV | T Statistics | P Values | Result |
|---|---|---|---|---|---|---|
| H1 | privacy risk → intention to use | -0.210 | 0.122 | 1.721 | 0.086 | accepted |
| H2 | privacy policy → intention to use | 0.227 | 0.061 | 3.688 | 0.000 | accepted |
| H3 | ease of use → intention to use | 0.202 | 0.079 | 2.565 | 0.010 | accepted |
| H4 | ease of use → attitude towards use | 0.328 | 0.081 | 4.072 | 0.000 | accepted |
| H5 | perceived usefulness → attitude towards use | 0.391 | 0.100 | 3.906 | 0.000 | accepted |
| H6 | attitude towards use → intention to use | 0.309 | 0.088 | 3.501 | 0.000 | accepted |

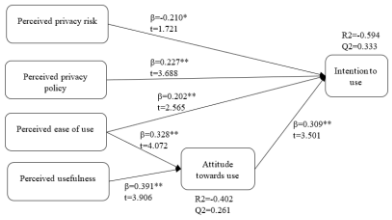


**Fig. 1.** PLS-SEM (Partial least squares - structural equation modeling) whole group results (note: *p<0.1; **p<0.01; ***p<0.05).

### 4.2. Moderation effects of gender

PLS multi-group analysis (PLS-MGA) was applied to examine the indirect, specific effects between male and female managers to test the proposed hypotheses. To check the moderating effect of gender, participants were separated into two groups: males (n= 65) and females (n=85). Table 7 reports the specific indirect effects of the multiple mediation model moderated by gender.

**Table 7.** Multi-Group Analysis

| | FEMALE | | | MALE | | | PLS-MGA | | Parametric Test | | Welch-Satterthwait Test | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | β | p | t | β | p | t | β F&M | p F&M | t F&M | p F&M | t F&M | p F&M |
| ATT → IU | 0.323 | 0.011 | 2.533 | 0.201 | 0.111 | 1.596 | 0.122 | 0.476 | 0.672 | 0.502 | 0.686 | 0.495 |
| PEOU → IU | -0.010 | 0.893 | 0.134 | 0.323 | 0.018 | 2.377 | -0.333 | 0.047 | 2.281 | 0.024 | 2.156 | 0.035 |
| PP → IU | 0.249 | 0.000 | 3.808 | 0.297 | 0.013 | 2.486 | -0.048 | 0.727 | 0.376 | 0.707 | 0.355 | 0.724 |
| PR → IU | 0.484 | 0.000 | 4.346 | 0.021 | 0.898 | 0.128 | 0.463 | 0.012 | 2.434 | 0.016 | 2.355 | 0.021 |

Notes. ATT: attitude towards use; PEOU: ease of use; IU: intention to use; PU: perceived usefulness; PP: privacy policy; PR: privacy risk

Table 7 shows the results of the assessment of the structural model and MGA based on MGA and the permutation method, which appear that the results of MGA indicate significant differences for the effect of ease of use on intention to use across both groups (H3). The positive effect of ease of use on intention to use is much higher for male than for female consumers. This means that the intention to use is strongly caused by the ease of use for male consumers and is weaker for female consumers. Also indicate a significant difference for the effect of privacy risk on intention to use across both groups (H1). The positive effect of privacy risk on intention to use is much higher for female than for male consumers. Therefore, it can be concluded that the results for the MGA support hypothesis are H1 and H3, other hypotheses suggested by this study (H2 and H6) cannot be supported by the results obtained.

## 5. Conclusion

The purpose of this study was to investigate how the determinants (attitude towards use, ease of use, perceived usefulness, privacy policy, and privacy risk) could influence intention to use mobile insurance technology, and with a special focus on moderating effects of gender. One of the important findings was that quality dimensions of mobile insurance and attitude towards use, ease of use, perceived usefulness, and privacy policy had positive effects on intention to use. These findings are consistent with [18, 19, 41 and 56] research into the adoption of technology. Additionally, the results revealed the moderating role of gender, which can moderate the relationship between ease of use and intention to use, with males displaying a stronger relationship than females. In this study, however, we found that females tended to be less influenced by the ease of use when evaluating the use of mobile insurance technology. Moreover, the results revealed that gender can also moderate the relationship between privacy risk and intention to use, with a stronger relationship existing among females. Our research focuses on the positive and negative factors that influence the public acceptance of e-consultation and supports the use of TAM and perceived risk in explaining public intention to use e-consultation. We found that perceived usefulness and perceived risk are the most important determinants affecting people's intention to use e-consultation. Therefore, platforms and manufacturers must improve the function of e-consultation, which will promote the public intention to use it fundamentally. Further, to control the perceived risk of the public, the government should play an important role in enforcing the management of e-consultation markets and approving corresponding medical insurance policies. Besides, we found that personal innovativeness has an effect on behavior intention and the path of factors has differences among people with different characteristics to some degree. Therefore, it is necessary to adjust the strategies to adapt to different groups. Our research found that ease of use, privacy policy, and attitude towards use are the most important determinants affecting people's intention to use mobile insurance. Therefore, platforms and manufacturers must improve the function of mobile insurance, which will promote the public intention to use it fundamentally. Further, to control the privacy risk of the public, the government should play an important role in enforcing the management of mobile insurance markets. Besides, we found that gender has an effect on the intention to use and the path of factors has differences among people with different characteristics to some degree. Therefore, it is necessary to adjust the strategies to adapt to different groups. Our results help to the literature on intention to use mobile insurance technology in between consumers that scrutinize mobile insurance services to using. As well as results confirmed the intention to use on attitude towards use, perceived ease of use, perceived usefulness, privacy policy, privacy risk, and the privacy risk in form of privacy and choice uncertainty in mobile insurance technology for insurance services. In addition to this, privacy concerns emerged as a new and relevant barrier in IS research, while privacy policies were less of a concern. Also, our results reinforce the essence of service and system quality-related aspects or in other words, mobile insurance technology for complex products requires an extensive service provision and more intuitive and easier to handle interfaces like those provided today, and our results accordingly shift the focus towards the sales environment (service and system) as a potential area for improvement, rather than the core product itself.

This research has the following limitations. First, we conducted this research in Iran, where mobile commerce is developing rapidly but still in its early stage. Thus, our results need to be generalized to other countries that had developed mobile commerce. Second, thus, besides attitude towards use, ease of use, perceived usefulness, privacy policy, and privacy risk, there exist other factors possibly affecting intention to use the mobile

insurance technology, such as satisfaction, trust, the quality of service, and cost. Future research can examine their effects. Third, we mainly conducted a cross-sectional study. However, user behavior is dynamic. Longitudinal research may provide more insights into user behavior development.

The managers' perception must be taken into account as they are the facilitators of the use of mobile insurance. Customers can utilize this technology in their insurance services however it is typically managers' that will drive or inhibit technology use. Therefore factors that influence their adoption and integration of technology into their mobile insurance should be an important starting point. If managers' do not see the need nor feel compelled to adopt technology, it is very unlikely that the new technology will gain traction. Even when new technology is imposed on the Insurance industry it will still play a crucial role in the continual success of the implementation. Resistance of managers' can undermine the future of any new initiative.

The perceptions of customers will also play a role in the success of any new venture, as it is the customers who will be using the technology in their insurance services. Customers' needs need to be considered as well as their overall perceptions and attitudes to the new technology.

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