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USER ADOPTION OF MOBILE INSURANCE APPS

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Dissertation presented as partial requirement for obtaining the Master's degree in Statistics and Information Management

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Universidade Nova de Lisboa

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by

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ABSTRACT

The insurance sector is a sector that is in constant transformation, lately more oriented towards a more digital and technological path. Although millions have been spent on developing mobile insurance applications, knowledge revealed that users have not yet adopted those. In this research, we present evidence of the adoption and recommendation of mobile insurance applications by using a modified unified theory of acceptance and use of technology (UTAUT) model, which integrates two extra determinants: word-of-mouth and enjoyment. With a sample of 200 answers collected in Portugal, we demonstrate that social influence, enjoyment, and word-of-mouth were deemed to be significant in the intention to use and recommend mobile insurance applications. The other UTAUT constructs are considered non-significant, which led us to suggest strategies based on those, to help insurers attract and gain users.

KEYWORDS

Mobile applications, insurance companies, unified theory of acceptance and use of technology (UTAUT).

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1. INTRODUCTION

The insurance industry is deeply affected by global events. In 2020, due to Covid-19, this sector experienced a slowdown in gross premiums. On average, non-life insurance premiums only grew by 1.2%, and life insurance premiums decreased by 2.2% (OECD, 2021). In Luxembourg, for example, life gross premiums declined by 25.8% and Portugal registered the biggest drop in these premiums. Also in the life sector, some OECD countries registered some increases like Denmark and Singapore, which grew by more than 25% and 18%, respectively (OECD, 2021). It is fair to say that insurance companies face all kinds of challenges due to numerous factors, such as diseases, economic shifts, stronger and new ways of competition between insurers, more defiant customer expectations, dangerous security threats, and mainly the constant search for more developed and game-changing technology. To get to all these challenges, the insurance industry is constantly striving for digital transformation. Related to this digital transformation emerges the concept of mobile insurance. Mobile insurance apps or M-Insurance have been created by insurers to ease and simplify the access of the policyholders to the insurer's services. With a mobile insurance app, a user can renew their policies, make payments, file claims, and handle other needs just using a personal smartphone. Mobile insurance apps bring many advantages to the insurance companies such as process simplification, enhancement of the knowledge of the insurance agents, faster chance of getting new customers, and creation of a competitive advantage over other insurers. However, insurers have experienced some difficulties in attracting and retaining mobile insurance users. For instance, two major insurance firms such as Zurich Insurance and AXA released their mobile insurance services a few years ago (MAPFRE, 2020). Even though they were released a few years earlier consumer adoption has been low. Therefore, this research intends to study what are the drivers that lead users to adopt mobile insurance apps.

Mobile insurance has been the focus of several recent studies, for example, Wang (2019), aborded the subject of the insurance value chain in the environment of mobile internet, where he concluded that insurance companies as a supply-side should focus on certain value activities in the environment of mobile internet and try to find out the most useful strategies to meet the changing demand of consumers in a demand side. Also, Sharma (2020), developed a study based on a mobile application that would help users manage all their insurance products, where the focus of the study was on an explicit application of the mobile insurance concept. Regarding the adoption of mobile insurance applications, few studies were found. For instance, Naicker and van der Merwe (2018) studied mobile technology adoption in the life insurance industry, but from the managers' perception. To the best of our knowledge, no further research on the adoption of mobile insurance has been found. So, we intend to fill this gap in the literature with the following research question (RQ):

RQ: What are the drivers of mobile insurance adoption?

This paper studies the factors that lead to mobile insurance adoption and the importance of these factors in the user's willingness to adopt mobile insurance. The motivation for this study is to get a better understanding of the drivers of mobile insurance application adoption for the users, learning about what makes them unadopted. To comprehend this, it is fundamental to adopt a technology acceptance model that best fits the objectives of this research. The unified theory of acceptance and use of technology (UTAUT) is regarded as one of the most concise and robust models for technology adoption cases (Karrar Al-Saed et al., 2019) and by this means was selected for this study. UTAUT is a very well positioned and used model, a model that has revolutionized and harmonized the technology

adoption literature, according to some authors, such as Karrar Al-Saed (2019) in researching the mobile payment adoption or Jadil (2021) when analysing the UTAUT model role in the mobile banking literature.

This study provides two central contributions to the empowerment of the theoretical literature in the mobile insurance adoption context. First, the research model that was developed incorporates two new predictors with UTAUT, word-of-mouth, and enjoyment. Therefore, it allows identifying the power of experience sharing among citizens and the importance associated with the pleasure and fun derived from the use of mobile insurance applications, as determinant factors that lead consumers to adopt and recommend these applications. Second, but also importantly, we show the influence that the users adopting mobile insurance applications have, in recommending those to other citizens.

In section 2 we will present the mobile insurance concept, what are the importance of this topic, and an explanation of the UTAUT model. Section 3 will present a more detailed and complex description of each UTAUT predictor and its correlation to the adoption of mobile insurance. Sections 4 and 5 present insights on the data collected and the results of the analysis of this data. Lastly, we have section 6 where the conclusions of this study are presented.

2. LITERATURE REVIEW

2.1. MOBILE INSURANCE CONCEPT

Nowadays, smartphones are one of the most important objects in our lives. Through them, we are increasingly able to perform all kinds of tasks in an easier way and with very little effort. Therefore, most businesses see smartphones as a new window of opportunity to be closer to their clients and to relaunch themselves in an increasingly developed and competitive market (Buganza et al., 2015). Insurance companies are no exception and all over the world several insurance companies started to invest in the mobile market, launching mobile websites and applications that allow users to perform a wide range of services, and which have major advantages over physical stores. These applications allow the simplification and dematerialization of processes, enabling the reduction of response time to the client and the optimization of operations. Another great advantage of mobile insurance over physical stores, which is a nowadays concern, is the contribution to sustainable development, as it allows insurers to reduce their environmental impact and their carbon footprint. Which contributes to a carbon-neutral economy and provides a balanced world for future generations (Zurich, 2021). Inside this wide range of services that those applications offer us we can for example check our policies, make digital payments, report an accident, call a tow truck, fill out the digital-friendly declaration and download a digital green card. Mon Allianz Mobile, MyAXA, and Zurich4You are examples of mobile insurance applications, developed by three of the biggest European insurance companies (MAPFRE, 2020). In the country under study, the largest national insurance companies have also invested in mobile platforms such as the case of Tranquilidade, Ageas, and Fidelidade (Eco Seguros, 2021), which developed apps Tranquilidade, Mundo Ageas Seguros, and MyFidelidade, respectively.

In the first section, some studies about the mobile insurance concept have been mentioned in a way to highlight the importance and timeliness of this concept. Wang (2019) made research on the insurance value chain in the environment of mobile internet, where he claims that in the mobile internet era, the traditional insurance value chain activities will be transformed into a modular insurance value chain. Each module has its characteristics, and they are related to each other. In the mobile internet environment, the design and research and development (R&D) module of products that meet consumer demand will remain the focus and maintaining good customer relationships has become the service strategy for sustainable development of insurance companies. All in all, insurance companies as a supply-side should focus on these core value activities in the environment of mobile internet and try to find out the most useful strategies to meet the changing demand of consumers on the demand side. The second study, by Naicker et al. (2018), approached the manager's perception of mobile technology adoption in the life insurance industry. The research framework was tested with a sample of senior Information Technology (IT) managers in the Life Insurance industry in South Africa, who answered a descriptive and cross-sectional survey. Through the analysis of the data obtained it was concluded that differences in levels of satisfaction with perceived factors are not significantly different, a slightly higher percentage of people are not bothered about the adoption of mobile technology. Regardless of educational levels, size of organisations, number of years employed and organizational structure or culture, the adoption of mobile technology is not a concern (Naicker et al. 2018). Social factors, such as encouragement of experts and competitiveness within the industry, are seen as critical factors for boosting mobile technology adoption. To complement the research, it is also worthwhile to reference, Ubaid Pisuwala's (2022) publication "how mobile applications is automating

the insurance operations and driving extensive growth". In summary, Ubaid Pisuwala's (2022) affirms that "mobile applications have become a game-changer in every industry, and the insurance industry is no exception. Insurance digital transformation has been possible because of technological advancements. Mobile applications help bridge the gap between insurers and policyholders in the insurance sector by providing smooth and quick solutions", for instance, improving and automating the contact between a company and its clients by means of an insurance application, and removing the tedious and lengthy procedure of filling in policy documentation. Leverage points for insurance companies are also considered in the study, such as the issues that insurance companies are facing.

Throw the extensive analysis of the studies above, it is plausible to conclude that all of them emphasize the predominant importance of embarking on a process of mobile digitalization, to achieve a better and simpler connection with the policyholders. Mobile insurance applications are also seen as a leverage point, with a huge evolution margin, to explore by the insurance companies and a tool to become more competitive and attractive.

2.2. UTAUT MODEL

Information technology's presence in nowadays organisations has grown massively. Some estimates indicate that, since the 1980s, about 50 percent of all new capital investment in organizations has been in information technology (Westland, 2000). However, to increase productivity, they need to be widely accepted and adopted by the workers. Behavioural intention "refers to the willingness of individuals to perform a specific job" (Chu and Chen, 2016). Technology acceptance "refers to whether and why individuals adopt technology" (Louho, 2006), while "adoption refers to its continued use" (Sathye, 1999).

Through intensive research in technology adoption, it has been determined that always exists numerous factors that influence an individual's behavioural intention to adopt various technologies (Al-Saedi, 2020). When a new system is provided to users, their behavioural intention to use that system is affected by several drivers. To determine and analyse these factors, this study will be used the unified theory of acceptance and use of technology (UTAUT) model. Research indicated that the UTAUT is a model that integrates determinants across a range of technology acceptance models and provides a better understanding of the intention to use a technology (Venkatesh, 2003). UTAUT is a model that integrates other models, such as the theory of reasoned action (TRA), technology acceptance model (TAM), motivational model (MM), theory of planned behaviour (TPB), model of PC utilization (MPCU), innovation diffusion theory (IDT) and social cognitive theory (SCT). As revealed by Venkatesh (2003) his unified model predicts a 69 percent variance in the behavioural intention of users, which is higher than the pre-existing models that only predicted 17 to 53 percent. However, Dwivedi (2019) related that the "UTAUT model omitted some possibly significant relationships, as hypothesized some relationships that may not be appropriate to all situations and removed some constructs that may be critical for explaining information systems acceptance and use". Since its conception, the UTAUT model has been widely used in the field of technology adoption and diffusion as a theoretical focus by researchers investigating empirical studies on users' intentions and behaviour. Williams (2015) reported that the "UTAUT model has successfully harmonized the technology adoption literature". Testing the adoption of mobile insurance using the UTAUT model is adequate, as it is the newest and most updated technology acceptance theory that is broadly acknowledged by scholars

(Dečman, 2015). To develop a model of this kind, the objectives of this study are three-fold. First, to systematically review the mobile insurance adoption studies that prolonged the UTAUT model. Extensive research was conducted to understand the determinants of mobile insurance adoption. Second, to ascertain the more common factors which achieved significant outcomes in the analysed studies. Third, to suggest a broad general UTAUT model through the extension of the model with the determining factors. Venkatesh (2003) empirically validates the UTAUT model for multiple business areas, including the public sector, telecommunications services, finance, and entertainment. UTAUT has four predictors of intention to use and technology use, which are: performance expectancy, effort expectancy, social influence, and facilitating conditions. In the UTAUT model (Figure 1), performance expectancy (PE), effort expectancy (EE), and social influences (SI) are directly associated with behavioural intention (BI) while the last one, facilitating conditions (FC) is associated with the actual usage. In addition, BI is influenced by four moderators: experience, gender, age, and voluntariness of use. The dependent variable for this research is BI which relates to the extent to which a technology is meant to be used by consumers.

Recent studies show that this model is not outdated and continues to be applied in several research studies, such as Akinnuwesi (2022) that developed a study about the adoption and utilisation of digital technology to combat COVID-19, using the UTAUT model, and Raffaghelli (2022) on understanding students' adoption of an early warning system in higher education, or Bommer (2022) on studying eWallet adoption. In section 3 we will present a more detailed and complex description of each UTAUT predictor and its correlation to the adoption of mobile insurance.

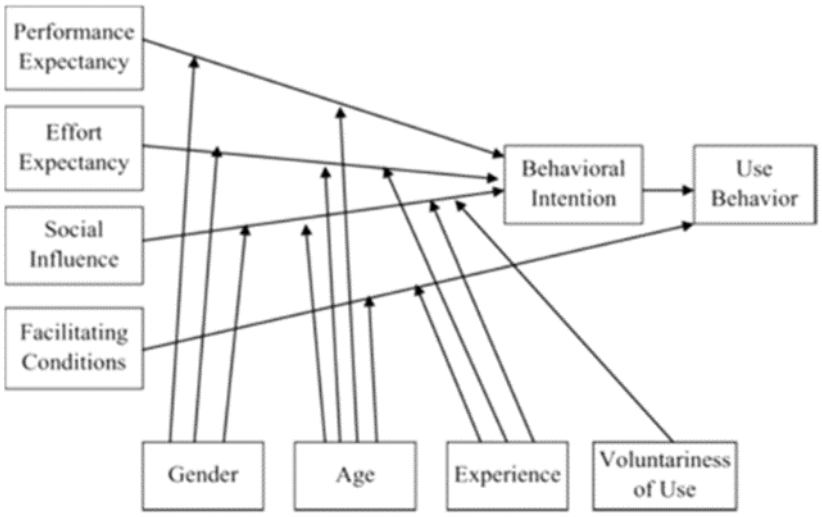

Figure 1 - UTAUT model

3. THEORETICAL FRAMEWORK AND RESEARCH MODEL

To identify an adequate model that covers most of the factors which impact the adoption of mobile insurance applications, the UTAUT is devoted as a theoretical basis to propose the conceptual model in this research. In that, this model contextualized for our research, states that the mobile insurance application users' behavioural intention is directly impacted by performance expectancy, effort expectancy, and social influence, while usage behaviour is impacted by facilitating conditions. As several authors have made, to include a bigger iteration with the topic under study, the UTAUT classic model has been subjected to an extension (Figure 2). This has already been applied in some previous studies, where new determinators were added to the UTAUT model, for instance, Ben Arfi (2021) while studying the acceptance of eHealthcare by IoT natives and IoT immigrants, modified UTAUT including the perceived risk and financial cost as factors they argued were significantly associated to accept it, or the case of Kim and Lee (2020), that expanded the UTAUT, by adding a pair of new constructs, education policy, and information and communication technologies (ICT) usage habit, while studying the Filipino teachers' adoption of ICT-based instruction in class.

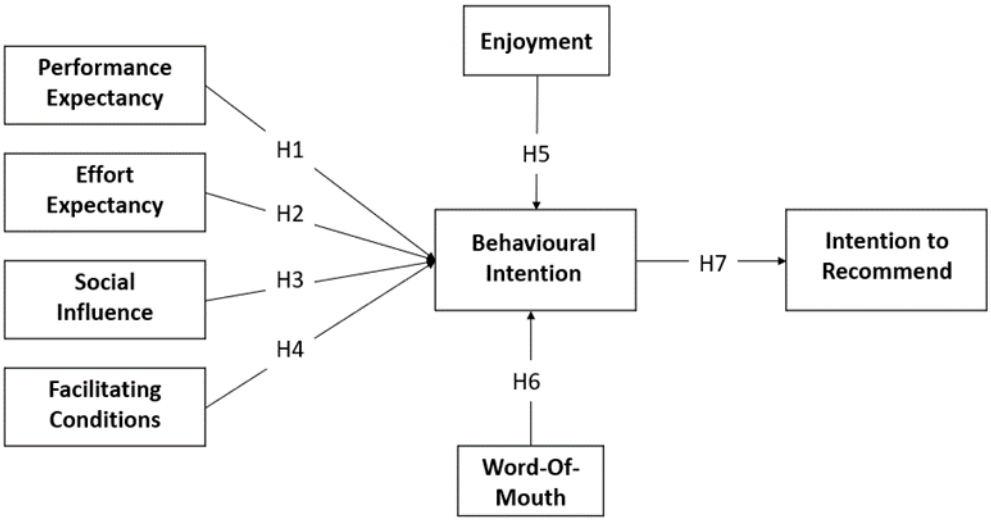

Figure 2 - Research model

3.1. PERFORMANCE EXPECTANCY (PE)

Performance expectancy (PE) refers to the "degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh, 2003). Individuals assume that the greater the usefulness of mobile insurance apps, the greater the mobile insurance apps will be adopted. Many studies, for example, Dwivedi (2019), consistently pointed out that "performance expectancy (PE) is the most significant forecaster of behavioural intention (BI) for technology use because users usually look to predict the degree of benefits to be gained from a particular technology". Through the need for support had been investigated the impacts of PE. So, it is argued in past studies that PE has a positive influence on BI. For instance, Peng (2011) while studying the drivers and barriers in the acceptance of mobile payment in China hypothesized that PE positively affects BI of use of mobile payments, also Chong (2013) in his research about predicting mobile commerce adoption determinants stated the same. Thus, this study presupposes the following:

H1: Performance expectancy positively affects the behavioural intention to use mobile insurance applications.

3.2. EFFORT EXPECTANCY (EE)

Effort expectancy (EE) refers to the "degree of ease associated with the use of the system" (Venkatesh, 2003). EE is usually more "significant only during the first time period, becoming nonsignificant over periods of extended and sustained usage" (Venkatesh, 2003). Besides, Venkatesh other scholars supported this citation, for instance, Davis (1989), defended that "effort-oriented constructs are expected to be more salient in the early stages of new behaviour, when process issues represent hurdles to be overcome, and later become overshadowed by instrumentality concerns". Although it is a determinant that seems to lose some value over time, it is still one of the most powerful factors influencing technology adoption. Higher the easiness of use of the technology, the higher the users' BI to use it will be. Various studies state that EE has a positive influence on BI, like the case of Yu-Lung Wu (2005), during his research to explore the behaviour of 3G mobile communication users. Thus, this study presupposes the following:

H2: Effort expectancy positively affects the behavioural intention to use mobile insurance applications.

3.3. SOCIAL INFLUENCE (SI)

Social influence (SI) refers to the "degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh, 2003). More clearly it "refers to the extent to which the individual's technology usage is affected by others' opinions" (Al-Saedi, 2020). Several studies have investigated the direct impacts that SI, represented by friends, family, and colleagues, has on behaviour adoption at the individual level, for instance, in the case of Shen (2019). In line with other relevant adoption studies, SI has a positive effect on the BI to adopt a technology, for instance, Wei-Han Tan (2015), while studying the adoption of E-banking in Malaysia, hypothesized that. Thus, this study presupposes the following:

H3: Social influence positively affects the behavioural intention to use mobile insurance applications.

3.4. FACILITATING CONDITIONS (FC)

Facilitating conditions (FC) refers to the "degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh, 2003). Clarifying, it is a determinator that is based on the drivers of the technological environment which observers agree would make an action easier to perform. FC have proven to be an effective determinant of technology acceptance in different cases with a strong and direct effect on the actual use of technologies, (Venkatesh, 2003). In extensive research on the impacts of FC, it was possible to conclude that FC positively affect the user's behaviour to adopt a technology. For example, Abbad (2021), while researching the students' usage of e-learning systems in developing countries, argued that FC will affect user behaviour. Thus, this study presupposes the following:

H4: Facilitating conditions positively affect use behaviour of mobile insurance applications.

3.5. ENJOYMENT (JOY)

Enjoyment (JOY) refers to the "activity of using a specific system that is perceived to be enjoyable, aside from any performance consequences resulting from system use" (Venkatesh, 2000). Venkatesh (2000) also stated that with increasing direct experience with a determined system, "the role of general computer playfulness as a determinant of perceived ease of use of the target system is expected to diminish, and system-specific perceived enjoyment is expected to dominate". In the mobile insurance context, it is expected that over time users will find using mobile insurance applications more enjoyable and pleasing. Software manufacturers are attempting to provide interfaces more lively and friendly because it is an important and decisive tool to contribute to this dimension. JOY is present in several research studies where it is affirmed that JOY positively affects intention, for instance, So and Kim (2021), hypothesized that enjoyment is positively related to repurchase intention while studying what makes Airbnb experiences enjoyable. So, this study presupposes the following:

H5: Enjoyment positively affects the behavioural intention to use mobile insurance applications.

3.6. WORD OF MOUTH (WOM)

Word of Mouth (WOM) is one of the most common and oldest forms of sharing information, and it has been defined in many different ways over time. According to Arndt (1967), "WOM is a person-to-person communication tool, between a communicator and a receiver, who perceives the information received about a brand, product, or service as non-commercial". Likewise, and more recently, "WOM has been defined as communication between consumers about a product, service, or company in which the sources are considered independent of commercial influence" (Litvin et al., 2008). WOM is widely regarded as one of the most influential factors affecting consumer behaviour (Daugherty and Hoffman, 2014). Past research demonstrates that consumers consider WOM to be a much more

credible medium than the conventional media (television, radio, advertisements, etc.) (Cheung and Thadani, 2012). According to those statements, it is possible to conclude that people trust more on other people's experience reports than on the system vendors, and this affects people's willingness to experiment a certain system. As we walk into a more technological and online world, new forms of communication emerged, especially not person to person. Thus, this study presupposes the following:

H6: Word of Mouth positively affects the behavioural intention to use mobile insurance applications.

3.7. BEHAVIOURAL INTENTION (BI)

Behavioural intention (BI) is defined as a "user's intention to adopt and make use of a certain tool in the future" (Venkatesh, 2003). In this study, BI is associated with the intention to recommend (IR), to test the ability of a user, after using a certain system, to share it with others. IR refers to the willingness of a user to recommend a certain system to another person because he adopted it and had a positive experience. The IR is dependent and associated with the BI to adopt the use of a technology system. According to Miltgen et al. (2013), consumers with a greater intention to adopt a new system have a higher probability to become adopters and recommend the system to others. Thus, this study presupposes:

H7: Behavioural intention positively affects the intention to recommend mobile insurance applications.

4. METHODOLOGY

After analysing, explaining, and discussing in the literature, the constructs adopted from UTAUT, for this study, it is necessary to verify the hypothesis formulated. For this purpose, all the UTAUT constructs were measured to validate the hypotheses and consecutively discover answers to corroborate or not these hypotheses. The measurement items have been adapted to suit the mobile insurance context and were adopted from Peng et al. (2011), Venkatesh et al. (2003), Thomas et al. (2013), Singh et al. (2020), Wei et al. (2021), Venkatesh et al. (2008) and Maxham (2001). The main measurements (Appendix A) were designed according to the literature mentioned above and measured using a seven-point Likert-type scale varying from strongly disagree (1) to strongly agree (7). The questionnaire was first designed in English and then translated from English to Portuguese, and after to English to ensure consistency (Brislin, 1970). A pre-test was firstly made, using a representative sample of 30 participants. Subsequently, it was approved and massively publicized by various media channels. Data was collected in Portugal between March 2022 and May 2022. In total, 291 responses were collected, of which 91 were excluded due to lack of data, leaving a subset of 200 valid answers. The sample size was considered adequate. The demographic characteristics of the participants present in Table 1, were analysed and indicated that 60% of the participants were female, 55% are below 25 years old. The participants' average age was 27.8 years (standard deviation: 9.4 years). Concerning the degree of education, 51% have a bachelor's degree.

Distribution (n=200)					
Gender			Education		
Male	81	40%	High School or below	3	2%
Female	119	60%	Undergraduate degree	30	15%
			Bachelor	102	51%
Age			Master's degree or higher	65	32%
<25	110	55%			
25-34	56	28%	Occupation		
35-44	13	7%	Employee	98	49%
>44	21	11%	Self-employed	14	7%
			Student	78	39%
			Other	6	3%
			Unemployed	4	2%

Table 1 - Sample characteristics

5. DATA ANALYSIS AND RESULTS

To analyse, test, and validate the proposed model, the partial least squares-structural equation modelling (PLS-SEM) method was adopted. Used through the SmartPLS report software, “PLS-SEM is a widely accepted approach to measure the validity of theories with empirical data” (Götz et al., 2010). The PLS model examines the (i) measurement model, its consistency and validity, and (ii) the structural model, testing the formulated hypotheses. The selection of PLS-SEM refers to the fact that it provides concurrent analysis for both measurement and structural model, leading to more robust estimates (Barclay et al., 1995). The strength of the measurement model is reflected in the evaluation of its three parts: (i) Internal consistency, consisting of composite reliability (CR) of constructs, and Cronbach’s alpha, where both should exceed 0.7 (Wynne, 1998) for validating the internal reliability of a research study, (ii) convergent validity, where average variance extracted (AVE) by constructs should be above 0.5 (Fornell et al., 1981) to meet the convergent validity criterion and (iii) discriminant validity, where the square roots of AVEs should be greater than the correlation between the constructs, the loadings should be greater than the cross-loadings and the heterotrait-monotrait ratio of correlations (HTMT) should be below 0.9, all to confirm that data's discriminatory validity is fulfilled.

Table 2 demonstrate that the construct loadings and cross-loading ranged between 0.697 and 0.955. Even though the lower limit is minimally below the threshold value of 0.7, these values are enough to indicate that the model has a satisfactory internal consistency. Data in Table 3 demonstrate that the AVE values varied between 0.776 and 0.911, which were all above the cut-off value of 0.5. Considering these results, convergent validity is verified. Analysing Table 4**,** is possible to verify that all the HTMT values are below the suggested value of 0.9, so the discriminant validity is established.

Constructs		PE	EE	SI	FC	JOY	WOM	BI	IR
Performance expectancy (PE)	PE1	**.830**	.570	.352	.342	.323	.538	.459	.211
	PE2	**.820**	.560	.247	.402	.227	.384	.312	.128
	PE3	**.746**	.429	.236	.244	.349	.410	.283	.299
	PE4	**.723**	.434	.201	.401	.377	.402	.303	.304
Effort expectancy (EE)	EE1	.486	**.822**	.229	.368	.279	.403	.304	.153
	EE2	.579	**.883**	.330	.434	.327	.474	.394	.290
	EE3	.547	**.872**	.280	.445	.241	.425	.332	.173
	EE4	.497	**.711**	.337	.471	.283	.386	.399	.210
Social influence (SI)	SI1	.264	.313	**.890**	.189	.478	.413	.458	.408
	SI2	.310	.340	**.945**	.213	.449	.441	.511	.384
	SI3	.350	.338	**.889**	.230	.379	.450	.588	.354
Facilitating conditions (FC)	FC1	.429	.439	.204	**.699**	.222	.282	.166	.214
	FC2	.467	.497	.130	**.861**	.146	.302	.216	.144
	FC3	.277	.403	.185	**.832**	.078	.308	.267	.119
	FC4	.231	.306	.228	**.697**	.260	.206	.177	.256
Enjoyment (Joy)	JOY1	.292	.255	.448	.094	**.892**	.529	.453	.573
	JOY2	.499	.435	.420	.336	**.859**	.621	.518	.463
	JOY3	.254	.204	.390	.096	**.907**	.470	.416	.537
Word-of-mouth (WoM)	WOM1	.585	.517	.462	.371	.579	**.936**	.594	.505
	WOM2	.427	.428	.457	.282	.464	**.882**	.532	.491
	WOM3	.527	.460	.392	.316	.642	**.911**	.532	.592
Behavioural intention (BI)	BI1	.360	.361	.555	.259	.461	.500	**.915**	.415
	BI2	.461	.453	.540	.292	.417	.575	**.924**	.388
	BI3	.418	.437	.513	.232	.465	.586	**.898**	.344
	BI4	.401	.359	.497	.212	.577	.556	**.908**	.411
Intention to recommend (IR)	IR1	.308	.255	.428	.175	.588	.596	.460	**.955**
	IR2	.223	.218	.334	.256	.491	.459	.307	**.897**

Table 2 - PLS loadings and cross-loading

Constructs	Mean	SD	CA	CR	PE	EE	SI	FC	JOY	WOM	BI	IR
Performa. expectancy (PE)	5.201	1.010	.791	.862	**.781**							
Effort expectancy (EE)	5.011	1.005	.841	.894	.646	**.825**						
Social influence (SI)	3.609	1.493	.895	.934	.343	.365	**.908**					
Facilitating conditions (FC)	5.621	1.005	.779	.857	.443	.528	.234	**.776**				
Enjoyment (Joy)	3.669	1.366	.864	.917	.405	.347	.475	.209	**.886**			
Word-of-mouth (WoM)	4.527	1.418	.896	.935	.566	.516	.481	.357	.617	**.910**		
Behavioural intention (BI)	4.271	1.459	.932	.951	.450	.442	.577	.273	.527	.608	**.911**	
Intention to recommend (IR)	3.851	1.665	.841	.924	.294	.258	.419	.222	.589	.580	.428	**.92**7

Table 3 - Means, standard deviations, correlations, and reliability and validity measures (CR, CA, and AVE) of latent variables

Constructs	PE	EE	SI	FC	JOY	WOM	BI	IR
Performance expectancy (PE)								
Effort expectancy (EE)	.773							
Social influence (SI)	.388	.411						
Facilitating conditions (FC)	.577	.648	.287					
Enjoyment (Joy)	.478	.390	.542	.283				
Word-of-mouth (WoM)	.654	.589	.534	.422	.692			
Behavioural intention (BI)	.504	.491	.625	.313	.581	.664		
Intention to recommend (IR)	.360	.295	.475	.305	.683	.655	.466	

Table 4 - Heterotrait-Monotrait Ratio of correlations (HTMT)

Figure 3 shows the path coefficients and t-statistics derived from bootstrapping with 5,000 resamples and the R^2 values. The structural model assessment provides the indication of hypothesis testing. Results indicated that the model explains 50.1% of the variation in behavioural intention. Our results indicate that the variables social influence (β=0.319, $p < 0.01$), enjoyment (β=0.143, $p < 0.10$) and word-of-mouth (β=0.286, $p < 0.05$) are statistically significant in explaining behavioural intention to use mobile insurance applications. This, therefore, confirms hypotheses H3, H5, and H6. In contrast, performance expectancy, effort expectancy, and facilitating conditions, has not statistically significant in explaining behavioural intention, thus H1, H2, and H4 were not confirmed. The model also explains 18.3% of the variation in intention to recommend mobile insurance applications, which is explained by behavioural intention (β=0.428, $p < 0.01$), providing support for H7.

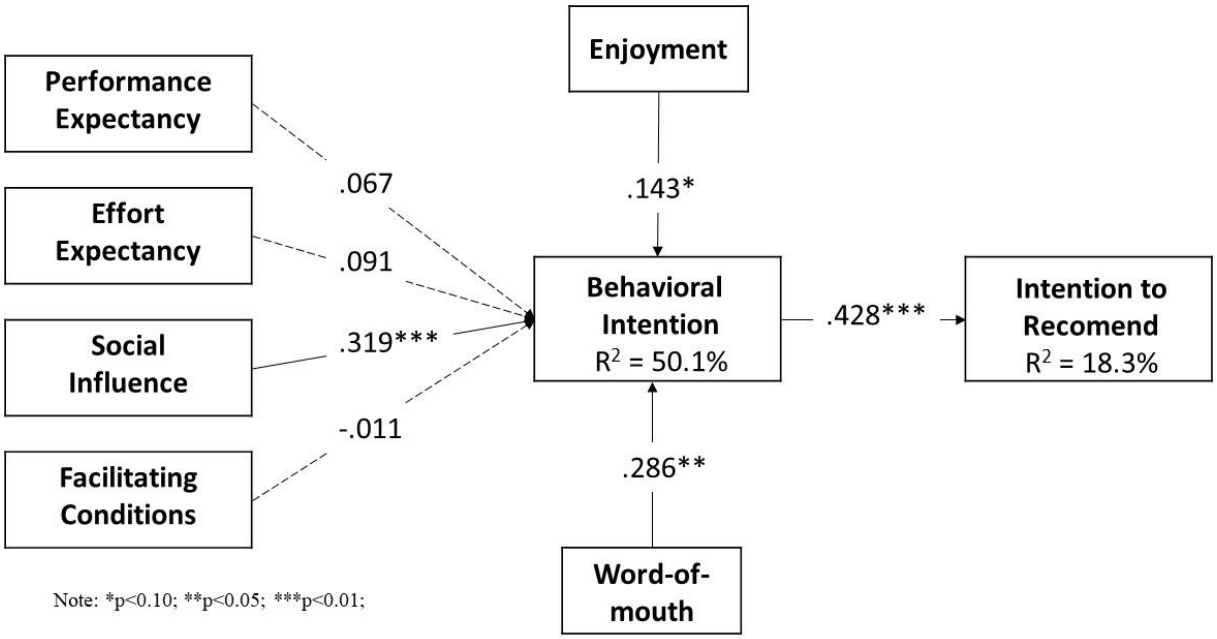

Figure 3 - Structural model results

6. DISCUSSION

6.1. THEORETICAL IMPLICATIONS

The purpose of this study was to provide an understanding of the drivers that lead to mobile insurance applications adoption and recommendation, in Portugal. To the best of our knowledge, this is the first empirical research, integrating UTAUT, that approaches this topic. The research model presented in this research is unique, as it combines enjoyment and word-of-mouth into the UTAUT model to determine users' behavioural intention to use mobile insurance applications and intention to recommend. The gathered information could help insurance companies to understand the factors that can lead to the potential use of their mobile insurance applications, and it is also a possibility for companies to focus on those factors, to attract and convince more users. The research model explained 50.1% of the variance in behaviour intention, thus supporting H3, H5, and H6. And explains 18.3% of the variation in intention to recommend, thus supporting H7. In our data, is suggested that behaviour intention to use positively influences the intention to recommend the use of mobile insurance applications. This finding is consistent with previous studies, for instance, Naranjo-Zolotov et al. (2019), in the context of intention to use and recommend e-participation.

The most crucial factor that influenced behaviour intention was the social influence, which had a direct effect on behaviour intention to use mobile insurance applications because social opinions of important peers have a positive influence on other persons. This was consistent with the conclusion drawn in another similar study (Kulviwat et al., 2009), in the context of the role of social influence on the adoption of high-tech innovations. The findings also highlighted that enjoyment has a significant positive impact on the behavioural intention to use mobile insurance applications and could be explained by the notion that people may have that nowadays app layouts are highly attractive and realistic, making the user experience more enjoyable. This result reinforces the findings reported in past studies, for example, Su et al. (2021), when researching the influence perceived enjoyment and attractiveness have on Taiwanese elementary school students' intention to use interactive video learning systems. The other factor indicated by the findings, to be considered significant was word-of-mouth, which positively impacts behavioural intention to use mobile insurance applications. This is in line with studies carried out in this area such as (Mehrad et al., 2017).

About the remaining UTAUT constructs, performance expectancy, effort expectancy, and facilitating conditions, data revealed them as not significant on behavioural intention to use mobile insurance applications, this means persons do not consider these three factors important for their decision whether to use or not mobile insurance applications, which is not consistent with previous studies, for instance, Im et al. (2011), in context of technology adoption. Performance expectancy being considered not significant means that it does not influence behavioural intention to use mobile insurance applications. This result contradicts previous studies conducted in the same area, for instance (Gupta et al., 2017), found out that performance expectancy has a significant influence on traveller's intention and habit to use technology. This can be explained by a people's disbelief on the performance and functionalities of the mobile insurance applications. Also, effort expectancy was not significantly related with mobile insurance applications use intention. This contrasts with other empirical studies concerning mobile application adoption (Walrave et al., 2021). In general, users' easy handling of a technology is an important determinant of use intention in the context of mobile applications (Dwivedi et al., 2016). Last of all, facilitating conditions had no significant effect on

consumers' intentions to use mobile insurance applications. A different conclusion has been demonstrated in several past studies, such as, (Peñarroja et al., 2019). Indeed, facilitating conditions in particular cultures and environments may not have a significant effect, since the existing infrastructure does not support these services (Iskandar et al., 2020). Whereas insurance companies should not lose focus on continually developing their mobile insurance applications in order, for instance, to perform efficiently on different types of devices, execute tasks faster, and be more user-friendly, because in the future those other factors may also have significant positive impacts on user intention to adopt.

With the increasing popularity and use of mobile applications, mobile insurance applications were set to gain rapid importance in the smartphone applications market. However, and as said before, this did not happen. There is a lack of explanatory models and empirical and theory-building studies in the above-mentioned field. Filling this gap makes this research an important contributor to the general IT, in relation to both theory and practice. Regarding theoretical implications, this research has successfully used and extended the UTAUT model in a different display and reality, namely the adoption of mobile insurance applications. Furthermore, UTAUT has been enlarged with two constructs that had significant results in the technology adoption literature (i.e., enjoyment and word-of-mouth). Intention to recommend is also considered in this extended UTAUT model, as a dependent variable of intention to use. Data revealed that the proposed UTAUT model has great potential explanatory power in predicting users' intention to adopt mobile insurance applications as well as their intention to recommend them. Not limiting the scope of this research to the usually seen intention to adopt variables, but also expanding it to the behavioural intention to recommend, is interpreted as another factor that enhances this research contributes to the literature.

6.2. PRACTICAL IMPLICATIONS

"Understanding the behavioural intention to use and intention to recommend is critical for entities that implement and promote the use of technologies" (Naranjo-Zolotov et al., 2019). This research offers an overall understanding of several drivers and constraints that can be considered key for helping add value to mobile insurance application users and insurance companies. The research highlights three aspects that can significantly impact and are correlated with mobile insurance applications' user adoption behaviour according to the results: social influence, enjoyment, and word-of-mouth. For instance, the significance of social influence on behavioural intention to adopt suggests that insurance companies should put their efforts into spreading and advertising their applications, either through conventional channels (i.e., TV, radio) or through the so-called, nowadays, influencers, who are celebrities with a high number of followers and a great capacity to engage people (Patil et al., 2020). Meanwhile, the significant impact of enjoyment indicates that the insurance companies should add playful aspects to the applications, as well as free premium services, known as freemium services, benefits, and didactic and modern software layouts. Further, the positive impact of word-of-mouth suggests that the mobile insurance application providers, to increase consumer use, should enhance their social media use to encourage word-of-mouth communication and provide quality services, giving consumers something great to talk about, because as stated in previous studies, word-of-mouth has been considered one of the most powerful forms of communication in today's market (Suzana, 2022).

On the other side, the remaining factors involved in the research model were considered non-significant for mobile insurance applications' user adoption behaviour. The insignificant effect of performance expectancy and effort expectancy indicates that the providers should focus all their efforts on advertising and sharing the usefulness and potential of their mobile applications, create more application features that can become useful for consumers, and keep the mobile insurance applications simple and easy to use, oriented to all citizens without conditions or restrictions for using it (Naranjo-Zolotov et al., 2019). Further, the non-significant negative impact of facilitating conditions suggests that providers should immediately start to invest in providing training and support programs, which may lead to a better understanding and use of the mobile insurance applications by consumers. Designers of the mobile insurance applications may also provide an extra online learning package for applications to ensure that consumers will be able to see a demonstration or obtain pertinent assistance necessary to use the system (Venkatesh & Bala, 2008).

7. CONCLUSION

This research aims at better understanding the various factor that can impact the intention to use mobile insurance applications. An adapted theoretical model was used. This model integrates the UTAUT model and two other variables that we considered relevant to merge with the conceptual UTAUT model, these being enjoyment and word-of-mouth. It was measured based on data from 200 citizens in Portugal. Through this, it was evaluated that social influence, enjoyment, and word-of-mouth were found to be relevant in the intention to use mobile insurance applications. The results also confirmed the significance of the intention to recommend mobile insurance applications. In view of these results, this investigation might adequately support insurance companies, in designing strategies to develop, invest in and promote their mobile applications in an accurate and sustainable form.

Notwithstanding its prominent contributions, there are some limitations in this research that we can highlight. For instance, the research is all based on data gathered from just one country, which is considered a generalization, since there are no data comparisons with other countries. However, our findings can be considered a solid basis for future research. Another limitation relies on the fact that no adoption literature has been found covering this topic, in most of the scientific databases. Thus, this study requires further research to cover this gap.

8. BIBLIOGRAPHY

Abbad, M. M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. Education and Information Technologies, 26(6), 7205–7224. https://doi.org/10.1007/s10639-021-10573-5

Akinnuwesi, B. A., Uzoka, F.-M. E., Fashoto, S. G., Mbunge, E., Odumabo, A., Amusa, O. O., Okpeku, M., & Owolabi, O. (2022). A modified UTAUT model for the acceptance and use of digital technology for tackling COVID-19. Sustainable Operations and Computers, 3, 118–135. https://doi.org/10.1016/j.susoc.2021.12.001

Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. Technology in Society, 62, 1–10. https://doi.org/10.1016/j.techsoc.2020.101293

Arndt, J. (1967). Role of Product-Related Conversations in the Diffusion of a New Product. Source: Journal of Marketing Research, 4(3), 291–295.

Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to casual modeling: personal computer adoption ans use as an Illustration. (Vol. 2).

Ben Arfi, W., ben Nasr, I., Khvatova, T., & ben Zaied, Y. (2021). Understanding acceptance of eHealthcare by IoT natives and IoT immigrants: An integrated model of UTAUT, perceived risk, and financial cost. Technological Forecasting and Social Change, 163. https://doi.org/10.1016/j.techfore.2020.120437

Bommer, W. H., Rana, S., & Milevoj, E. (2022). A meta-analysis of eWallet adoption using the UTAUT model. International Journal of Bank Marketing, 40(4), 791–819. https://doi.org/10.1108/IJBM-06-2021-0258

Brislin, R. W. (1970). Back-translation for cross-cultural research. Journal of Cross-Cultural Psychology, 1(3).

Buganza, T., Dell'Era, C., Pellizzoni, E., Trabucchi, D., & Verganti, R. (2015). Unveiling the Potentialities Provided by New Technologies: A Process to Pursue Technology Epiphanies in the Smartphone App Industry. Creativity and Innovation Management, 24(3), 391–414. https://doi.org/10.1111/caim.12141

Cheung, C. M. K., & Thadani, D. R. (2012). The impact of electronic word-of-mouth communication: A literature analysis and integrative model. Decision Support Systems, 54(1), 461–470. https://doi.org/10.1016/j.dss.2012.06.008

Chong, A. Y. L. (2013). Predicting m-commerce adoption determinants: A neural network approach. Expert Systems with Applications, 40(2), 523–530. https://doi.org/10.1016/j.eswa.2012.07.068

Chu, T. H., & Chen, Y. Y. (2016). With Good We Become Good: Understanding e-learning adoption by theory of planned behavior and group influences. Computers and Education, 92–93, 37–52. https://doi.org/10.1016/j.compedu.2015.09.013

Daugherty, T., & Hoffman, E. (2014). eWOM and the importance of capturing consumer attention within social media. Journal of Marketing Communications, 20(1–2), 82–102. https://doi.org/10.1080/13527266.2013.797764

Dečman, M. (2015). Modeling the acceptance of e-learning in mandatory environments of higher education: The influence of previous education and gender. Computers in Human Behavior, 49, 272–281. https://doi.org/10.1016/j.chb.2015.03.022

Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019a). Re-examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a Revised Theoretical Model. Information Systems Frontiers, 21(3), 719–734. https://doi.org/10.1007/s10796-017-9774-y

Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019b). Re-examining the Unified Theory of Acceptance and Use of Technology (UTAUT): Towards a Revised Theoretical Model. Information Systems Frontiers, 21(3), 719–734. https://doi.org/10.1007/s10796-017-9774-y

Dwivedi, Y. K., Shareef, M. A., Simintiras, A. C., Lal, B., & Weerakkody, V. (2016). A generalised adoption model for services: A cross-country comparison of mobile health (m-health). Government Information Quarterly, 33(1), 174–187. https://doi.org/10.1016/j.giq.2015.06.003

Eco Seguros. (2021). Ranking 1o trimestre: Os 4 maiores grupos seguradores. https://eco.sapo.pt/2021/06/18/ranking-1o-trimestre-os-4-maiores-grupos-seguradores-perdem-quota-de-mercado/

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Source: Journal of Marketing Research, 18(1), 39–50.

Fred D. Davis. (1989). davis1989TAM.

Götz, O., Liehr-Gobbers, & K. and Krafft, M. (2010). Handbook of Partial Least Squares: Concepts, Methods and Applications. http://www.springer.com/series/7286

Gupta, A., & Dogra, N. (2017). Tourist adoption of mapping apps: A UTAUT2 perspective of smart travellers. In Tourism and Hospitality Management (Vol. 23, Issue 2, pp. 145–161). University of Rijeka. https://doi.org/10.20867/thm.23.2.6

Im, I., Hong, S., & Kang, M. S. (2011). An international comparison of technology adoption: Testing the UTAUT model. Information and Management, 48(1), 1–8. https://doi.org/10.1016/j.im.2010.09.001

Iskandar, Y. H. P., Subramaniam, G., Majid, M. I. A., Ariff, A. M., & Rao, G. K. L. (2020). Predicting healthcare professionals' intention to use poison information system in a Malaysian public hospital. Health Information Science and Systems, 8(1). https://doi.org/10.1007/s13755-019-0094-0

Jadil, Y., Rana, N. P., & Dwivedi, Y. K. (2021). A meta-analysis of the UTAUT model in the mobile banking literature: The moderating role of sample size and culture. Journal of Business Research, 132, 354–372. https://doi.org/10.1016/j.jbusres.2021.04.052

Karrar Al-Saed, Mostafa Al-Emran, Eimad Abusham, & Sahar A. El_Rahman. (2019). Mobile Payment Adoption: A Systematic Review of the UTAUT Model.

Kim, J., & Lee, K. S. S. (2020). Conceptual model to predict Filipino teachers' adoption of ICT-based instruction in class: using the UTAUT model. Asia Pacific Journal of Education, 1–15. https://doi.org/10.1080/02188791.2020.1776213

Kulviwat, S., Bruner, G. C., & Al-Shuridah, O. (2009). The role of social influence on adoption of high-tech innovations: The moderating effect of public/private consumption. Journal of Business Research, 62(7), 706–712. https://doi.org/10.1016/j.jbusres.2007.04.014

Lancelot Miltgen, C., Popovič, A., & Oliveira, T. (2013). Determinants of end-user acceptance of biometrics: Integrating the "big 3" of technology acceptance with privacy context. Decision Support Systems, 56(1), 103–114. https://doi.org/10.1016/j.dss.2013.05.010

Litvin, S. W., Goldsmith, R. E., & Pan, B. (2008). Electronic word-of-mouth in hospitality and tourism management. Tourism Management, 29(3), 458–468. https://doi.org/10.1016/j.tourman.2007.05.011

Louho, R., Kallioja, M., & Oittinen, P. (2006). Factors Affecting the Use of Hybrid Media Applications. Graphic Arts in Finland, 35, 3. http://www.media.tkk.fi

MAPFRE. (2020). 2020 Ranking of the largest European insurance groups. www.fundacionmapfre.org

Maxham III, J. G. (2001). Service recovery's influence on consumer satisfaction, positive word-of-mouth, and purchase intentions.

Mehrad, D., & Mohammadi, S. (2017). Word of Mouth impact on the adoption of mobile banking in Iran. Telematics and Informatics, 34(7), 1351–1363. https://doi.org/10.1016/j.tele.2016.08.009

Naicker, V., & van der Merwe, D. B. (2018). Managers' perception of mobile technology adoption in the Life Insurance industry. Information Technology and People, 31(2), 507–526. https://doi.org/10.1108/ITP-09-2016-0212

Naranjo-Zolotov, M., Oliveira, T., & Casteleyn, S. (2019). Citizens' intention to use and recommend e-participation: Drawing upon UTAUT and citizen empowerment. Information Technology and People, 32(2), 364–386. https://doi.org/10.1108/ITP-08-2017-0257

OECD. (2021). Global Insurance Market Trends 2020. www.oecd.org/daf/fin/insurance.

Patil, P., Tamilmani, K., Rana, N. P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal. International Journal of Information Management, 54. https://doi.org/10.1016/j.ijinfomgt.2020.102144

Peñarroja, V., Sánchez, J., Gamero, N., Orengo, V., & Zornoza, A. M. (2019). The influence of organisational facilitating conditions and technology acceptance factors on the effectiveness of virtual communities of practice. Behaviour and Information Technology, 38(8), 845–857. https://doi.org/10.1080/0144929X.2018.1564070

Peng, H., Xu, X., & Liu, W. (2011). Drivers and barriers in the acceptance of mobile payment in China. 2011 International Conference on E-Business and E-Government, ICEE2011 - Proceedings, 7911–7914. https://doi.org/10.1109/ICEBEG.2011.5887081

Raffaghelli, J. E., Rodríguez, M. E., Guerrero-Roldán, A. E., & Bañeres, D. (2022). Applying the UTAUT model to explain the students' acceptance of an early warning system in Higher Education. Computers and Education, 182. https://doi.org/10.1016/j.compedu.2022.104468

Sathye, M. (1999). Adoption of Internet banking by Australian consumers: an empirical investigation. http://www.emerald-library.com

Sharma, A. (2020). The insurance manager-mobile application.

Shen, C. wen, Ho, J. tsung, Ly, P. T. M., & Kuo, T. chang. (2019). Behavioural intentions of using virtual reality in learning: perspectives of acceptance of information technology and learning style. Virtual Reality, 23(3), 313–324. https://doi.org/10.1007/s10055-018-0348-1

Singh, N., & Sinha, N. (2020). How perceived trust mediates merchant's intention to use a mobile wallet technology. Journal of Retailing and Consumer Services, 52. https://doi.org/10.1016/j.jretconser.2019.101894

So, K. K. F., Kim, H., & Oh, H. (2021). What Makes Airbnb Experiences Enjoyable? The Effects of Environmental Stimuli on Perceived Enjoyment and Repurchase Intention. Journal of Travel Research, 60(5), 1018–1038. https://doi.org/10.1177/0047287520921241

Su, C. Y., & Chiu, C. H. (2021). Perceived Enjoyment and Attractiveness Influence Taiwanese Elementary School Students' Intention to Use Interactive Video Learning. International Journal of Human-Computer Interaction, 37(6), 574–583. https://doi.org/10.1080/10447318.2020.1841423

Suzana Z. Gildin. (2022). Understanding the power of word-of-mouth.

Talukder, M. S., Chiong, R., Bao, Y., & Hayat Malik, B. (2019). Acceptance and use predictors of fitness wearable technology and intention to recommend: An empirical study. Industrial Management and Data Systems, 119(1), 170–188. https://doi.org/10.1108/IMDS-01-2018-0009

Thomas, T. D., & Singh, L. (2013). The utility of the UTAUT model in explaining mobile learning adoption in higher education in Guyana Poverty Attributions in Guyana View project. https://www.researchgate.net/publication/259475973

Ubaid Pisuwala. (2022, April). How mobile applications is automating the insurance operations and driving extensive growth. https://www.peerbits.com/blog/insurance-mobile-app-development.html

Venkatesh Robert Smith, V. H., Morris, M. G., Davis, G. B., & Davis Sam M Walton, F. D. (2003). Quarterly user acceptance of information technology: toward a unified view. 27(3), 425–478.

Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. 11(4), 342–365. https://www.jstor.org/stable/23011042?seq=1&cid=pdf-

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. The Author Journal Compilation C, 39.

Walrave, M., Waeterloos, C., & Ponnet, K. (2021). Ready or Not for Contact Tracing? Investigating the Adoption Intention of COVID-19 Contact-Tracing Technology Using an Extended Unified Theory of

Acceptance and Use of Technology Model. Cyberpsychology, Behavior, and Social Networking, 24(6), 377–383. https://doi.org/10.1089/cyber.2020.0483

Wang, H. (2019). Research on Insurance Value Chain in the Environment of Mobile Internet.

Wei, M. F., Luh, Y. H., Huang, Y. H., & Chang, Y. C. (2021). Young generation's mobile payment adoption behavior: Analysis based on an extended utaut model. Journal of Theoretical and Applied Electronic Commerce Research, 16(4), 1–20. https://doi.org/10.3390/jtaer16040037

Wei-Han Tan, G. (2015). The adoption of online banking in Malaysia: An empirical analysis Preference of LMS View project e-learning View project. https://www.researchgate.net/publication/237063164

Westland, J. C. and C. T. H.-K. (2000). Global Electronic Commerce: Theory and Case Studies.

Williams, M. D., Rana, N. P., & Dwivedi, Y. K. (2015). The unified theory of acceptance and use of technology (UTAUT): A literature review. Journal of Enterprise Information Management, 28(3), 443–448. https://doi.org/10.1108/JEIM-09-2014-0088

Wynne, C. W. (1998). Issues and opinion on structural equation modelling. Management Information Systems quarterly. 1–8.

Yu-Lung Wu, Y.-H. T. , P.-C. Y. (2005). According to the investigation report of Global System for Mobile Entertainment Services Market of Informa Telecoms & Media, the Global System for.

Zurich. (2021). Zurich lança app de gestão de seguros para clientes. https://www.zurich.com.pt/pt-pt/a-zurich/sala-de-imprensa/comunicados-imprensa/2021/24-fev

9. APPENDIX A

Items

Constructs		Item	Adapted from
Performance expectancy (PE)	PE1	Mobile insurance applications are useful in general.	(Peng, et al 2011)
	PE2	Mobile insurance applications enable users to consult their services more quickly.	
	PE3	Mobile insurance applications enable users to have a fast response from insurers.	
	PE4	Mobile insurance applications can simplify things to the detriment of going to a physical store.	
Effort expectancy (EE)	EE1	Mobile insurance applications are easy for me to use.	(Venkatesh, et al 2003)
	EE2	I find it easy to use mobile insurance applications to do what I want to do.	
	EE3	Mobile insurance applications are flexible to interact with.	
	EE4	It would be easy for me to become skilful at using mobile insurance applications.	
Social influence (SI)	SI1	People who influence my behaviour think that I should use mobile insurance applications.	(Thomas & Singh, et al 2013)
	SI2	People who are important to me think that I should use mobile insurance applications.	
	SI3	My relatives or my friends are supportive of the use of mobile insurance applications.	
Facilitating conditions (FC)	FC1	I think it is easy to have access to a cell phone capable of supporting mobile insurance applications.	(Peng, et al 2011)
	FC2	I have the resources necessary to use mobile insurance applications.	
	FC3	I have the knowledge necessary to use mobile insurance applications.	
	FC4	It's easy to use mobile insurance applications though I have never used them before.	
Enjoyment (JOY)	JOY1	I find using the mobile insurance applications to be enjoyable	Venkatesh & Bala (2008)
	JOY2	The actual process of using the mobile insurance applications is pleasant	
	JOY3	I have fun using the mobile insurance applications	
Word-of-mouth (WOM)	WOM1	I would recommend mobile insurance applications to my friends.	Maxham (2001)
	WOM2	If my friends were looking for an online service, I would tell them to try mobile insurance applications.	
	WOM3	How likely are you to spread positive WOM about mobile insurance applications?	
Behavioural intention (BI)	BI1	I intend to increase my use of mobile insurance applications in the future.	(Singh & Sinha, et al 2020)
	BI2	I intend to use mobile insurance applications in the future.	
	BI3	I will always try to use mobile insurance applications.	
	BI4	I plan to use mobile insurance applications frequently.	
Intention to recommend (IR)	IR1	I will recommend to my friends by social networks (i.e., Facebook, WhatsApp and Instagram) to subscribe to the mobile insurance applications.	(Talukder et al, 2019)
	IR2	If I have a good experience with mobile insurance applications, I will recommend my friends by social networking sites to subscribe to the service.	