Evaluation of Factors Affecting the Use of the Accounting Information System Using the TAM Model: A Field Study in Algerian Firms

Widad Benzine[a,*], Ahcène Tiar[b]

[a] Adjunct Professor, University of Badji Mokhtar of Annaba, Algeria
[b] Professor, Faculty of Economic, Commercial and Management Sciences, l'Université 20 Août 1955-Skikda, Algeria

A B S T R A C T

The accounting literature abounds with many studies concerning the organizational and technical aspects of the AIS to simulate progress in the business environment. However, few studies have focused on the role of individual factors in overcoming resistance to change and maximizing the value of using the system. Therefore, this study aims to shed light on user beliefs by evaluating the factors that affect the use of the AIS using a developed TAM. A total of 132 subjects participated in this study, in which the questionnaire was used as a data collection tool and AMOS was used to test the model. The results showed that subjective norm, training and experience were the most important previous factors that affect the perceptual factors represented in usefulness, ease of use and the inevitability of change, which all had an impact on the continuance intention to use the AIS among users in Algerian firms. This study shed light on the importance of assessing individual factors rather than focusing only on the ways to develop AIS or researching for new technologies and the costs of this investment because this will increase the chances of success in using the system.

Keywords: Technology Acceptance Model, Accounting Information System, Algerian Firms, Individual Factors

Ⅰ. Introduction

The relationship between technology and accounting has received a considerable attention since the past, dating back to the 1950's. This relationship developed until they became integrated in practice (Granlund, 2009) into the so-called accounting information system (AIS). Indeed, the business environment imposes the use of technology; at a time that the globalization of competition has become the rule rather than the exception for a number of industries (Karimi and Konsynski, 2003, p. 89). Using technology in accounting achieves three main advantages: better adaptation to a changing environment, better manage-

ment of arm's length transactions, and a high degree of competitiveness (Soudani, 2012, p. 137).

Despite the benefits of the information system (IS), it is considered an investment project whose gains are linked to user acceptance of innovations and its use, not just for their organizational characteristics and effectiveness (Davis and Venkatesh, 1996; Sharma and Mishra, 2014), because infrastructure alone no longer ensures actual use of the IS, rather attention has shifted to the role of front line individuals in its implementation and making the change (Tarcan et al., 2012). This also applies to AIS, where the paradox appears in the resistance of users or their attitudes towards using the AIS, although firms rely on it to do their activities and manage their business efficiently (Benzine and Tiar, 2021). That is, firms will benefit from the application of the AIS only if users agree to it (Diatmika et al., 2016).

For several years, this issue has attracted the attention of many researchers in various fields and milieus, who have pointed out the importance of users' perceptions in influencing acceptance or rejection of technology use (Davis and Venkatesh, 1996; Hubona and Kennick, 1996; Morris et al., 2005; Yucel et al., 2013) as they are critical factors that firms must consider when adopting technology as a tool for the change or just as a part of it (Howard, 2016). At the Algerian level, limited studies have been interested in this topic in parallel with the government's orientations toward the digitization of several sectors, where Gourine et al. (2019) confirmed the need to take into account the issues related to the behaviors of individuals and its determinants when applying technology in Algerian firms in order to avoid their reactions in the form of resistance to change or negative behaviors. Fendouchi (2013) revealed in a study on the determinants of technology acceptance in a pharmaceutical company that trust, effort expectancy, and perform-

ance expectancy affect the intention and, hence, actual use. According to Ayache and Ghennam (2014), perceived usefulness, perceived ease of use, and perceived risk influence the use of IS in Algerian hotels. Diouani and Graa (2021) found when studying the adoption of new technologies in SME in Algeria that accessibility, time saving and subjective norm affect usefulness and ease of use. Benzine and Tiar (2021) also found that perceived usefulness and perceived ease of use influence the use of AIS in firms. These facts raised our interest in the role of perceptions of individuals in explaining their behaviors and ensuring the success of AIS use, leading us to ask a fundamental question: *How can these factors affect the use of AIS in Algerian firms?*

The information systems literature has witnessed continuous research in this field; TAM was the most commonly used (Lee et al., 2003) for researchers. The model explains the behavior of using new techniques through causal pathways describing behavioral intention and attitude, which are influenced by perceived ease of use and perceived usefulness of system use (Davis et al., 1989). This paper chose the TAM model as a theoretical underpinning for a number of reasons. First, because it has robust support derived from the theory of reasoned action (TRA), and because it is a parsimonious model and combines flexibility, simplicity, and applicability, allowing it to apply in many contexts, systems, and with different users (Olushola and Abiola, 2017; Sharp, 2006; Siegel, 2008; Yousafzai et al., 2007). Second, several empirical papers that have similarly used its constructs have confirmed that the original scales for measuring TAM structures are reliable and provide results with predictive power (Furness, 2010; Legris et al., 2003; Sharp, 2006). So, we find that the application of this model will be effective in supporting the results. Third, studies have proven that TAM is best suited for in-

formation system testing and modeling of use and that it can explain well the variance in intentions of use and behavior (Allahyari et al., 2012; Gardner and Amoroso, 2004; Huy and Phuc, 2019). Therefore, TAM will help predict the use of AIS.

Although TAM has been used frequently, this paper seeks to develop the model to support the accounting literature, which often focused on ways to develop an AIS and the costs of this investment. TAM was originally found to assess the personal use of technology, as it was applied in voluntary contexts where the user has free to decide to use it, which is not appropriate for the mandatory context in firms where individuals are forced to use technology to do their jobs. It is likely that the influencing factors that are valid in the first situation will not be appropriate in the second case (Ajibade, 2018; Linders, 2006). For this, Venkatesh et al. (2011) emphasized the use of contextually relevant variables in technology adoption research.

The use behaviour must also be reviewed. While TAM studies acceptance, adoption, current use or at a later stage but for a short period, this issue raised questions about its application to the AIS because the mandatory context in which firms work and the going concern assumption from an accounting standpoint require the use of the system consistently. According to Venkatesh et al. (2011), the users' use of the system for a long period is based on continuity behavior, not on first adoption decisions. Furthermore, Agarwal and Prasad, (1997) explain that continuous use is simply a reinforcement of an existing behavior (p. 569).

Because firms are embedded in a network of powerful influences, such as relationships, rules, and obligations, their practices, especially accounting ones, produce and develop from the environment in which they are located (Sharia, 2016). Therefore, it was also important to include the institutional pressures in the study model, because they will be part of the conditions in which the beliefs of the AIS users are formed.

The purpose of this study is to present a framework that provides a comprehensive understanding of the factors affecting the use of AIS by proposing a TAM model developed according to the characteristics of the economic environment in Algeria. Practically, this will help managers and decision makers see the other side that takes the social dimension and cares about individuals, as the results of the study will improve their understanding of the beliefs of users and the importance of its evaluation in supporting the use of the system.

Ⅱ. Theoretical Background and Hypotheses

Because there are a few studies related to AIS, we have relied on the studies that have enriched the literature of accepting and using technology because they are the closest. There have been many attempts to develop TAM by adding other variables, however, the basic constructions have confirmed their effectiveness and remained the most widely used (Howard, 2016; Olushola and Abiola, 2017; Rogers, 2016; Sharp, 2006; Yucel et al., 2013). Therefore, the study will preserve these constructions along with other variables related to the context of the use of AIS. The model presented in <Figure 1> has seven variables: subjective norm, training, and previous experience as independent variables, usefulness, ease of use, inevitability of change as perceptual variables, and continuance intention as dependent variable.

2.1. Subjective Norm (SN)

The subjective norm means the degree of the in-
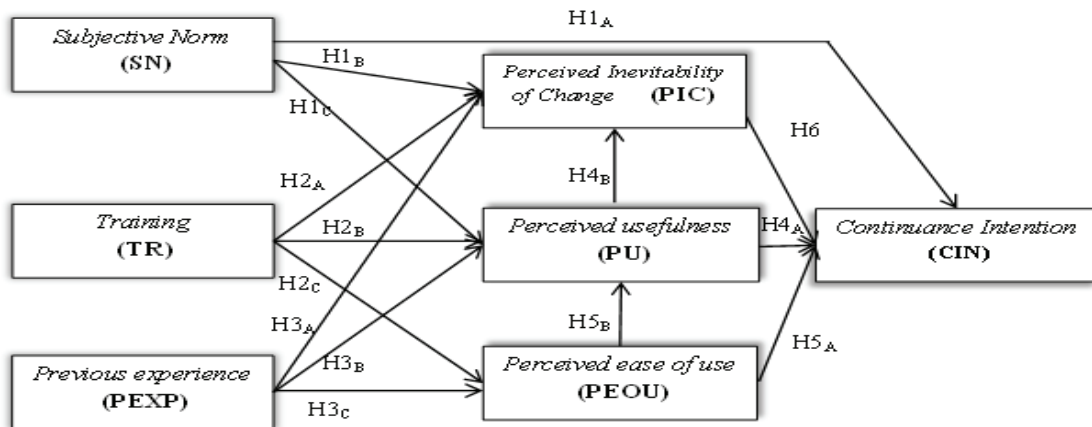
<Figure 1> Research Model

dividual's perception of the beliefs of other individuals 'references' (whose beliefs are important to him, such as colleagues, managers) regarding the behavior of using the system (Davis et al., 1989; Marler et al., 2009; Mathieson, 1991; Venkatesh et al., 2003). At its beginning, SN did not appear in the first TAM, but later Venkatesh and Davis (2000) found it appropriate in mandatory settings and confirmed that it has a direct impact on behavioral intention. Hong (2018) proved that SN within the dimensions of social influence is positively associated with the behavioral intention to use the social networking site. Also, Marler et al. (2009) found that SN was an important factor in predicting the intention to use employee self-service technology. Several studies, such as Diatmika et al. (2016) and Limayem et al. (2003) have achieved the same results. Besides that SN is important in predicting intention, TAM2, as well as TAM3, found that it was also an important motivation to perceive the usefulness. This result was supported by Park et al. (2012) and Tarcan et al. (2012).

The subjective norm refers to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991, p. 188). This means that in organizational settings, managers and colleagues put normative pressure on the individual, making him change his behavior and comply with the use of technology (Venkatesh et al., 2000). This can make the individual realize the inevitability of change to carry out his tasks and make him rush to continue using the AIS. Besides this, the beliefs of important individuals will influence the user when he absorbs information from them as evidence of reality (Karahanna and Straub, 1999). This information will enhance the understanding of the usefulness and importance of the system. Therefore, the following hypotheses are:

H1_A: subjective norm will significantly influence the continuance intention to use AIS.
H1_B: subjective norm will significantly influence the perceived inevitability of change.
H1_C: subjective norm will significantly influence the perceived usefulness.

2.2. Training (TR)

Venkatesh and Bala (2008) confirm that training is one of the most important post-implementation interventions and deployment of the system, where the realistic preview of the system reduces resistance

and develops users' expectations, which affects the formation of their perceptions. Training refers to the formal efforts to transfer all knowledge related to IS to gain technical and organizational skills and to focus users' attention to needs that require them to change their habitual behavior (Nelson and Cheney, 1987).

Training was shown as an independent construct only in some studies, because most of them included it within other constructs that were more inclusive, such as facilitating conditions and organizational support. However, Aggelidis and Chatzoglou (2009) confirmed that training helped users gain knowledge of the IS and was proven to have a strong indirect effect on the intention to use the system through ease of use and facilitating conditions. Furthermore, the studies of Marshall et al. (2008), Schillewaert et al. (2000), Amoako-Gyampah and Salam (2004), Mariani et al. (2013), indicated that training had a significant impact on the formation of ease of use and the perceived usefulness of using IT.

Therefore, the study assumes that training will play an important role in learning to use the system and developing the skills. It will also improve the user's perception of the benefits of using the system on his performance and productivity. Moreover, the individual will understand during the training the importance and inevitability of change to support teamwork and interact with the business environment. Thus, we hypothesize:

> *H2$_A$: Training will significantly influence the perceived inevitability of change.*
> *H2$_B$: Training will significantly influence the perceived usefulness.*
> *H2$_C$: Training will significantly influence the perceived ease of use.*

2.3. Previous Experience (PEXP)

Several studies (Gardner and Amoroso, 2004; Gögüs and Özer 2014; Pentina et al., 2012; Venkatesh and Bala, 2008; Venkatesh and Davis, 2000; Venkatesh, et al., 2012) were based on experience (or previous use) to enhance the predictive ability of the proposed models. They have confirmed that the effects of beliefs change over different time periods and show differences between experienced and inexperienced users. Individuals' beliefs are shaped and developed over time through gradual evaluations that come from users' experience in using the system, affecting the usefulness and the ease of use, which in turn influence intentions (Lee et al., 2010).

Experience has been used as one of the adjusting factors in longitudinal field research. But in the proposed model, it will appear as an independent construct for an important reason that is consistent with the context of use, which is that the current study will be in the post-usage stage and the users have enough experience for several years. Accordingly, this study assumes that experience will be an important motive for the intention to continue using the AIS by influencing the individuals' beliefs. Therefore, we propose that:

> *H3$_A$: Previous experience will significantly influence the perceived inevitability of change.*
> *H3$_B$: Previous experience will significantly influence the perceived usefulness.*
> *H3$_C$: Past experience will significantly influence the perceived ease of use.*

2.4. Perceived Usefulness (PU)

It is the degree of the individual's belief that the use of AIS will improve his performance and support the completion of work. Usefulness is synonymous

with other terms that used in studies within the same context, such as performance expectancy and relative advantage (Karahanna et al., 2006; Venkatesh et al., 2011). In practice, the empirical studies of Davis and even the subsequent studies (Abduljalil and Zainuddin, 2015; Alsamydai, 2014; Benzine and Tiar, 2021; Gefen and Straub, 2000; Jeong, 2011; Lule et al., 2012; Ngadiman et al., 2017) have proven that PU had a potent influence on intention to use. The proposed model assumes that whenever the user realizes the usefulness of using AIS, this will enhance the intention to continue using it and will be a strong motivation to perceive the inevitability of changing and adapting to the requirements of the profession. Therefore, the following hypotheses are:

> $H4_A$: The perceived usefulness will significantly influence the continuance intention to use AIS.
> $H4_B$: Perceived usefulness will significantly influence the perceived inevitability of change.

2.5. Perceived Ease of Use (PEOU)

Ease of use refers to the degree to which an individual believes that using the system will be clear and will not require effort. It is equivalent to the concept of complexity in innovation diffusion theory, and the effort expectancy in UTAUT.

Many studies (Alsamydai, 2014; Benzine and Tiar, 2021; Gefen and Straub, 2000; Gögüs and Özer, 2014; Jeffrey, 2015; Jeong, 2011; Lule et al., 2012; Premkumar and Bhattacherjee, 2008) have confirmed that PEOU directly affects intention or through perceived usefulness, and also found that PEOU impacts the perceived usefulness; as the individuals expect that the greater the ease of use of the system, the higher the performance, which leads to higher perceptions of usefulness (Venkatesh and Davis, 2000). Consequently, we hypothe-

size that when the user finds that the use of AIS is not difficult and will not require him to make an effort to do so, he will continue to use the system. Thus:

> $H5_A$: Perceived ease of use will significantly influence the continuance intention to use AIS.
> $H5_B$: Perceived ease of use will significantly influence the perceived usefulness.

2.6. Perceived Inevitability of Change (PIC)

The perceived inevitability of change is included as a new variable in this paper. We assume the individual will use AIS as this will help him meet the job requirements imposed by accounting industry pressures. Firms have to respond to the pressures of the business environment by developing their practices to achieve harmonization with them. DiMaggio and Powell (1983) state that these pressures lead to institutional isomorphism according to three mechanisms: Coercive isomorphism, which comes from pressures, exerted on the firm in a formal or informal way through rules and laws, and mimetic isomorphism, which results from imitation of competitors in the same industry, especially when the environment is highly uncertain; and normative isomorphism that comes from pressures of standards and approaches used by other relevant organizations (Gopalakrishna-Remani et al., 2016; Teo et al., 2003).

Institutional pressures are appropriate for the study of adoption decisions at the organizational level (Jan et al., 2012), where the respondents in most studies were managers and decision makers speaking for the firm. However, they can also be applied at the individual level because individual decisions support decisions on organizational adoption because of their organizational affiliation (Jan et al., 2012; Khalifa and Davison, 2006). So, the perceived inevitability of

change means user perception of the need to use AIS in order to change and adapt to the profession's requirements and developments and to continue working. Jan et al. (2012) studied the effect of the use of e-learning systems and found that the normative and the mimetic pressures have an important impact on the formation of users' attitudes and their intentions towards using the system. Alamin et al. (2015) confirmed in their study that coercive pressure affects the adoption of AIS in Libya, and explained that the formation of accountants' beliefs about the adoption of the system are affected by stakeholders and the orientations of accounting regulatory bodies. Jooriaby et al. (2020) also found that the three types of institutional pressures affect the intentions of accountants towards the use of the AIS in companies listed on the Tehran stock exchange. Therefore, we hypothesize that:

H6: The perceived inevitability of change will significantly influence the continuance intention to use AIS.

2.7. The Continuance Intention to Use AIS (CIN)

Technology acceptance research has not been very far from the idea of continuity; they have studied the subsequent stage of use when trying to understand the effect of experience as an adjusting factor on the relationships path. Also, many studies have examined the effect of users' beliefs after they have adopted and used the system, so their results are no longer related to acceptance of adoption, but to the continued use (Karahanna et al., 1999).

For this reason, other streams of research focused on persistence of use, such as Bhattacherjee (2001), who adapted the expectation confirmation theory

(ECT) and the TAM to study the continuation of use behavior after adoption, arguing that the TAM is valid to explain only initial acceptance. Karahanna et al. (1999) also sought to distinguish between the beliefs of adoption and continuous use based on the temporal dimension. Limayem et al. (2003) proposed an integrated model that combines the TPB and the ECM developed by Bhattacherjee (2001) to better explain the use of the IS across several stages. Agarwal and Prasad (1997) were interested in the topic of continuity when they examined the role of technology properties of innovation diffusion theory in predicting current use behavior and future use intentions. Venkatesh et al. (2011) presented a research integrating ECT and UTAUT, in which the researchers asserted that the beliefs adopted had a significant role in explaining changes before and during use and also had an important influence on the continuance intention. The behavioral intention was every time followed the path of use; based on the arguments related to the use, the behavioral intention becomes the continuance intention to use, which in this study refers to the individual's planning to continue to use the AIS. Intention in both cases are equivalent constructs and similar in concept, differing in terms of their temporal existence, where the intention to use is before or during use, and the intention to continue comes after use as it is affected by beliefs that have become more mature with experience (Hong et al., 2006).

Ⅲ. Research Methodology

3.1. Instrument Construction

The questionnaire was used to collect data, as it is based on a set of closed questions; because this type of question is easy to deal with and answer,

it also reduces the variance in the answers and enhances the comparison between them, and it is the most suitable tool for statistical analysis (Adams et al., 2014; Kothari, 2004). The questionnaire design was based on the most important literature on technology acceptance, with a focus on adapting it to the reality of using the AIS in Algerian firms. Segars and Grover (1993) state that there are no absolute measures of psychological constructs because this latter differ according to users, technologies, and levels of use, which makes them complex.

The questionnaire comprises seven constructs. The measurement items for each constructs were adapted to those described by relevant previous studies as shown in <Appendix A>. The Likert scale is one of the most important psychometric tools for quantifying perceptions and attitudes, which are considered latent variables as subjective traits of the individual (Joshi et al., 2015). In this study, we used a seven-point Likert scale because it offers more options and can separate the respondents' frequency in choosing (Joshi et al., 2015), which helps to achieve more accurate, more useful, and more reliable data, and provide important statistical results, these are all interrelated goals that the researcher wants to achieve (Pearse, 2011).

3.2. Data Collection

The study sample consisted of individuals who use the AIS in firms active in Annaba. It is one of the major cities in northern Algeria, classified as one of the growth poles, with industrial dominance in the country (Ammi 2019). One of Algeria's most important reforms to develop its economy was in accounting through the enactment of Law No. 07-11 dated November 25, 2007, which aimed to comply with international accounting standards. These reforms were made to respond to the business environ-

ment and adapt to the rapid developments. To support this, it also required harnessing IT, so it issued Executive Decree No. 09-110 dated April 07, 2009, which called for the need to regulate accounting according to IS.

The questionnaires were distributed directly to the AIS users and, sometimes, we have communicated with them through LinkedIn, a professional social network, due to the sanitary conditions resulting from the Covid-19 outbreak, which affected the management of firms when complying with health restrictions. 135 individuals who use the AIS participated in the survey and 132 valid responses were accepted for analysis, equivalent to 97.78%. They were as regards the position held: 83 accountants, 03 chief financial officer, 39 department heads, and 07 assistant accountants. The 87.9% of them had more than 05 years of experience in their positions. In terms of educational level, 83.3% of them have university degrees and the rest have other diplomas from training centers, where 92.4% of these diplomas were in accounting, finance and economics, and the rest were in computing or other specializations. All participants were using different accounting programs to perform their jobs.

Ⅳ. Results

In order to test the proposed model, we followed a set of procedural steps that are available for structural equation modeling using AMOS program; which combines factor analysis and path analysis (Weston and Gore, 2006). First, we conducted a confirmatory factor analysis (CFA) to assess the relationships of the items with the constructs to which they belong. This stage helps to correct the model and avoid any problems that may hinder the structural analysis

(Mccoach, 2003). Then, we tested the influence relationships between the variables in the structural model and confirmed the hypotheses.

4.1. Measurement model

In order to ensure the validity and reliability of the latent variables, we reviewed the loadings of their items. Although many researchers accept a value of 0.5; loading is preferred at least 0.6 so that interpreting the variance is not weak, because it will explain over one third of the variance of the indicator (Collier, 2020). Some items in this study had a factor loading less than 0.6, so we excluded them. But we have taken into account the recommendation of Hair et al. (2014) regarding the use of at least 04 indicators for each variable in order to preserve its identity.

After modifying the constructs, fit indices for the obtained model had to be reviewed with the recommended values by Thakkar (2020), Collier (2020), Hooper et al. (2008), Kline (2016). This step is important because it will determine the fitting model for the sample data in terms of the significance and strength of its parameters and the estimated relationships (Collier, 2020; Weston and Gore, 2006). The preliminary results indicated that TLI and CFI values were less than the acceptable values (see <Appendix B>), which required the modifications proposed by
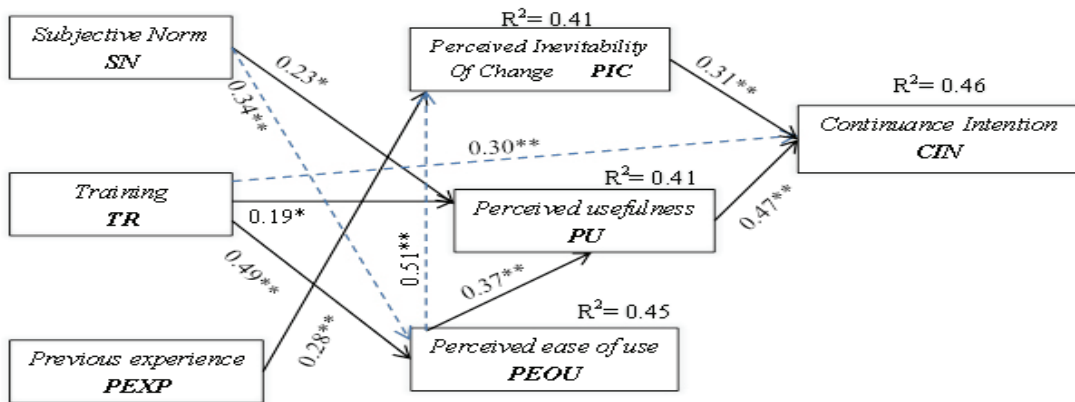
the AMOS program to improve the indices. <Appendix B> shows the improvement of all indices after adjustment except for TLI and CFI which achieved values close to the recommended values. Several studies have confirmed that the values of the two indices belong to the range [0, 1], where the closer to 1, the better the fit (Byrne, 2016; Shadfar and Malekmohammadi, 2013; Shi et al., 2019; Weston and Gore, 2006). For this reason, some researchers (Kim et al., 2016; Maulana and Rufaidah, 2014; Misba and Jailani, 2019) accepted values that were less than 0.90 and considered them to be at the marginal fit level; therefore, it can be said that all the results got show a good fit.

It is also important to evaluate the convergent validity to ensure convergence and correlation of the indicators to measure the same construct to which they belong; and the ability of indicators to explain a significant proportion of the variance of the target latent variables (Wang et al., 2015); through two indicators: the complex reliabilities (CR), which is recommended to not be less than 0.7 (Hair et al., 2014) and the average variance extracted (AVE) provided it is $\geq$ 0.5 (Fornell and Larcker, 1981) as follows:

All composite reliabilities values exceeded the specified threshold of 0.7, which indicates the reliability of the scales for predicting their variants. The AVE values for training, experience and usefulness met

<Table 1> Convergent validity

Constructs	AVE	CR
Subjective norm (SN)	0.444	0,798
Training (TR)	0.652	0.881
Previous experience (PEXP)	0.572	0.870
Perceived usefulness (PU)	0.541	0.854
Perceived ease of use (PEOU)	0.558	0.862
Perceived inevitability of change (PIC)	0.495	0.796
The continuance intention to use AIS (CIN)	0.468	0.839

<Figure 2> Structural Model Testing Results

Note: * p < 0.05, ** p < 0.001, ----: New Paths
Goodness-of-fit measures: χ2/df = 1.605 P = 0.117, RMSEA = 0.068, RMR = 0.017, TLI = 0.962, CFI = 0.985

the required condition, but the remaining values were below the threshold. As AVE is more conservative in measurement, results less than 0.5 can be accepted if the CR exceeds the recommended cut-off value (Fornell and Larcker, 1981). It is an exceptional rule on which many studies were based. Therefore, it can be said that these results achieve the validity of the convergence.

Discriminative validity indicates the verification of the degree to which each construct differs from the rest (Ambad and Wahab, 2016) using the criterion of Fornell and Larcker (1981), which requires the square root of AVE to be greater than the square correlation of the constructs. The results shown in

<Table 2> confirmed that the diagonal values of the square root of the AVE were greater than all the correlations between the latent variables in each row or column. Thus, discriminative of validity was achieved.

Therefore, CFA was the first procedure to review the loadings of the items and the reliability and validity of the measures, in order to decrease the measurement error and ensure a fit model (Al Muala et al., 2013). All these conditions are met, for hypothesis tests.

4.2. Structural Model

It is important at this stage to take into account

<Table 2> Correlation matrices and square roots of AVE

	AVE	CIN	PIC	PEOU	PU	EXP	TR	SN
CIN	0.468	**0,684**						
PIC	0.495	0,665	**0,704**					
PEOU	0.558	0,567	0,697	**0,747**				
PU	0.541	0,616	0,578	0,668	**0,735**			
EXP	0.572	0,473	0,523	0,342	0,291	**0,756**		
TR	0.652	0,593	0,502	0,647	0,521	0,289	**0,807**	
SN	0.444	0,475	0,505	0,573	0,53	0,412	0,294	**0,666**

the model fit indices in order to ensure the validity and adequacy of the model in parallel with testing the hypotheses. The first results provided bad values for some indices compared to the recommended values as shown in <Appendix C>, so we made the modifications suggested by the program. At first, new relationships were added by making a correlations between subjective norm, training and experience, and then adding new paths: (PEOU ← SN), (PIC ← PEOU) and (CIN ← TR). <Appendix D> presents the results of this modifications, where some indices remained unacceptable, which necessitated to delete the non-significant paths at the 5% significance level. Therefore, the hypotheses of these paths were rejected. After recalculating the estimates, <Figure 2> shows the final structural model.

We can say that the study hypotheses were tested in two stages, the first at the first modification was made, where some of them were rejected based on the results obtained, and the second stage when stat-

istically significant paths were confirmed in the final structural model. <Table 3> summarizes the final results of the hypothesis testing.

Ⅴ. Discussion

This study proved some causal relationships, while others were not statistically significant, providing a better explanation of the factors that affect user acceptance of AIS in Algerian firms. A better explanation of the results achieved by each factor can be given as below:

5.1. Subjective Norm

It was confirmed that it affects perceived usefulness ($\beta = 0.23$, P c0.05), where this result is consistent with those of Park et al. (2012), Tarcan et al. (2012), Jackson et al. (2013). It also supports the assumptions of the TAM2 and TAM3 models that the subjective

<Table 3> The Hypotheses Test Results

Results	Standardized Causal Effects	Hypotheses	Dependent Variables
Not supported	0.056	H1$_b$	PIC
Not supported	0.020	H2$_a$	
Supported	0.284**	H3$_a$	
Not supported	0.146	H4$_b$	
Supported	0.235*	H1$_c$	PU
Supported	0.186*	H2$_b$	
Not supported	0.022	H3$_b$	
Supported	0.367**	H5$_b$	
Supported	0.489**	H2$_c$	PEOU
Not supported	0.069	H3$_c$	
Not supported	0.135	H1$_a$	CIN
Supported	0.272**	H4$_a$	
Not supported	-0.023	H5$_a$	
Supported	0.306**	H6	

Note: ** P < 0.001, * P < 0.05.

norm expressing social influence affects individuals' perception of the usefulness of the system. In contrast, the subjective norm had no significant effect on the continuance intention, which is the same result found by Davis et al. (1989), Tarcan et al. (2012). This can be explained based on the study of Venkatesh and Davis (2000) about TAM2, where they exclude the compliance of individuals (which represents the direct effect on intention) to become the internalization. This refer that if the references (managers and colleagues) indicate the usefulness of the system, the individual will believe that it is useful, which indirectly leads to the continuance intention to use it. This is due to the role of experience, where over time individuals depend on their experiences in perceiving usefulness, and this will form their intentions more than they depend on others' perceptions (Sun and Zhang, 2006).

Also, the results show the rejection of the hypothesis that subjective norm affects the perceived inevitability of change, which can be explained under previous facts regarding the relationship with the continuance intention, as experience has a role in influencing this path.

5.2. Training

The results confirmed that it has a significant effect on perceived usefulness ($\beta = 0.19$, $P < 0.05$) and also on perceived ease of use ($\beta = 0.49$, $P < 0.001$). These results are consistent with many studies (Aggelidis and Chatzoglou, 2009; Amoako-Gyampah and Salam, 2004; Mariani et al., 2013; Marshall et al., 2008; Schillewaert et al., 2000). The training courses provided by the firms will help overcome any difficulties or concerns when using the AIS. Training it will also enable the sharing of experiences and knowledge, which will contribute to exploring the benefits of its use.

However, the results also found that training would not affect users' beliefs regarding the inevitability of change. This can be traced back to the nature of this construct, which refers to the pressures in the work environment and the laws of the profession, as forces users to submit, do not wait for their cognition during training.

5.3. Previous Experience

It had no effect on perceived usefulness or perceived ease of use. This indicates that the individuals' experiences with the AIS have passed the evaluation stage of the system and no longer have a role to play in forming their beliefs about the ease or difficulty of using it and the usefulness that will be achieved.

However, the results found that previous experience had a direct impact on the perceived inevitability of change ($\beta = 0.28$, $P < 0.001$). This indicates that the knowledge gained by individuals over time are considered as cognitive factors that enhance understanding of industry requirements and the need to adapt to changes, becoming important determinants in forming the belief of the inevitability of change.

5.4. Perceived Ease of Use

The findings confirmed that ease of use affects usefulness ($\beta = 0.37$, $P < 0.001$). When individuals perceive the ease of use of the system, this will affect their perceptions about benefiting from it. These results support the several studies (Benzine and Tiar, 2021; Jackson et al., 2013; Teo and Noyes, 2011; Wixom and Todd, 2005; Wu and Kuo, 2008). Contrary to what was expected, there was no effect of ease of use on the continuance intention, consistent with those of Premkumar and Bhattacherjee (2008), Azam

et al. (2010), Diatmika et al. (2016). This can be explained based on the results of the TAM3 model, where the study by Venkatesh and Bala (2008) found that the effect of ease of use on intention has weakened over time because of the modified effect of experience. Venkatesh et al. (2003) also supported this when they found that the effect of effort expectancy on intention is more significant in the early stages when ease or difficulty is an obstacle to be overcome, but over a period of prolonged and persistent use, the effect decreases.

5.5. Perceived Usefulness

The results showed that it has an important impact on continuance intention ($\beta = 0.27$, $P < 0.001$), which supported research that studied intention to use, such as Al-Smadi (2012), Benzine and Tiar (2021), Khairi and Baridwan (2015), Linders (2006), Ngadiman et al. (2017). And in particular studies that focused on continuance intention such as Bhattacherjee and Premkumar (2004), Limayem et al. (2003), Venkatesh et al. (2011), Wu and Kuo (2008). When individuals perceive that the use of the AIS will bring benefits to them, as it improves their task performance, gives them greater control, and adapts to the requirements of the profession, all of this will affect their intentions to continue to use it. However, perceived usefulness did not affect the inevitability of change, where the results indicate that it will not have a role in forming users' perceptions regarding the inevitability of change due to the pressures of the business environment and the requirements of the profession.

5.6. Perceived Inevitability of Change

The results confirmed that it has an important impact on the continuance intention ($\beta = 0.31$, P

< 0.001), which is consistent with the findings by Jan et al. (2012), Jooriaby, et al. (2020), Khalifa and Davison (2006). This means that when users of the AIS realize the need for change to adapt to the requirements of work within or outside the firms, due to pressures or developments in the business environment, it will have a role in forming their continuance intention to use the system. It should be noted that the effect of the inevitability of change on the continuance intention was greater than the effect of perceived usefulness, which the literature for a long time agreed that it is the strongest and most important indicator of behavioral intention, which suggests that the perceived inevitability of change is a basic construct in the TAM later in the context of mandatory settings.

5.7. The New Paths

Regarding the new relationships, which are created to improve the model, it shows that training plays a direct role in the formation of the continuance intention of users with the effect of ($\beta = 0.30$, $P < 0.001$), which is consistent with the mandatory context of firms where it does not need the mediation of perceived usefulness and perceived ease of use. It can also be interpreted that this path is consistent with the suggestion of Venkatesh and Bala (2008) that training will be a salient factor when working with complex systems.

As for the effect of subjective norm on perceived ease of use, the results show an important effect ($\beta = 0.34$, $P < 0.001$), which supports some studies that have also confirmed this impact (Bhatti, 2007; Rabaa'i, 2016; Permana et al., 2019; Davoodi et al., 2021; de Luna et al., 2019). Since the subjective norm expresses social pressure (Hong, 2018), Bhatti (2007) interprets that social influences have a role in individuals' assess-

ment of their ability to use the system. This can be explained in the context of our study that AIS users are affected by the beliefs of the important individuals to them, such as managers and colleagues about the degree of ease of use of the system, which in turn affects the formation of their beliefs.

As to the effect of perceived ease of use on the perceived inevitability of change, this study assumes that the inevitability of change is an inferential belief such as perceived usefulness. The inferential belief is beyond direct experiences, it is formed through the process of inferring from stimuli and related relationships (Li et al., 2009). Therefore, this relationship can be explained that the ease of use of the system making individuals believe that it will be flexible in a way that responds to business needs, changes in the business environment, and industry requirements. In other words, it can be said that users expect that the necessity of change will not require them to exert great effort or lead to difficulty in learning new technologies.

VI. Conclusion

This study contributes to evaluating the factors that affect users using the AIS in Algerian firms. Using a developed TAM, the results showed that subjective norm and training affect perceived usefulness and ease of use, and that experience impacts the perceived inevitability of change. It was also found that perceived usefulness and perceived inevitability of change have an important impact on continuance intention. The results revealed new relationships that strengthened the research model, where training affects the continuance intention, and that the subjective norm affects the perceived ease of use, while the latter affects the perceived inevitability of change.

6.1. Theoretical and Practical Implications

This paper provides many implications. For theoretical implications, the study provided more knowledge on the role of individual factors in supporting the use of the AIS. This paper, to the best of our knowledge, is the first to develop a TAM model to assess the factors influencing the perceptions of AIS users in Algerian firms. The results have concluded that the inevitability of change has an important impact alongside usefulness on the continuance intention and that the latter is most appropriate for mandatory settings; this indicates that the work context should be taken into consideration because the characteristics of the IS and the study environment will have a role in determining the construction of the model. In this paper, the developer model has a good explanatory power of continuance intention similar to the research that applied TAM, which enhances the understanding of factors affecting user beliefs and predicting their behavior. These results will support future research to study the intentions of individuals toward the use of technology in the organizational context.

Regarding practical implications, the paper examined the use of the AIS in Algerian firms from a perspective focusing on individuals, unlike research that always studies the technical aspects of the system such as the stages of updating the AIS, the pros and cons of using it, and the digital transformation of accounting; where the results emphasize the role of individual factors in maximizing the use of the system. The paper concluded that ease of use must be taken into account when designing or updating the AIS, as this will increase the realization of its benefits and support the adaptation to business requirements. The findings indicate that subjective norm has a role in forming perceived usefulness and perceived ease of use, so

decision makers must realize that the opinions of managers and colleagues will be a motivating factor that affects the perception of system users. Training also affects the perception of ease of use and usefulness and has a direct impact on the continuance intention, which draws attention to training as a salient factor contributing to providing support and increasing opportunities for development in organizational environments.

6.2. Limitations and Future Research

Despite the search results, some limitations should be considered. First, the TAM model has been developed based on certain factors in line with the characteristics of work in Algerian firms, but there may be other factors that increase the understanding of individuals' beliefs and predict their intentions, such as the characteristics of the AIS, so it is worth exploring in future studies. Second, this study sought to include the pressures caused by the business environment on users within the perceived inevitability of change, but more studies are needed to confirm the results. Third, the study was carried out on firms in Annaba city, so it would be good to expand the study and test the results.

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<Appendix A> Measurement Items

Construct	Item	Wording	Reference
Subjective Norm	SN1	People who influence my work (managers) think I should use the AIS.	Venkatesh and Bala (2008); Lewis et al. (2003).
	SN2	The opinions of people who influence my work (managers) are important to me.	
	SN3	The people important to me (colleagues) think that I have to use the AIS.	
	SN4	I appreciate the opinions of people important to me (colleagues).	
	SN5	The use of the AIS for my tasks will be compatible with the other staff functions.	
	SN6	I think that the use of the AIS is useful according to the opinions of other people (managers and colleagues).	
	SN7	I find that the use of the AIS is necessary to adapt to the work according to the opinions of other people (managers and colleagues).	
Training	TR1	The professional development and training provided to me on the AIS are sufficient.	Simon et al. (1996); Mariani et al. (2013); Schillewaert et al. (2000).
	TR 2	The training I received regarding the AIS is complete.	
	TR 3	The training helps me to be more efficient in the use of the AIS.	
	TR 4	The training facilitates the use of the AIS.	
	TR 5	The training contributes to understanding the usefulness of using the AIS.	
	TR 6	The training motivates me more to use the AIS and to adapt to any novelty.	
	TR 7	The use of a computerized AIS requires training.	
Previous Experience	PEXP1	Effective use of the AIS is linked to my previous experiences.	Karahanna et al. (2006); Alsamydai (2014).
	PEXP2	My professional and technical experience encourages me to use the AIS.	
	PEXP3	The use of the AIS is different from my previous experiences.	
	PEXP4	I count on my experience to deal with any change concerning the AIS.	
	PEXP5	My previous experience allows me to distinguish the benefits of using the AIS.	
	PEXP6	My previous experiences help me to easily use the AIS.	
	PEXP7	My previous experience allowed me to understand the need to use the AIS.	
Perceived Usefulness	PU1	Using the AIS improves my performance.	Igbaria et al. (1997); Huy and Phuc (2019); Gögüs and Özer (2014); Venkatesh et al. (2011); Agarwal and Prasad (1997); Rogers (2016).
	PU 2	Using the AIS allows me to work faster.	
	PU 3	Using the AIS allows me to perform tasks more efficiently.	
	PU4	I find that using the AIS is useful as long as it facilitates my work.	
	PU5	Using the AIS gives me more control over the work.	
	PU6	The use of the AIS supports the work of other employees and adapts to professional requirements.	
	PU7	I find the use of the AIS useful in my work.	
Perceived Ease of Use	PEOU1	I find that using the AIS is effortless.	Rogers (2016); Moore and Benbasat (1991); Venkatesh (2000); Davis (1989).
	PEOU2	I find it easy to make the AIS do what I want it to do.	
	PEOU3	I find that the AIS is clear and understandable.	
	PEOU4	I find it easy to enter and modify data using the AIS.	
	PEOU5	I think it is easy to learn new technologies using the AIS.	
	PEOU6	I think I can become skilled in using the AIS.	
	PEOU7	Using the AIS is easy.	

<Appendix A> Measurement Items (Cont.)

Construct	Item	Wording	Reference
Perceived Inevitability of Change	PIC1	I find it necessary to use the AIS to do my job.	Cao et al. (2014); Liang et al. (2007).
	PIC2	I find that all my job-related tasks are related to the use of the AIS.	
	PIC3	I think that to keep my job, it is necessary to use the AIS.	
	PIC4	Many colleagues in my field use the AIS.	
	PIC5	My colleagues in the same sector view the use of the AIS.	
	PIC6	I find that the use of the AIS is necessary because the authorities demand it.	
	PIC7	I find that the use of the AIS is necessary because the industry requires it.	
Continuance Intention	CIN1	I prefer to use AIS to accomplish my work.	Wixom and Todd (2005); Bhattacherjee and Premkumar (2004); Gardner and Amoroso (2004); Brown et al. (2002); Alsamydai (2014).
	CIN2	I intend to continue to acquire new technical skills to use the AIS.	
	CIN3	I expect that using the AIS will be a regular part of my job in the future.	
	CIN4	I will continue to use the AIS because it is useful.	
	CIN5	I will continue to use the AIS because it is easy.	
	CIN6	I will continue to use the AIS because it is necessary for the performance of my work.	
	CIN7	I will continue to use the AIS because it supports the work of other employees.	

Note: * The AIS: The accounting information system.

<Appendix B> Goodness-of-Fit Measures of Measurement Model

Fit Index	Recommended Values	Modifications		Explanation
		Befors	After	
χ2/df	< 02	1.617	1.595	Good
RMSEA	<0.08	0.069	0.067	Good
RMR	< 01	0.036	0.035	Good
TLI	0.90≤	0.848	0.853	Acceptable
CFI	0.90≤	0.864	0.869	Acceptable

<Appendix C> The Results of the First Path Analysis

			Estimate	C.R.	P
PEOU	←	TR	,975	7,602	***
PEOU	←	EXP	,252	2,217	,027
PU	←	PEOU	,217	4,024	***
PU	←	SN	,227	2,918	,004
PU	←	TR	,194	2,199	,028
PU	←	EXP	,021	,306	,759
PIC	←	PU	,272	3,081	,002
PIC	←	SN	,142	1,714	,087
PIC	←	TR	,179	2,043	,041
PIC	←	EXP	,267	3,666	***
CIN	←	PIC	,451	3,554	***
CIN	←	PU	,447	3,353	***
CIN	←	PEOU	,108	1,250	,211
CIN	←	SN	,190	1,568	,117
χ2/df= 12.218		RMSEA=0.293	RMR=0.074	TLI=0.288	CFI=0.763

<Appendix D> The Results of the Path Analysis after Modifications

			Estimate	C.R.	P
PEOU	←	TR	,477	6,949	***
PEOU	←	EXP	,069	,996	,319
PEOU	←	SN	,319	4,541	***
PU	←	SN	,229	2,918	,004*
PU	←	TR	,183	2,199	,028*
PU	←	PEOU	,365	4,024	***
PU	←	EXP	,022	,306	,759
PIC	←	TR	,020	,240	,811
PIC	←	PU	,146	1,717	,086
PIC	←	EXP	,255	3,587	***
PIC	←	PEOU	,389	4,145	***
PIC	←	SN	,056	,705	,481
CIN	←	PIC	,282	3,541	***
CIN	←	PU	,229	2,782	,005*
CIN	←	TR	,298	3,781	***
CIN	←	SN	,135	1,812	,070
CIN	←	PEOU	- 0,023	-0,239	,811
χ2/df= 3.957		RMSEA=0.150	RMR=0.008	TLI=0.812	CFI=0.991

◆ About the Authors ◆

Widad Benzine

Widad Benzine holds an administrative position at the University of Badji Mokhtar of Annaba, Algeria and is an adjunct professor at the same University. She received a Ph.D. degree in Accounting from the University of 20 August 1955 of Skikda. Her research interests include information systems, accounting, management and all new topics in business.

Ahcene Tiar

Ahcène Tiar is currently a Professor in the faculty of Economic, Commercial and Management Sciences at the University of 20 August 1955 Skikda, President of Faculty Scientific Council and Member of Directors Board of the Union of Arab Statisticians. He obtained his MA in Management from the University of 20 August 1955 Skikda, Algeria, in 2006 and his Ph.D. in Management from the University of Badji Mokhtar of Annaba, Algeria, in 2011. His areas of interest include information technology adoption and quantitative methods for business (Operations research, Statistics, Data Mining, Big Data, ⋯). He has presented and published many research papers related to the above-mentioned areas.