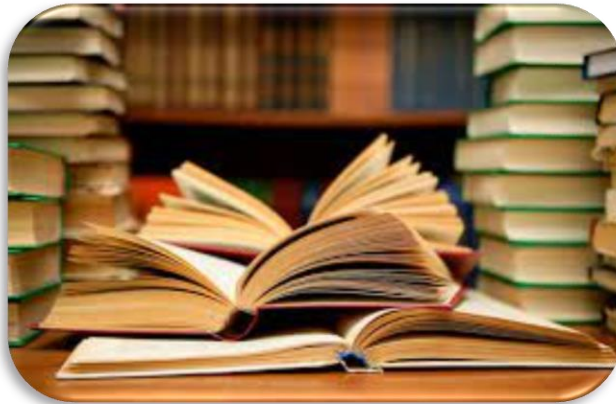## Research Paper

Factors Affecting the Acceptance and Use of VADANA by Islamic Azad University of Zahedan Students during COVID-19 Pandemic: The Application of the UTAUT Model

Mehdi Haseli Songhori, Mahdiya Afrashteh, Samira Afrashteh, Nahid Afrashteh

Department of English, Zahedan Branch, Islamic Azad University, Zahedan, Iran. m_haselisonghori@yahoo.com
Department of English, Zahedan Branch, Islamic Azad University, Zahedan, Iran. mahdiyaafrashte99@gmail.com
Department of Computer, Hatef university of Zahedan. samirarisen07@gmail.com
Department of English Language, Zahedan Branch, Islamic Azad University, Zahedan, Iran. nahidafra10@gmail.com

ABSTRACT

The aim of this study was to investigate the factors affecting the acceptance and use of a learning management system called VADANA by Islamic Azad University (IAU) of Zahedan students based on the unified theory of acceptance and use of technology (UTAUT). This was quantitative and a descriptive-correlational study using structural equation modelling (SEM). The statistical population of the study was all the undergraduate students of Islamic Azad University of Zahedan. The statistical sample of this study was 185 participants (65 males and 120 females) selected through convenience sampling. The data collection tool was a questionnaire adopted from Venkatesh et al. (2003). Data were analyzed using SPSS and AMOS. The results indicated that performance expectancy, facilitating conditions, and effort expectancy had a positive significant relationship with behavioral intention and use behavior of students in using VADANA. The results also revealed that social influence had no significant effect on students' behavioral intention and use behavior. The results of this study will help IAUs prepare more efficient online learning systems, which is vital during a state of emergency such as that caused by COVID-19.

Keywords: UTAUT model, VADANA, performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention

بررسی عوامل موثر بر پذیرش و استفاده از سیستم مدیریت یادگیری به نام وادانا توسط دانشجویان دانشگاه آزاد اسلامی واحد زاهدان

هدف از این پژوهش بررسی عوامل موثر بر پذیرش و استفاده از سیستم مدیریت یادگیری به نام وادانا توسط دانشجویان دانشگاه آزاد اسلامی واحد زاهدان بر اساس نظریه یکپارچه پذیرش و استفاده از فناوری بود. این پژوهش یک تحقیق کمّی و توصیفی از نوع همبستگی بر پایۀ مدل یابی معادلات ساختاری بود. جامعه آماری پژوهش کلیه دانشجویان مقطع کارشناسی دانشگاه آزاد اسلامی واحد زاهدان بودند. نمونه آماری این پژوهش ۱۸۵ شرکت کننده (۶۵ مرد و ۱۲۰ زن) بودند که به روش نمونه گیری در دسترس انتخاب شدند. جهت گردآوری داده ها، پرسشنامه ی ونکاتش و همکاران (۲۰۰۳) مورد استفاده قرار گرفت. داده ها با استفاده از نرم افزار SPSSو AMOS تجزیه و تحلیل شدند. نتایج نشان داد که انتظار عملکرد، شرایط تسهیل گر و انتظار تلاش با قصد رفتاری و رفتار استفاده دانشجویان در استفاده از وادانا رابطه مثبت و معناداری داشتند. همچنین نتایج نشان داد که تأثیر اجتماعی بر قصد رفتاری و رفتار استفاده دانشجویان تأثیر معناداری نداشت. نتایج این مطالعه به مسوولان دانشگاه آزاد اسلامی کمک می‌کند تا سیستم‌های یادگیری آنلاین کارآمدتری را آماده کنند که در شرایط اضطراری مانند همه گیری کرونا حیاتی می باشد.

کلمات کلیدی: مدل یکپارچه پذیرش و استفاده از فناوری، وادانا، انتظار عملکرد، انتظار تلاش، تأثیر اجتماعی، شرایط تسهیل گر، قصد رفتاری

INTRODUCTION

Over the last two decades, online learning has been growing exponentially in higher education (Allen & Seaman, 2004; Gosmire et al., 2009). There are many possible reasons for this growth: online courses respond to students' demand for flexible schedules, they give access to a new kind of learner who normally wouldn't attend traditional courses, they provide institutes of higher education with certain financial benefits (Gosmire et al., 2009) and finally, they seem to be at least as effective as face-to-face courses (Myers & Schiltz, 2012). Moreover, an often-cited meta-analysis of 232 comparative studies conducted by Bernard et al. (2004) concluded that overall, distance courses and face-to-face courses are comparable on student outcomes (academic performance, satisfaction and retention rates). However, the reported results demonstrated wide variability. More broadly, since 2000, more than 15 meta-analyses conducted among different populations, such as K-12 and higher education students confirmed that online courses are as effective as face-to-face courses (Abrami et al., 2011). Furthermore, good news is reported by a meta-analysis of 51 studies comparing students registered in these two kinds of courses (U.S. Department of Education, 2010). It revealed that academic performance was higher for online students as compared to those enrolled in face-to-face courses.

The onset of COVID -19 pandemic in 2019 changed the scene in education all around the world. Universities were no exception. During the COVID-19 pandemic which caused lockdowns emergency remote teaching was implemented by the majority of university education institutions (Yang et al., 2023); although some universities had some experience with distance education, it was a challenge to apply online teaching on a large scale, while many students were never taught in an online environment before the pandemic. Since educators were directed to online remote teaching, digital technology played a major role in enabling educators to teach students at a distance using various digital platforms and tools. Tools utilized for online teaching/learning included video classes, online courses, e-learning platforms (e.g., Moodle) and electronic textbooks. Online platforms such as Zoom, MS Teams, Google Meet, Google classroom, and Moodle, were widely used in higher education institutions and universities (Ayanwale et al., 2023). Online/eLearning platforms (e.g., learning management systems), among others, enable teaching, sharing of educational resources/materials, and real time synchronous communication between educators and students. For example, they provide both synchronous and asynchronous modes of teaching, thus enabling educators to interact with their students and deliver their lessons (Mohammadi, 2023). The use of electronic media is an essential element of e-learning, which can be accomplished via different technological devices, such as desktop computers, laptops, mobile phones, and virtual environments (Lee et al., 2003).

Universities offering online courses are putting many efforts into ensuring that online students are as satisfied as those attending face-to-face courses. Student satisfaction with online courses depends on faculty qualities (communication, feedback, preparation, content knowledge, teaching methods, incentive, accessibility and professionalism), technology and interactivity (Teo & Wong, 2013). Moreover, students view the possibility of interactions with faculty members and with other students as very supportive to their learning. Other authors confirm these results and add that synchronous interactions increase student satisfaction with online courses (Schubert-Irastorza & Fabry, 2011).

During the last two decades, researchers have explored people's intentions to use and acceptance of new technologies. Behavioral intention refers to the willingness of individuals to perform a specific job
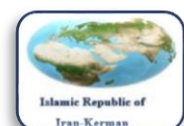
(Chu & Chen, 2016). Technology acceptance refers to whether and why individuals adopt technology, while adoption refers to its continued use (Muflih, 2023). In the context of e-learning, intention refers to the adoption and acceptance of new technologies that will be utilized in future learning processes. Users are free to decide which technology they want to use. As such, understanding the factors that drive this decision goes a long way towards facilitating the design of technologies that will have real-world applications. Greater technological acceptance by an individual signifies a willingness to change their lifestyle by utilizing the innovation in their lives (Succi & Walter, 1999). Accordingly, it is a vital determinant of whether technology will succeed. Conversely, a lack of acceptance risks the failure and loss of technology (Taherdoost, 2022).

Several technologies exist to enhance interactions in online courses. Among these technologies, instant messaging (IM), Web conferencing, real-time audio and video conferencing, Learning Management System (LMS), and application sharing (students work together or with the faculty on a shared software application) are some examples of the kind. These technologies seem to create a familiar learning environment for online students in that they strengthen faculty presence, they allow instant and clear feedback as well as more social presence, they facilitate group decision-making, and finally, they help develop a sense of a learning community (Myers & Schiltz, 2012).

Successful e-learning uptake is contingent on understanding how users accept technology (Ashraf et al., 2016) and how such technology is influencing every aspect of learning and education (Sayaf et al., 2022). On 10 March 2020, due to the pandemic, all universities in Iran closed down in order to slow the spread of Covid-19 and abruptly shifted their face-to-face classes to online ones. This sudden pivot to online education forced universities to continue their education using different learning management systems (LMS), such as Adobe Connect and Skyroom. Islamic Azad University (IAU) as a private university headquartered in Tehran, Iran was no exception. All IAU branches throughout Iran launched an LMS called VADANA and forced all students and faculty members to continue learning and teaching via this environment. VADANA is a system that meets all educational needs of IAU students electronically and online. With VADANA, all educational activities of the university can be done online. The advantages of this system include: no need for students to be physically present at the university, implementation of a single educational program for all university units, saving time for professors and students, the possibility of holding tests and grading online, and sharing various resources by professors and students. Considering the fact that IAU students have been using VADANA for more than three terms, it is necessary to conduct a study to explore what factors impact on the acceptance and use of VADANA by IAU students. To the best of our knowledge, no study in Iran has tried to investigate IAU students' acceptance and use of VADANA using the unified theory of acceptance and use of technology (UTAUT) model proposed by Venkatesh et al. (2003). Thus, this study examines the factors affecting the acceptance and use of VADANA by IAU of Zahedan students using the UTAUT model. A clearer understanding of the determinants of acceptance and use of VADANA by students will help decision makers in IAU use the right technology and encourage students to engage with the system by building and designing a technological environment that will help them enhance their academic performance. This is especially important during a state of emergency such as the COVID-19 pandemic which has impelled educational institutions across the world to make use of e-learning systems. This study helps

to shed light on how IAU students' acceptance and use of VADANA will influence the improvement of this online teaching/learning system by the IAU university authorities. The findings of this study will directly benefit the students, faculty members and IAU authorities. The IAU authorities can enhance the VADANA functions in the future if similar cases like COVID-19 pandemic occurs in the world. Figure 1 represents the hypothesized research model:

Figure 1
*Proposed research model*
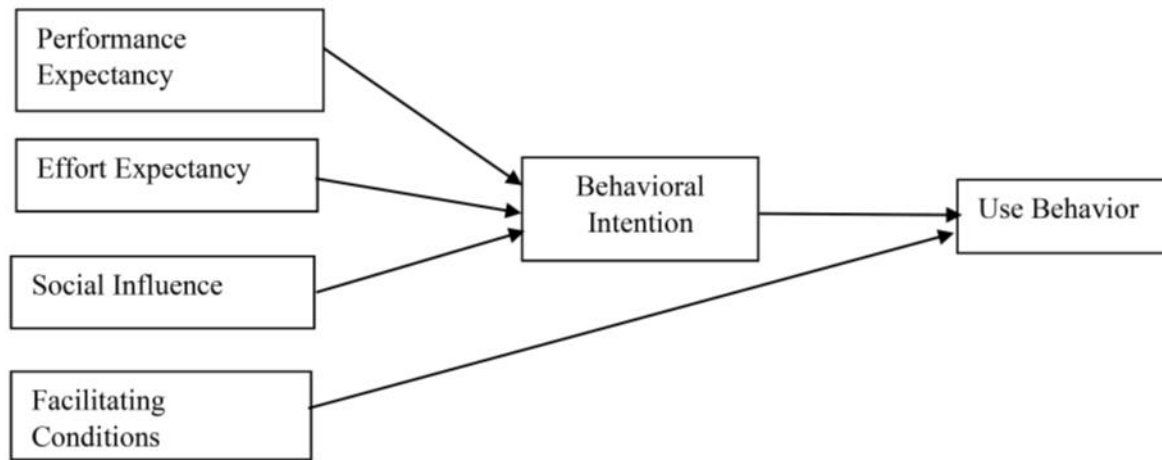
Research Hypotheses
Based on the above proposed research model, the following research hypotheses are proposed:
1. Performance expectancy will positively influence IAU of Zahedan students' behavioral intention.
2. Effort expectancy will positively influence IAU of Zahedan students' behavioral intention.
3. Social influence will positively influence IAU of Zahedan students' behavioral intention.
4. Facilitating conditions will positively influence IAU of Zahedan students' use behavior.
5. Behavioral intention will positively influence IAU of Zahedan students' use behavior.

LITRATURE REVIEW
Unified theory of acceptance and use of technology (UTAUT)
The Unified Theory of Acceptance and Use of Technology (UTAUT) is one of the most popular frameworks in the field of general technology acceptance models. Like earlier acceptance models, it aims to explain user intentions to use technology and further the usage behavior. Venkatesh et al. (2003) created this synthesized model to present a more complete picture of the acceptance process than was possible with any previous individual models. Eight models previously used in the technology field were merged in an integrated model, all of which had their origins in psychology, sociology, and communications. These models are the Theory of Reasoned Action (TRA), Theory of planned Behavior (TPB), Technology Acceptance Model (TAM), the Extension of Technology Acceptance Model (TAM2), the Motivational Model (MM), the Model of PC Utilization (MPCU), DOI, and Social

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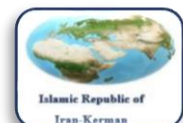
Cognitive Theory (SCT). Each model attempts to predict and explain user behavior using a variety of independent variables. A unified model was created based on the conceptual and empirical similarities across these eight models. The theory holds that four key constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) are direct determinants of usage intention and behavior (Hunde et al., 2023). Gender, age, experience, and voluntariness of use are posited to mediate the impact of the four key constructs on usage intention and behavior. Moreover, the UTAUT model attempts to explain how individual differences influence technology use. More specifically, the relationship between perceived usefulness, ease of use, and intention to use can be moderated by age, gender, and experience. For example, the strength between perceived usefulness and intention to use varies with age and gender such that it is more significant for male and younger workers. The effect of perceived ease of use on intention is also moderated by gender and age, such that it is more significant for female and older workers, and those effects decrease with experience (Venkatesh, 2021). The UTAUT has four predictors of behavioral intention or usage: performance expectancy, effort expectancy, social influence and facilitating conditions. The predictors are defined as follows (Venkatesh et al., 2003, pp. 447-453):

1. Performance expectancy (PE): "is the degree to which an individual believes that using the system will help him or her to attain gains in job performance."

2. Effort expectancy (EE): "is the degree of ease associated with use of the system."

3. Social influence (SI): "is the degree to which an individual perceives that [it is] important others believe he or she should use the new system."

4. Facilitating conditions (FC): "is the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system."

Performance expectancy (PE) in the UTAUT model is derived from a combination of five similar constructs, including perceived usefulness, extrinsic motivation, job-fit, relative advantage, and outcome expectations. Performance expectancy is the strongest predictor of intention within each of the individual models reviewed and was found significant at all points for both voluntary and mandatory settings in Venkatesh et al.'s (2003) model-validation. In the UTAUT model, effort expectancy (EE) captures the notions of perceived ease of use and complexity. Ease of use is the second component in the classic study by Davis (1989) and is generally believed to have a significant influence on technology acceptance as well as perceptions of usefulness. In validation of the UTAUT, EE was significant in both voluntary and mandatory usage contexts, although only for the first period of usage. Since practice increases one's comfort with software, effort-oriented constructs would become, logically, less salient after learning hurdles are overcome. Social influence includes consideration of the person's perception of the opinion of others, his or her reference group's subjective culture, and specific interpersonal agreements with others, as well as the degree to which use of an innovation is perceived to enhance one's image or status in one's social system (Venkatesh & Bala, 2008). This encompasses constructs from previous models such as subjective norm, social factors and image. This construct suggests that an auditor would be sensitive to the opinions of others, resulting in decisions consistent with the social norms around them. In their validation tests, Venkatesh et al. (2003) found that social influence was not significant in voluntary contexts, but becomes important when its use is mandated. Facilitating conditions (FC)

represents organizational support, and includes the constructs of perceived behavioral control, facilitating conditions, and compatibility from prior models. Results from the UTAUT validation suggest that FC was significant in both voluntary and mandatory settings in the initial usage period, but its influence on usage intentions disappeared after this. Additionally, FC appears to be fully moderated by effort expectancy, such that, when both PE and EE are present, FC becomes nonsignificant in predicting intention. Finally, the UTAUT model was able to account for 70 percent of the variance in usage intention, which is considered a measured improvement over any of the original models where the maximum was around 40 percent. The authors acknowledge a limitation of content validity due to measurement procedures and recommend that future research should be targeted at more fully developing and validating appropriate scales for each of the constructs with emphasis on content validity and revalidating or extending UTAUT with the new measures (Venkatesh et al., 2003).

Review of studies using UTAUT during the pandemic

Several studies conducted in Asia have examined students' acceptance of e-learning during the pandemic. Raman and Thannimalai (2021) conducted a study in Malaysia using the UTAUT2 model to investigate university students' behavioral intention to use e-learning. They found that social influence and habit were strong predictors of students' intention to use e-learning. Similarly, Prasetyo et al. (2021) conducted a study in the Philippines during the COVID-19 pandemic, using UTAUT2 to examine the factors predicting medical students' adoption and use of e-learning platforms. Their findings showed that performance expectancy and learning value significantly influenced students' behavioral intention, which in turn influenced the usage of e-learning platforms. Another study by Muangmee et al. (2021) in Thailand during the pandemic found that several factors, including performance expectancy, effort expectancy, social influence, facilitating conditions, habit and learning value, had a significant positive effect on students' behavioral intention to use e-learning tools. Finally, Raza et al. (2021) conducted a study in Pakistan using the UTAUT model to determine the factors that affect students' acceptance and use of e-learning systems. They found that performance expectancy, effort expectancy, social influence, and a new construct called social isolation had a positive impact on behavioral intention, which in turn was positively associated with the actual use of e-learning systems. These researchers recommended extending the UTAUT model in other cultural contexts to better understand the factors predicting the adoption and use of e-learning systems.

   Recent studies conducted in the Arab world and Africa have investigated the factors affecting students' intentions to adopt e-learning systems during the pandemic. In Jordan, Fouad et al. (2021) used UTAUT to examine this issue and found that Performance Expectancy and Social Influence had a positive explanatory power on students' behavioral intention, while their specialization/discipline played a role in exploring their intentions. Age and gender were not found to be significant factors. Another study by Abbad (2021) found that performance expectancy and effort expectancy influenced behavioral intention to use e-learning, while behavioral intention and Facilitating Conditions had a direct impact on students' use of the e-learning system Moodle. Similarly, Akbar (2021) conducted a study in Bahrain during the pandemic and found that performance expectancy, effort expectancy, social influence, and facilitating conditions all significantly predicted university students' adoption behavior for academic and technological learning using e-learning. In Egypt, Hassan (2021) studied the UTAUT factors that

influence university students' intentions to accept e-learning after the pandemic and found that performance expectancy, effort expectancy, social influence, perceived value, and facilitating conditions affected students' behavioral intention to use e-learning, while behavioral intention and Facilitating Conditions had a direct impact on actual use. Finally, in Ghana, Buabeng-Andoh and Baah (2020) applied the UTAUT to determine the predictors of students' use of LMS and found that performance expectancy, effort expectancy, and institutional support positively affected students' actual use of the e-learning platform.

METHODOLOGY

Design

This research is quantitative on the basis of the natural and general features, applied on the basis of the purpose, and descriptive-correlational on the basis of the structural equation modelling (SEM).

Participants

The statistical population of the research includes all the students of Islamic Azad University of Zahedan in the first semester of 2021-2022. Due to the online distribution and collection of the questionnaire, 185 students responded to the questionnaire. The sampling method in this research was convenience sampling. For the generalizability of the findings, the sample size should be 15 to 20 people for each variable (Hair et al., 2006). The total number of variables in this research was six variables and considering the discussion of generalizability, the number of samples is large and acceptable. Table 1 shows the demographic characteristics of the participants of the research.

Table 1

Demographic information of the participants

Variable	Frequency	Percentage
Gender		
Female	120	**65**
Male	65	**35**
Age		
18-20 years old	48	**25.9**
21-23 years old	72	**38.9**
24-26 years old	23	**12.4**
27 or more years old	42	**22.7**
Year of study		
First year	47	**25.4**
Second year	70	**37.8**
Third year	39	**21.2**
Fourth year	29	**15.6**

Instrument

The main instrument for data collection was a questionnaire which was adopted from Venkatesh et al. (2003) which was translated into Farsi after some modifications. In order to check the validity of the

questionnaire, the method of translation and back translation (Dörnyei & Taguchi, 2009) was used. In this method, the original version of the questionnaire was translated from English to Persian by the researcher. Then the reverse translation of the questionnaire was done by another professional and independent translator. Finally, to ensure that both English versions are equivalent to each other and have the same meaning, the translated version was compared with the original version by another independent translator, and finally, the required corrections were made based on his feedback. The questionnaire consisted of two parts. The first part was related to the demographic information of the participants. The main part of the questionnaire consisted of 24 items related to the main variables of the research, each of the variables of performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and usage behavior included four items each of which included four items on a five-point Likert scale ranging from strongly disagree (=1) to strongly agree (=5). Cronbach's alpha coefficient was used to measure the reliability of the questionnaire. Thus, first, the questionnaire was randomly sent to 35 students and completed by them. Then Cronbach's alpha coefficient was calculated using SPSS software and the reliability level was 0.86. Considering that the obtained value was more than 0.8, the reliability level of the questionnaire was evaluated as favorable.

Data collection and analysis

After translating the questionnaire, its electronic version was prepared through Google Forms. Because the university was closed and classes were online, the researchers were forced to make an electronic version of the questionnaire to collect the data. Then, the Google Forms link of the questionnaire was sent to different WhatsApp groups which were for students' classes. Finally, 185 questionnaires were completed and sent by the students of IAU of Zahedan.

Structural equation modeling (SEM) techniques were used to analyze the data and test the hypotheses. SPSS and AMOS were utilized for this purpose. The data analysis followed a two-step approach developed by Anderson and Gerbing (1988). In the first stage, the confirmatory factor analysis method was used to evaluate the reliability and validity of the measurement model. In the second stage, the structural equation model was used to evaluate the structural model and test the research hypotheses.

RESULTS

Descriptive statistics and correlations between variables

Table 2 shows the descriptive indices of research variables and mutual correlations between performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention and use behavior. According to the table, there is no significant relationship between performance expectancy and social influence with effort expectancy. There is no significant relationship between performance expectancy and social influence with facilitating conditions. There is a positive and significant relationship between performance expectancy, effort expectancy, social influence and facilitating conditions with behavioral intention and use behavior at p≤0.01 level. Also, there is a significant positive relationship between performance expectancy with social influence, effort expectation with facilitating conditions, and behavioral intention with use behavior at p≤0.01 level.

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Table 2

Correlation, mean and standard deviation among research variables

Variables	1	2	3	4	5	6	Mean	Standard deviation
Performance expectancy	1						3.30	**0.95**
Effort expectancy		1					4.05	**0.69**
Social influence	0.69**	0	1				3.18	**0.74**
Facilitating conditions	0	0.95**	0	1			3.47	**0.59**
Behavioral intention	0.72**	0.21**	0.54**	0.20**	1		3.47	**0.99**
Use behavior	0.62**	0.30**	0.47**	0.30**	0.89**	1	3.45	**0.92**

$p\leq0.01$

Goodness of fit of the proposed model

One of the most outstanding capabilities of the structural equation modelling is the possibility of the assessment of the model in general. In this way, you can evaluate the whole model in order to accept or reject the proposed model. In structural equation modelling goodness of fit indices are used to confirm or reject the model. In order to achieve the goodness of fit of the proposed model confirmatory factor analysis (CFA) was run. As Table 3 shows, goodness of fit indicators of the general proposed model of the study, the final model achieves suitable goodness of fit.

Table 3

Confirmatory factor analysis for goodness of fit

Goodness-Fit Indexes	Recommended value	Result model value
X^2/df	≤ 3	**2.89**
Goodness-of-fit index (GFI)	≥ 0.90	**0.89**
Incremental fit index (IFI)	≥ 0.90	**0.95**
Adjusted goodness-of-fit index (AGFI)	≥ 0.80	**0.86**
Comparative fit index (CFI)	≤ 0.90	**0.95**
Root mean square error of approximation	≤ 0.08	**0.07**

## Structural model and testing the hypotheses

The next step was to test the structural model. Structural equation modelling (SEM) is a comprehensive tool employed to test the hypothesized relationships between variables (Hair, Black, Babin, & Anderson, 2010), which in this study were the relationships between UTAUT factors, behavioral intentions, and use of VADANA in IAU of Zahedan.

As mentioned, in this study, the relationships between the four main factors of the unified theory of acceptance and use of technology, behavioral intention and the use behavior of VADANA by IAU of Zahedan students were investigated. The fitted and final model of the research is presented in Figure 2 and the standard coefficients for direct, indirect and total effects and the percentage of variance explained by the variables are presented in Table 4.

Figure 2

Final model of the research
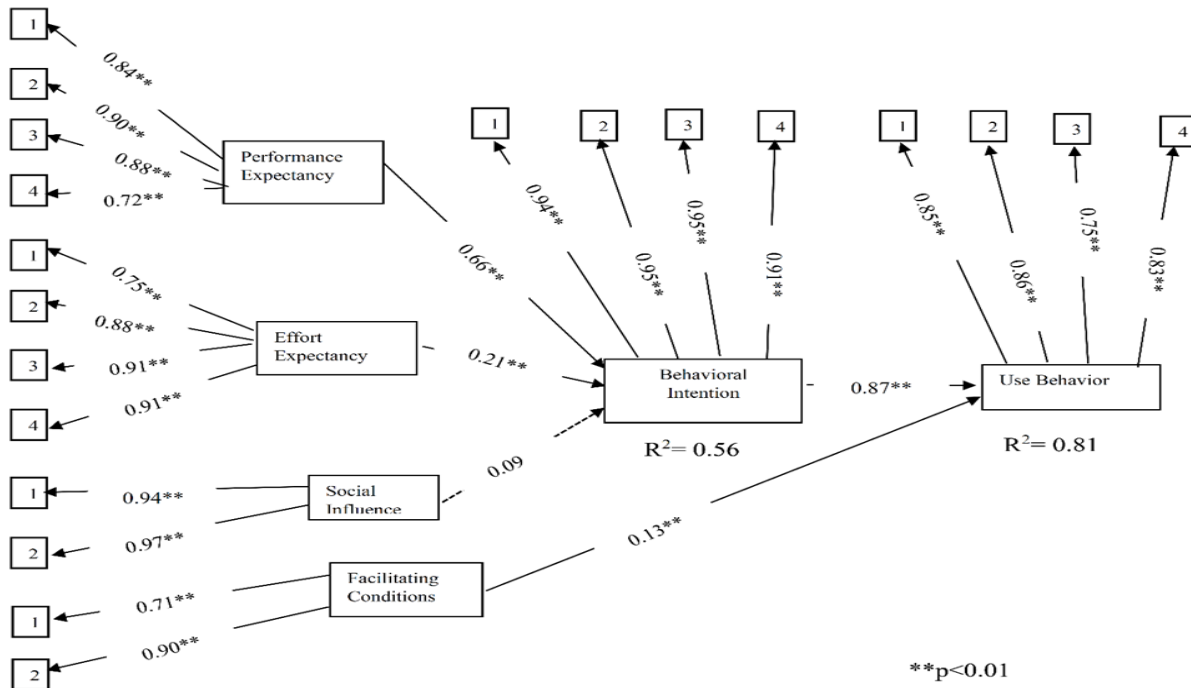
Table 4

Standard coefficients for direct, indirect and total effect

Dependent variable	Independent variable	Direct effect	p	Indirect effect	p	Total effect
Behavioral intention	Facilitating condition	-	-	-	-	**-**
	Social influence	0.09	0.021	-	-	**0.09**
	Effort expectancy	0.21	0.005	-	-	**0.21**
	Performance expectancy	0.66	0.003	-	-	**0.66**
Use behavior	Facilitating condition	0.13	0.003	-	-	**0.13**
	Social influence	-	-	0.07	0.005	**0.07**
	Effort expectancy	-	-	0.18	0.001	**0.18**
	Performance expectancy	-	-	0.57	0.002	**0.57**
	Behavioral intention	0.87	0.003	-	-	**0.87**

**p<0.01

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Factors Affecting the Acceptance and Use of VADANA by Islamic Azad University ...
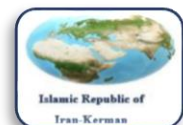
Table 5 provides a summary of the supported and rejected hypotheses. Performance expectancy (hypothesis 1) and effort expectancy (hypothesis 2) significantly influenced students' behavioral intention to use VADANA. Social influence (hypothesis 3) did not have a significant effect on students' behavioral intention to use VADANA. Facilitating conditions (hypothesis 4) and behavioral intention (hypothesis 5) significantly influenced students' behavior of using VADANA.

Table 5
Summary of hypotheses

Hypothesis	Result
1. Performance expectancy will positively influence IAU of Zahedan students' behavioral intention.	**Supported**
2. Effort expectancy will positively influence IAU of Zahedan students' behavioral intention.	**Supported**
3. Social influence will positively influence IAU of Zahedan students' behavioral intention.	**Rejected**
4. Facilitating conditions will positively influence IAU of Zahedan students' use behavior.	**Supported**
5. Behavioral intention will positively influence IAU of Zahedan students' use behavior.	**Supported**

DISCUSSION

The purpose of the present research was to investigate and identify the factors of the unified theory of technology acceptance and use (UTAUT) that influence the use of the virtual learning system or VADANA of IAU students of Zahedan. Since in Iran, only one study has been conducted on the use of technology by students or higher education centers based on the integrated theory of acceptance and use of technology, the results of this research should be compared with other domestic and foreign studies. The results of data analysis showed that except for one hypothesis, all hypotheses were supported and that the unified theory of acceptance and use of technology can explain the behavior of students regarding the use of virtual education system.

The hypothesis that was not confirmed was that social influence has no relationship with behavioral intention to use technology. The non-significance of this relationship was not consistent with the studies of Mohammadian et al. (2020) and Kim & Lee (2020) because the findings of these studies showed that social influence has an effect on behavioral intention. However, the research results of Kalavani et al. (2018) and Nematollahi et al. (2017) was consistent with the findings of the present study. Failure to confirm this hypothesis indicates that social influence is not a predictor of behavioral intention, which itself has an effect on usage behavior. As a result, it can be argued that today's generation of students who are born and grow in the digital world and technology, do not feel the need for a teacher or the influence of friends and others to apply and use technology.

Among other factors, performance expectancy was the strongest factor in predicting behavioral intention in using VADANA by IAU of Zahedan students. This finding was consistent with previous

research findings (Mohammadian et al., 2020; Kalavani et al., 2018; Kim & Lee, 2020). For this finding, it can be argued that the main concern of IAU of Zahedan students is to improve their learning level and academic performance, and these students have considered the use of VADANA as an opportunity to achieve this goal. According to this finding, it can be said that university officials, information and technology experts, and designers of virtual education systems should optimize and improve educational systems in order to increase the level of learning and academic performance of students.

The second strongest factor in predicting students' behavioral intention and use behavior was effort expectancy. This finding was consistent with the findings of other researchers (Al-Fraihat et al., 2020; Mohammadian et al., 2020; Nematollahi et al., 2017). This finding shows that the more the students feel comfortable and easy in using VADANA, the more they have a positive behavioral intention towards using it. So, it can be argued that when designing and launching any virtual education system like VADANA, the university should design this system in such a way that it is easy to use, because this in turn increases the motivation of students to accept and use the virtual education system.

The next factor that had a positive effect on students' behavioral intention and use behavior was facilitating conditions. This finding was also consistent with the findings of other researches (Alqahtani et al., 2021; Al-Emran & Teo, 2020; Kalavani et al., 2018). Regarding this finding, it can be argued that students welcome and accept the use of VADANA when the necessary resources and technical support are available to them. So, the university should increase the motivation of students by providing the necessary training and support about the virtual education system. Also, support experts should always be available so that if a problem occurs for students in connection with the use of VADANA, they can solve that problem.

Also, the findings showed that behavioral intention had a significant and direct relationship with the use behavior of IAU of Zahedan students in using VADANA. This indicates that if students have a high level of behavioral intention, their use behavior is also high.

CONCLUSION AND IMPLICATIONS

According to the findings of the present research on the role of performance expectancy and effort expectancy in students' behavioral intention, as well as the effect of behavioral intention and facilitating conditions on students' use behavior, it is suggested that the IAU authorities, by increasing the quality of the infrastructure of VADANA, will increase students' confidence in the efficiency of this system. Because the use of any kind of virtual education and learning system is based on its acceptance by students and that having an efficient system will lead to better learning and academic performance of students. Designers of such systems should also design them in such a way that they are easy to use and thus increase the motivation of students to use the virtual education system.

IAU officials should make sure that all resources and facilities are available for their students and professors, and by providing the necessary training and support regarding VADANA, increase the motivation of students to use it. Also, support experts should always be available so that if a problem occurs for students in connection with the use of VADANA, they can solve that problem. According to the findings of the present research on the role of performance expectancy and effort expectancy in students' behavioral intention, as well as the effect of behavioral intention and facilitating conditions on students' use behavior, it is suggested that the IAU authorities, by increasing the quality of the

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infrastructure of VADANA, will increase students' confidence in the efficiency of this system. Because the use of any kind of virtual education and learning system is based on its acceptance by students and that having an efficient system will lead to better learning and academic performance of students. Designers of such systems should also design them in such a way that they are easy to use and thus increase the motivation of students to use the virtual education system. IAU officials should make sure that all resources and facilities are available for their students and professors, and by providing the necessary training and support regarding VADANA, increase the motivation of students to use it. Also, support experts should always be available so that if a problem occurs for students in connection with the use of VADANA, they can solve that problem.

There are limitations in this research that should be considered. This study was only focused on IAU of Zahedan students. Similar or different results may be obtained in other IAU branches in other cities and even in other state universities. Also, potential moderating factors such as age, gender, experience, and academic course that can strengthen the prediction of students' behavior in using VADANA were not considered. In order to achieve generalizable results at the national level, it is suggested to conduct research in other IAU branches. Finally, this research only considered the views of students regarding the acceptance and use of VADANA. Therefore, by taking into consideration the views of the professors of IAU, better results can be obtained in connection with the acceptance and use of VADANA.

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Biodata

Mehdi Haseli Songhori is an assistant professor at Islamic Azad University, Zahedan Branch, Iran. He has presented at national and international conferences and has (co)authored 4 books and published several articles in national and international journals. His research interests include teacher psychology, teacher training, and educational technology.

Mahdiya Afrashteh holds an MA in TEFL from Islamic Azad University of Zahedan. She has been teaching English at language institutes in Zahedan for some years. Her main areas of interests are foreign language teaching, technology in education.

Samira Afrashteh is an MA student in soft computer engineering in Hatef university of Zahedan. She has Diploma in English language. She has been teaching English in Zahedan institutes for several years. Her main area of interest is technology and computer in education.

Nahid Afrashteh holds a BA in English literature from Islamic Azad University of Zahedan. She has been teaching English at language institutes in Zahedan for some years.