Technology Acceptance in Seeking Jobs Among University Graduates in Vietnam

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Abstract—This study applies the technology acceptance model (TAM), the theory of planned behavior (TPB), and the unified theory of acceptance and use of technology (UTAUT) to demonstrate factors affecting the internet acceptance level in job seeking of university graduates in Vietnam. Research data were collected using quota sampling, with a sample size of 248 university graduates. The study has pointed out four factors that positively impact the intention to use the job websites of graduate students by structural equation modeling (SEM). They include performance expectancy, effort expectancy, social influence, and facilitating conditions. Besides, the study confirms that the intention to use job sites positively affects the actual behavior of university graduates in Vietnam.

Keywords—technology acceptance, job website, university graduates

1 Introduction

The Internet plays an essential role in technology worldwide [1]. The exploitation and its benefits make most activities in life more convenient [2]. As presented by [3], the internet is rapidly changing the way of finding jobs and recruiting. The supply and demand for labor are increasing, making it impossible for traditional recruitment to adapt [4]. In recent years, companies have tended to recruit new employees on social networking sites and job networks [5]. Through job websites, companies can provide recruitment information and attract suitable job seekers [6], [7]. The Internet has made the finding job process more accessible and offers free access to a wide variety of job openings and information about businesses and occupations [8]. However, job seekers still have difficulty evaluating the information quality [9]. In Vietnam, finding jobs through job websites is paid attention to, especially among university graduates. In the complicated situation of the Covid-19 pandemic, the job-seeking network is even more important for graduates. It is a valuable channel to help the student community access a better career. This study is conducted to determine impacting factors to the acceptance of job-seeking websites of graduates in Vietnam.

2   Theoretical basis and research expression

2.1   Theoretical basis

In recent decades, the technology acceptance model – TAM [10], [11], the theory of planned behavior- TPB [12], and the unified theory of acceptance and use of technology – UTAUT [13] are popular among researchers. TPB explains human behavior in general, while TAM and UTAUT explain the human acceptance of new technologies.

Job websites: allow users to search for jobs and business information and even contact potential employers [14]. Job websites make it easier for job seekers to collect information [15], which benefits both employers and job seekers [16]. In addition, job networks help employers save costs compared with traditional recruitment methods [17].

Behavioral intention: According to [12], intention motivates and represents an individual's willingness to perform a particular behavior. The intention of use reflects the likelihood that a person may adopt a technology [18]. The intention to use technology can be understood as accepting technology [19]. According to [20], intention influences whether an individual will or will not act in the future.

Usage behavior: The behavior refers to the ease or difficulty of an individual performing a particular behavior [21]. Actual use is defined as the intention to perform a particular action [22]. [23] presented that actual usage behavior is governed by behavioral intention (BI). The direct influence of behavioral intention on usage behavior has been tested and confirmed during the development of the UTAUT model [13].

2.2   Research hypothesis

The relationship between effort expectancy and intention to use the job websites. Effort expectancy is the ease of use of the technology [13]. According to [11], effort expectancy is how an individual finds it easy to use technology with minimum effort. Effort expectancy was related to intention to use [24]. Many researchers have found that effort expectancy significantly influences on the intention to use new technologies [25]; [26]; [27]; [28]; [29]; [30]; [31]. In a study by [13], effort expectancy significantly affects the intention to accept technology. Hence, the study proposes hypothesis H1: Effort expectancy positively impacts the intention to use career websites of university graduates.

The relationship between performance expectancy and intention to use job websites. Performance expectancy is how users believe that accepting technology helps them achieve higher job performance [13]. Also, performance expectancy is how an individual believes that the benefits of using technology may help them improve their work performance [32]. Furthermore, several studies show that performance expectancy plays an essential role in adopting new technologies [29]; [30]; [33]; [34]; [25]. Using the UTAUT model, studies have demonstrated that the performance expectancy and intention to use technology are closely related [35]; [26]; [27]. Therefore, the study proposes hypothesis H2: The performance expectancy positively affects the intention to use job websites of university graduates.

The relationship between social influence and intention to use job websites. Social influence is how an individual perceives the importance of others' belief in using new technologies [13]. Social influence is a strong predictor of an individual's intention to use new technologies [36]; [13]. Many studies have pointed out that social influence is a motivating factor in the intention to accept new technologies [37]; [30]; [38]; [39]; [31]; [40]. Potential users intend to use a technology application if essential people think they should [41]. Thus, the study suggests hypothesis H3: Social influence positively impacts on the intention to use job websites of university graduates.

The relationship between facilitating conditions and intention to use job websites. According to [42], convenience is how a person perceives the availability of resources, techniques, and organizations that are willing to support their intention to use. Facilitating conditions have been shown to directly influence the intention to use technology [35]. In the UTAUT model, convenience positively influence the intention to use technology [13]. Studies related to technology acceptance have shown that convenience strongly relates to the intention to apply technology [43]; [37]; [39]; [30]; [40]. In the study of [44], a good internet connection affects the process of job site finding. Therefore, the study proposes hypothesis H4: Facilitating conditions positively affect the intention to use job websites of university graduates.

The relationship between the intention to use job websites and the actual use behavior. An individual's intention to use has a significant influence on their use of a particular technology application [45]; [46]; [47]. Studies indicate that intention to use is a decisive factor in using technology [48]; [49]; [29]; [50]. The research by [51] confirmed a strong association between behavioral intention and technology use behavior. The study suggests hypothesis H5: The intention to use job websites positively affects the actual use behavior of university graduates.

Based on a literature review and research hypotheses, the study applied group discussion (qualitative research) with 12 graduate students from different universities in Vietnam. The result of the discussion helps identify appropriate scales for the research model. The proposed research model is as below.
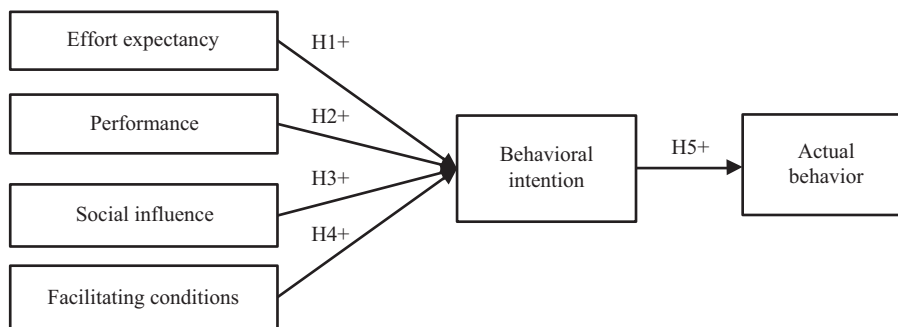

Fig. 1. Proposed research model

Table 1. Interpretation of observed variables in the research model

Factor	Observable Variables	Scale	Reference Resources
Effort Expectancy	EE1: It is easy to access job websites and easy to understand	Likert 1–5	[13], [52], [53], [51]
	EE2: Using job websites is easy and convenient	Likert 1–5	
	EE3: It is easy to learn how to use job websites	Likert 1–5	
Performance Expectancy	PE1: Job websites help me improve my job search efficiency	Likert 1–5	[13], [54], [32], [34], [51]
	PE2: Job websites save me time in the job search process	Likert 1–5	
	PE3: Job websites help me update job information quickly	Likert 1–5	
	PE4: Job websites are useful	Likert 1–5	
Social Influence	SI1: My important friends recommend using job websites	Likert 1–5	[13], [55], [56], [39], [51]
	SI2: People who influence me recommend using job websites	Likert 1–5	
	SI3: My lecturer recommends using job websites	Likert 1–5	
Facilitating Conditions	FC1: I have the appropriate knowledge to use job websites	Likert 1–5	[13], [43], [51], [39]
	FC2: I have a stable internet connection to use job websites	Likert 1–5	
	FC3: The staff of job websites is always ready to support	Likert 1–5	
Behavioral Intention	BI1: I will use job websites in the future	Likert 1–5	[11], [13], [57], [51]
	BI2: I will use job websites frequently to support my job search	Likert 1–5	
	BI3: I will use job websites whenever I need a job	Likert 1–5	
Actual Behavior	AB1: I choose to use job websites to find a job	Likert 1–5	[11], [13], [51]
	AB2: I always use job websites whenever I need a job	Likert 1–5	
	AB3: I will use job websites often in the job search process	Likert 1–5	

3 Research methodology

3.1 Analytical method

Quantitative analysis methods are used to test the research hypothesis, including testing the reliability of the scale by Cronbach's Alpha, exploratory factor analysis (EFA) to assess the convergent and discriminant validity, confirmatory factor analysis (CFA) to test the suitability of the research data, structural equation modeling (SEM) to determine factors affecting graduates' acceptance of the job websites.

3.2 Data collection method

The research data were collected using quota sampling. The selected criteria are university, university headquarters location, and student major. The study surveyed from February 2022 to March 2022 by e-mail interviews. Survey respondents are graduate students from universities in the higher education system in Vietnam. The SEM model requires a large sample size based on sample distribution theory [58]. Therefore, for reliability in the SEM model, a sample size from 100 to 200 is satisfactory [59]. Besides, [60] said that the sample size limit in the linear structure should be 200. Therefore, the sample size is 248 university graduates (University of Danang, FPT University, Duy Tan University, University of Economics Ho Chi Minh City, and Can Tho University). Thus, the sample size meets the requirements, ensuring the reliability of testing the research model.

4 Research results and discussion

4.1 Evaluate the reliability scales

The study uses Cronbach's Alpha to assess the reliability of the scales and the internal correlation between variables. The test result shows that the scales are reliable, with Cronbach's Alpha value all greater than 0.6 [61]; [62], the lowest value on is "Facilitating condition" scale (0.782), and the highest in the "Performance Expectancy" scale (0.899). Besides, the item-total correlation of variables is more significant than 0.3, so no observed variable is excluded from the research model [63]; [64]. Therefore, all observed variables meet the requirements and are included in the following exploratory factor analysis.

Table 2. Evaluation of scale reliability

Observable Variable Name	Mean	Standard Deviation	Factor Loading	Cronbach's Alpha
Effort Expectancy				0. 833
EE1	3.75	0.806	0.834	
EE2	3.68	0.789	0.850	
EE3	3.83	0.799	0.659	
Performance Expectancy				0. 899
PE1	3.88	0.831	0.696	
PE2	3.91	0.839	0.848	
PE3	3.85	0.870	0.825	
PE4	3.93	0.834	0.890	
Social Influence				0.842
SI1	3.86	0.805	0.739	
SI2	3.79	0.876	0.901	
SI3	3.76	0.870	0.758	

(Continued)

Table 2. Evaluation of scale reliability *(Continued)*

Observable Variable Name	Mean	Standard Deviation	Factor Loading	Cronbach's Alpha
Facilitating Conditions				0.782
FC1	3.98	0.755	0.712	
FC2	3.99	0.782	0.825	
FC3	3.87	0.731	0.561	
Behavioral Intention				0.863
BI1	3.69	0.890	0.881	
BI2	3.56	0.861	0.771	
BI3	3.64	0.866	0.729	
Actual Behavior				0.854
AB1	4.02	0.795	0.840	
AB2	3.92	0.735	0.829	
AB3	4.00	0.787	0.751	

After testing the reliability of scales, the study carried out exploratory factor analysis (EFA), the test result achieves the following values: (1) Reliability of observed variables (Factor loading > 0.5); (2) Testing the suitability of the model ($0.5 <$ KMO $= 0.874 < 1.0$); (3) Bartlett test on variable correlation (Sig. $= 0.00 < 0.05$). Cumulative variance $= 76.79\%$, higher than 50% [65]; [66]. These numbers confirm that the observed variables included in the model have a high explanation ability. To sum up, 6 factors are created from 19 observed variables, ensuring convergent and discriminant validity.

After the EFA step, the study carried out confirmatory factor analysis (CFA). The CFA result shows that the following values are guaranteed: Chi-square/df $= 1.902 < 2$ with P $= 0.000 \leq 0.05$; The TLI and CFI indexes reach the value of 0.942 and 0.955, respectively, all higher than 0.9; RMSEA $= 0.043 < 0.08$. This proves that the model fits the market data [67]; [68]. The standardized regression weights of the scale are all greater than 0.5, and the unstandardized regression weights are statistically significant, so the concepts reach convergent validity. Besides, the correlation coefficients between factors are all less than 1 with a standard deviation (< 0.05). Therefore, the research factors reach discriminant validity.

Table 3. CFA and SEM analytical result

Indicator	CFA	SEM	Comparative Value	Reference Resources
χ^2	505.829	515.531		
Df	266	274		
χ^2/df	1.902	1.882	≤ 2	
P-value	0.000	0.000	< 0.05	[65]; [68]
TLI	0.942	0.944	≥ 0.9	
CFI	0.955	0.955	≥ 0.9	
RMSEA	0.043	0.042	≤ 0.08	

The calculation result of composite reliability (Pc) and average variance extracted (Pvc) in Table 4 show that Pc (minimum is 0.78) and Pvc (minimum 0.55) meet the requirements [65] in terms of statistical value. Also, the Cronbach's Alpha value of all factors is greater than 7, so they are satisfactory [61]; [62]. Therefore, the research data is consistent with market data, convergent validity, unidimensionality, discriminant validity, and reliability.

Table 4. Scale testing result

Factor	Number of Observed Variables	Composite Reliability (P_c)	Average Variance Extracted (P_{vc})	Reference Resources
Effort Expectancy (EE)	3	0.84	0.64	
Performance Expectancy (PE)	4	0.89	0.68	
Social Influence (SI)	3	0.84	0.64	[65]
Facilitating Conditions (FC)	3	0.78	0.55	
Behavioral Intention (BI)	3	0.86	0.68	
Actual Behavior (AB)	3	0.85	0.66	

4.2 Testing of research hypothesis

Structural Equation Modeling (SEM) is used to test the research hypotheses. The result is shown in Table 5.

Table 5. Testing of research hypotheses

Relationship	Unstandardized			Standardized Estimated Value	Significance	Hypothesis
	Estimated Value	Standard Error SE	Critical Ratio CR			
BI <-- EE	0.154	0.064	2.410	0.142	***	H1: accept
BI <-- PE	0.242	0.062	3.891	0.257	***	H2: accept
BI <-- SI	0.217	0.070	3.101	0.196	***	H3: accept
BI <-- FC	0.334	0.086	3.903	0.283	***	H4: accept
AB <-- BI	0.839	0.117	7.184	0.881	***	H5: accept

Based on Table 5, hypotheses H1, H2, H3, H4, and H5 are accepted with a 99% significance level. The relationship between the concepts is explained in detail below.

Hypothesis H1: Effort expectancy positively affects the intention to use job sites of university graduates. This hypothesis is accepted with the standardized estimated value of 0.142 and the level of statistical significance of p = 0.000. The result has demonstrated a positive relationship between the effort expectancy and the intention to use job websites of university graduates. If students find it convenient to use job sites and easy to learn how to use them, it promotes a higher intention to use job websites. This finding is similar to studies on technology acceptance proposed by [13], [25], [26], [27], [28], and [24].

Hypothesis H2: The performance expectancy positively affects the intention to use job websites of university graduates. According to the estimation results in Table 5, performance expectancy is positively correlated with "the intention to use job websites" of university graduates, with the standardized estimation value reaching 0.257 and p = 0.000. This shows that if job websites support students to update job information, save time in job search, and increase job search efficiency, it will improve their intention to use them. The result is consistent with studies on technology acceptance proposed by [33], [34], [35], [32], [25], [26], [27].

Hypothesis H3: Social influence positively impacts the intention to use job websites of university graduates. Based on Table 5, there is a beneficial relationship between social influence and the intention to use job websites, with a standardized estimation of 0.196 and a significance level of p = 0.000. The research result has pointed out that social influence is a strong predictor of an individual's intention to use new technology [33]; Venkatesh et al., 2000; [13]. Therefore, lecturers, critical friends, and influencers are influential individuals who promote the intention to use job sites of university graduates. The result is consistent with studies on technology acceptance by [41], [37], and [39].

Hypothesis H4: Facilitating conditions positively influence the intention to use job websites of university graduates. Table 5 proves that facilitating conditions positively correlate with "the intention to use job websites". The standardized estimated value reaches 0.283, and statistical significance p = 0.000.

When university graduates have the knowledge, convenient internet connection, and receive support from the website management staff, it raises the intention to use job websites of students. The finding is consistent with research on technology acceptance proposed by [37], [42], [35], [43], [44], [39].

Hypothesis H5: The intention to use job websites positively affects the actual behavior of university graduates. This hypothesis is accepted with the standardized estimated value of 0.881 and the level of statistical significance of p = 0.000. The research result has demonstrated a positive relationship between the intention to use and the behavior of using job sites. The intention to use is a decisive factor in using technology [48]; [49]; [50]; [51]. This research result is consistent with studies on technology acceptance by [45], [46], and [47].

5   Conclusion

Applying the technology acceptance model (TAM), the theory of planned behavior (TPB), and the unified theory of acceptance and use of technology (UTAUT), the study has pointed out factors affecting the acceptance of the job networks of Vietnamese university graduates. The study has shown 4 factors that positively impact the intention to use job websites: effort expectancy, performance expectancy, social influence, and facilitating conditions. Besides, the study confirms that the intention to use job sites positively affects the actual behavior of university graduates. Therefore, the research results indicate that the intention to use is the decisive factor impacting the actual use of technology.

6   References

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