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## **Examining job seekers' perception and behavioural intention toward online recruitment: a PLS path modelling approach**

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**Abstract:** Electronic recruitment has become an essential practice among competitive firms in various industries owing to the importance of human resource capabilities toward building competitive positioning. The purpose of this study is to examine the impact of information content qualities (ICQ), vividness (VID), interactivity (INT), attractiveness and effectiveness (EFE), search engine optimisation (SEO), website ranking (WER), and ease of navigation (EN) on job seekers' perception and behavioural intention (BI). Structural equation modelling (SEM) using partial least squares (PLS) path modelling approach for assessment of measurement models and structural models was performed to empirically test the proposed hypothesis, taking 232 graduate students as target population. Our empirical results show that ICQ, VID, INT, EFE, SEO, and WER were positively related to graduate students' BI. In contrast, EN does not influence BI. The research implications, contribution, and limitations are discussed.

**Keywords:** human resource management; online recruitment; job seekers' intention; Malaysia.

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## 1 Introduction

Today more than ever, college graduates are increasingly searching websites for e-recruitment opportunities, and websites are significant tools of the job search and recruitment process. The e-recruitment websites of internet-based companies use the best design and applications for their web pages to encourage college graduates to pursue their recruitment process in a competitive environment. Moreover, the advancement of technology has changed the human resource management practice and shaped the strategies of attracting, recruiting, retaining, and managing employees (Stone and Dulebohn, 2013). According to Marler and Fisher (2013) electronic human resource

management (e-HRM) is a new research stream in this field. Nevertheless, there is a lack of knowledge about how people search for and are attracted toward a certain online recruitment portal and how this process would lead to overall job satisfaction after the recruitment process (Crossley and Highhouse, 2005). Thus, attracting a significant pool of talented applicants becomes a source of competitive advantage for businesses in different sectors and industries.

The purpose of this study is to explore the attitudes and behaviour of job seekers by examining a question of why online recruitment is less preferred by college graduates as a target population. The current study addresses online recruitment web portals that have emerged as e-recruitment. Websites as e-recruiters' platform tools that are designed to facilitate job seekers and job applications are mainly designed for college graduates and other job seekers, but factors influencing e-recruiters' platforms are not clear. In addition, e-recruitment necessary to be appreciated by college graduates to used online methods and earn an occupation and company's recruiter to plan and use multiple recruiting channels in today's competitive environment. In addition to college graduates, workers increasingly changing jobs, employers, and careers because of changes in the nature of work, shifts in the economy, organisational restructuring and downsizing, labour shortages and other reasons (Côté et al., 2006). With such varied sourcing and attractive means toward recruitment websites in Malaysia, the challenge is to set a channel for all candidates into an attractive and effective recruitment website and from there for companies, into one common talent database. Job applicants are highly attracted by interactivity and appealing features of websites. Therefore, the focus of study is on portals among Malaysian graduate students and the objectives of study, therefore, is to examine the influence of information content qualities (ICQ), vividness (VID), ease of navigation (EN), interactivity (INT), attractiveness and effectiveness (EFE), search engine optimisation (SEO), website ranking (WER) on graduate students' behavioural intention (BI).

Despite the fact that electronic human resource management is attracting most organisations, only a few studies have been done in the area of electronic recruitment practice (Ma, 2010). Moreover, the ability of an organisation to attract college graduates is an important determinant of business success (Singh and Finn, 2003). Finding the right job for college graduates is crucial to success in life. As the urgency for business to focus on talent acquisition is growing in intensity, it is necessary for college graduates to think about how they are employed and for companies how they recruit.

### *1.1 Electronic recruitment in Malaysia*

This study aims to investigate attitudes and intention of graduate students towards online job vacancies and online recruitments in Malaysia. A study of adoption of internet recruitment in Malaysia (Tong, 2009) indicated that human resources practitioners need to improve the electronic recruitment systems and services to attract talented groups of candidates for employment. Despite the fact that most graduate students are savvy in exploring the internet, not all organisations are using electronic recruitment as a portal for available job vacancies. In fact, not all graduate students and not all companies are attracted to online and electronic recruitment despite the fact that employing high quality employees is a fundamental goal for organisations (Thompson et al., 2008; Allen et al., 2007).

In Malaysia context, the approach for job vacancies depends on experience and few training programs are provided to new applicants for the new jobs (Hooi, 2008) and electronic recruitment strategy is mainly based on strategic alliances (Tong and Sivanand, 2005). On the other hand, recruitment is conducted when they need employees and there is no long vision for hiring and maintain current employees (Hooi, 2008). In Malaysia, there are three international popular online job portals, including Monster.com, CareerBuilder.com, and HotJobs.com; and there are three Malaysia job portals, including JobStreet.com, JobLinkAsia.com, and JobDB.com (Tong and Sivanand, 2005). Accordingly, these portals are recognised as popular and attractive websites among graduate students in Malaysia.

According to Anonson et al. (2008), there is a critical need for attracting young people and new graduates to careers in business. Most organisations are looking for experienced job seekers and ignore graduate students for job vacancies within the company. In developing countries, most organisations are not interested in spending much budget for training purposes. An electronic recruitment portal is opening a new window toward employment of graduate students who are ready to start their career. These job seekers are highly motivated to start work and usually are inexperienced. Despite the fast growth of internet job advertisement there is a substantial need for more research on electronic recruitment (Thompson et al., 2008). Gathering an appropriate pool of graduate students as applicants would affect the entire recruitment process and may lead to job satisfaction in the future (Allen et al., 2007). There are some job portals as recruitment pools that initially emerged for targeting graduate students. Below are some comparisons between Malaysian and international e-recruitment websites:

- overall comparison indicated that Malaysian e-recruiters' core businesses are directly related to recruitment
- studies show that their expansion strategy is merger and acquisition
- the traditional route for strategic expansion is through the exploitation of scale economies
- a quicker route is through horizontal integration by mergers and acquisitions.

## **2 Literature review and hypotheses development**

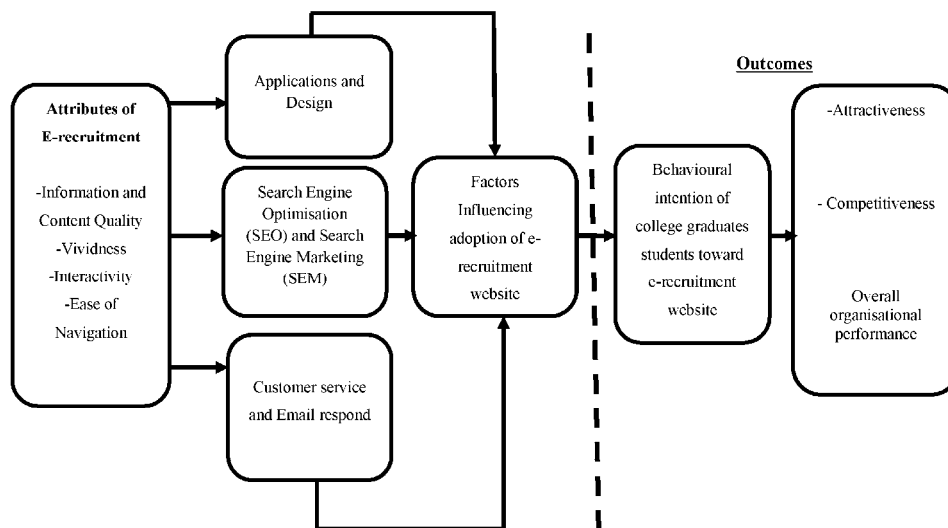
Theories that explain why recruitment sources are associated with different outcomes have generally not been well developed (Rozelle and Landis, 2002). Despite the widespread use of electronic human resource management (e-HRM), there has been a surprising lack of theory and research on the topic. This study attempts to build a theoretical research framework specifically in understanding online recruitment. Figure 1 presents the strategic approach in building an attractive, competitive, and growing organisational performance for e-recruitment portal.

### *2.1 Conventional recruitment vs. internet recruitment*

The conventional or traditional method of recruitment includes newspaper, TV advertising, and employee referral for job vacancies within organisations (Singh and Finn, 2003). In the new competitive environment, relying on the traditional approach to

pool talented job seekers is not sufficient (Tong, 2009). Accordingly, the recruitment process in traditional human resources management was highly dependent on paper-and-pencil job vacancies rather than on technology and especially the worldwide web. Among the most popular technology recruitment approaches internet recruitment is distinguished as an effective way to attract a great deal of applicants for available job vacancies (Smyth et al., 2002). Internet recruitment is highly effective, convenient, and efficient due to its natural cost saving compared with traditional and conventional recruitment approaches.

**Figure 1** Strategic approach of e-recruitment portal



Moreover, all types of organisation, including businesses for profit and not-for-profit, are looking at online recruitment as a main source for filling job vacancies, aiming to attract talented employees. On the other hand, job seekers' attitudes are influenced by certain online recruitment posts and portals at the early stage of gathering information for future job vacancies (Allen et al., 2007). The job seekers' attitudes could be highly influenced by posted advertisements about a company which might lead to a perception of a company's brand name. Specifically, the new graduate students are encouraged to apply for job vacancies through internet portals. Kinder (2000) argues that the use of the internet in recruitment processes would impact on both external and internal labour markets in traditional approaches in human resource management.

According to the literature (e.g., Rozelle and Landis, 2002; Singh and Finn, 2003), the attraction of highly qualified job seekers is a fundamental objective for human resource management department, and internet recruitment would help to assess and fit the best job applicants in organisations. The traditional recruitment approaches consider as a way to advertise the job vacancies itself not about company brand, vision and mission of organisations. Thus, by using internet recruitment, job seekers are able to gather more and relevant information about companies. Finally, e-HRM is fundamental and the essence of revelation from traditional recruitment to advanced recruitment, which is internet recruitment (Ma, 2010). Jack Walker et al. (2011) suggest that website characteristics and online recruitment methods would change the perception of job seekers about the company. In fact, the attractiveness of company web advertisement

about job vacancies would change the behaviour of applicants toward the company. Therefore, internet recruitment is recognised as an advantageous method over conventional approach for recruitment purpose (Tong and Sivanand, 2005).

## *2.2 Job seekers' behavioural intention*

Consumers' attitudes and behavioural intentions have been examined in marketing and human resource management. Zeithaml et al. (1996) examined and proposed the importance of individual behavioural intention in service quality management. Côté et al. (2006) explored the search behaviour of job seekers. Because job search has been conceptualised as the major behavioural pathway leading to reemployment, research examining the antecedents of, and mechanisms by which, job search behaviour is translated into reemployment has gained significant interest (Song et al., 2006). A few studies have examined online job seekers' behavioural intention towards an online recruitment website. Measuring behavioural intention of individual users as visit website, would like to visit continuously to find job, predict that use of website in the next few months and given the chance, intend to use online recruitment approach to find a job (Zhou, 2012; Revels et al., 2010; Shin et al., 2013).

## *2.3 Attributes of E-recruitment*

The previous studies by Braddy et al. (2008) indicate that the company website will affect the job applicants' and viewers' attitudes and intention toward specific organisation recruitment process and procedures. In fact, the company stakeholders are concerned about the company website in general and the features of recruitment advertisements in the job recruitment portal specifically. Likewise, whether businesses are advertising the available job vacancies or within online portals has implications of attributes of electronic recruitment. Generally, organisational attractiveness is influenced by the recruitment process and attributes of electronic procedures (Roberson et al., 2005). In fact, organisational attributes and human resource attributes would impact the customers, employees, and future employees in general. Most international electronic companies are realising the consequences of electronic recruitment attributes on performance. Therefore, enhancing effectiveness and efficiency of electronic commerce websites is becoming a priority goal for organisations. Despite the expansion of e-recruitment globally, approximately 75% of job seekers find the websites too complicated to use as a job search tool (Maurer and Liu, 2007). There are some attributes of electronic recruitment that are not seen, including information content, vividness, and interactivity of website.

## *2.4 Information content quality (ICQ)*

The role of information and the quality of content on the web pages are important characteristics and attributes of websites. According to Yang et al. (2005), the information presence of e-commerce on the web would influence the total attributes of a specific business. The usability and responsiveness features of content provided by online job portal would influence the entire process of information quality. Therefore, the flow of information on the online portal is influenced by content, which would be evaluated by job applicants (Strong, 1997). The information quality has been distinct with software

and other characteristics of web pages (Andersson and von Hellens, 1997; Woudstra et al., 2012). Information and system quality would influence the perceived convenience and usability of websites. Thus, information and content quality are an aspect of information management systems. The most basic requirement of successful online recruitment is the information design and content provided by employers and online job portals such as Collegegrad.com. This is important matter because the information given by employers would influence job applicants in the initial stage of job application. In some e-recruitment portals, applicants are forced to search for hundreds or thousands of advertised jobs for a given query.

*H1: There is a positive relationship between information content quality and graduate students' behavioural intention to use e-recruitment websites.*

## 2.5 Vividness

The vividness of online recruitment portal is influenced by the features of the web pages, applications, and information system content and software. The previous information system literature (Goodhue and Thompson, 1995) emphasised the importance of system performance, technology characteristics, and individual performance. The vividness of a web portal for job applicants is determined by specific features, such as the category and group divided by companies. Vividness in online recruitment refers to the level of sensory information given by the online recruitment portal for specific job seekers. A vivid recruiting portal would be interesting for a specific group of job seekers such as graduate students. Collegegrad.com does not provide any significant information about the country where job is available. In fact, the available jobs are just categorised based on the field of study and the job title. In this case, applicants are wasting their time and do not perceive the effectiveness of this website.

According to Bradley and Smyth (2003) features such as location, salary, required experience, contract type, and required skills are some characteristics that should be in online recruitment portals. Jobstreet.com and JobsDB.com feature their applicants' profile accordingly. In comparison, Collegegrad.com does not characterise applicants' profiles based on a sufficient pool of information. Jobstreet.com and jobsDB.com provide available job vacancies based on country and location. In fact, Collegegrad.com is not a vivid online recruitment web portal. This is a critical issue for international students who are looking for job vacancies. The job alert within Jobstreet.com would enable the jobseekers to assign the right job advertisement to the right job seekers globally. Therefore, Collegegrad.com should distinguish the applicants based on their location.

*H2: There is a positive relationship between vividness and graduate students' behavioural intention to use e-recruitment websites.*

## 2.6 Interactivity

The interactivity of online and internet commerce is important for viewers. The degree to which information within the organisation has been changed and shared with target users is essentially important for online portals. Interactivity refers to the degree of exchange of information between employers and applicants in an online environment (Maurer and Liu, 2007). Therefore, understanding the interactivity of a job recruitment portal is important for investigation. Collegegrad.com is a one-way online recruitment that allows

users to submit their resume and get to know about available jobs. Jobstreet.com and JobsDB.com are providing the opportunity to applicants to communicate with companies for clarifying about advertised jobs. The interactivity between job applicants and online recruitment portals is essential for gathering a substantial pool of graduate students (Castleberry, 2002). One of the advantages of internet and electronic recruitment is that companies will decrease the human resource management expenses by using an electronic approach to interact with target job seekers (Zusman and Landis, 2002). The interaction and communication with job seekers would enhance the relationship between employers and applicants. Collegegrad.com is not interactive in nature.

*H3: There is a positive relationship between interactivity and graduate students' behavioural intention to use e-recruitment websites.*

## 2.7 *Attractiveness and effectiveness*

The internet has changed the way that companies are hiring employees and the way that job seekers are looking for job vacancies (Tso et al., 2010). The online job search has become an effective and attractive approach for finding a job among college graduate students worldwide. Many companies are advertising their available job vacancies to find the suitable candidates for available positions. Collegegrad.com is not attractive compared with Jobstreet.com and JobsDB.com. Collegegrad.com has some sophisticated features which discourage jobseekers from searching for appropriate jobs that have been advertised. Most of the Collegegrad.com features are not using the new applications that enable Jobstreet.com and JobsDB.com to compete in this market. Therefore, the simplicity, effectiveness, and attractiveness of Jobstreet.com are higher than Collegegrad.com.

Most job seekers are attracted by strong visual elements, such as headlines and illustrations of the advertised job (Zusman and Landis, 2002). Attractiveness and effectiveness of Collegegrad.com is not tangible. Most advertised jobs are not significant in the eyes of job seekers. Usually, college students are attracted by the position and mostly influenced by headline information, such as salary and the brand name of the company. Jobstreet.com is currently using this strategy to attract a significant pool of graduate student by emphasising salary and positions. Therefore, Collegegrad.com should realise the effectiveness and attractiveness of suitable job adverts for a specific group such as graduate students.

*H4: There is a positive relationship between attractiveness and effectiveness and graduate students' behavioural intention to use e-recruitment websites.*

## 2.8 *Ease of navigation*

The perceived ease of use is a basic element of a successful online portal. The usability of web pages and convenience of portals are related to each other (Chang, 2008). Accordingly, the navigation and the features of a recruitment website would influence the target audience, which includes both companies and job applicants. Most navigation system characteristics essentially impact on site traffic, which may be influenced by external factors such as internet speed. The ease of use has been determined as a key factor in determining acceptance of an information system. Okazaki and Mendez (2013) argue that convenience will directly and positively affect simultaneity of the individual tasks.



“Ease of navigation means that a site contains functions that help customers find what they need without difficulty, possesses a good search engine, and allows the customer to manoeuvre easily and quickly back and forth through the pages.” (Tong et al., 2005, p.699)

Traditional online companies were not aware of the issue of conventional usability of online portals. The more an online vendor's site is complicated the more individuals will switch to another portal. JobsDB.com is as a good example of easy access and convention for surfing online. Therefore, the ease of navigation and evaluation of an online web portal will lead to willingness to pursue a specific job and job satisfaction (Thompson et al., 2008).

*H5: There is a positive relationship between ease of navigation and graduate students' behavioural intention to use e-recruitment websites.*

## 2.9 Search engine optimisation (SEO) and website ranking

Search engine optimisation (SEO) has been used as a strategy by most companies. All online job portals have the possibility to be viewed worldwide and the best way to attract users is the use of SEO within global competitiveness (Zhang and Dimitroff, 2005a). For example, Google has given the rank to websites by the invariant measure of a stochastic matrix. Websites that index and class other websites according to their keywords, explanations and content, and make it easier and faster to reach obtained site-search results, are called search engines (Yalçın and Köse, 2010).

It is important for users to see the company URL in the first website after their search has been made. The SEO and page ranking has become an essential strategy for building a company brand (Fercoq, 2014) as a marketing tool. Jobstreet.com and JobsDB.com are using this strategy frequently but Collegegrad.com is not. Therefore, this online recruitment portal is losing attractiveness among the individual job seekers.

*H6: There is a positive relationship between search engine optimisation and graduate students' behavioural intention to use e-recruitment websites.*

*H7: There is a positive relationship between website ranking and graduate students' behavioural intention to use e-recruitment websites.*

## 3 Research methodology

This study used quantitative techniques to empirically examine the proposed research hypotheses. SPSS software was used to conduct the statistical data analysis such as descriptive statistics. To empirically test the proposed hypotheses, structural equation modelling (SEM) using SmartPLS software (Ringle et al., 2005) for assessment of measurement model (internal consistency, indicator reliability, convergence and discriminant validity) and structural model (structural model for collinearity, the significance of the path coefficients, and the level of the  $R^2$  values) was conducted. Partial least squares structural equation modelling (PLS-SEM) approach has enjoyed increasing popularity as a key multivariate analysis method in various research disciplines (Hair et al., 2011, 2012, 2013b). Variance-based partial least squares (PLS)-SEM path modelling using SmartPLS software was found suitable for this study because

the objectives were prediction of individual behaviour rather than conformation of any theory (Hair et al., 2011).

### 3.1 Sampling plan and data collection approach

The sampling plan chosen in this study was the non-probability sampling technique. The target population was job seekers who are looking for job vacancies in Malaysia. 310 online questionnaires were distributed among college graduate students from four universities (MMU, UTM, UKM, and Limkokwing) who have experience with e-recruitment portals; 232 valid questionnaires were collected (response rate 74.83%). PLS-SEM is advantageous when used with small sample sizes (e.g., in terms of the robustness of estimations and statistical power (Hair et al., 2013b). The secondary data were collected through past and relevant literature.

The questionnaire was designed in two parts. In the first part, some questions were designed to ask respondents about their demographic variables, such as gender, age, race, educational level, online job vacancy portal, and frequency of visiting. Table 1 shows the demographic profile of respondents. In the second part, the respondents' response to questionnaires based on the designed framework in Figure 1.

**Table 1** Frequency of respondents profile

	<i>Profile</i>	<i>Category</i>	<i>Frequency</i>	<i>Percentage</i>
1	Age	18–24	21	9.1
		24–31	65	28.0
		31–37	106	45.7
		Above 37	40	17.2
2	Gender	Male	121	54.7
		Female	111	45.3
3	Race	Malay	93	40.1
		Chinese	73	31.5
		Indians	39	16.8
		Others	27	11.6
4	Education level	Diploma	25	10.8
		BS	60	25.9
		Master	100	43.1
		PhD	36	15.5
		Other	11	4.7
5	Online recruitment portal	JobStreet.com	61	26.3
		JobDB.com	106	45.7
		Collegegrad.com	48	20.7
		Others	17	7.3
6	Time visiting/searching	1 time	76	32.8
		2 Time	99	42.7
		3 time	39	17.2
		Above three times	18	7.3

### 3.2 Measurements of variables

To measure the research construct of the study, Appendix 1 shows the research instruments and items for quantitative approach. Research instruments and items were adopted based on previous literature in related fields of study. In quantitative methods, the Likert scale ranging from 1 = strongly disagree to 7 = strongly agree was anchored for all items as shown Appendix 1. In addition, to measure information content, seven items were adopted based on semantic differential technical. To measure information content quality (ICQ) four questions were adopted according to previous research (Zhang and Dimitroff, 2005b; DeLone and McLean, 1992, 2003). To measure vividness four items (Jones et al., 2008; Lee and Lehto, 2013), to measure interactivity six questions (DeLone and McLean, 1992, 2003; Cyr et al., 2009), to measure attractiveness and effectiveness seven items (Cyr et al., 2009), search engine optimisation (SEO) three items (Zhang and Dimitroff, 2005b), website ranking four items (Yazdi and Deshpande, 2013, Ajzen, 1985), ease of navigation five items (Shin et al., 2013; Ajzen, 1991; Ajzen and Fishbein, 1977), and to measure graduate students' behavioural intention five items were adopted from previous studies (Zhou, 2012; Revels et al., 2010; Shin et al., 2013).

## 4 Results

### 4.1 Construct validity

To evaluate reflectively measured models, we examine outer loadings, composite reliability, average variance extracted (AVE = convergent validity), cross loading and discriminant validity. We run the PLS algorithm to obtain information to evaluate reflective measurement models. All outer loadings of the reflective constructs are well above the minimum threshold value of 0.880 as shown in Table 2. All three reflective constructs also have high levels of internal consistency reliability, as demonstrated by the below composite reliability values. The AVE values (convergent validity) are well above the minimum required level of 0.50 which implies convergent validity for all endogenous and exogenous constructs. By examining the outer weights of the construct indicators, we can identify which specific element of quality needs to be addressed by managers (Hair et al., 2013a).

### 4.2 Discriminant validity

To determine the discriminant validity, Fornell and Larcker (1981) criterion was used. The off diagonal values in the matrix (Table 3) are the correlations between the latent constructs. In fact, diagonals (numbers in bold) represent the average variance extracted (AVE) while the other entries represent the squared correlations to assess discriminant validity (Rezaei and Ghodsi, 2014). The off-diagonal values in the matrix are the correlations between the latent constructs. The results in Table 3 indicate there is discriminant validity between all the constructs.

Comparing the loadings across the columns in Table 3 indicates that an indicator's loadings on its own construct are in all cases higher than all of its cross loadings with

other constructs. The results indicate there is discriminant validity between all the constructs based on the cross loadings criterion (Table 4).

### 4.3 Structural model

Once the construct measures have been confirmed as reliable and valid, the next step is to assess the structural model results which involve examining the model's predictive capabilities and the relationships between the constructs (Hair et al., 2013a). By applying the PLS-SEM algorithm, estimates are obtained for the structural model relationships (the path coefficients), which represent the hypothesised relationships between the constructs. Table 5 shows the results of path coefficients. Moreover, we run the bootstrapping option to examine the path coefficient for significance as shown in Table 5 and Figure 2. According to Hair et al. (2011), critical *t*-values for a two-tailed test are 1.65 (significance level = 10%), 1.96 (significance level = 5%, and 2.58 (significance level = 1%).

**Table 2** Construct validity

<i>Construct</i>	<i>Items</i>	<i>Weights or loadings</i>	<i>AVE<sup>a</sup></i>	<i>Composite reliability<sup>b</sup></i>	<i>Cronbachs alpha</i>	<i>Outer weights</i>
BI	BI1	0.906	0.879	0.973	0.965	0.204
	BI2	0.930				0.211
	BI3	0.953				0.221
	BI4	0.948				0.210
	BI5	0.950				0.221
EFE	EFE1	0.868	0.794	0.964	0.957	0.145
	EFE2	0.921				0.178
	EFE3	0.904				0.181
	EFE4	0.865				0.143
	EFE5	0.888				0.148
	EFE6	0.867				0.146
	EFE7	0.923				0.179
EN	EN1	0.895	0.819	0.958	0.945	0.217
	EN2	0.917				0.219
	EN3	0.902				0.215
	EN4	0.908				0.215
	EN5	0.902				0.238
ICQ	ICQ1	0.885	0.856	0.960	0.944	0.292
	ICQ2	0.946				0.266
	ICQ3	0.931				0.262
	ICQ4	0.939				0.262

**Table 2** Construct validity (continued)

<i>Construct</i>	<i>Items</i>	<i>Weights or loadings</i>	<i>AVE<sup>a</sup></i>	<i>Composite reliability<sup>b</sup></i>	<i>Cronbachs alpha</i>	<i>Outer weights</i>
INT	INT1	0.880	0.770	0.953	0.940	0.183
	INT2	0.891				0.181
	INT3	0.817				0.228
	INT4	0.896				0.187
	INT5	0.882				0.178
	INT6	0.897				0.185
SEO	SEO1	0.919	0.829	0.936	0.897	0.349
	SEO2	0.897				0.410
	SEO3	0.916				0.340
VID	VID1	0.880	0.825	0.950	0.930	0.329
	VID2	0.925				0.255
	VID3	0.907				0.262
	VID4	0.921				0.258
WER	WER1	0.915	0.820	0.948	0.927	0.269
	WER2	0.905				0.267
	WER3	0.910				0.259
	WER4	0.892				0.310

<sup>a</sup>Average variance extracted (AVE) = (summation of the square of the factor loadings)/{(summation of the square of the factor loadings) + (summation of the error variances)}.

<sup>b</sup>Composite reliability (CR) = (square of the summation of the factor loadings)/{(square of the summation of the factor loadings) + (square of the summation of the error variances)}.

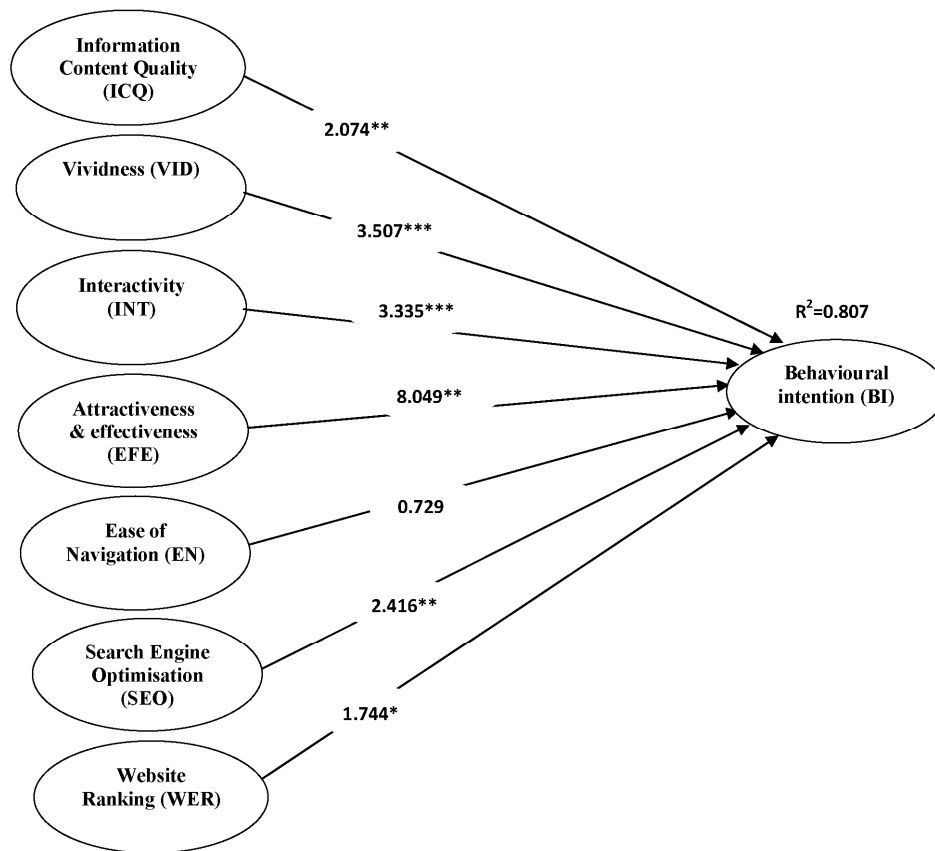
**Table 3** Discriminant validity

<i>Research construct</i>	<i>BI</i>	<i>EFE</i>	<i>EN</i>	<i>ICQ</i>	<i>INT</i>	<i>SEO</i>	<i>VID</i>	<i>WER</i>
BI	0.879							
EFE	0.637	0.794						
EN	0.347	0.677	0.819					
ICQ	0.170	0.505	0.029	0.856				
INT	0.315	0.699	0.099	0.488	0.770			
SEO	0.480	0.796	0.230	0.633	0.053	0.829		
VID	0.343	0.650	0.118	0.422	0.014	0.178	0.825	
WER	0.485	0.781	0.235	0.609	0.055	0.371	0.003	0.820

Moreover, the  $R^2$  values of the endogenous latent variables obtained from PLS algorithm procedure. The  $R^2$ , as shown in Table 5, is very substantial. The hypothesis 1 (ICQ  $\rightarrow$  BI) with path coefficient = 0.135, standard error = 0.065, and  $t$ -statistics = 2.074 was supported. The hypothesis 2 (VID  $\rightarrow$  BI) with path coefficient = 0.277, standard

error = 0.079, and  $t$ -statistics = 3.507 was supported. Hypothesis 3 (INT  $\rightarrow$  BI) with path coefficient = 0.174, standard error = 0.052, and  $t$ -statistics = 3.335 was supported. Hypothesis 4 (EFE  $\rightarrow$  BI) with path coefficient = 0.665, standard error = 0.083, and  $t$ -statistics = 8.049 was supported. Hypothesis 6 (SEO  $\rightarrow$  BI) with the path coefficient = 0.154, standard error = 0.064, and  $t$ -statistics = 2.416 was supported. Hypothesis 7 (WER  $\rightarrow$  BI) with path coefficient = 0.119, standard error = 0.068, and  $t$ -statistics = 1.744 was supported. Meanwhile, hypothesis 5 (EN  $\rightarrow$  BI) with path coefficient = 0.051, standard error = 0.071, and  $t$ -statistics = 0.729 was not supported.

**Figure 2** Structural results ( $t$ -statistics and  $R^2$ )



\* $t$ -values: 1.65 (10%); \*\* $t$ -values: 1.96 (5%); \*\*\* $t$ -values: 2.58 (1%).

**Table 4** Loadings and cross loadings

Construct	Item	BI	EFE	EN	ICQ	INT	SEO	VID	WER
BI	BI1	0.906*	0.852	0.813	0.732	0.794	0.808	0.790	0.815
	BI2	0.930	0.877	0.833	0.752	0.817	0.854	0.806	0.857
	BI3	0.953	0.726	0.822	0.749	0.802	0.861	0.821	0.859
	BI4	0.948	0.872	0.805	0.747	0.804	0.846	0.811	0.842
	BI5	0.950	0.801	0.833	0.776	0.839	0.905	0.870	0.906

**Table 4** Loadings and cross loadings (continued)

<i>Construct</i>	<i>Item</i>	<i>BI</i>	<i>EFE</i>	<i>EN</i>	<i>ICQ</i>	<i>INT</i>	<i>SEO</i>	<i>VID</i>	<i>WER</i>
EFE	EFE1	0.757	0.868	0.807	0.764	0.744	0.793	0.793	0.731
	EFE2	0.829	0.921	0.813	0.736	0.780	0.841	0.799	0.844
	EFE3	0.845	0.904	0.834	0.778	0.838	0.806	0.866	0.805
	EFE4	0.747	0.865	0.781	0.754	0.755	0.848	0.782	0.701
	EFE5	0.773	0.888	0.813	0.738	0.795	0.798	0.768	0.827
	EFE6	0.760	0.867	0.800	0.759	0.720	0.856	0.780	0.795
	EFE7	0.932	0.923	0.815	0.740	0.791	0.847	0.808	0.851
EN	EN1	0.777	0.806	0.895	0.728	0.806	0.769	0.766	0.851
	EN2	0.785	0.814	0.917	0.759	0.807	0.828	0.780	0.843
	EN3	0.771	0.828	0.902	0.729	0.798	0.788	0.783	0.850
	EN4	0.771	0.809	0.908	0.768	0.807	0.816	0.784	0.809
	EN5	0.852	0.845	0.902	0.786	0.828	0.831	0.823	0.846
ICQ	ICQ1	0.797	0.800	0.781	0.985	0.805	0.812	0.811	0.798
	ICQ2	0.727	0.775	0.777	0.946	0.809	0.772	0.864	0.764
	ICQ3	0.716	0.769	0.762	0.931	0.808	0.768	0.859	0.762
	ICQ4	0.716	0.769	0.763	0.939	0.821	0.756	0.889	0.758
INT	INT1	0.723	0.771	0.782	0.802	0.880	0.764	0.838	0.770
	INT2	0.715	0.765	0.772	0.783	0.891	0.768	0.820	0.760
	INT3	0.898	0.846	0.782	0.727	0.817	0.860	0.830	0.861
	INT4	0.739	0.807	0.793	0.791	0.896	0.794	0.812	0.782
	INT5	0.703	0.769	0.773	0.751	0.882	0.740	0.763	0.766
	INT6	0.728	0.828	0.793	0.762	0.897	0.819	0.788	0.782
SEO	SEO1	0.784	0.861	0.814	0.773	0.841	0.919	0.786	0.846
	SEO2	0.923	0.873	0.806	0.753	0.814	0.997	0.840	0.874
	SEO3	0.765	0.841	0.815	0.773	0.823	0.916	0.767	0.835
VID	VID1	0.733	0.884	0.825	0.763	0.825	0.882	0.980	0.889
	VID2	0.724	0.780	0.767	0.886	0.842	0.764	0.925	0.763
	VID3	0.745	0.788	0.772	0.852	0.824	0.754	0.907	0.784
	VID4	0.731	0.784	0.783	0.871	0.866	0.766	0.921	0.767
WER	WER1	0.801	0.837	0.865	0.759	0.830	0.818	0.798	0.915
	WER2	0.793	0.835	0.829	0.757	0.810	0.876	0.771	0.905
	WER3	0.772	0.829	0.848	0.738	0.804	0.803	0.799	0.910
	WER4	0.723	0.894	0.821	0.764	0.822	0.870	0.846	0.892

\*Italic values are loadings for items which are above the recommended value of 0.5.

**Table 5** Hypotheses testing

<i>Hypotheses</i>	<i>Path</i>	<i>Path coefficient</i>	<i>Standard error</i>	<i>t-Statistics</i>	<i>Decision</i>
H1	ICQ → BI	0.135	0.065	2.074**	Supported
H2	VID → BI	0.277	0.079	3.507***	Supported
H3	INT → BI	0.174	0.052	3.335***	Supported
H4	EFE → BI	0.665	0.083	8.049***	Supported
H5	EN → BI	0.051	0.071	0.729	Not supported
H6	SEO → BI	0.154	0.064	2.416**	Supported
H7	WER → BI	0.119	0.068	1.744*	Supported

Critical *t*-values for a two-tailed test.

\*1.65 (significance level = 10%); \*\*1.96 (significance level = 5%, \*\*\*2.58 (significance level = 1%).

## 5 Discussions and conclusion

This study focuses on the effectiveness and efficiency of electronic recruitment, which is one of the electronic human resource practices. By focusing on online job vacancy portals this study assesses and evaluates the attitudes and behaviour of college graduate students toward online recruitments. The study focuses on the initial acceptance and adoption of electronic recruitments in the Malaysian context. According to Allen et al. (2007), the recruitment process are:

- generating applicants
- maintaining applicant interest in the organisation
- influencing job choice.

We found that there is a positive relationship between information content qualities (ICQ), vividness (VID), interactivity (INT), attractiveness and effectiveness (EFE), search engine optimisation (SEO), website ranking (WER) and graduate students' behavioural intention (BI) whereas the positive relationship between ease of navigation (EN) and BI was not supported. The focus of this study is on the first stage, which is generating applicants. The generating of talented applicants is one of the most important phases of human resource practice for profit and non-profit organisations. This study is one of only a few to evaluate and assess online job vacancies in Malaysia. Most previous studies discussed the effectiveness of the information system in general. In addition, a few studies have examined the attitudes and behavioural intention of graduate students in Malaysia by focusing on international online job vacancies portals and local job vacancies portals.

The study has managerial implications by giving insight to managers in human resource departments to employ the talented and appropriate significant pool of job applicants. As mentioned in the previous section, the study also focuses on college graduate students, who are important for organisational change because they bring new and updated knowledge into organisation. Moreover, the job vacancies within a company and placed on online job portals were found to be the most visited web pages on the net



(Braddy et al., 2008). This implies that companies should be concerned more about the attributes of online recruitment that would influence the perception of job applicants. For example, most job applicants are attracted by the features of web pages that show the job vacancies available.

A successful e-recruitment website meets clearly defined goals and provides compelling content that draws job seekers, especially college graduates, to the site again and again. In addition, the site should be easy to navigate by investment on SEO and SEM, attractively designed to complement the content, and have the ability to provide the best and quickest e-mail response or customer service. On this basis, online recruitment portals should be a main reference for college graduates who are looking for jobs by hiring managers and HR expert personnel to focus on core recruitment activities while minimising costs, improving quality-per-hire, and reducing administrative processing.

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### Appendix 1: Measurement items

<i>Research construct</i>	<i>Measurement</i>	<i>Source</i>
1 Information content quality (ICQ)	<i>ICQ1</i> : The information provided at this site is complete <i>ICQ2</i> : The information provided at this site is sufficient <i>ICQ3</i> : The information provided at this site is effective <i>ICQ4</i> : The website adequately meets my information needs	Zhang and Dimitroff (2005b), and DeLone and McLean (1992, 2003)
2 Vividness (VID)	<i>VID1</i> : The procedure instructional content on online recruitment site is animated <i>VID2</i> : The procedure instructional content on online recruitment site is lively <i>VID3</i> : I can acquire procedure instructional content on online recruitment site from different sensory channels <i>VID4</i> : online recruitment site contains procedure instructional content that is exciting to the senses	Jones et al. (2008), and Lee and Lehto (2013)
3 Interactivity (INT)	<i>INT1</i> : Customers of this website benefit from the community visiting the website <i>INT2</i> : The information shown when I interacted with the site was relevant <i>INT3</i> : The information shown when I interacted with the site was appropriate <i>INT4</i> : The information shown when I interacted with the site met my expectations <i>INT5</i> : The information shown when I interacted with the site was suitable <i>INT6</i> : The information shown when I interacted with the site was useful	DeLone and McLean (1992, 2003) and Cyr et al. (2009)
4 Attractiveness and effectiveness (EFE)	<i>EFE1</i> : The website increased my awareness of the merits and demerits of the available job <i>EFE2</i> : The website provided me with relevant information to facilitate my decision <i>EFE3</i> : The website helped me to meet my decision-making need <i>EFI4</i> : I could easily search for information <i>EFI5</i> : I was able to access the information I needed quickly <i>EFI6</i> : It took little effort to find the information I needed <i>EFI7</i> : The website allowed me to make a decision quickly	Cyr et al. (2009)

**Appendix 1: Measurement items (continued)**

<i>Research construct</i>	<i>Measurement</i>	<i>Source</i>
5 Search engine optimisation (SEO)	<p><i>SEO1</i>: When the duplications exceed three, there is a downturn in terms of visibility performance in a search engine results list</p> <p><i>SEO2</i>: Diminishing returns were found with full text keywords</p> <p><i>SEO3</i>: Web pages with keywords only in full texts achieved better performance than web pages with keywords only in titles</p>	Zhang and Dimitroff (2005b)
6 Website ranking (WER)	<p><i>WER1</i>: My friends saying positive statement about this website ranking</p> <p><i>WER2</i>: Website ranking is important for me</p> <p><i>WER3</i>: I like to search a job whose the ranking is high</p> <p><i>WER4</i>: Website ranking is critical in finding a job</p>	Yazdi and Deshpande (2013) and Ajzen, (1985)
7 Ease of navigation (EN)	<p><i>EN1</i>: This online recruitment site is very convenient to use</p> <p><i>EN2</i>: It takes a short time to find job information at this website</p> <p><i>EN3</i>: This website provides easy procedures of ordering</p> <p><i>EN4</i>: A first-time users can find job vacancies from this website without much help</p> <p><i>EN5</i>: Overall, this website is easy to navigate</p>	Shin et al. (2013), Ajzen (1991), Ajzen and Fishbein (1977), and Rezaei and Amin (2013)
8 Behavioural intention (BI)	<p><i>BI1</i>: I would like to visit this site once more</p> <p><i>BI2</i>: I would like to visit continuously from this site</p> <p><i>BI3</i>: Next time I would like to find job from this site</p> <p><i>BI4</i>: I predict that I would use this website in the next few months</p> <p><i>BI5</i>: Given the chance, I intend to use online recruitment approach to find job</p>	Zhou (2012), Revels et al. (2010) and Shin et al. (2013)

Likert scale ranging from 1 = strongly disagree to 7 = strongly agree anchored.