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A study on adoption of E-recruitment using Technology Acceptance Model (TAM) with reference to graduating students in universities in Bahrain

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Abstract: *Information technology has been increasingly applied to automate the different processes in an organisation. Now internet has been used to support the process of recruitment by providing E-recruitment services. The main purpose of this study is to understand the factors influencing the e-recruitment process. The study was conducted by administering questionnaire to a sample of 400 graduating students in different universities in Bahrain. The framework used to understand the acceptance of e-recruitment is Technology acceptance model (TAM) which has been used according to the goal of the research work. The result of the study shows that perceived usefulness and perceived ease of use plays an important role in IT adoption.*

Keywords: *E-Recruitment; Technology Acceptance Model (TAM); Perceived Usefulness; Perceived Ease of Use; Behavioural Intention.*

I. INTRODUCTION

Internet has changed the world in a lot of ways and this has had an impact on various walks of life. One of the latest areas of technology that has changed the corporate world is e-recruitment. The process of recruitment plays a very important role in an organizational scenario. The traditional process of recruitment involves those practices and activities carried out by an organization to identify and attract potential employees. The advent of the internet has radically changed the communication and information dissemination in the business world and in the society at large. The technological growth has made the world truly global which makes it important for organizations to be more competitive and efficient. So, the organizations are trying to attract the right kind of people with the right skills. This had led to considerable changes in the traditional forms of recruitment. One of the new developments that have happened is the process of using internet to attract the right kind of candidates.

Internet is one of the greatest recruitment resources available to recruiters today for locating qualified job candidates also, making newspaper advertising an obsolete recruitment method. The process of using internet to identify and attract potential employees to your organization has been defined as E-recruitment. E-recruitment has proved to be a boon for the job seekers over the past ten years. The internet is a medium which connects the job seeker and the employer for the recruitment purpose virtually. E-recruitment takes care of the entire recruitment process, from placing the job advertisements, receiving the resumes and selecting the right candidate for the right job in a simplified and cost effective manner. Online E-Recruitment is also referred as Online Recruitment, Internet-based recruitment. [3]

The widespread usage of Information System (IS) has also meant that there is a need to understand the reason for the IS acceptance. A number of theories of information systems have been developed by researchers worldwide. One of the prominent of these is Technology acceptance model proposed by Davis in 1986. The study uses this model to analyse and understand the reasons behind the acceptance of E-recruitment systems. [4]

II. THEORETICAL FRAMEWORK-TECHNOLOGY ACCEPTANCE MODEL

The main model related to technology acceptance is Technology Acceptance Model (TAM 1986) [12] proposed by Davis in 1986. TAM has been used widely to explain and predict user behavior in relation to information technology. The concept of TAM was based on the Fishbein and Ajzen's Theory of Reasoned Behavior (TRA, 1980) [5]. The TRA [5] was based on the concept that believes influence attitudes which leads to intention and ultimate behavior. TAM uses this connection to understand IT acceptance behavior. According to TAM, the actual use of a system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of use. TAM also posits that external factors affect intention and actual use through the mediated effects on perceived usefulness and perceived ease of use. Figure 1 shows the original TAM. [12].

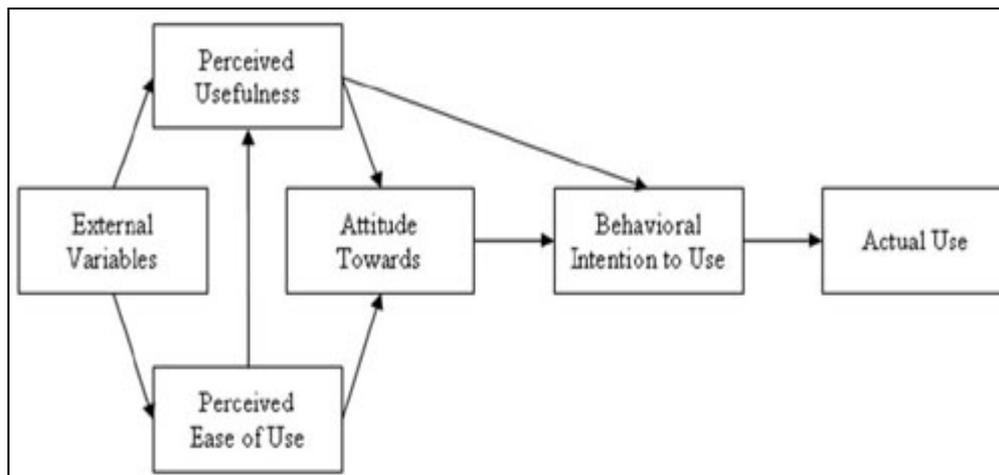


Fig. 1 Technology Acceptance Model (TAM, Davis, Bagozzi, Warshaw 1989)

III. LITERATURE REVIEW**3.1 Review of Literature on E-Recruitment**

Galanaki [15](2002) had conducted a descriptive study on the decision to recruit online, involving 99 UK IT companies whose shares were traded in London stock exchange. A survey was carried out, in the form of a postal questionnaire, followed by an interview in which 34 companies replied. The author found that internet agencies provide the company with fewer but substantially better applicants than traditional recruitment agencies. [15]

Linda Barber [6] (2006) from Institute for Employment Studies (UK) also examined the benefits and challenges of Internet recruiting. The article concludes that access to a wider pool of applicants and promotion of a company's reputation and brand are frequently mentioned by HR specialists who analyze the strengths of the e-recruiting. [6]

Pin et al [22] (2001) record 167 firms in Europe in which 83% were showing higher performance and were using online HR practices. In those firms 44% were those who used e-recruitment to attract candidates for vacant positions. [22]

3.2 Review of Literature on TAM and information systems

Lederer et al [17] (2000,) carried out a research to establish the technology acceptance of the WWW for undertaking work related tasks. Their findings supported the TAM model and illustrated that usefulness had a stronger effect than ease of use [17].

Cheng et al [9] (2006) conducted a research to investigate how customers perceive and adopt internet banking (IB) in Hong Kong. They developed a theoretical model based on the Technology Acceptance Model (TAM) with an added construct Perceived Web Security, and empirically tested its ability in predicting customers' behavioral intention of adopting IB. The results provide support of the extended TAM model and confirm its robustness in predicting customers' intention of adoption of IB [9].

Castaneda et al [8] (2007), empirically examined how Davis's Technology Acceptance Model (TAM) helped managers predict a user's intention to revisit a website and how this changed over time as a user gained experience of the Internet and the website. According to this study the user's experience of the website played a moderate role. For less experienced users, *perceived ease of use* was found to be a more important factor in deciding to revisit the website, whereas *perceived usefulness* had more effect on more experienced users [8]

Gefen et al [15] (2003) tried to develop a model to understand online shopping acceptance among shoppers. According to the findings the consumer's intention to buy online depends on trust and the two believes identified by TAM which are perceived usefulness and perceived ease of use.

The most relevant research effort made on this study was conducted in Malaysia by Yoon Kin Tong, D [10] in 2009. He modified Technology Acceptance Model (TAM) excluding the attitude construct as the core research framework while identifying Perceived Privacy Risk (PPR), Performance Expectancy (PE), Application-Specific Self-Efficacy (ASSE), and Perceived Stress (PS) as key external variables that form the research model for the study of e-recruitment technology adoption. The results identified few key determinants to this technology adoption some of which include PS, PPR and PE [10].

Kashi et al. [16] (2013) used to extend TAM model to understand E-Recruitment acceptance in Iran. It was found that perceived usefulness played a more vital in determining the user behavioral intentions. It was also found that impression of the organizational website appeared to create interests in organization as a potential employer; hence, prompt applicants to apply for jobs [16].

IV. RESEARCH METHODOLOGY

Descriptive design was adopted in the present study. The data from the respondents was collected using a questionnaire. Statistical tools like simple percentages, mean, standard deviation, multiple regressions, factor analysis and path analysis was used to analyse the data.

1. To understand the reasons behind the adoption of e-recruitment among the job seekers
2. To examine the relationship between perceived usefulness[12], perceived ease of use[12], attitude[12] and behaviour intention[12]] of the job seekers

The sample for this study was the final year university students from the Kingdom of Bahrain. The sampling method selected was convenient sampling. The reason was selecting students as respondents is that most of them have more experience on using E-Recruitment and are highly internet savvy. The sample size was 400 and data collected through questionnaires distributed among students. The questionnaire was based on five-point Likert Scale [29] (1-Strongly agree, 2-Agree, 3-Neutral, 4-Disagree, 5-Strongly Disagree).

V. HYPOTHESIS

In accordance with the previously stated objectives and consistent with related literature, this study tested the following hypotheses

- ✓ H1 Perceived ease of use has a significant effect on the perceived usefulness of the E-recruitment.
- ✓ H2: Perceived ease of use has a significant effect on attitude towards using e-recruitment.
- ✓ H3: Perceived usefulness has a significant effect on attitude towards using e-recruitment.
- ✓ H4: Attitude towards using has a significant effect on intention to use.
- ✓ H5: Intention to use has a significant effect on actual use of e-recruitment.
- ✓ H6: Perceived usefulness has a significant effect on intention to use

VI. RESULTS AND ANALYSIS

The analysis was based on the objective of the study. The validity and reliability of the model used in E-recruitment scenario was first analysed. This is followed by the testing of the hypotheses in order to find out the relationships between the variables

6.1 Results of descriptive statistics

The descriptive statistics of the four factors are shown in Table 1. All means are above the midpoint of 3.00. The standard deviations range from 0.61 to 1.50 indicating a narrow spread around the mean[19]

TABLE I: SUMMARY OF MEANS AND STANDARD DEVIATIONS (N=400)

| Factors | Scale item | Mean | Standard Deviation |
|-----------------------------|------------|--------|--------------------|
| Perceived Ease of Use (PEU) | PEU1 | 3.5475 | 1.15806 |
| | PEU2 | 3.6150 | 1.18121 |
| | PEU3 | 3.6825 | 1.22697 |
| | PEU4 | 3.6817 | 1.18255 |
| | PEU5 | 3.6591 | 1.22335 |
| | PEU6 | 3.7300 | 1.33475 |
| Perceived Usefulness (PU) | PU1 | 3.6250 | 1.17594 |
| | PU2 | 3.6025 | 1.16743 |
| | PU3 | 3.6875 | 1.17827 |
| | PU4 | 3.6550 | 1.19564 |
| | PU5 | 3.5125 | 1.27432 |
| Attitude to Use (ATU) | ATU1 | 3.7450 | 1.50618 |
| | ATU2 | 3.5675 | 1.26271 |
| | ATU3 | 3.4750 | 1.19915 |
| | ATU4 | 3.6200 | 1.18495 |
| | ATU5 | 3.5100 | 1.16331 |
| Intention to Use (ITU) | ITU1 | 3.5850 | 1.12737 |
| | ITU2 | 3.7125 | 1.16758 |
| | ITU3 | 3.7575 | 1.17565 |
| | ITU4 | 3.5225 | 1.24030 |
| Actual Use (AU) | AU1 | 3.6800 | 1.74074 |
| | AU2 | 3.4323 | .61689 |

(Source: primary data)

6.2 Results of Reliability and Validity of Data

The reliability and validity of data were tested using Cronbach's alpha and factor analysis.

6.2.1 Cronbach's alpha

The factors were analysed using Cronbach's alpha (Cronbach, 1951, 1970). All of the measures employed in this study demonstrated excellent internal consistency, ranging from 0.722 to 0.922(see Table 2), thereby exceeding the reliability estimates ($\alpha = 0.70$) recommended by Nunnally[18][19] (1967).

TABLE II: CRONBACH ALPHA RELIABILITY COEFFICIENT

| Variables | Number of Items | Cronbach's Alpha | Reliable if >0.7 |
|------------------------------|-----------------|------------------|------------------|
| Perceived Ease of Use (PEU) | 6 | .916 | Yes |
| Perceived Usefulness (PU) | 5 | .922 | Yes |
| Attitude Towards Usage (ATU) | 5 | .751 | Yes |
| Intention To Use (ITU) | 4 | .897 | Yes |
| Actual Use (AU) | 2 | .722 | Yes |

(Source: collected and calculated from primary data)

6.2.2 Factor analysis

All factor loadings were 0.6 or above, showing good convergent validity (Chesney, 2006)[11]. The constructs are therefore one-dimensional and factorially distinct, and all items used to operationalize a constructs load onto a single factor. The results of factor analysis indicated that the scales were not only reliable, but also valid for the factors under study [11].

TABLE III: FACTOR ANALYSIS

| Scale item | 1 | 2 | 3 | 4 | 5 |
|----------------------|---------------|---------------|---------------|---------------|---------------|
| PEU1 | .817 | | | | |
| PEU2 | .831 | | | | |
| PEU3 | .889 | | | | |
| PEU4 | .888 | | | | |
| PEU5 | .836 | | | | |
| PEU6 | .843 | | | | |
| PU1 | | .880 | | | |
| PU2 | | .860 | | | |
| PU3 | | .858 | | | |
| PU4 | | .883 | | | |
| PU5 | | .849 | | | |
| ATU1 | | | .494 | | |
| ATU2 | | | .862 | | |
| ATU3 | | | .866 | | |
| ATU4 | | | .877 | | |
| ATU5 | | | .861 | | |
| ITU1 | | | | .882 | |
| ITU2 | | | | .889 | |
| ITU3 | | | | .892 | |
| ITU4 | | | | .836 | |
| AU1 | | | | | .835 |
| AU2 | | | | | .835 |
| % of Variance | 72.445 | 75.016 | 64.948 | 76.560 | 69.773 |

(Source: collected and calculated from primary data)

6.3 Hypotheses Testing

This study employed a path analysis approach to develop a model that represents the relationships among the various factors in this study: perceived usefulness (PU), perceived ease of use (PEU), attitudes towards usage (ATU), Intention to use (ITU) and actual use (AU). Table 4 shows the results of the hypotheses tests by confirming the presence of a statistically significant relationship in the predicted direction of the proposed research model.

The perceived ease of use (PEU) had a significant effect on attitude toward using (ATU) and Perceived usefulness (PU), with $p < 0.001$ which is consistent with previous research. While perceived usefulness (PU) had a significant effect on Attitude to use (ATU) and Intention to use (ITU). Moreover, Attitude to use (ATU) positively influences Intention to use (ITU).

TABLE IV: HYPOTHESES TESTING RESULTS

| Hypothesis | Path | Path coefficient | t-value | Results |
|------------|-----------------------|------------------|---------|--------------------------|
| H1 | PEU \rightarrow PU | 0.864 | 34.252 | Supported ($p < 0.01$) |
| H2 | PEU \rightarrow ATU | 0.742 | 22.093 | Supported ($p < 0.01$) |
| H3 | PU \rightarrow ATU | 0.770 | 24.050 | Supported ($p < 0.01$) |
| H4 | ATU \rightarrow ITU | 0.760 | 23.321 | Supported ($p < 0.01$) |
| H5 | ITU \rightarrow AU | 0.522 | 12.210 | Supported ($p < 0.01$) |
| H6 | PU \rightarrow ITU | 0.822 | 28.783 | Supported ($p < 0.01$) |

(Source: collected and calculated from primary data)

The model and hypotheses were tested by examining the path coefficients and their significance. The path coefficients are present in Figure 2. Consistent with our hypotheses, PEU demonstrated a significant influence on ATU (path = 0.742). Similarly, PEU demonstrated a significant influence on PU (path = 0.864). The link between PU and ATU (path = 0.770) and ATU and ITU (path = 0.760) was also significant. There was also significant relationship between ITU and AU and also between PU and ITU.

VII. FINDING AND CONCLUSION

The main aim of this study was to find if the TAM model can be used to examine the intention of students to E-recruitment. It was found that Perceived ease of use had a significant effect on the attitude to use (ATU) which is in coherent to prior research (Davis 1989). An explanation might be that when students perceive the e-recruitment system as one that is easy to use, so they have favorable approach towards which is consistent with the previous researches.

Another finding of the study is that Perceived ease of use (PEOU) also had a significant impact on the perceived usefulness. This suggests that students are ready to adopt e-recruitment systems which are deemed to be useful to them.

This study also found a significant relationship between perceived usefulness (PU), Attitude towards usage (ATU) and behavioral intention (ITU) to use the e-recruitment System. This study is a step towards examining students' perceptions of usage of an e-recruitment system that informs their attitude towards usage and their behavioral intention to using the system.

The aim of the research was to identify the important factors that influence users to accept E-recruitment services which could be useful for organizations and recruitment firms. The research framework was based on Technology acceptance Model which has been widely used to study Information system acceptance.

The results of the study provide an insight to the most influential factors that determine a person's adoption of E-recruitment services. For example it was found that perceived usefulness and Perceived ease of use are the dominant factors that make a person use e-recruitment services. This implies that while developing e-recruitment services the ability of user to use the services very easily and providing more effective services play a very important role in its acceptance. The research can be further developed by extending the model by adding new variables like trust which can provide better insights.

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