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Employee Characteristics and Their Value Perceptions about Web-based B2E Systems Use in Bangladesh

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Abstract

Business-to-Employees (B2E) systems represent a new breed of web-enabled eBusiness application that helps develop productive and committed workforce. However, even though eBusiness technology vendors advocate that enormous values organisations and their employees can gain from the introduction of B2E systems, no systematic empirical study is yet reported from employees' viewpoint in particular for the developing countries' context. Furthermore, as value perceptions are not formed in isolation, there is a need to evaluate how employees' value perceptions about B2E systems are influenced by their demographic and attitudinal characteristics. We thus report the value perceptions of 109 employees from 2 telecommunication companies located in Bangladesh, and highlight that except attitudes, popular demographic characteristics of employees are not related to their value perceptions. The implications of these findings are discussed.

Keywords: eBusiness, employees, B2E systems, value, telecommunication industry, Bangladesh

I. MOTIVATION FOR THE RESEARCH

Due to increased global competition, businesses cannot afford the loss of their productive and loyal employees. Hence, they are beginning to invest in appropriate eBusiness technology enabled B2E systems to retain satisfied and committed workforce [1]. Forward thinking businesses in the developing countries too are not immune from the high turnover rate of their employees. As such, in line with their counterparts operating in the western nations, businesses in the developing countries are expected to introduce innovative B2E systems. Such systems deliver organisation and employee specific contents and services to employees, which according to existing literature should in turn, help boost employee productivity [2], job satisfaction [3], and loyalty [4]. Bangladesh, a developing country located in South East Asia, is now aspiring to assert itself into an information rich society. Towards this end, in recent years, the Bangladesh government has developed a 'Digital Bangladesh 2020' vision. It represents an idea that includes the use of innovative information technologies (including Internet-based applications) for management,

administration and governance to ensure transparency, accountability and answerability at all levels of society and state [5]. One of the pillars of this vision is to make the private sector more productive and competitive through the use of innovative web-based ICTs [6]. Due to the key roles that employees play, those enterprises in Bangladesh which have in recent years introduced web-enabled employee centric B2E systems should measure their employees' value perceptions to gauge the success of these systems. Such initiatives are however lacking in practice. Furthermore, employee value perceptions are not formed in isolation [7] and are likely to be influenced by employees' demographic and attitudinal characteristics as reported for other eBusiness/IT-based systems in the innovation adoption and broader IT implementation literatures. Regrettably, studies on the extent to which employees (who actually interact with B2E systems) experience values from their use of B2E systems at their workplace settings are still scarce. We thus report the outcomes of an initial study in which a survey was conducted among employees of two leading telecommunication companies in Bangladesh. Our findings indicate that in broad sense the demographic characteristics are not related to the variations in the employees' value perceptions about B2E systems use; however employees' attitudinal dispositions significantly influence their value perceptions. The implications of these findings are discussed.

II. BACKGROUND LITERATURE

B2E systems: In broad sense, B2E systems refer to those applications which organisations initiate to stay connected with their employees using the Intranet and web technologies. According to Singh [8], B2E systems generally provide organization specific information and services (e.g. salary, leave, health benefits, procurement of office supplies, training), corporate wide announcements, and even e-commerce functionality (i.e. selling company products to its employees), among others. Quite often, employees are also given an ability to customise the contents according to their job roles and personal taste. Popular examples of B2E systems include employee portals, online ESS, intranet-based applications (e.g. online training, online insurance), among others.

Value literature: The term value refers to “something that is worth the effort” [9]. In context to IT solutions and eBusiness applications, values can be measured at organizational and individual levels [10, 11]. Thus, when applied for the B2E systems context and at the individual employee level (who interact with these systems), value is interpreted as their perceptions of the utility (i.e. net benefits) that they expect to receive from B2E systems for which they would be willing to spend their effort in using them. Much of the B2E literature is concerned with organisational adoption decisions of these systems (e.g. Tojib et al. [12] and Rahim et al, [13]) and only a few studies (e.g. [2,8,14-16]) have evaluated values (net benefits) of B2E systems. Key values identified by these studies include productivity enhancement, improved decision making ability, and greater knowledge sharing, among others. However, although these studies share a general agreement on the values of B2E systems, they suffer from three limitations: a) values are reported from the viewpoint of senior management only and the views of individual employees are still unknown, b) it is difficult to generalise the findings because of their reliance on qualitative case studies, and c) none of the findings relate to the context of organisations operating in the developing countries.

The role of demographic characteristics: The IS/IT and eBusiness literatures contain empirical evidence which suggests that demographic factors affect an individual’s attitudes towards using various types of applications and ICT technologies. On the matter of organisational MIS use, Mumford and Bank [17] observe that older individuals exhibit less positive attitudes. Lucas [18] reports that individuals with lower educational levels demonstrate limited positive attitudes towards MIS use. Likewise, some scholars evaluated sales persons’ attitudes and use of automated sales force information systems. For example, Keillor et al. [19] report that salespersons’ attitudes toward the use of computerised systems affect how those systems are used. Speier and Venkatesh [20] find age and gender of sales employees to have influence on their perceptions on how sales force automation systems are used. With regard to computer use in organisations, several scholars examined the influence of demographic factors. For example, Rafaeli [21] find that women have more positive attitudes towards computer use than men. In another study, Zoltan and Chapanis [22] report that older workers possess less favourable attitudes than younger workers for computer use. In recent years, another group of scholars acknowledge the role of demographic factors that may constrain attitudes and use of the Internet by employees. For instance, Nachmias et al [23] find more boys than girls use the Internet due to their positive attitudinal perceptions. Zhang [24] report that employees’ attitudes towards internet use (expressed in terms of their anxiety) vary significantly based on their educational levels, gender and age groups. Anandarajan et

al. [25] however contradict this as they find age and gender to be insignificantly correlated with their belief towards the Internet usage at workplace.

Gaps in the existing literature: Existing literature on the role of demographic characteristics on an individual’s attitudes and use of IT/eBusiness applications is inconclusive. Furthermore, to the best of our knowledge, no systematic investigation is yet reported on how employees perceive values from B2E systems usage in general, and how their value perceptions are influenced by demographic and attitudinal characteristics for developing countries context in particular. Hence, our study reported in this paper seeks to address this gap in the literature by developing and empirically evaluating a set of research hypotheses linking employee profile and attitudinal characteristics with their value perceptions about B2E systems use.

III. DEVELOPMENT OF RESEARCH HYPOTHESES

Gender: Value perceptions of male employees should differ significantly from those of their female counterparts because according to Venkatesh [26], a male employee’s perceptions about an IT application use is more likely to be influenced by its usefulness, whereas the perceptions of female employees are influenced by their views on an IT application’s ease of use. Moreover, some IT scholars (e.g. Vallerand [27]) suggest that male employees tend to find values when they can use IT systems to perform complex tasks with confidence. This is not the case for female employees who look for values – the attainment of which is not dependent on the execution of complex tasks involving IT systems. Hence, the following hypothesis is proposed:

H1: There is a significant difference in value perceptions about B2E systems between male and female employees

Age: According to some IT scholars (e.g. [26]) age of an individual affects his/her perceptions of ‘degree of effortlessness’ in using an IT application. Hence, we argue that older individuals tend to experience values from their use of B2E systems when usage of those systems does not demand considerable effort on their part. Moreover, motivation plays a different role based on an employee’s age such that younger employees would pay more emphasis on using an IT application based on the positive job related values associated with using it [27]. Thus, job related performance improvement through B2E systems usage motivates younger employees more due to potential career progression as a result of better performance than older employees. As such, the following hypothesis is developed:

H2: There is a significant difference in value perceptions about B2E systems between young and more mature employees

Education: According to Evanschitzky and Wunderlich [28], people with higher levels of education perform more comprehensive information gathering and processing than less educated people. Capon and Burke [29] argue that those who are more educated tend to draw on greater information prior to decision making as opposed to less educated people. For B2E systems context, we thus argue that greater years of formal education of an employee would influence his/her ability to recognise more values by being better able to identify innovative ways to gather information and use functionalities in support of their work. As such, the following hypothesis is proposed:

H3: There is a significant difference in the value perceptions about B2E systems between employees with higher degrees and undergraduate degree

Job Role: Information needs of individual employees tend to differ based on their roles (i.e. managerial, operational) in organisations [30]. This distinction is explicitly recognised by the architects of B2E systems who design these systems in such a way that these systems would readily be able to deliver appropriate information and services customised to the needs associated with employee roles in organisations. Due to the presence of this technological novelty of B2E systems, we argue that employees with managerial responsibilities are equally likely to experience values from their use of B2E systems as those of operational employees. Thus, the following hypothesis is developed:

H4: There is no significant difference in value perceptions about B2E systems between managerial and operational employees.

Employee attitudes: Attitude refers to an individual's feelings associated with performing a particular behavioural action (in our case, use of B2E systems). The influence of attitudes on IT/IS value perceptions is acknowledged by Cronk and Fitzgerald [7]. For B2E systems context, we argue that those who view B2E systems with a positive attitude are likely to be more willing to explore the functionality (e.g. customised services and prompt access to relevant and customised information offered through systems) of these systems in support of their work practice than those who do not have favourable attitudes. This leads to the following hypothesis.

H5: There is a significant difference in value perceptions about B2E systems between employees with favourable attitudes and non-favourable attitudes.

IV. RESEARCH APPROACH

We have adopted an exploratory survey approach [31] because our study investigates an issue (value perceptions) for which no prior work has been reported for Bangladesh context. A survey instrument was developed based on our literature analysis. The instrument

is divided into three sections. Section A includes questions on gender, age, education and job role. Section B includes 9 items for measuring employees' value perceptions. These items were developed by consulting the existing B2E literature including the work of Yang et al. [32]. Each item was measured on a five-point interval scale where 5 means strongly agree and 1 means strongly disagree. Employee attitude towards their use of B2E systems were adapted from Hartwick and Barki [33] and were measured using 3 items on a 5-point differential scale (see Table I). From these, we created a binary variable called user attitude type: favourable users (with mean attitudes over 3) and non-favourable users (with mean attitudes less than 3). The reliability of employees' value perceptions and attitudes were evaluated using Cronbach Alpha [34] and was found to be satisfactory (for values, alpha = .883, for attitudes, alpha = .773). The validity of these two research constructs were established by conducting an exploratory factor analysis which produced a perfect 2-factor solution. However, out of 9 value items only one (Item 4) was removed because it loaded on both constructs [35].

There are five telecommunication companies in Bangladesh. Initial contacts with them reveal that only three companies have some forms of web-enabled B2E systems in operation. Out of these, two agreed to take part in our survey. These two companies are large in size and have over 1000 employees. Both are using Intranet-based B2E systems which offer a set of services and information to employees and have some customisation facilities. The senior level managers of the two companies were then contacted via telephone, and several meetings and e-mail correspondence were arranged. As this is an initial study, a total of 300 printed questionnaires were given to these managers who were requested to distribute the questionnaires among their employees through the heads of various functional units. To guard against biases towards any particular employee type, we requested the managers to distribute the questionnaires among: a) operational and managerial employees, b) male and female employees, and c) technical and business employees at random order within each unit. Due to the difficulties in mail despatching and collection, the participating managers were quite reluctant to distribute these questionnaires among their branch office employees. Hence, the distribution of the questionnaires was restricted to the headquarter staff only. Despite this limitation, our emphasis on distributing the questionnaires across a broad spectrum of employees (located at head office) was facilitated through the close cooperation of the senior managers. A total of 109 completed responses were received yielding a response rate of 33.7% which according to Church [36] is quite satisfactory.