Critical Investigation on Adoption of E-business Towards Malaysian Organizational Perspective

[1]Ahasanul Haque, [2]Arun Kumar Tarofder, [3]Farzana Yasmin, and [4]Seyed Rajab Nikhashemi

[1]Faculty of Economics and Management Sciences, International Islamic University Malaysia
[2,3]Faculty of Business Management Professional Studies, Management and Science University, Malaysia
[4]Department of Management and Consumer Studies, University Putra Malaysia

ABSTRACT

The aim of this paper is to investigate factors affecting adoption of e-business among Malaysian organizations. A research framework was developed to testify the statistical relationships among influencing factors and e-business adoption. Factor analysis was performed to extract to decide the number of factors underlying assess of measured variables of interest. Structural equation model (SEM) was tested to anticipate the effects of the explanatory variables. This study showed that four out of five adoption factors have significant impact on e-business adoption. These factors are relative advantage, complexity, compatibility and observability. Moreover, results showed that trialbility has no significant effect on e-business adoption. This study offered an insight into e-business adoption, which has not previously been investigated and at the same time, statistical tests significance makes this study a potential cornerstone for future research.

Key Words: E-business adoption, Diffusion of Innovation

1.   INTRODUCTION

Internet is one of the great inventions in this world which changes world with unlimited opportunity for business domain. It transforms traditional business activities into digital form. It creates new era which consider as digital era. One of the major contributions of Internet is e-business. Generally, e-business is the combination of Internet and Information and Communication Technologies (ICT) into one platform. It has two primary aspects (1) it coordinates and integrates supply chain activities in order to convert production and delivery system as a seamless process; (2) it develops new platform where all business partners including customers can work in collaborate environment, share information and so on. Hence, e-business concept becomes an important part of business organization. Today's electronic business network links to nations, peoples and organization of all sizes and structures operating locally, regionally, nationally and internationally. The Internet technology transformed in the world into the electronic marketplace, in which place time and individually are constantly redisplayed and reinterpreted by national and international technological architecture. With the technological advancement of global e-business is spreading almost in every country, although its usage various widely among the peoples of the different parts of the world. E-business is all about speed, connectivity and sharing and exchange of goods, services and information. This online distribution system has now become an alternative channel of distribution. The evolution of the Internet as a commercial tool for conducting business has led to an increase in the use of online services by organizations. E-business has emerged as a whole of business strategy offering a range of services and opportunities for electronic trading in the global marketplace. The use of information and communication technologies enables organizations to improve business processes and communication within the organization and with trading partners.

1.1 Background and Objectives of the Study

Internet creates many new terminologies in this digital era. Sometimes meaning of these terminologies are varies and contradictory. Generally, people use different term for electronic market such as e-business, e-commerce, or e-marketing. However, many researchers argued that e-business is superset of e-commerce (Kim and Han 2001; Jeon et al. 2006) and some researchers accepted that e-commerce is superset of e-business (Archer et al. 2008). Therefore, it is important to define e-business. According to Peansupap and Walker (2005) e-business is a facilitator for exchanging information across electronic networks. It is about using the convenience, availability and world wide reach of ICT to enhance existing business or create new business. However, the study considers e-business as

an entity or as the set of business activities perform over Internet. More specifically, e-business is a technology which supports entire business activities with the help of Internet. It has three primary forms namely Business-to-Consumer (B2C), Business-to-Business (B2B), and Intra-business. Many successful organizations embraces these three forms of e-business in their business activities (Tan et al. 2009; Tarofder et al. 2010).

Similarly, there are numerous and wide varying prediction as to the potentiality of doing business on the Internet. Apparently, increasing number of peoples with Internet access, corporate web sites, and spending by advertisers, of total online shopping. Organizations found it more and more important to represent them on the Internet to get customers, to increase the public awareness of the companies and their products. In similar fashion, many organizations acknowledged immense benefits arising from e-business technologies including cost saving, time saving, quality improvement, communication improvement, strategic improvement, reach to global market and so on (Doolin and Troshani 2007; To and Ngai, 2006). E-Business adoption can be explained as a condition where an enterprise is willingly to accept the technology innovation and performs transformation in its current business operations as well as business direction (Al Mudimigh 2007). Peng and Trappey (2005) stated that the e-Business adoption is closely related to the rapid use of the Internet technology as the Internet has become a commercial medium that attract and motivate the enterprises to experiment a new way of serving their customers. Among the e-Business adoption issues that have been highlighted in the previous studies are the trigger factors and readiness, benefits, barriers, critical success factors, and etc (Archer, et al. 2008; Jeon et al. 2006; Khatibi et al. 2003). However, many researchers identified many important barriers for adopting e-business technology including lack of financial resources, lack of technical knowledge, legal issues; culture and so on (Ranganathan et al. 2004). Electronic business on Internet requires management understanding and commitment to succeed. Tarofder et al., (2010) stated that many companies are lack of multimedia missions and visions. Home pages and customer handling were in many cases are poor and do not take advantage of the opportunity for feed back, interaction and customize. This has contributed to the failure of the use of Internet-based e-commerce. The breadth and depth of customised product information assist customer purchase decisions. However, it was reported that many companies did not recognize this. Therefore, the main purpose of this study is to examine the critical factors affecting e-business adoption in the Malaysian organizations. According to Banks (2004), the number of organizations implementing e-business systems including portal solutions is also increasing in Malaysia. However, despite the wide publicity of e-business systems in the literature, scholarly literature on this topic is still limited. This is not surprising given the fact that e-business is a new and emerging phenomenon. Moreover, academic literature is traditionally slow to follow up the fast moving trends of e-business in general (Kim & Han, 2001). As a result, little systematic investigations have been undertaken to identify the factors that influence the decision of organizations to adopt e-business systems. Consequently, limited understanding exists about the relationship between relevant factors and the adoption of B2E e-business systems. To address this gap in the literature, this study aims to explore the relationship between various factors identified from the literature which are likely to affect the decision of organizations to adopt e-business systems.

Theoretical Background and Conceptual Model

1.1 Diffusion of Innovation theory

The Diffusion of Innovation (DOI) model was introduced by Rogers (1983). It provides a framework for studying the adoption of new ideas, products, and practices by individuals, consumers, firms, or industries (Rogers, 1995). Rogers (1983) defines diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system, while innovation refers to an idea, practice, or object that is perceived to be new by an individual or other unit of adoption. Adoption, on the other hand, has been explained as a decision to make full use of an innovation as the best course of action, whilst rejection is a decision not to adopt an innovation (Rogers, 1983). In short, the DOI is concerned with the manner in which new technological ideas migrate from creation to use and that technological innovation is communicated through particular channels, over time, among members of a social system (Tan et al., 2009). Rogers (1983) suggests five attributes which affect the rate of adoption of an innovation. They are briefly explained as follow:

Relative Advantage: The degree to which an innovation is comprehended as being better than the idea it supersedes. **Compatibility**: The degree to which an innovation is perceived as consistent with the existing values, beliefs, experience and needs. **Complexity**: The degree to which an innovation is perceived to be difficult to use and understand. **Trialability**: The degree to which an innovation may be tried out with on a limited basis. **Observability:** The degree to which the result of an innovation are visible.

Rogers (1983) suggests that the each characteristic is described as being "somewhat empirically interrelated with the other four, while remaining conceptually distinct". Those relative advantage, compatibility, trialability, observability will be adopted rapidly then other innovations and innovations, which are less complex will be adopted more rapidly than those which are perceived as more complex. The DOI model remains popular in investigating the behaviour of users in adopting a new technological innovation (Tan et al., 2009). As a matter of fact, the model has served as starting point for many researches within the fields of software, IT, and information systems (IS) which include Web sites, e-commerce and other ICT applications among small- and medium-sized enterprises and large companies across different sectors (Buonanno et al., 2005; Harrison and Waite, 2005; Peansupap and Walker, 2005a, 2005b; Suraya, 2005; Tan et al., 2009a, 2009b; To and Ngai, 2006). To understand the adoption of e-business by the organisations in Malaysia as an adoption of technological innovation, a research model was constructed using these five perceived characteristics of innovation by Rogers- relative advantage, compatibility, complexity, trialability and observability - to explain adoption of E-business.

2.2 Relative Advantage

Relative advantage is defined as ' the degree to which an innovation is perceived being better than the idea it supersedes". Relative advantage is viewed as an advantage for an organisation over previous ways of performing the same task (Agarwal Prasad, 1997). Relative advantage has been found to be one of the best predictors and positively related to an innovation's rate of adoption (Premkumar, et al., 1994, Rogers, 1995; Tan and Teo, 2000; Doolin and Troshani, 2007; Tarofder et al. 2010). There are many potential benefits arise from e-business technology. These include reaching new markets, optimising business process, reducing costs, improving business knowledge, attracting investment, and creating new products and services. A large relative advantage increases the adoption rate. Rogers (1995) lists portable radio, ballpoint pens, as example, of products that were all so clearly superior in convenience to the products they replaced that they became popular very quickly. Relative advantage has been found to be one of the best predictors and positively related to an innovation's rate of adoption. Therefore growing awareness and understanding the advantage of e-business among Malaysian organisations can positively influence their desire and interest in adopting e-business technology in their organisations.

2.3 Complexity

Complexity is defined as "the degrees to which and innovation is perceived as relatively difficult to understand and use". Complexity is similar in definition to several studies' - Gatignon and Robertson, 1989; Teo et al., 2003; Warrts et al., 2002- notion of perceived ease of use (Agarwal and Prasad, 1997). New ideas that are easy to understand will be adopted more rapidly then innovation that requires the adopter to develop new knowledge, skills and understanding (Premkumar et al., 1994). System that are perceived to be easier to use and less complex have a higher likelihood of being accepted and used by potential users (Ranganathan et al. 2004). Based on the literature review, some SMEs found that since E-commerce is a high technology, they have limited resource to support it. Therefore, it is difficult to attract employees and experience in-house IT staff with the right skill sets fore-business. Moreover, some owners also found that they have lack of appropriate education, information and knowledge. Consequently they do not have competencies to understand the full implications of E-business. Therefore if the new technology is more complicated than existed technology, organisations will be reluctant to adopt new technology.

2.4 Trialability

Trialability is defined as "the degree to which an innovation may be experimented with on a limited basis". New ideas that can be tried on the instalment plan are generally adopted more rapidly then innovations that are not divisible (Rogers, 1995). Trialability is innovation characteristics drawn from the work of Rogers (2003). It is related to risk (Fichman and Kemerer 1993). Trialling an innovation helps reduce the uncertainty surrounding its adoption and allow potential adopters to evaluate the benefit of adoption. The ability to experience the benefits of e-business is an important factor in adoption decision (Doolin and Troshani, 2007). May of the web technologies, such as XBML, implementations that had been trialled at the time of the interviews were considered 'pilot' in order to demonstrate 'proof of concept'. Many of other recent studies (Doolin and Troshani, 2007; Gerrard and Cunningham, 2003; Oh et al. 2003) have considered an important determent for innovation diffusion in different technological context, such as, XBML, E-Commerce, Broadband Internet etc.

2.5 Compatibility

Compatibility is defines as "the degree is to which an innovation is perceived as consistent with the existing values, past experience, and needs of potential adopters". Tomatzky and Klein (1982) found that an innovation is more likely to be adopted when it is compatible with current technology. It will be likely to be adopted not only if it is compatible with deeply held cultural values but also if it is compatible with previous ideas. Compatibility of and

innovation with a preceding ideas can either speed up or retard it rate of adoption in the organisation. In fact, if the new technology is fit with the current customers needs then organisations will feel more comfortable to adopt it.

2.6 Observability

Observability is defined as "the degree to which the results of an innovation are visible to others". Most of the innovations studied in the past diffusion research are technological ideas (Rogers, 1995). But in this case of E-business is relatively easy for both consumers and industry adopters. E-business increases company visibility as the Website can be seen as a place where the homepage is virtual market. Websites allow business to be more flexible and reach to mass customers (Blackwood, 1997). Customers and suppliers can visit the company Websites to search for general information with a quick response anytime and anywhere they can access to the Internet. This creates convenience and flexibility for the organisation to create relationships with both buyers and sellers.

The literatures discussed in previous sections identified different factors that may be influenced web technologies diffusion in supply chain. Interrelationship between theses factors have been empirically tested in different technological context, such as Web services, Web technologies, EDI, ERP and so on. The proposed framework contains five hypothesised relationship that will be tested in supply chain context. A model of that framework is shown figure 1.
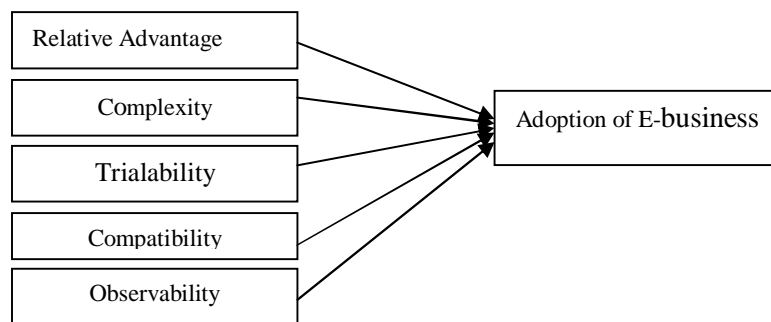
Source: Developed for this study

Figure 1: Proposed Model for This study

There are five hypothesis for this study developed from the conceptual framework. These are:

H1   There is significant positive effect of relative advantage on the adoption of E-business among Malaysian organisations

H2   There is significant negative effect of complexity on the adoption of E-business among Malaysian organisations

H3   There is significant positive effect of trialbility on the adoption of E-business among Malaysian organisations

H4   There is significant positive effect of compatibility on the adoption of E-business among Malaysian organisations

H5   There is significant positive effect of observability on the adoption of E-business among Malaysian organisations

3.   METHODOLOGY

3.1 Sampling

This study adopts a field survey. The initial sampling frame was assembled from the list of members of the Federation of Malaysian Manufacturers (FMM), the Malaysian Industrial Development Authority (MIDA), the SAP Malaysia, and the Port Klang Shipping Agencies Association. The list includes the list of companies, along with information such as total employees, annual turnover, and year of incorporation of business. A stratified random sampling method was attempted in order to carefully identify firms which are utilizing any of the technologies, such as EDI, ERP, SAP, Rosettanet and so on for their supply chain activities. Out of 2575 organizations, 1000 organizations that fulfilled the requirement above were selected. Data collection was completed in December 2009.

3.2 Sample characteristics

The sample had a different representation in terms of the industry category, fairly distributed across different industry groups in manufacturing and service related industries. The responding firms reported broad range of annual revenue, with most of them generating between RM1 to RM5 million, followed by between RM 5 to RM 10

million. Only 2.4% of them generated more than RM50 million. Slightly more than half of the firms have less than 500 employees. The majority of the respondents are senior level managers and the majority of them reported that their firms have used the Internet for more than 5 years. All the firms have already used e-business technologies in their organisations. Almost 93% of the firms have deployed Web enabled technologies more than or equal 2 years.

3.3 Measures

Most of the constructs in this study are measured from the literature that were adapted to the context of the study. Multiple item measures were used to assess the research constructs. All the items were measured using a 5- point Likert scale. The content validity of the measures was assessed by pretest with knowledgeable experts. To gather information about E-business adoption, companies were asked whether they have any intention to adopt E-business or not and they will continue their business over E-business. In order to measure relative advantage, questions focus mainly on the importance and benefits of adopting e- business. Moreover, this subsection focuses on future benefits that will pay higher return in near future. Similarly, A good number of questions were asked mainly to collect the data relating to compatibility with values in business and customer contexts. This information regarding the individuals' jobs responsibility and value system. For the complexity, questions related to obstacles for E-business adoption were asked. All the questions related to observability and trialability were taken from the literature.

3.4 Validity and Reliability of Measures

Significant precautions were taken during the various stages of development, pretest, and pilot test of the instrument to ensure a high degree of content validity. Construct validity was examined from two perspectives, unidimensionality and discriminant validity and evaluated through factor analysis. The three usually accepted decision rules are research (egenvalue ≥1; factor loading ≥ 0.05; and simplicity of structure) were employed for identification of the factors (Hair et al. 1992). The reliability of the extracted factors was evaluated through Cronbach's alpha test. The results of the tests for unidimensionality or discriminant validity are reported in table 1. The results of the factor analysis were satisfactory; all the indicators items measuring the various constructs loaded on the appropriate constructs. A five factors solution emerged as predefined. The overall variance explained was satisfactory at 79.693 percent. The factor loading was quite satisfactory, ranging from .790 to .857. These extracted factors were subjected to further refinement to eliminate any outliers to the variable to establish (Churchill 1979). Cronbach's alpha was employed as the criterion to evaluate reliability of the constructs by examining their internal consistency. The details of alpha coefficient are provided in table 3. All the five factors have satisfactory alpha values that are higher than the 0.60 established for exploratory research (Churchill 1979). Based on the findings of these test, we concluded that the research variables in this study meet the various criteria for evaluating and demonstrating satisfactory psychometric properties.

Table 1: Tests for unidimensionality or discriminant validity

Conditions	Factor/variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Relative advantage	Rel Ad1 Rel Ad2 Rel Ad3 Rel Ad4			.844 .842 .836 .824		
Compatibility	Comp1 Comp2 Comp3 Comp4	.857 .852 .843 .835				
Complexity	Com1 Com2 Com3 Com4		.830 .821 .819 .790			
Trialability	Trial1 Trial2 Trial3 Trial4				850 .843 .821 .816	
Observability	Obse1 Obse2 Obse3 Obse4					.812 .803 .801 .796
Initial Eigenvalue		17.606	5.692	3.503	2.334	1.861
Total variance explained %		56.797	18.368	11.301	7.527	6.006
Extraction method: Principal Axis Factoring						
Rotation method: Varimax						

3.5 Confirmatory Factor Analysis (CFA)

The Exploratory factor analysis gives us confidence to do Confirmatory Factor Analysis (CFA). Confirmatory factor analysis (CFA) can be used to assess unidimensionality. A CFA was conducted for each of the five constructs to determine whether the 20 indicators measured the construct adequately as they were assigned. Maximum likelihood estimation was employed to estimate the eight CFA models. The SEM program AMOS was used throughout the study to conduct the analyses. In order to evaluate main model, this research assessing both measurement and structural model. This study used different types of goodness of fit indicators because one single statistical test is questionable (Byrne 2001). Therefore, the evaluation of models for this study is based on multiple goodness-of-fit indicators. Table 2 summarizes the results of these tests.

Table 2: Summary of CFA analysis

Factor Indicators	X^2	Df	P	GFI	AGFI	CFI	RMSEA	Factor Loading	Cronbach Alpha
Relative advantage	5.36	2	0.130	0.989	0.948	0.967	0.064		**0.899**
Rel Ad 1								0.875	
Rel Ad 2								0.868	
Rel Ad 3								0.860	
Rel Ad 4								0.855	
Compatibility	6.585	2	0.026	0.986	0.932	0.991	0.100		0.912
Comp 1								0.834	
Comp 2								0.926	
Comp 3								0.832	
Comp 4								0.852	
Complexity	5.024	2	0.036	0.992	0.921	0.985	0.090		0.9234
Com 1								0.697	
Com 2								0.789	
Com 3								0.836	
Com 4								0.945	
Trialability	4.520	2	0.126	0.986	0.954	0.992	0.061		0.854
Trial 1								0.765	
Trial 2								0.789	
Trial 3								0.854	
Trial 4								0.897	
Observability	3.35	2	0.145	0.991	0.961	0.992	0.062		0.910
Obse 1								0.798	
Obse 2								0.832	
Obse 3								0.897	
Obse 4								**0.921**	

3.5.1 CFI

This index compares a proposed model with the null model assuming that there are no relationships between the measures. CFI values close to 1 are generally accepted as being indications of well-fitting models (Raykov and Marcoulides, 2000). A CFI value greater than 0.90 indicates an acceptable fit to the data (Bentler, 1992). The CFI values for the eight CFAs are displayed in Table 2. An analysis of the table reveals that all the CFI values are very high ranging from 0.94 to 1, which suggests very good model fits.

3.5.2 RMSEA

The RMSEA is an index used to assess the residuals. It adjusts the parsimony in the model and is relatively insensitive to sample size. According to Hu and Bentler (1999), RMSEA must be equal to or less than 0.08 for an adequate model fit. Table 2 shows that all the RMSEA values are below 0.08 and indicate adequate model fits.

3.5.3 GFI

The goodness of fit index, tells us what proportion of the variance in the sample variance-covariance matrix is accounted for by the model. This should exceed .9 for a good model.

3.5.4 AGFI

Adjusted GFI is an alternate GFI index in which the value of the index is adjusted for the number of parameters in the model. Few numbers of parameters in the model was relative to the number of data points.

3.5.5   NFI
The Normed Fit Index (NFI) is simply the difference between the two models' chi-squares divided by the chisquare for the independence model. Values of .9 or higher indicate good fit.

3.5.6   Parameter estimates
Table 2 shows that all the parameter estimates (i.e. factor loadings) are statistically significant and range from 0.661 to 0.998.

3.6   Reliability and validity
The degree of consistency of a measure is referred to as its reliability or internal consistency. The reliability coefficient, Cronbach's a (Cronbach, 1951), is generally used to test the reliability of a scale. a values of 0.70 or greater are deemed to be indicative of good scale reliability (O'Leary-Kelly and Vokurka, 1998). The Cronbach's a for the five factors range from 0.854 to 0.923, suggesting that they are all reliable (Table 2).

3.6.1   Content (internal) validity
Content validity depends on how well the researcher created measurement items using the relevant literature to cover the content domain of the variable that is being measured (Bohrnstedt, 1983). The selection of items in this study was based on an extensive review of the literature, giving a strong content validity to the variables being measured.

3.6.2   Convergent validity
The Bentler-Bonett Normed Fit Index (NFI) obtained from CFA can be used to assess convergent validity. This index measures the extent to which different approaches to measuring a construct produces the same results (Ahire et al., 1996). According to a rule of thumb, NFI values of 0.90 or greater indicate an adequate model fit (Bentler, 1995). Table2 shows that all the NFI values are greater than 0.90 indicating strong convergent validity.
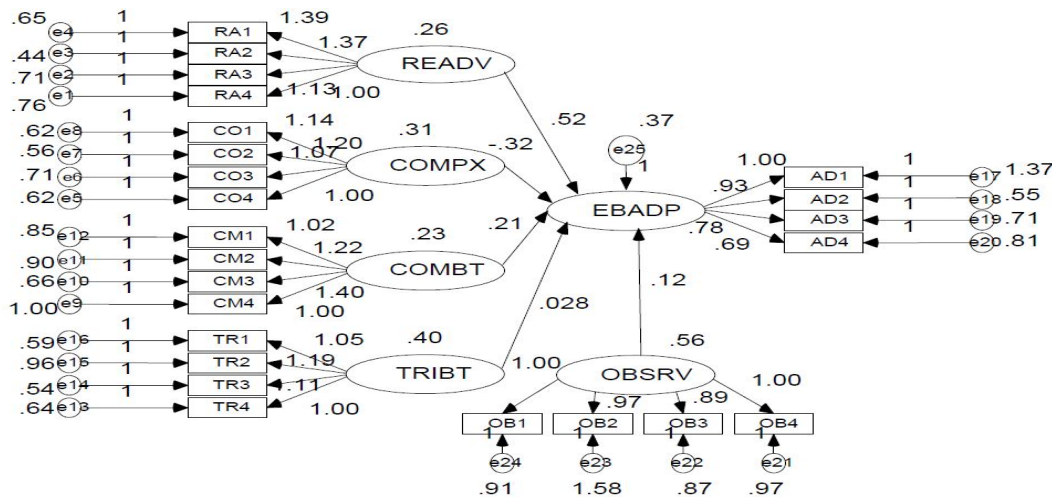

Figure 2: Testing Proposed Model

4.   Hypotheses Testing
The Structural equation model was used to test the relationship among constructs. Goodness-of-fit indicates for this model were Chi-square/df = .892, GFI = .989, AGFI = .969, NFI = .987, CFI = 1.00, RMSEA = .001. Figure 1 depicts the full model. Of the four paths hypothesized in the model, only the influence of sufficiency of E-banking operation was non-significant. All the paths were significant at $p<0.05$. Our result reports that there is significant relationship between relative advantage and adoption of e-business. Therefore H1 is accepted at 0.5 level of significance $p<0.05$. In relation with second hypothesis, complexity has the negative effect on adoption of e-business. Therefore, this hypothesis is accepted at $p<.05$. The result showed that complexity emerges as the important factor which affects adoption of e-business. Therefore, H2 is accepted as $p<0.05$. Results related hypothesis three showed that trialability does not have any significant effect on e-business adoption. Hence, H3 is not accepted where $p>0.05$. Results related with hypothesis four showed that compatibility has significant positive

effect on the adoption of e-business. Therefore, this hypothesis is accepted as p<0.05. Results related with the final hypothesis showed that observability also has significant positive effect on the adoption of e-business. Therefore, this hypothesis is also accepted as p<0.05. Among all the significant variables, from our result, relative advantage is the most important among our respondents followed by complexity and observability.

5. Conclusions, Contributions, Limitations and Further research

Drawing upon theoretical perspective from organizational theory, describe in this paper investigated the key factors that affect the adoption of e-business among Malaysian organisations. Based on the results, four factors showed significant effect on adoption of e-business except trialability. Among all the factors, Relative advantage was found to have a greater positive effect on the adoption of e-business. It suggested that e-business technology must provide better benefits than current technology in order to intensify adoption rate. In other hand, based on the findings of the structural equation modelling, perceived complexity was negatively influence on willingness to e-business adoption in Malaysian organisations. This factor considered as barriers of e-business adoption. The negative and significant influence of complexity on e-business adoption show that perceived complexity of using E-business played major instrumental role in electronic manufacturing companies in Malaysia. This result confirmed that an innovation with substantial complexity requires more technical skills and operational efforts and to increase its chances of adoption. One recent research found insignificant effect of Trialability on E-business adoption by organization, and our research also identify the same results. One possible reason is that recently, there has been a dramatic increase in the number of business solutions companies in Malaysia, because of the promotion of E-business by government through Multimedia Super Corridor (MSC). It has lead to high competition in the markets, which companies providing many special services to attract customers. Customers have many options provided by those companies and users can choose what they want; including access to a free trial, trying various applications before making decision, implementation at a certain scale, low start-up cost or ability to get out anytime. These conditions can consequently lead to an unimportance of perceived trialability E-business.

The study summarized in this paper has made some important contribution. It contributes to the emerging body of research on e-business adoption in organization. It identifies factors empirically which influencing adoption of e-business technology among Malaysian organizations. This research provides insights into real Malaysian e-business efforts, an area where there have been relatively few empirical studies based on field data because of the dominance of analytical modelling and practitioner case study as the main approaches to the study of adoption of e-business (Ranganathan et al. 2004). It is grounded on existing theories of Innovation diffusion theory. By building on earlier research, the study shows how these theories can be used to explain the diffusion of e-business.

While every effort was made to make this study as comprehensive as possible, certain limitations were present The study used the adopters of e-business systems as the unit of analysis. It captured the measures and the relationships as viewed by the adopter/initiator firms. A good extension of the study would be to have suppliers or buyer–supplier dyads as the unit of analysis. Another limitation is the use of a single respondent from each target firm, without collecting and cross-validating responses from other informants in the same firm. The use of single respondents is questionable, because relying on only one informant to make complex social judgments about organizational characteristics increases random measurement error. However, the cost of using multiple informants and the possibility of lower response rates were deterrents against the use of multiple respondents. Future research can mitigate the problem of common method bias by collecting data from more than one respondent per firm and comparing the perceptions of different stakeholders in e-business adoption. The study examined only a few variables that impact on e-business diffusion. Several other factors, such as the perceived ease of use, ease of use could also influence adoption of e-business. This is another area for future research.

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