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E-readiness of website acceptance and implementation in SMEs

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ABSTRACT

This study aims to make a deep exploration into e-readiness from the viewpoints of technology, management, organization, and environment in order to understand how these dimensions affect the acceptance intention and degree of implementation of a corporate website. A mail survey was conducted. A total of 753 questionnaires were distributed and collected from SMEs' senior executives, generating 163 usable replies with a total response rate of 21.65%. The structural equation modeling (SEM) technique and partial least squares (PLS) software were used to conduct a path analysis for related variables in the research model. Results of the data analysis show that (1) the variables that have a significant positive effect on the intention to accept a corporate website in SMEs are an awareness of corporate website, enterprise resources, technological resources, government e-readiness, market force e-readiness, and supporting industries e-readiness and (2) the variables that have a significant effect on the degree of corporate website implementation in SMEs are an awareness of corporate website, senior executive commitment, corporate website governance, human resources, technological resources, government e-readiness, and market force e-readiness. Through the empirical results, this study provides contributions for SME managers and researchers.

1. Introduction

E-readiness is generically determined by whether an organization or a country is ready to adopt information technology (IT) and its relevant applications to create competitive advantages in the market (Mutula & Van Brakel, 2006b; Park, Choi, & Bok, 2013). In recent years, e-readiness has been an important area for assessing the potential for IT adoption. The competitiveness of business enterprises is closely associated with e-readiness for leveraging information and communication technologies (ICTs) to effectively identify, collect, organize, process, and disseminate information for competition (Mutula & Van Brakel, 2006a).

E-commerce has gradually evolved into a term denoting the approach for information delivery and data sharing between businesses or between businesses and customers. Grandon and Pearson (2004) considered that the adoption of e-commerce activities could help a large enterprise in making a greater profit; likewise it can help small and medium-sized enterprises (SMEs) in gaining significant benefits through extending the business territory and strengthening customer relationships. The modern e-commerce strategy for gaining competitive advantage is to provide a corporate website or social networking website for customers with online inquiries about products and services, and the use of electronic transmission technology in order to allow a two-way communication with them and to facilitate their internal operations (Dong, Cheng, & Wu, 2014; Hung, McQueen, Ku, & Chang, 2012b; Schlosser, White, & Lloyd, 2006). Past studies suggest that implementing a corporate website can integrate e-commerce activities formally and seamlessly into a company better than a social networking one (Hung, Chang, & Lee, 2012a; Hung et al., 2012b; Maswera, Dawson, & Edwards, 2008). It can also overcome disadvantages, break through barriers, and remove the boundary between the business region and the global market. Apparently, the implementation of such a website can create many advantages for the operation of enterprises, especially SMEs.

Compared to larger-sized enterprises, fewer SMEs have become involved in e-commerce operations through a corporate website. Also, the research regarding the implementation of e-commerce initiatives has focused more on larger enterprises than on SMEs (Gemino, Mackay, & Reich, 2006). Those that have their own website have made more profit and been more efficient than those without one (Hung et al., 2012a; Hung et al., 2012b). Additionally, prior literature has mentioned that implementing a corporate

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website can provide benefits such as penetrating into a new market, ensuring the effectiveness of their operation, increasing trading channels, and improving service quality. However the most valuable benefit is that it can transform an SME into a worldwide enterprise (Alonso-Mendo, Fitzgerald, & Frias-Martinez, 2009). Apart from creating, delivering and accumulating business value (Mavromoustakos & Andreou, 2007), a corporate website can also, to a moderate extent, overcome the difficulties arising from their small scale and resources shortage. Therefore, in order to strengthen their industrial profile, SMEs should consider implementing a formal corporate website since such interactive application should provide more innovative and transforming opportunities for them, and further help them move away from the traditional operational scope to compete with larger enterprises. However, for SMEs, the lack of sufficient internal resources, external environmental pressure, and an incomplete internal system restrict them from developing a sound corporate website.

Prior studies have explored and categorized the factors affecting information system implementation and adoption in e-business (Benbasat & Barki, 2007; Eikebrokk & Olsen, 2007; Mutula & Van Brakel, 2006a,b; Van Huy, Rowe, Truex, & Huynh, 2012); yet, no one has been able to concretely establish a universal model for it. Despite the fact that a significant number of articles have focused on the organization's intention for IT or website acceptance, little attention has been paid to the situation in SMEs and very few researchers have studied the implementation degree of a website. SMEs are recognized as a critical business sector in the industrial world and have also been acknowledged as making a significant contribution to a country's economic development (Van Huy et al., 2012). Conducting research on the e-readiness of website acceptance and implementation in SMEs can help fill the knowledge gap and facilitate companies in designing, implementing, and monitoring such websites.

The purpose of this research is to develop a conceptual e-readiness framework including the critical factors that influence website acceptance and the degree of website implementation of SMEs. Two research questions are proposed in order to gain a better understanding: (1) What e-readiness factors can affect corporate website acceptance in SMEs? (2) What e-readiness factors can affect the degree of corporate website implementation in SMEs? Since SMEs are playing a key role in the global economic world, answering these questions is worthy of further exploration.

2. Literature review

2.1. E-readiness

E-readiness is about evaluating the degree of readiness to use ICTs for fostering welfare or gaining profits in a country or an organization. The original concept of e-readiness was constructed to assess the digital divide between developed and developing countries (Mutula & Van Brakel, 2006b). The definition of e-readiness, first given by The Computer System Policy Project (CSPP) in 1998, was that of the ability of a country to access high-speed networks in a competitive marketplace, the degree of application of ICT in a government organization or enterprise, and the level of privacy protection and provision of online security mechanisms in a network environment. E-readiness has been an important concept for assessing IT application ability.

Scholars have indicated that e-readiness can represent any purpose, with any kind of background, pertaining to different people, events, or things. They have defined an organization's e-readiness as the important factors affecting the acceptance of electronic data interchange (EDI) and e-commerce (Iacovou, Benbasat, & Dexter, 1995; Kuan & Chau, 2001; Molla & Licker, 2005). Apart from using it to observe a country's e-readiness level, numerous studies have attempted to use this approach, from a micro point of view, to examine the e-commerce readiness level for organizations. Thus, how to apply it to evaluating the exploitation of the potential of national-level or organizational-level e-commerce has been a core issue for discussion (Dutta, Lanvin, & Paua, 2004; Mutula & Van Brakel, 2006b).

A number of studies focusing on e-readiness have appeared in the literature; for example, Molla and Licker (2005) presented an e-readiness model for e-commerce implementation in developing countries; it mainly adopted the perceived organizational e-readiness (POER) and perceived environmental e-readiness (PEER) as its evaluation criteria. The results indicated that the readiness of technology adoption, the readiness of finance, the support from management, and the perception of risk are the key factors for an organization to determine the utilization of EDI or e-commerce. Based on their research model, Tan, Tyler, and Manica (2007) targeted 134 SMEs in China to investigate the acceptance of e-commerce. Ruikar, Anumba, and Carrillo (2006) studied the evaluation mechanism of e-readiness; their purpose was to evaluate the e-readiness of small-sized construction corporations, and their criteria came from the outcomes of reviewing the situations of management, employment, procedure, and technology within these corporations. Fathian, Akhavan, and Hoorali (2008) applied e-readiness in assessing ICT usage for non-profit SMEs in Iran. Overall, the significance of it is determined by whether an organization or a country is ready to apply IT and its relevant applications to create competitive advantages in the market.

2.2. Corporate website and IT acceptance

Both the corporate website and EDI are considered as inter-organizational information systems, and they are also the medium for an organization to communicate with related parties and, to perform business transaction processes with the assistance of electronic equipment. Hung et al. (2012a) and Hung et al. (2012b) noted that a corporate website is one of the important basic applications for e-commerce, and some of its most commonly utilized functions are internal operational support, intra- and inter-business communication, customer interaction, and potential client contact.

Unlike social networking websites, the corporate website is considered as an inter-organizational information system for an organization to communicate with related parties. From the perspective of the business process and services, corporate websites support various kinds of business transactions and play a crucial role in promoting most electronic marketing activities (Hung et al., 2012a; Hung et al., 2012b). Nonetheless, the activities of social networks are focused on building social relationships among people who share personal interests, activities, events, or real-life connections via online platforms such as Facebook, Twitter, Google+, and MySpace (Dong et al., 2014). Scholars have indicated that a corporate website is an essential medium for a company to communicate with clients or related parties. Through the use of such a website, the major communication purposes include business information exchange, relationship maintenance, and business transaction guidance (Ho, Kuo, & Lin, 2012; Hung et al., 2012a; Hung et al., 2012b; Zwass, 1996).

In terms of IT acceptance, scholars have argued that corporate website acceptance stands for the degree of an organization's willingness to use Internet technology to manage the interaction between its business and its customers (Gemino et al., 2006). In prior studies, many theories pertaining to the influencing factors of IT acceptance have been built. For instance, Davis, Bagozzi, and Warshaw (1989) presented a technology acceptance model (TAM) to explain and predict the acceptance of users by analyzing

the relationship between their belief, attitude, intention, and behavior. Ajzen (1985) proposed a theory of planned behavior (TPB) to forecast and comprehend human behavior. Regarding the innovation diffusion theory (IDT), Rogers (1995) indicated that it usually has a low acceptance and few users in the introductory stage, and also a slow process of innovation diffusion; however, when it has more users and enough to cross the threshold, the process of innovation diffusion increases dramatically. According to the above literature, most studies in the field of IT acceptance have focused on the individual level of acceptance because the organizational level is more complicated.

Tornatzky, Fleischer, and Chakrabarti (1990) applied the technological organizational environmental (TOE) framework when studying the organizational acceptance of technological innovation, and concluded that the impacting factors fell into three categories: organization, technology, and management. Molla and Licker (2005) examined developing countries' level of acceptance of e-commerce initiatives, and categorized technology, management, organization, and environmental factors into two dimensions: organizational and environmental e-readiness. Based on the e-readiness framework of Molla and Licker (2005), this study intends to explore the factors influencing the acceptance of the corporate website and the degree of its implementation.

2.3. Characteristics of SMEs

Researchers analyzed IT investments by firm size and type in a study of information technology evaluation and benefit management practices of SMEs (Love & Irani, 2004). Surprisingly, the results found that there were no significant differences at a tactical and operational level. This shows that even having resource constraints, for the purposes of promoting e-commerce success, SMEs still spared no effort in investing in information technology. Compared with larger enterprises, they generally lag behind (Chang, Chang, Ho, Yen, & Chiang, 2011; Eikebrokk & Olsen, 2007), but are more flexible. For example, SMEs possess the characteristics of flexibility of operation, the ability to promptly reorganize organizational resources, and to rapidly identify a change in the environment. Many researchers consider that SMEs can present their distinguishing characteristics by showing the internal features of their enterprise, the behavior of their entrepreneurs, the size of their enterprise, and their stage of development. Thus, for differentiating the characteristics of SMEs from large-scale enterprises, this research has particularly focused on the e-readiness viewpoints of technology, management, organization, and environment to construct a framework of corporate website acceptance and implementation in SMEs.

In terms of adopting technology, because of the lack of IT assistance, SMEs are not able to efficiently integrate their supply chains, nor are they able to conduct innovative research into new products (Chang et al., 2011; Van Huy et al., 2012). In terms of management, they can easily appear as chaotic and informal because of the operational style of their managers. More explicitly, these managers are accustomed to relying on their personal working experience and intuition to deal with market opportunities and the economic environment; therefore, they seldom make decisions in an orderly, logical way (Scase & Goffee, 1980). In terms of organization, Levy and Powell (2003) believed that, in spite of SMEs having a smaller business scale, fewer employees, and fewer resources than the larger-sized enterprises, they have a more flexible management mode. But since they mostly consist of small-sized family businesses that may have an unsound financial structure and only a few layers of organizational structure; there is the possibility that they are lacking in a clear responsible demarcation between departments (Chang et al., 2011; Huin, 2004). From the aspect of environment, SMEs have many obstructions in operating their businesses, such as the lack of a strategic vision and their weak influence on the market (Gilmore, Carson, & Grant, 2001). However, the deficiency in their understanding of the current business environment and market has become the greatest barrier to their development.

In summary, SMEs have a strong entrepreneurial spirit that makes them full of adventure; furthermore, being flexible and faster in making decisions, they can utilize resources more efficiently. Therefore, SMEs can build up an efficient collaborative industrial network, which is potentially the most important segment in e-commerce marketing development. Due to the constraints of a lack of resources, the implementation of a corporate website can thus help SMEs overcome their limitations and create more business opportunities and competitiveness both in the domestic and international markets.

3. Research designs

3.1. Research model

This research proposes a model to examine the factors affecting the acceptance of a corporate website and its degree of implementation, which includes two dimensions: organizational and environmental e-readiness. Organizational e-readiness includes the technological perspective – the awareness of the corporate website; the management perspective – the senior executive commitment; and the organizational perspective – the corporate website governance, human resources, enterprise resources, and technological resources. Environmental e-readiness consists of the environmental perspective – government e-readiness, market forces e-readiness, supportive industrial e-readiness, and consultative support.

In order to make an in-depth analysis, this study targets those SMEs that do not have these tools, and those that have been using a corporate website. Accordingly, the model is divided into two sub-models: A and B. Sub-model A is used to explore the effect of e-readiness on the acceptance of a corporate website; and sub-model B is then used to study the effect of it on the implementation of the website. As to the variables definition, all of the operational definitions and assessment variables are derived from the relevant literature. The operational definitions of variables are summarized in Table 1, and the research model is illustrated in Fig 1.

3.2. Research hypotheses

Rogers (1995), in his theory of the diffusion of innovations, noted that the perceptions of the business of innovation and its benefits are key factors impacting on the strategic decision of adoption. Studying these factors, Beatty, Shim, and Jones (2001) found that the awareness of the benefits had a drastic effect on the decision-making concerning the adoption of innovation. The benefits may include lower trading costs, higher productivity, and better relationships. Lin (2008) examined the factors having a strong impact on e-business implementation success, and indicated that companies would be more willing to adopt an e-business approach if they perceived a corresponding relative advantage and compatibility; meanwhile, the subsequent implementation level will also be affected. Summarizing the views of the scholars, this research proposes the following hypotheses:

H1a. Awareness of a corporate website has a significant positive influence on the degree of implementation of it by SMEs.

H2a. Awareness of a corporate website has a significant positive influence on the intention to accept it by SMEs.

Table 1
Variable definition and source references.

Variable	Operational definition	Source references
Organizational e-readiness		
Awareness of corporate website	The perception of a corporate toward the website environment. The significance of a website can be comprehended by perceiving the effects of website technology, management mode, demand, interest, threat, and future trend	Beatty et al. (2001), Iacovou et al. (1995), Kuan and Chau (2001) and Molla and Licker (2005)
Senior executive commitment	The senior executives' expertise and willingness used for providing sufficient support, leadership, and resource to an organization, and offering assistance to make a clear vision and to determine management strategy	Molla and Licker (2005), Teo et al.(1997), Teo and Pian (2003) and Teo, Devadoss, and Pan (2006)
Corporate website governance	The strategy and operating model used by an SME for internal activities and website governance	Molla and Licker (2005) and Yao (2004)
Human resources	The employees of a firm who are capable and experienced in using a website pertaining to information and communication technology and other associated skills	Molla and Licker (2005) and Wang and Cheung (2004)
Enterprise resources	The function and intangible assets of SMEs, including the openness of an organization communication, response to risk, the current business relationships, and funds for website	Chwelos, Benbasat, and Dexter (2001) and Molla and Licker (2005)
Technological resources	The foundation of information and communication technology (ICT), the evaluation of degree of computerization, the flexibility of the existing system, and the relevant experience of website application	Gemino et al. (2006), Molla and Licker (2005) and Wang and Cheung (2004)
Environmental e-readiness		
Government e-readiness	The government's policy toward SMEs: for instance, promoting, supporting, and setting up a regulation system and offering relevant support for websites	Kuan and Chau (2001), Molla and Licker (2005) and Teo et al. (1997)
Market forces e-readiness	The e-commerce utilization and application of the competitors, customers, suppliers, and other kinds of partners of a firm	Iacovou et al. (1995) and Molla and Licker (2005)
Supporting industry e-readiness	The development, service level, and cost structure of associated supporting industries (e.g. communication industry, financial industry, and IT industry)	Molla and Licker (2005)
Consultant support	The consulting services such as demand analysis, information management, system implementation process planning, and hardware/software solution provided by consultants	Gable (1996) and Thong (2001)
Intention to accept a corporate website	The possibility of SMEs accepting a corporate website	Thong (1999)
Implementation degree of a corporate website	The degree of SMEs implementation of a corporate website	Teo and Pian (2004)

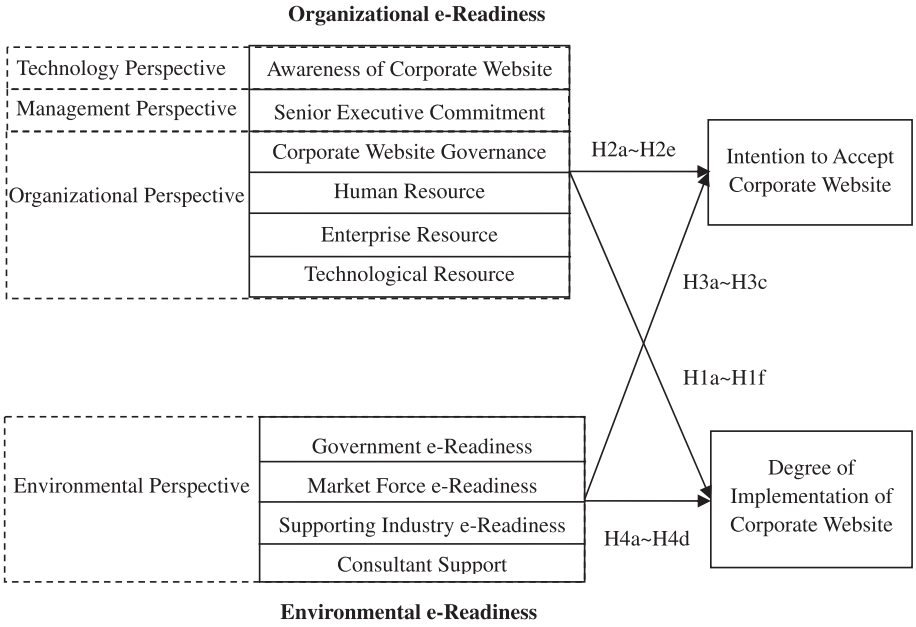

Fig. 1. Research model.

From the perspective of management, Teo, Tan, and Buk (1997) indicated that the support and commitment of senior executives can have a significant effect on the decision-making for Internet adoption by a corporate. They further stressed that with the influence of leadership, a senior executive can have a positive effect on innovation acceptance if he or she supports it. Premkumar and Roberts (1999) explored the adoption of innovative IT in small businesses, and discovered that the degree of support from senior executives will significantly and positively correlate with it. Additionally, Beatty et al. (2001) also found that the support and commitment of senior executives, including the support of the adoption of innovative technology by each level in an organization, can be critical factors for determining overall IT implementation success within a corporate. The support from senior executives is one of the most important keys to the success of e-business promotion (Thatcher, Loughry, Lim, & McKnight, 2007; Van Huy

et al., 2012). In particular, this support can be of great assistance in obtaining organizational resources and promoting corporate policy in a changeable business operational environment. In conclusion, this research infers these hypotheses:

H1b. Senior executive commitment has a significant positive influence on the degree of implementation of a corporate website by SMEs.

H2b. Senior executive commitment has a significant positive influence on the intention to accept a corporate website by SMEs.

Besides the technological and management perspectives mentioned in preceding sections, Grandon and Pearson (2004) noted that organizational readiness also includes significant factors for the acceptance degree of e-commerce by SMEs in the U.S. From the organizational perspective of e-readiness (i.e., corporate website governance, human resource, enterprise resource, and technological resource), this study proposes several hypotheses pertaining to the acceptance intention and implementation degree of a corporate website, as discussed in the following contexts.

Molla and Licker (2005) defined the term "governance" as goal setting, resource distribution, and a strategic operational model for decision-making. Teo and Ranganathan (2004) stressed most adopters of e-commerce focus on implementation through a formal plan and establish a project team to monitor their performance. Gemino et al. (2006) found a significant positive correlation between the perception of business strategy and the intention to accept the website. However, a governance operational model can affect the degree of integration of e-commerce initiatives into the internal business environment and the degree of taking the first step in implementation (Molla & Licker, 2005). According to these prior research findings, the organizational governance should have a significant positive effect on the degree of acceptance of e-commerce initiatives, and a hypothesis is proposed as below:

H1c. Corporate website governance has a significant positive influence on the degree of the implementation of a corporate website by SMEs.

In terms of human, enterprise, and technological resources, organizational readiness is a critical factor affecting the intention to accept EDI technology (Iacovou et al., 1995). Wang and Cheung (2004) categorized organizational resources into employees and technologies, and found that associated expertise and technological infrastructure are the key factors determining the acceptance of e-commerce initiatives. Normally, an employee with adequate IT knowledge has better (IT) capability and adaptability than one without it. Accordingly, this research concludes that the organizational human and technological resources can significantly affect decision-making in a business enterprise.

In addition, numerous researchers have noted that these resources are important factors affecting the acceptance of e-commerce amongst business enterprises (Kuan & Chau, 2001; Tan et al., 2007; Van Huy et al., 2012). Molla and Licker (2005) studied the situation of SMEs in developing countries and found that organizational readiness consists of these resources. They also considered that each organization is different in the attributes of internal resources, and consequently the resource characteristics of each enterprise can affect its acceptance intention and the degree of e-commerce implementation. Based on above mentioned results, this study proposes the following hypotheses:

H1d. Human resources have a significant positive influence on the degree of implementation of a corporate website by SMEs.

H1e. Enterprise resources have a significant positive influence on the degree of implementation of a corporate website by SMEs.

H1f. Technological resources have a significant positive influence on the degree of implementation of a corporate website by SMEs.

H2c. Human resources have a significant positive influence on the intention to accept a corporate website by SMEs.

H2d. Enterprise resources have a significant positive influence on the intention to accept a corporate website by SMEs.

H2e. Technological resources have a significant positive influence on the intention to accept a corporate website by SMEs.

From the environmental perspective, the power of government plays a significant role, because it can encourage the adoption of e-commerce by supporting a particular industry, for instance, promoting infrastructure, enacting bills, developing management framework, and setting e-commerce regulations (Kuan & Chau, 2001). Wang and Cheung (2004) studied the impact of government power on the acceptance of e-commerce, and found that the organizations that have adopted it have a stronger perception of government power than those that have not. Accordingly, government power can certainly have some impact on the attitude toward adopting e-commerce.

Shi, Shambare, and Wang (2008) found that government policy can strongly affect the adoption of Internet banking whereas Raymond (2001) argued that environmental uncertainty will affect implementation to a certain degree. However, compared with larger-sized enterprises, SMEs usually receive less support from the government. Therefore, if the government can establish a stimuli or support mechanism to help SMEs reduce the uncertainty and increase their self-confidence in this regard, then it can increase their acceptance intention and the degree of implementation of corporate websites. Thus, this research proposes the following hypotheses.

H3a. Government e-readiness has a significant positive influence on the intention to accept a corporate website by SMEs.

H4a. Government e-readiness has a significant positive influence on the degree of implementation of a corporate website by SMEs.

Most market forces for e-readiness come from suppliers, customers, or other competitors. In terms of practice, market pressure is the main reason for a corporation to accept and implement e-commerce (Dos Santos & Peffers, 1998; Raymond, 2001). Wang and Cheung (2004) indicated that the perception of market pressure makes organizations perceive that they are standing in an inferior position. Thus, in order to react rapidly to market changes and deal properly with competitors, organizations are more likely to utilize the power of IT. Market pressure has been considered as a vital factor influencing a corporation's decision-making, and also a facilitator to business evolution within technological readiness research (Del Aguila-Obra & Padilla-Meléndez, 2006; Raymond, 2001). Given the arguments above, this study proposes these hypotheses:

H3b. Market force e-readiness has a significant positive influence on the intention to accept a corporate website by SMEs.

H4b. Market force e-readiness has a significant positive influence on the degree of implementation of a corporate website by SMEs.

In terms of supporting industry e-readiness, Molla and Licker (2005) stressed that it is an important condition affecting the degree of IT acceptance. To be successful in the e-commerce world, a business enterprise has to be linked with multiple industries, maintain rapid and highly efficient operational processes, and obtain adequate supportive resources (Dutta et al., 2004). However, owing to the difficulty of the acquisition of resources subsidies can be of great assistance for corporations to accept and implement an e-commerce application. Thus, this research presents the following hypotheses:

H3c. Supporting industry e-readiness has a significant positive influence on the intention to accept a corporate website by SMEs.

H4c. Supporting industry e-readiness has a significant positive influence on the degree of implementation of a corporate website by SMEs.

In terms of consultant support, the main function of a business consultant is to provide coordination and counseling, help develop necessary strategies, and offer assistance in establishing an adequate logistical supportive system. Fink (1998) studied the criteria for successful adoption, and mentioned that compared with larger enterprises, SMEs may encounter more uncertainty within an IT environment; this is mainly because of the shortage of manpower, capital, and raw materials. Sarosa and Underwood (2005) considered that a consultant could provide the necessary technology and knowledge for implementing an IT system, and assist a corporate to solve their computerization problems. Therefore, the more consultant support a business corporate can receive, the more likely it is to successfully implement IT. Based on these prior findings, this study presents the following hypothesis:

H4d. Consultant support has a significant positive influence on the degree of corporate website implementation by SMEs.

3.3. Research subjects and data collection

Based on the literature review, an empirical research framework was developed comprising the hypotheses, and a specifically designed questionnaire was utilized to collect data for the purposes of verifying them. Questionnaire respondents were the senior and intermediate executives of SMEs that met the standards set by The Small and Medium Enterprise Administration (SMEA) (Ministry of Economic Affairs in Taiwan, 2009). The questionnaire was developed based on prior research, and the final version of it was reviewed by both academic experts and practitioners. A five point Likert scale was applied to measure the perceptions of respondents, and the measurement range was from, strongly disagree to strongly agree.

Research subjects were drawn from SMEs' senior executives who participated in a series of sessions held by The National Association of Small & Medium Enterprises and The China Industrial & Commercial Research Institute in Taiwan in 2011. Before distributing the questionnaire, a telephone inquiry was made to ensure participants' companies met the SMEA's criteria of being an SME. Then, a paper version questionnaire was submitted by hand or sent by post to them for completion. Program SPSS 18.0 was adopted for conducting descriptive statistical analyses, reliability and validity tests, and a discriminant analysis test. The structural equation modeling (SEM) technique and partial least squares software (PLS-Graph 3.0) were used to conduct a path analysis for related variables in the research model with respect to model validation. These analyses were expected to establish multiple interrelated and interdependent relationships among variables (Gefen, Straub, & Boudreau, 2000; e.g., Hair, Black, Babin, Anderson, & Tatham, 2006).

4. Results discussion

4.1. Questionnaire collection and basic data analysis

In total, 753 questionnaires were distributed and collected between 29 April and 31 May 2011. These questionnaires were distributed during seminars for SME managers held by The National Association of Small & Medium Enterprises R.O.C and The China Industrial & Commercial Research Institute. A total of 186 questionnaires were returned, including 23 replies which were incomplete or answered by unqualified respondents. As a result, the number of valid questionnaires was 163, making the valid response rate 21.65%. In regard to the respondents' positions in their company, 40 were business owners (24.5% of sample), 32 were full-time e-commerce managers (19.6% of sample); and 17 were CIOs (10.4% of sample). Of all respondents, 74 were managers of non-IT departments (45.4% of the whole sample data). The response basic data analysis is shown in Table 2.

4.2. Reliability and validity analysis

To satisfy the statistical assumptions of multivariate analyses, a normality test of the data distribution was assessed. The empirical measures of Skewness and Kurtosis were used to test the normality of independent variables. Researchers indicate that the distribution values of the variables should not be more than the threshold value (±|2.58|) when using a significance level of 0.01 (e.g., Hair et al., 2006). This study examined the normality test with SPSS software. The results demonstrated that the data were normally distributed.

As for performing the reliability analysis, the use of Cronbach's α is suggested for testing the internal consistency reliability of a scale. Generally, the value of coefficients above 0.70 is considered adequate (e.g., Hair et al., 2006; Nunnally, 1978). In this research, the test results show that all Cronbach's α values are greater than 0.8, which indicates that the scale is reliable. Regarding validity analysis, this research focused on each measured item to test its content validity, convergent validity, and discriminant validity. In terms of content validity, this questionnaire is based on prior research and adopts those inquiry items used by previous researchers. In order to avoid the use of ambiguous and faulty grammar, several experts from the academia and the practical world were requested to review the syntax and suitability of each question in the draft. For convergent validity, the degree for each variable was assessed by factor loading. The data was analyzed by principal component analysis, followed by Varimax Orthogonal Rotation to observe more clearly the relationship between variables. To ensure the convergent validity of the constructs, only the factors having eigenvalues greater than 1.0 and loadings exceeding 0.5 are considered significant (e.g., Hair et al., 2006). The outcome shows that most factor loadings are above 0.5; which means the suggested values are achieved; yet, the factor loading of two of the inquiry items in the construct of corporate website governance – G1 and G8 – are under 0.5. Therefore, these two items were deleted, and a new test targeting the remaining variables was conducted. The analysis outcome indicates that each variable has converged, and each factor loading is higher than 0.5. Tables 3 and 4 display the analysis outcomes.

Discriminant validity analysis is used to assess the correlation between different factors or dimensions in order to ensure that each has been distributed to the appropriate dimension. When the value of average variance extracted (AVE) is greater than 0.5 (e.g., Hair et al., 2006), the data produces evidence that multicollinearity is not significant among the factors; that is to say, the discriminant validity of the measurement theory is supported. In addition to using the Pearson correlation matrix to observe the

Table 2
Response basic data analysis.

Data item	Data category	Sample size	Percentage
Job title	Managing Director or CEO	40	24.5
	E-commerce Fulltime Executive	32	19.6
	CIO	17	10.4
	Non-IT Department Executive	74	45.4
Working years	Less than 1 year	8	4.9
	1–3 years	25	15.3
	3–5 years	26	16.0
	5–10 years	34	20.9
	10 or more years	70	42.9
Industry category	Manufacturing Industry	56	34.4
	Construction Industry	9	5.5
	Financial Industry	11	6.7
	Service Industry	46	28.2
	Retailing/wholesale	15	9.2
	Food Industry	16	9.8
	Electronics and Information Industries	6	3.7
	Transportation Industry	4	2.5
Firm size	Less than 5 employees	10	6.1
	5–49 employees	56	34.4
	49–100 employees	31	19.0
	100–199 employees	66	40.5
Capital	Less than NT$1,000,000	7	4.3
	NT$1,000,000–NT$10,000,000	46	28.2
	NT$10,000,000–NT$50,000,000	24	14.7
	NT$50,000,000–NT$80,000,000	86	52.8
Turnover	Less than NT$1,000,000	3	1.8
	NT$1,000,000–NT$10,000,000	24	14.7
	NT$10,000,000–NT$50,000,000	25	15.3
	NT$50,000,000–NT$100,000,000	111	68.1
Implementing corporate website	Yes	124	76.1
	No	39	23.9

multicollinearity of variables, this research compared the square root of the AVE of variables with the correlation coefficient (the off-diagonal elements) of the other dimensions. Data analysis shows that no correlation coefficient value is over 0.8, and the square root of the AVE (the diagonal elements in bold) is greater than the correlation coefficient of every dimension. Table 5 summarizes the test result of the AVEs and correlation coefficients.

4.3. Model validation

In this research, the valid sample is broken down into two groups: having and not having adopted a corporate website. Samples regarding the second category are for exploring the factors affecting the intention to adopt a corporate website in the so called "Model A", and there are a total of 39 elements in it. The samples in the first category are used for examining the factors affecting the degree of implementing a corporate website in "Model B", and there are a total of 124 elements in this one.

Firstly, the validation of measurement Model A was conducted by applying the PLS which is a regressive statistical technology that can analyze the direct and indirect structural model among multiple constructs (Gefen et al., 2000; Hair et al., 2006). Data analysis indicates that except for the senior executive commitment and human resources which fail to reach a significant statistical level ($p < 0.05$), all other variables have a significant positive effect on the intention to adopt a corporate website.

Secondly, with regard to Model B, this research classifies the independent variables (i.e. the degree of website implementation) into four levels, and applies discriminant analysis to observe the linear combinative relationship between each independent variable and dependent variable, and then utilizes the discriminant functions yielded to determine whether the dependent variables can be significantly classified into four levels. This research coded categorical variables (dependent variables) as a set of dummy variables, and coded predictor variables (independent variables) as a set of variables to derive the linear combination. The formula for deriving the number of discriminant functions is displayed below.

$$\text{Number of discriminant function} = \min(\text{number of independent variable}, \text{number of level} - 1)$$

Since there are 10 independent variables and four levels in this research, three discriminant functions have been derived. Hair et al. (2006) suggested that the variance percentage of the standard discriminant function is the ratio of the eigenvalue of each discriminant function to the total eigenvalue sum. Larger eigenvalues indicate that the discriminant function is more useful in distinguishing between the groups. The analysis outcome shows that the first discriminant function can explain 74.2% of the variance of dependent variables, and the second can explain 17.1%, whilst the third can only explain 8.7%. The test results indicate that both the first and second discriminant functions meet the significance standard of $p < 0.05$, but not the third one. Therefore, the first and second discriminant functions are involved in the hypotheses testing (see Table 6).

Concerning discriminant analysis, Hair et al. (2006) noted that any variable with a discriminant structure matrix coefficient of 0.3 or more reflects that it has an acceptable level in distinguishing. The analysis results show that the first discriminant function to be measured includes six variables: awareness of the corporate website, technological resources, senior executive commitment, corporate website governance, market force e-readiness, and government e-readiness; while the second has two variables: human resources and technological resources. The results of the

Table 3
Results of reliability and validity testing – organizational characteristics.

Construct	Average	α value	Factor loadings
ACW: Awareness of Corporate Website	4.054	0.900	
1. Our organization is aware that our business partners have applied corporate website			0.573
2. Our organization is aware that our competitors have applied corporate website and electronic business			0.621
3. While running the business, we are aware of the opportunities and threats brought by corporate website			0.758
4. Our organization realizes what type of corporate website is most suitable for our corporation			0.761
5. We understand the potential benefits of using a corporate website			0.861
6. Our organization has looked into the influence of a corporate website on our future business operation strategy			0.847
7. Our organization has looked into the disadvantage of competition if we do not adopt a corporate website and electronic business			0.779
ER: Enterprise Resources	3.445	0.919	
1. An open-minded and trustworthy relationship exists among colleagues in our organization			0.868
2. There is an open communication channel in our organization			0.916
3. Our organization reveals an extensive information-sharing culture			0.905
4. We have a policy of encouraging corporate website adoption			0.803
5. Failure is allowed in our organization			0.76
6. Our organization is competent in coping with fast change in business			0.691
CWG: Corporate Website Governance	3.597	0.880	
1. The achievement of a corporate website comes from the persistent responsibility taken			0.501
2. The initiative of implementing a corporate website can definitely identify the accountability of decision making			0.646
3. We have thoroughly analyzed the outcome of adopting a corporate website which may cause some changes in organization, supplier, business partners, and customer			0.786
4. We have followed the systematic procedure for dealing with changes caused by the implementation of a corporate website			0.79
5. We have certainly defined the business cases for every initiative or application of a corporate website			0.852
6. We have clearly defined a measure to evaluate the impact of adopting a corporate website			0.741
SEC: Senior Executive Commitment	3.492	0.856	
1. Our firm has a clear prospect of using a corporate website			0.724
2. There is a prospect in our entire company to show that we can comprehensively communicate and understand the activities about corporate website			0.627
3. We have a strategy to lead the adoption of a corporate website			0.696
4. All of our projects about a corporate website are supportive			0.797
5. Senior executives direct the planning and implementation of our corporate website			0.61
TR: Technological Resources	3.675	0.793	
1. We are well experienced in web-based application			0.686
2. We have sufficient enterprise resource to adopt a corporate website			0.753
3. Our organization is completely computerized through the use of local area networks (LAN) and wide area networks (WAN)			0.704
4. We use high-bandwidth technology to link networks			0.708
5. We have a flexible system			0.61
6. Our system can be customized to meet the requirements of customers			0.511
HR: Human Resources	3.472	0.672	
1. A major percentage of our employees can operate computers			0.728
2. Most of the employees are allowed to use computers without any limits			0.789

Table 4
Results of reliability and validity testing – environmental characteristics.

Construct	Average	α value	Factor loadings
CS: Consultant Support	3.597	0.935	
1. The consultant can efficiently complete information demand analysis			0.868
2. The consultant can recommend appropriate solutions			0.902
3. The consultant can efficiently manage the system implementation process			0.896
4. The consultant can skillfully deal with the relationship between each member of the project team (including senior executives, users, and software suppliers)			0.853
SeR: Supporting Industry e-Readiness	3.853	0.856	
1. Telecommunication infrastructure can offer reliable and efficient support to the development of a corporate website and e-business			0.823
2. The technological infrastructure of commercial and financial institutions can support the transaction process of a corporate website			0.867
3. We believe that the local IT industries can provide effective and affordable support to assist the development of our corporate website			0.835
4. It is easy to acquire the service of secure electronic transaction (SET) and a secure computerized commercial environment (SCCE)			0.632
GeR: Government e-Readiness	3.730	0.852	
1. We believe that effective laws can protect the privacy of customers			0.811
2. We believe that effective laws can curb cybercrime			0.873
3. We believe that our law environment is advantageous to development of web-based business			0.745
4. Our government has expressed the determination to support the development of corporate websites			0.632
MeR: Market Force e-Readiness	3.480	0.895	
1. We believe that our customers are ready to adopt the e-commerce model for their purchasing requirements			0.893
2. We believe that our business partners have been ready to adopt e-business for business trading			0.881

discriminant analysis are shown in Tables 7–9 illustrate the results of the research hypotheses tests.

4.4. Discussion on findings

The results generated in this study lead to several crucial findings. Regarding the awareness of a corporate website, test results show that this factor has a significant positive effect on both the intention to adopt it and the degree of implementation (H1a, H2a). Therefore, if enterprises perceive that the adoption of it can be beneficial with a more rapid response time to customers and more efficient information dissemination, they will then tend toward it for keeping or increasing market competitiveness. In regard to senior executive commitment, it was found that this has a significant positive effect on the degree of implementation (H1b). It demonstrates that the senior executives in SMEs have a strong influence on the implementation of a corporate website for supporting, leading, and distributing the resources of their organizations, and also for assisting them to plan clear strategy and prospects for operating it.

In terms of corporate website governance, hypothesis H1c states that it has a significant positive effect. In short, the internal governance activities on corporate websites including the strategy, tactics, and operating model can have positive effects on implementation. On the subject of human resources, the findings indicate that this factor has a significant positive effect (H1d). In short, if SMEs intend to increase the degree of implementation of a website, they have to augment information and communication technology, increase their experience of using it, and promote other relevant skills for internal staff.

In terms of enterprise resources, this study finds that they have a significant positive effect on the intention to accept a corporate website (H2d); the reason being that openness of internal communication and a mature attitude toward risks can make an organization more likely to accept innovative information technology. Therefore, when it arrives at decision-making regarding the adoption of a corporate website, these companies are apt to give more

Table 5
Multicollinearity tests (Pearson correlation matrix).

Variables	AVE	ACW	HR	ER	TR	SEC	CWG	MeR	GeR	SeR	CS
ACW	**0.724**	**.851**									
HR	**0.733**	.225	**.856**								
ER	**0.719**	.133	.084	**.848**							
TR	**0.532**	.185	.109	.385	**.729**						
SEC	**0.681**	.547	.071	.133	.311	**.825**					
CWG	**0.630**	.443	.097	−.048	.233	.567	**.794**				
MeR	**0.766**	.434	.234	−.095	.134	.448	.554	**.875**			
GeR	**0.695**	.513	.025	.120	.158	.443	.445	.363	**.833**		
SeR	**0.873**	.456	.059	.143	.297	.465	.344	.283	.555	**.934**	
CS	**0.773**	.441	.073	−.017	−.007	.310	.352	.436	.385	.349	**.879**

Dimension of organizational e-readiness	Dimension of environmental e-readiness
ACW: Awareness of Corporate Website	GeR: Governmental e-Readiness
SEC: Senior Executive Commitment	MeR: Market force e-Readiness
CWG: Corporate Website Governance	SeR: Support industries e-Readiness
HR: Human Resources	CS: Consultant Support
ER: Enterprise Resources	
TR: Technological Resources	

The off-diagonal elements refer to the correlations among constructs.
The diagonal elements in bold refer to the square root of AVE. The value of each element should be greater than the off-diagonal elements.

Table 6
Summary of standard discriminant function.

Function	Wilks' Lambda value	Chi-square	Degree of freedom	Significance	Variance%
1	.355	120.083	30	**0.000**	74.2
2	.721	37.979	18	**0.004**	17.1
3	.892	13.263	8	0.103	8.7

Note: Items in bold are significant at .05 level.

Table 7
Result of discriminant analysis.

Variables	Standardized canonical discriminant function coefficient		Structure matrix	
	Function 1	Function 2	Function 1	Function 2
Awareness of corporate website	**0.189**	−0.326	**0.476**	−0.16
Human resources	−0.013	**0.597**	0.159	**0.417**
Enterprise resources	0.483	−0.354	0.291	−0.053
Technological resources	**0.195**	**0.712**	**0.372**	**0.527**
Senior executive commitment	**0.361**	0.233	**0.610**	0.098
Corporate website governance	**0.268**	0.275	**0.554**	0.148
Market force e-readiness	**0.625**	−0.543	**0.638**	−0.193
Government e-readiness	**0.064**	−0.293	**0.360**	−0.286
Supporting industry e-readiness	−0.260	−0.217	0.243	−0.112
Consultant support	−0.121	0.463	0.232	0.061

Note: Items in bold are significant at .05 level.

Table 8
Result of research hypotheses tests (Model A).

Corporate website acceptance intention model	Test result
H2a: Awareness of a corporate website has a significant positive influence on the intention to accept it by SMEs	**Supported**
H2b: Senior executive commitment has a significant positive influence on the intention to accept a corporate website by SMEs	Not Supported
H2c: Human resources have a significant positive influence on the intention to accept a corporate website by SMEs	Not Supported
H2d: Enterprise resources have a significant positive influence on the intention to accept a corporate website by SMEs	**Supported**
H2e: Technological resources have a significant positive influence on the intention to accept a corporate website by SMEs	**Supported**
H3a: Government e-readiness has a significant positive influence on the intention to accept a corporate website by SMEs	**Supported**
H3b: Market force e-readiness has a significant positive influence on the intention to accept a corporate website by SMEs	**Supported**
H3c: Supporting industry e-readiness has a significant positive influence on the intention to accept a corporate website by SMEs	**Supported**

Table 9
Result of research hypotheses tests (Model B).

Corporate website implementation degree model	Test result
H1a: Awareness of a corporate website has a significant positive influence on the degree of implementation of it by SMEs	**Supported**
H1b: Senior executive commitment has a significant positive influence on the degree of implementation of a corporate website by SMEs	**Supported**
H1c: Corporate website governance has a significant positive influence on the degree of the implementation of a corporate website by SMEs	**Supported**
H1d: Human resources have a significant positive influence on the degree of implementation of a corporate website by SMEs	**Supported**
H1e: Enterprise resources have a significant positive influence on the degree of implementation of a corporate website by SMEs	Not Supported
H1f: Technological resources have a significant positive influence on the degree of implementation of a corporate website by SMEs	**Supported**
H4a: Government e-readiness has a significant positive influence on the degree of implementation of a corporate website by SMEs	**Supported**
H4b: Market force e-readiness has a significant positive influence on the degree of implementation of a corporate website by SMEs	**Supported**
H4c: Supporting industry e-readiness has a significant positive influence on the degree of implementation of a corporate website by SMEs	Not Supported
H4d: Consultant support has a significant positive influence on the degree of corporate website implementation by SMEs	Not Supported

preference to it. Concerning technological resources, the results show that this factor has a significant positive effect on both acceptance intention and the degree of implementation (H1f, H2e). Technological resources refer to the possession of a sound foundation of ICT, a reasonable degree of computerization, an acceptable flexibility in the existing system, and a rich experience of using relevant network applications. Thus, the more technological resources an SME possesses, the more associated knowledge, technologies, and support there is that can facilitate corporate website implementation.

As far as government e-readiness is concerned, the results indicate that it has a significant positive effect on both (H3a, H4a). As it is government policy to facilitate the development of SMEs, it includes promotion, support, and establishment of the related system as standard for websites. Thus, if the government policy can meet the requirements of implementation, these smaller companies will be better able to integrate the internal operating processes and external IT support for initiating a website project. As regards market forces e-readiness, this study verifies that it has a significant positive effect on both (H3b, H4b). This suggests that SMEs will look into their business requirements and their customers and suppliers' corporate website usage to determine the adoption and the degree of implementation of a corporate website.

Finally, with reference to supporting industries' e-readiness, this variable has a significant positive effect on the intention to accept a corporate website by SMEs (H3c). The advancement of IT communication, finance, and transportation industries is the key in developing a profitable and prosperous business environment because they can provide support for SMEs to outsource their IT, finance, and logistical related tasks. Thus, when these industries can guarantee a safe and convenient business operational environment, SMEs will be more willing to adopt a website.

5. Conclusion

This study aims to understand how e-readiness affects the acceptance intention and degree of implementation of a corporate website in SMEs with a focus on the aspects of technology, management, organization, and environmental dimensions. Through the empirical results, this study provides contributions for SME managers and researchers.

In terms of contributions for SME managers, this study was conducted to understand the present application situation of corporate websites within SMEs in Taiwan. However, the enterprises are still lacking in knowledge and experience in this field, and utilize their websites only for information release, services exhibition, and simple commercial advertisement demonstration. Therefore, SME managers can apply the research findings to adjust the adoption of innovation technology and increase the degree of implementation of a corporate website, so that more new motivating forces can be generated for the development of their enterprises. Furthermore, resource inadequacy often makes SMEs devoid of competitiveness. In order to survive in a complicated and changeable environment, they are inclined to invest more resources in IT to keep the business running more efficiently. However, a corporate website is a practical and "front-line" tool for an organization. A properly applied corporate website can not only disseminate useful information, but can also decrease the operating costs for a company and increase its competitive advantage. The main purpose of SMEs' strategic planning is to improve organizational operation, to reduce operational costs, and to receive more benefits from the improvement of customer service quality. These e-readiness factors can be used as essential references to promote corporate website implementation and develop appropriate policies for SME managers.

In terms of contributions for researchers, in the Internet age, e-readiness becomes one of the keys to determine what technologies SMEs should adopt and to what level (Mutula & Van Brakel, 2006a). Despite there being a number of research studies exploring the adoption of innovative technology in organizations, the associate research focusing on SMEs and examining them from the perspectives of technology, management, organization, and environment is still not extensive. Most previous research has focused on investigating the acceptance intention and paid no attention to the degree of implementation after IT or a website has been accepted. However, this research was conducted to make up this defect. The findings can be used by the academia as a foundation to understand the important factors for SMEs to adopt websites.

6. Implications

The findings of this study lead to several implications. Firstly, regarding the awareness of the corporate website, our results show that it significantly influences the intention to accept them and the degree of implementation. A company without a corporate website or one that has not introduced one must first acquire an awareness of them. Through website awareness, a company that has already introduced a website can further understand their status in the process of e-business transformation. Thus, from a corporate awareness, internal information or IT personnel should increase the website awareness of the head or owner of the company to stimulate corporate support of its establishment. When implementing it, information or IT personnel should regularly evaluate it to assist managers in understanding the effectiveness of it. Furthermore, the evaluation results can be used as a reference for improving the website.

Secondly, regarding technological resources, this study found that such resources significantly influenced the intention to accept and implement a corporate website. This suggests that regardless of whether a company is in the stage of accepting or implementing a website, internal technological support is important. Therefore, a company should first effectively allocate enterprise resources to technological resources to further support corporate website operations. Also, companies should encourage employees with substantial experience in website applications as a foundation for managing the corporate website. As for governments, they should stipulate incentives or supports to reduce corporate burdens on technological resources.

Thirdly, the study also found that government e-readiness significantly influenced the intention to accept and implement corporate websites. Government e-readiness is the infrastructure for corporate website operations, and companies can be motivated to establish them when the government provides a suitable environment for their development. Thus, the government should further enhance various indices related to e-readiness and stipulate comprehensive laws that regulate Internet behavior and protect Internet usage rights and benefits. This will ensure a friendly environment for establishing and operating corporate websites. Furthermore, the government should fully commit and invest resources in relevant dissemination and promotion. In addition to regularly organizing e-business-related seminars to develop a platform for companies to examine the effectiveness of other corporate website operations, the government could also help train consulting agencies and stationed or fixed counseling personnel for corporate website development to ultimately create a prevailing e-business climate for the overall industry.

Fourth, in terms of market force e-readiness, the findings of this study indicate that it significantly influences the intention to accept and establish corporate websites. Evidently, the level of a partner's e-business operations and customer demands for e-trading affect the establishment and operation of other corporate websites. Thus, before creating a website, a company should first understand the relevant operating conditions of corporations that have previously established websites and select those with similar industrial characteristics as partners to facilitate future business integration with them.

Fifth, companies place substantial value on human resources during website implementation. While a company is establishing a website, IT and equipment must be simultaneously updated, and personnel must possess the ability to adapt to new processes and electronic environments. Thus, companies should provide personnel with relevant educational training that will assist them in adapting to an Internet-based work environment. Meanwhile, the government should provide relevant subsidies and incentives or rewards and encourage companies to update their IT, and also help them by establishing a variety of training centers or service agencies to cultivate professionals with Internet skills.

Sixth, this study identified that as enterprise resources support increases corporations tend to have a greater intention to accept corporate websites. Therefore, corporations should create a positive internal environment suitable for website establishment and create enterprise resources beneficial to developing these websites. Government sectors may hold summits or seminars for corporations to share their experiences of creating and managing a corporate website, and provide companies with channels for assessing internal resources and guide and counsel them in creating an organizational culture that benefits the establishment of the corporate website.

Seventh, regarding supporting industry e-readiness, current results have shown that as it increases, corporations tend to demonstrate stronger intentions to accept corporate websites. This shows that support must be fully managed, by establishing such things as an ideal telecommunication infrastructure and by developing policies regarding e-financial trading. The government should offer continuous protection and maintenance of hardware facilities related to infrastructure and request that Internet service providers (ISP) supply a stable and reasonably-priced quality service to enhance companies' confidence in website establishment.

Finally, the research results indicated that corporate website governance is an important factor. Thus, companies should actively commit to and invest in corporate website operations after their implementation, regularly assess the effects of changes in various operating procedures (e.g., organizations, suppliers, corporate partners, and customers) caused by corporate websites, and develop superior methods of improvement.

7. Limitations and future research

With no exception, this study has its limitations which lead to future research. First, this research has broadly examined the relevant variables of IT implementation in organizations; however, in addition to the perspectives of technology, management, organization, and environment, many unknown factors such as the cognitive psychological perspective and the social perspective are still waiting for exploration in follow-up studies.

Second, according to basic data analysis, the number of employees, capital, and turnover shows that the firms surveyed are from diversified groups and specific industries. Therefore, the result of model validation may not be generalized to other specific populations such as micro firms, large-scale enterprises, or high-tech firms. Not being able to collect sample data evenly from every industry, this research has limitations in providing an in-depth exploration targeting the populations of manufacturing, service, food, retailing, and wholesale industries which returned the most samples (81.6% of the whole data). Thus, a thorough study focusing on some specific industries is recommended for future researchers.

Third, this research focused on studying the acceptance intention of a website. With the rapid development of technology, e-commerce tools are continually being devised. Therefore, tools applied to the e-commerce of SMEs can be research objectives and worthy of in-depth studies in the future. For example, conducting research on exploring how mobile technology can be applied in the e-commerce activities of SMEs, and examining the degree of acceptance and implementation of mobile technology by them is also recommended for future research.

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