AN E-COMMERCE ADAPTATION MODEL: PROPOSING A CONCEPTUAL FRAMEWORK

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Abstract
E-commerce development offers a promising way for business to meet challenges of every changing environment. It is important for business to adopt and enhance e-commerce applications because it provides effective and efficient ways of doing business. It is of crucial importance to understand, explore and identify factors that influence IT (Information technology) adoption process within businesses, especially in small and medium businesses. The aim of this research is to propose a conceptual framework that demonstrates the determinants of IT adoption process in businesses and next the e-commerce adoption, through review of prior literature including concepts, methodologies, and theories relative to IT and e-commerce adoption. The research investigates and reveals a number of factors that directly or indirectly, as well as positively or negatively pressure and persuade businesses to adopt IT solutions. The model proposed in this paper, that reviews, categorizes and clarifies the key factors that impact the process will be used in the future for further research in the area in order to achieve a better understanding of e-commerce adoption.

Keywords: IT, E-commerce adoption, Factors, Benefits, Inhibitors, Conceptual Model
INTRODUCTION

E-commerce development offers a promising way for business to meet challenges of every changing environment. It is important for business to adopt and enhance e-commerce applications because it provides effective and efficient ways of doing business. The advantages of e-commerce use include searching for products, services, information, advertising, buying, selling and paying. It is a well-known fact that e-commerce and Internet technologies can benefit an organization (Akkren and Cavaye, 1999). IT adoption can be defined as the decision to use IT to support operations, management, and decision making in the business (Thong and Yap 1996). Rogers (1995) defines adoption as the decision to make full use of an innovation as the best alternative. For small business the use of IT is mainly important for their ongoing life and survival because it improves their ability to compete with alike or larger organizations all over the world. Throw the web business can launch new products, gather information, market their business, improve communication and search and reach for new potential business opportunities.

The Internet has created a universal platform for buying and selling goods and services and driving important business process inside the organization. Small and large companies are using the Internet to make product information, ordering and customer support immediately available and to help buyer and seller make contact (Laudon, 1999). Internet creates an unprecedented opportunity for small business to enlarge in national and international marketing campaigns that previously would have been unaffordable (Poon & Jevons 1997).

It is of crucial importance to understand, explore and identify factors that influence IT adoption process within businesses, especially in small and medium businesses. The aim of this research is to propose a conceptual framework that demonstrates the determinants of IT adoption process in businesses and next the e-commerce adoption, through review of prior literature including concepts, methodologies, and theories relative to IT and e-commerce adoption. The research investigates and reveals a number of factors that directly or indirectly, as well as positively or negatively pressure and persuade businesses to adopt e-commerce solutions.

LITERATURE REVIEW

The factors that affect e-commerce adoption are useful in determining the reason why firms are at a certain level (Courtney and Fintz, 2001). There are a lot of factors within the organization that effect the adoption of e-commerce. The appropriate literature was reviewed in order to develop a model. A rich literature exist in this field since various researches have identified and
studied IT and e-commerce adoption factors. We have illustrated some of the factors studied from different authors during the years in the following Table 1.

Table 1: Factors Studied from Different Authors

<table>
<thead>
<tr>
<th>Authors/Years</th>
<th>Factors studied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yap et al. (1992)</td>
<td>Consultant Effectiveness, vendor support, IT experience, financial resources, CEO support, user participation</td>
</tr>
<tr>
<td>Cragg &amp; King (1993)</td>
<td>Relative advantage, competitive pressure, consultant support, managerial enthusiasm</td>
</tr>
<tr>
<td>Iacovou et al., (1995)</td>
<td>Organizational readiness, external pressure to adopt, perceived benefits</td>
</tr>
<tr>
<td>Thong &amp; Yap (1995)</td>
<td>Organizational size, CEO attitude to IT, CEO innovativeness, CEO knowledge of IT</td>
</tr>
<tr>
<td>Ang &amp; Koh (1997)</td>
<td>Age, education, organizational level, frequency of computer use, computer literacy and user training</td>
</tr>
<tr>
<td>Swanson (1994)</td>
<td>2 categories: Internal and external</td>
</tr>
<tr>
<td>Min &amp; Galle (1998)</td>
<td>3 strategic factors: environmental factors (laws and government regulations), organization’s characteristics (organization size), technological factors (security)</td>
</tr>
<tr>
<td>Godenhielm (1999)</td>
<td>2 categories: organizational factors (staffing, managerial support, existence of strategy, funding) and environmental factors (competition, development partner, brand consistency)</td>
</tr>
<tr>
<td>Akkeren &amp; Cavaye (1999)</td>
<td>Manager and Firm characteristics</td>
</tr>
<tr>
<td>Tabor (2000)</td>
<td>Strategy and firm characteristics</td>
</tr>
<tr>
<td>Courtney &amp; Fitz (2001)</td>
<td>Management and organizational</td>
</tr>
<tr>
<td>Ranganathan et al. (2001)</td>
<td>6 categories: top management related factors, organizational factors, firm strategy, project management related factors, valuation factors, Internet IT environmental factors, collaboration factors, external IT environmental factors, and external business environmental factors.</td>
</tr>
</tbody>
</table>

Conceptual Model

After reviewing the relevant literature in order to develop a model we decided to incorporate some of the factors in the model having in mind two important facts: this model must be appropriate for our country Albania, which is a developing country, and must be applied in small and medium sized organizations. Thus first of all we decided to include in the model factors related with organization’s characteristics and management’s characteristics. Courtney and
Fintz (2001) categorized these factors as management and organization’s characteristics. Next the perception of potential benefits and inhibitors is important and influences organization’s adoption of e-commerce. As e-commerce matured over the last few years, a growing awareness and understanding of the benefits and uses of e-commerce among SME’s emerged (Cloete, et al. 2002). We believe that actual technological capabilities in an organization (from the simpler ones to the most sophisticated) influence the e-commerce adoption. It is important to recognize that e-commerce activities range from entry-level activities such as having web browsers, web sites, and e-mail, to sophisticated activities such as online payments, making purchases online, customer services, and video conferencing amongst others (Cloete, et al. 2002).

**Organization’s Characteristics**

Organizational parameters such as size, structure, profitability and computer possession are considered as vital in the IT usage. Organizational resources of the business must be positively supported from the initial motivation and implementation efforts in order for occurring technology implementation. Type of business is also very important because businesses in different sectors have different needs. The businesses in different sectors have different information processing needs and those in more information intensive sectors are more likely to use IT than those in less information intensive sectors (Yap et al., 1992). Business types have considerable influence on the structure of IT activities of the organization (Currie, 1996). The size and structure of the organization have a significant impact in the adoption of the IT (Lind et al., 1989). If an organization has large amounts of data and transactions, then it is more likely to adopt IT which can help streamline operations and offer process efficiencies within the organization (Thong and Yap, 1995). Lind et al.,(1989) studied the size of the organization that was viewed as a predictor of the adoption of administrative, innovation, and information system use. CEO knowledge of computer and involvement leads to more successful use of IT in business and the use of IT is influenced by the organizational factors such as sales and the type of business (Seyal et al., 2000). Thus we decided to include in organizational characteristics four factors: business type, size, revenues, and business’s computer ownership.

**Management Characteristics**

Top management support is a critical organizational factor for the success of e-commerce adoption and diffusion. Adoption of e-commerce is heavily reliant on the acceptance of e-commerce by the business owner (Cloete et al. 2002). If the owner neither perceives the technology to be useful, nor understands its potential, then s/he will be reluctant to adopt it
Corbitt et al., (1997) underline that the issue of e-commerce seems to be more a management problem rather than a technical one. The technology cannot be successfully implemented if the top management doesn’t support the process. The level of computer literacy of the owner and a lack of knowledge on how to use the technology will result in the business being less likely to adopt e-commerce (Kirby & Turner, 1993). Ihlstrom et al., (2003) draw attention to the fact that the attitude toward IT may come from manager’s previous education or from information on the benefit of IT obtained from external sources. The more comfortable managers are with the technology, the more they use computers and different programs for their business aims, the more likely they are to use IT in different levels of it, so moving toward e-commerce adoption. Thus we decided to include in management characteristics five factors: owner’s age, level of education, computer literacy, use of several programs for the organization and frequency of computer use.

Benefits and Inhibitors
Perceived benefits and inhibitors are a key reason why organizations adopt and continue to use the Internet (Poon and Swatman, 1999). Thus the adoption of e-commerce is largely based on perceived benefits and barriers on e-commerce adoption. Poon and Swatman (1997) identified short-term and long term benefits. Harrison et al. (1997) identified as some of the benefits of e-commerce: improved information exchange with customers/suppliers, improved customer service, expanded business reach, access to international markets and reduced costs.

Some of potential benefits of e-commerce as presented by Cloete et al., (2002) are: improved information exchange with customers, increased customer loyalty, increased service to the customer, easier access to international markets, expanded business reach, reduced costs of maintaining up-to-date company information, improved information exchange with suppliers, reduced costs through web based purchasing and procurement, improved competitive position of the company, and attracting new investments to the company.

Inhibitors are expected to play a big role in the context of small organizations, where resources and computer sophistication are limited (Swatman, 1991). Courtney and Fintz (2001) summarize some issues that impact the adoption of e-commerce: low use of e-commerce by customers and suppliers, concerns about security aspects, concerns about legal and liability aspects, high costs of development and computer and networking technologies, limited knowledge of e-commerce models and methodologies and unconvinced of benefits of e-commerce. While inhibitors to e-commerce adoption as of Cloete et al., (2002) are: concerns about legal issues and internet security, contracts and liability, telecommunications services not dependable, cost of computers and network technologies too high, level of computerizations is
too low, e-commerce use is too low among supplies and customers, limited knowledge of the required technology, and the business is not convinced of the financial and business benefits

**Technological Capabilities in Place for E-Commerce Adoption**

Technological capabilities refer to entry-level e-commerce activities (Clorte et al. 2002). The amount of technology currently in use in the organization, such as PCs with modem and email facilities can ease the process of adoption (Iacovou et al., 1995). SMEs are finding email useful for business communications and document transfer (Poon & Swatman 1999). The usage of different programs, email, and direct online communication with a web presence or not, has resulted in efficiency gains and the ability to perform new tasks, such as sharing documents and working distantly with current or potential customers and suppliers.

Thus the study of technological capabilities may observe the current infrastructure in an organization such as the existence of a strategy for developing e-commerce, a computerized database for customers and supplies, a computerized inventory for products and services, use of electronic email (e-mail) and access to the Internet. These are considered only as basic infrastructure but more sophisticated potentials and capabilities may be present in the business every day activity such as: a website demonstrating the company's products and services, customers orders and payments received through an Internet Website, and placing orders and making payments with/to suppliers over the Internet.

These above discussed factors that were derived from extensive analysis of secondary sources, have been combined into the following model in order to describe and clarify the internal factors critical for the success in e-commerce implementation. We propose the model, represented in the following Figure 1, for further research in the future.
CONCLUSIONS
These discussed factors that were derived from extensive analysis of secondary sources, have been combined into a model in order to describe and clarify the internal factors critical for the success of e-commerce implementation. Such factors as management and organizational characteristics are believed to influence the use of IT in an organization. The current level of IT adoption, thus the technological capabilities in place, perceived benefits and inhibitors are believed to influence the e-commerce adoption. We suggest this model for further research in the future because the proposed model requires further testing thorough empirical validation.
REFERENCES


