

E-Commerce Adoption of Small and Medium Enterprises in Fiji

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Abstract

Small island countries are faced with lots of challenges in adopting e-commerce. Despite being the hub for business and trade in the south pacific region. Fiji has been slow in adoption of e-commerce. This paper looks at the extent of adoption of e-commerce in Fiji's small and medium enterprises. Data was gathered by conducting series of interviews and questionnaire surveys with a sample of SMEs.

Introduction

Ecommerce has been an important outgrowth of the revolution in ICT. Ecommerce tends to reduce transaction costs and offset competitive disadvantages of size, resource endowment, geographic isolation, and market reach. Ecommerce adoption by small and medium enterprises in developing countries has been the focus of considerable research. The interest in this topic is driven largely by a basic assumption that Ecommerce can be an important tool for growth in developing countries. In this era, many businesses and customers are connected through new platforms or social networks. This development appears to be the result of a new stream in e-commerce called social commerce (Hajli, 2013, 2014a; Hajli et al., 2014).

Fiji is a small island country where internet related activities have emerged since early 2000. Initially only organizations and government departments could have access to internet through dial-up services; cost and infrastructure constraints often prevented others from capitalising on ICT developments. The technology and cost environments, however, have changed considerably; today a majority of the businesses and people having access to ICT facilities like desktops, internet, and mobile tech-

nology devices. Many organizations are implementing e-business applications to stream line their business processes. However, in Fiji, not many organizations have adopted e-commerce fully as a platform for their business. The constraints to this needs to be examined.

To fill the current void in the literature of e-commerce adoption in Fiji, this study attempts to investigate existing barriers to e-commerce adoption in Fiji. This study will investigate two core research questions: what is the current state of ecommerce adoption in Fiji, and what are the barriers and challenges faced by SME's in ecommerce adoption?

Background

E-commerce is defined as the process of buying, selling, transferring, or exchanging products and services, over the internet. These business transactions occur either as Business-to-Business (B2B, which occurs when business entities or organizations participate with other businesses or organizations), Business-to-Consumers (B2C, where a business or organization provides products or services to individual customers), and Consumer-to-Business (C2B, where individuals use the internet to sell products or services to organizations, as well as, individuals who seek sellers to bid on products or services they need) (Shemi and Procter, 2013). The process of buying and selling on any e-commerce website requires user credentials such as username and password, selecting the product or service, choosing mode of payment and finally checkout by agreeing to terms and conditions.

SME's can have several benefits from e-commerce, some of these benefits include increased sales, business efficiency, competitive advantage through increased automation of processes, and retained and increased customer base. Intangible benefits include enhancing well-being and education of customers, consumer loyalty and convenient shopping (Kuzic et al., 2002). Ratnasingam (2002) studied the impact of perceived versus realized benefits in e-commerce adoption; he categorized benefits into technological, operational and relationship benefits. Technology benefits include automation of manual processes resulting in improved speed of delivery and market reach. Operational benefit refers to the timely, accurate, and complete flow of information. Relationship benefits include improved customer service, open communication, improved reputation and increased trust in commercial relationships. Other benefits include global connectivity, high market accessibility, scalability, interoperability, and interconnectivity (Turban et al., 2000; Rayport and Jaworski, 2001). To fully realize the benefits of e-commerce, it is critical for

SMEs to overcome impediments and challenges (Kuzic et al., 2002). Kuzic et al. (2002) classifies the challenges as technological, managerial and business related. Technological challenges include security, website issues, and software and infrastructure costs. Managerial challenges include people and organizational issues, including obtaining senior management backing. Business challenges refer to customer service, customers' old habits and legal issues.

Various studies on e-commerce adoption in SMEs in developing and advanced countries have been done. Most of these have focused on the associated barriers to adoption of e-commerce; in the process some models and templates have been developed for adoption as guidelines. In a pilot study conducted by Wymer and others (2003) in rural Eastern Kentucky on e-commerce and e-business initiatives of SMEs, the attitudes of business owners and perceived barriers to implementation in a geographically isolated area were exemplified. Based on the hierarchical model of innovation acceptance by Rogers (2010), the authors concluded that some SMEs have implemented technology in simple ways and moved up, but a majority of the SMEs were either in the knowledge stage or early in the persuasion stage.

Factors influencing e-commerce adoption by SMEs can be categorized as environmental, knowledge, organizational and technological (Wymer et al., 2005). Cost and resource limitation barriers were considered significant. A lot of studies on e-commerce adoption in developing economies has focused on environmental, infrastructural and government factors only and overlooked the organizational factors, while studies in developed countries focused on organizational factors where infrastructure and government support was taken for granted.

The results highlight that e-commerce adoption is heavily dependent on external factors, primarily related to market forces (customers and partner eReadiness) as well as supporting industries such as banks and government's eReadiness. However, for advanced businesses, e-commerce adoption is affected by internal factors (technology resources related factors, managerial factors, organizational factors) in addition to market forces' eReadiness. Studies show that the major determinant is the environmental factor for those in initial adoption. For high-level e-commerce adoption the major determinants are internal organizational factors together with technology resources, commitment, awareness, governance and eReadiness.

Molla and Licker (2005) believe that there is a lack of rigorous research on the drivers of e-commerce adoption in organizations; they propose that organizational factors, mainly human, business and technologi-

cal resources and awareness, are more influential than environmental factors in the initial adoption of e-commerce. However, as organizations adopt e-commerce environmental factors together with commitment and the governance model that the organization adopts, play vital roles. For this study, the focus is on the factors and barriers to e-commerce adoption of SMEs in Fiji. Molla and Licker (2005) proposed a six-stage classification for adoption of e-commerce. These are: no e-commerce, connected e-commerce, static e-commerce, interactive e-commerce, transactive e-commerce and integrated e-commerce.

Organizations with no e-commerce status are those that have not considered E-Commerce. Organizations that have connected or have a static E-Commerce have considered E-Commerce but are connected to the Internet with only email facilities; they would not have a web-site or if have them, these would be static websites that publish basic company information but does not have any interactivity. These are classified as organization in their initial adoption phase or entry-level adoption. Organizations at the interactive, transactive, and integrated e-commerce are organizations whose extent of adoption accepts queries, e-mail and form entry from users; performs online selling and purchasing of products and services including customer service; and integrates organizational systems with suppliers, customers and other back office systems allowing most of the business transactions to be conducted electronically (Molla & Licker, 2004). These organizations are said to be at the institutionalisation maturity stage of e-commerce.

Abou-Shouk, Megicks, Lim (2013) investigated the adoption of e-commerce by SME's in developing countries and examined the perceived benefits versus the level of e-commerce adoption by Egyptian travel agents. For these organisations the decision to move up from a low level to an advanced level of e-commerce usage appeared to depend on a comprehensive understanding of the range of benefits that it may provide their organizations in the competitive marketplace from a future-oriented business development perspective rather than simple operational advantages.

Datta (2010) evaluated the following factors to measure e-commerce adoption in 37 developing countries: performance expectancy, social influence, facilitating conditions, and technological opportunism. The findings suggest that in developing countries, facilitating conditions play a critical moderating role in understanding actual e-commerce adoption, especially when in tandem with technological opportunism.

Sultanow, A. Chircu, F. Chircu (2016) examined e-commerce adoption in the pharmaceutical industry in Germany, which showed that change in environmental factors, affect the adoption of e-commerce. It is

evident that environmental characteristics, both globally and within the country affect supply chain players. Utilising TOE (technology, organization and environment) framework, Rahaya and Day (2015) studied determinant factors of e-commerce adoption by SMEs in Indonesia and confirmed that perceived benefits, technology readiness, owner's innovativeness, owner's IT ability and owner's IT experience were the major determinant factors influencing the adoption of e-commerce.

Method

This study is based on sample survey of SMEs which were issued self-administered survey questionnaires to explore the factors and barriers related to adoption of e-commerce in SMEs. The questionnaire was designed after going through few similar research studies on SMEs in developed countries as well as using Leedy's (1997) four practical guidelines. The set includes open-ended and closed-ended questions particularly importance, likert and dichotomous types. The survey gathered data about SME background, size, age, education, years of work in present position, and industry type. It then had 3 ICT related questions, collecting information about internet connection type, ISP, number of PCs, presence of website, and utilization of e-commerce. The last component had 36 items categorized under six headings - financial, environmental, organizational, technical, governmental and behavioural - for which a five-point Likert scale (from strongly disagree to strongly agree) was utilized to measure the responses about barriers to adoption of e-commerce.

A purposive sampling method was employed to come up with the required number of SMEs. The rationale was to obtain a cohort of SMEs that would provide adequate information in terms of depth and breadth, and were also willing to participate. To begin with, a list of SME organizations was obtained from Lautoka, Nadi and Ba Chambers of Commerce's. The list of companies had to be validated to verify their existence by making telephone calls. Their willingness to participate also needed to be established. For this research the SMEs included needed to employ between 10 and 250 employees, as well as were those who were not completely immature regarding the use of ICT and e-commerce.

Result Analysis

A total of 50 questionnaires were distributed to managers of SMEs between January and June 2017. These fifty participants were selected using purposive sampling technique which satisfied our criteria. Forty ques-

tionnaires were returned, of which 35 were complete, representing a response rate of 70%. This result was achieved after several follow-ups made through phone calls and e-mails. The respondent SMEs were largely limited liability companies, consisting of family businesses and partnerships. All SMEs had computers and were using local area networks and had access to internet. These SMEs predominantly used phone and email for communication with their customers and suppliers.

The 35 surveys were returned over a 4-week period. Results indicated that the top managers were well educated, with over 60% holding a 3-year college degree or a master's degree. Majority were males (64%). 62% were older than 41 years of age. Table 1 shows other demographics. Table 2 provides a summary of e-commerce status.

Table 1: Demographics of study (n = 35)

Variable	Variable	Percentage
Gender	Female	36%
	Male	64%
Educational Level	High School	12%
	Diploma	17%
	Bachelor	40%
	Master	21%
	Other	10%
Age	18-30	10%
	31-40	25%
	41-50	36%
	>50	26%
Industry	Education	8%
	Finance	2%
	Wholesale	2%
	Retail	12%
	Healthcare	2%
	Construction	5%
	Insurance	1%
	Other	48%

Table 2: Summary of e-commerce status indicator (n = 35)

Status indicator	Number	%
No e-commerce	25	71.5
Connected e-commerce / Static e-commerce	10	28.5
Interactive e-commerce or Transactive e-commerce or Integrated e-commerce	0	0
Forms of Business Communication/advertising		
TV	1	
Newspaper	5	
Social media	20	
billboards	9	
Others (specify)	0	
Sources of Clients		
	Number	%
Walk-in	30	85.7
Online (via internet/email)	2	5.7
Telephone	3	8.6
Others (specify)	0	0

State of e-commerce Adoption

None of the SMEs researched adopted full e-commerce. A majority of the businesses - 86% - relied heavily on walk-in customers as their sole source of business. 29% of the businesses had set up static websites for sharing basic company information and product awareness. None had interactive websites which accepted queries; none also had e-mail and user form facilities. Transactive web is the next level where actual online selling and purchasing of products and services take place. However no company in our sample had this facility.

Many (20) businesses found it easier to list their products on social websites. They reasoned that there was increase in demand for social networks. However, SME's and customers in Fiji prefer a traditional shopping environment, including exchanging products with paper money rather than electronic cards. On the Molla and Licker (2005) scale, Fiji is classified as in its initial adoption phase or entry-level adoption.

Barriers and Challenges faced by SME's in E-Commerce Adoption

Many barriers and challenges were listed by the SMEs studied. Barriers can be categorized as follows: financial, environmental, organizational, technical, governmental and behavioural. Detailed on the responses on barriers are contained in Appendix 1.

For many SMEs (85%) setting up e-commerce was a major problem. The major problem perceived initially was hiring of extra staff to manage and maintain websites. This was a major financial concern. It is at this stage that the companies decided against e-commerce.¹ All the SMEs considered delivery logistics as an added cost for business.

For organizational category, many SMEs (25) lacked support from upper management due to lack of knowledge and awareness. SME managers and owners are not easily convinced of the likely benefits of e-commerce. Many organizations (30 in the study) were resistant to change, feeling that it will be an overload of work on staff. 25 out of the 35 enterprises were reluctant in adopting new technology.

Technically, majority of customers do-not have credit cards to make online payments. The Reserve Bank of Fiji (2015) reported that credit card uptake in Fiji is slow with some anecdotal evidence pointing to a 4.8 percent credit card density in the country. Also the fear of being jeopardized by hackers stealing credit card numbers due to lack of security is another technical barrier.

Government's stand on e-commerce is not very enthusiastic. There is an absence of legal and regulatory system for e-commerce. There is also a lack of government support for e-commerce. Continuing changes in overall government regulations and political instability also do not create confidence of businesses in adopting e-commerce.

Finally, the study showed that e-commerce was not seen by a majority of the SMEs as effective as traditional method of shopping. This behavioural environment in Fiji constrained adoption of e-commerce. There is also a rather small market base for e-commerce in Fiji. There also seemed to be a lack of customer confidence in e-commerce. Despite the relatively good educational attainments of those in the sample, a lack of trade agreements and transactions, and challenges in keeping up with changing technology are some reasons for lack of interest in adoption of e-commerce.

¹ However, were they to find that this is not a problem, and made financial outlays for this, they would then have encountered the real technical hurdle: difficulty in setting up an online payment facility as banks have been slow in his regard.

Limitations of Current Research

At the outset, the population from which the sample was drawn was limited to the SMEs in two cities which may affect the generalization of the findings. Second, due to the fact that e-commerce is a new phenomenon in Fiji its related concepts and usage is somehow unfamiliar to the respondents, thus they may have found certain questions irrelevant or difficult to understand. Thirdly, since most of the respondents of the questionnaires were either managers or owners, contacting these people, getting an appointment, and convincing them to fill out the questionnaire was a challenging exercise. Fourthly, the sample size of this research (50 respondents) could be a limitation. Fifthly, the researchers focused on examining specific firm level factors for e-commerce. Our definition of e-commerce and the choice of variables might be narrow. Limitation also corresponds to the number of employees considered in each company. Our sample is mainly of companies whose number of employees ranged between 10 and 200. Only few firms had more than 200 employees.

Conclusion

The global reach of the internet makes it a powerful business resource. As more organizations seek to transform their value chain activities and business strategies through the adoption of e-commerce, there is a growing demand to understand the factors that affect the adoption of e-commerce in Fiji. The study finds that none of the SMEs researched adopted full e-commerce. A majority of the businesses relied heavily on walk-in customers as their sole source of business. Less than a third of the businesses had set up static websites for sharing basic company information and product awareness. None had interactive websites which accepted queries; none also had e-mail and user form facilities.

Many barriers and challenges were listed by the SMEs studied. For most SMEs setting up e-commerce was a major problem. This was compounded by perceived costs of hiring additional staff to manage e-commerce. Delivery logistics was an added concern. Many SMEs also lacked support from upper management due to lack of knowledge and awareness. Most organizations were resistant to change. Technically, SMEs are aware that a majority of the customers do-not have credit cards to make online payments. Government's stand on e-commerce is also not very enthusiastic. There is an absence of legal and regulatory system for e-commerce. There is also a lack of government support for e-commerce for SMEs. Continuing changes in overall government regulations and po-

litical instability also do not create confidence of businesses in adopting e-commerce. There also seemed to be a lack of customer confidence in e-commerce.

Appendix 1: Responses on Barriers to using E-Commerce (SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree)					
Barriers	SD	D	N	A	SA
Financial					
Cost of setting up e-commerce is high			5	20	10
Need extra staff to manage e-commerce systems			3	25	7
Difficult to explain the cost with desired benefits			10	20	5
Paying consultancy fees and training personnel			5	25	5
Buying necessary ICT for e-commerce				28	7
Maintenance of website and other infrastructures				30	5
Delivery logistics is costly				30	5
Environmental					
Information from e-commerce is not useful		20	15		
Market potential of e-commerce users is too small				30	5
E-commerce is not as effective as traditional channel			15	15	10
Most suppliers do not have access to e-commerce			20	10	5
Insufficient qualified vendors for developing applications		20	10	5	
It will upset existing distribution channels		10	10	10	5
Organizational					
Sales/marketing require high degree of human interaction				30	5
Difficult in changing the current working procedures			10	20	5
Lack of skilled workers to handle/maintain e-commerce				20	15
Lack of knowledge on potential applications of e-commerce				25	10
Weak support from top management due to lack of knowledge and awareness			10	20	5
Technical					
Insufficient security for online credit payment and transactions			15	15	5
Insufficient security to prevent hacking and viruses			10	20	5
Inadequate quality and speed of lines			20	15	
Telecommunication infrastructure is not adequate		20	10	5	
Lack of credit cards and payment systems		15	10	10	
Lack of technical know how			20	10	5

	SD	D	N	A	SA
Governmental					
Absence of legal and regulatory systems			15	15	5
Change in regulations with each Government			30	5	
Changes in government policies			20	10	5
No simple procedures and guidelines			15	15	5
Lack of government leadership			20	10	5
Economic and political instability			20	10	5
Behavioural					
Keeping up with changing technology			10	20	5
Mindset shift towards using e-commerce			5	15	15
Lack of visionary leadership			15	15	5
Low literacy-levels amongst SME owners	10	20	5		

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