AN EVALUATION OF CONSTRAINTS IN THE ADOPTION OF E-COMMERCE MODEL

By

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Abstract

The Internet use is growing at a dramatic pace and is significantly impacting on customer and business market behaviours. As a result, bigger and smaller firms worldwide have started developing and using Internet strategies to enhance competitiveness on the marketplace. However, the evolution of the Internet, and the adoption of a strategic direction focusing on Internet strategies have not been defined on the part of Zimbabwean companies. In this paper, the authors examine the critical constraints in the adoption of the Internet as a business tool. First, a theoretical framework for the Internet as marketing tool is specified. Second, results of the survey that was conducted in order to identify the critical constraints in the adoption of the Internet as a business tool are presented. The research design is purposive. The study found that the adoption of the Internet as a business tool is affected by several factors that include limited financial resources, low computer penetration, lack of technical expertise, limited credit availability and slow service. Finally, propositions are provided for the development and adoption of Internet strategies in Zimbabwe.

Introduction

It is widely accepted that information communication technology (ICT) has a profound effect on the way people conduct business and how organizations market their offerings today. Conventional channels of marketing are gradually being dissolved or assimilated into the global network fuelled by the Internet, (Ranchhold, 2004). Today, the **e** before words like commerce, business, marketing, etc indicates a philosophy that must be followed by companies and organizations that want to enhance and keep their competitiveness.

Background to the Study and Research Question

Zimbabwe is one of the countries lying in the 4th quadrant of the CID/CIMD matrix (See fig.1) because of its less developed infrastructure and institutional marketing systems. The country had only 450 000 telephone lines by end of 2005, with only 4% of the population having access to these lines. Only Tel One offers the International gateway, with 4 megabytes down to South Africa and 10 megabytes up to USA.

The Zimbabwean government has tried hard to improve the conditions that enhance the adoption of e-commerce. First was the liberalization of the telecommunication sector and companies such as TeleAccess, Telecel, Africom and Econet were granted licences to operate.

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Secondly, import duty for computers and peripherals was reduced from 15% to 5% in order to promote increased ownership through lower prices (E-Readiness Survey Report, 2005).Consequently, Internet use increased by 400% between 2001 and 2002 (UNCTAD,2003). The number of large Internet service providers increased and includes names such as Mweb, Ecoweb, Africa-on-Line, ZarNet, Zimbabwe-On-Line and Telco.

Despite these efforts by Government, the response by both private and public companies has been slower than in other developing countries. Therefore, the research question in this study has been: *"what are the constraints in the adoption of the Internet as a business model in Zimbabwe and how can these be minimised?"*

Literature Review

E- commerce refers to conducting business electronically. The technology of e-commerce includes a variety of systems from fax to intranets, extranets and Internet (Baourakis, et al 2002)

Advances in computer and communication technologies have ushered a new Internet economy, a "revolutionary" development (Sheth et al, 2001) that has prompted calls for a new paradigm shift in the field. E-commerce is generating huge revenue for modern firms (Modahl, 2000) and has the ability to transform purely domestic firms into multinational ones. Modahl's assertion is supported by Kan (2000) who details that the worldwide internet revenue (from B2B and B2C) in 1998 totalled US$74 billion, US$ 1 trillion in 2003 and the figure was expected to double in 2005. This is because the Internet reduces costs of doing business through disintermediation as well as its far reach, that is, its ability to transcend economic, socio-cultural, political and physical boundaries.

Countries around the world (both developed and developing) are embracing the Internet in an attempt to gain its enormous benefits such as global access, immediate real-time access, infinite space, interactivity and availability of multimedia, (Darby et al, 2003). The 4 Ps of the marketing mix model have been the target by the Internet strategists in order to enhance the competitiveness of their organizations.

Price

Rayport and Svioka (1994) state that organizations will have to employ new pricing models when using the Internet. They indicate that the ability of technology services at a cheaper cost could make it difficult to determine the appropriate price for a consumer. The consumer has increased ability to compare prices using the Net, thus making price competition very intensive.

Product

The implications of the Internet for the product are diverse. The Internet provides consumers with an opportunity to search more thoroughly and at virtually no cost the products they want provided by a third party bypassing traditional suppliers and resellers. The Internet also supports the product innovation process by using direct access to consumers to gather information to develop new products to meet customer's needs.

Place

This marketing mix deals with 'where the product is found and how easily accessible it is'. The Net makes the product ever accessible as long there is a connection with the Net. Ghosh (1998) identified an interesting facet which is that the Internet allows companies to bypass parts of the value chain.

Promotion

Promotion encompasses all the various ways a company undertakes to communicate its product's merits and to pursuade target customers to buy them from them (Kotler,1991). Evans and Wurster, (1999) highlight the advantages incumbent retailers and manufacturers have when promoting products and services via the Net. These include among others immediate real-time access, global access and infinite space.

Adoption of the e-commerce model by companies will depend on several factors among them are country's infrastructure development (CID) and country's marketing institutional development (CMID) (Sharma and Sheth,2005). The country's infrastructure development refers to roads, telecommunication, legislative bodies, open and free justice systems, etc.

Infrastructure development is usually associated with economic development (Sharma and Dominguez, 1992 in Sharma and Sheth, 2005). The marketing institutional development is associated with availability of competitive, efficient and effective distribution and communication channels. (Iyer, 1997 in Sharma and Sheth,2005).

Classification of countries

Based on the CID and CIMD framework, countries can be placed on a quadrant matrix as shown in figure1.

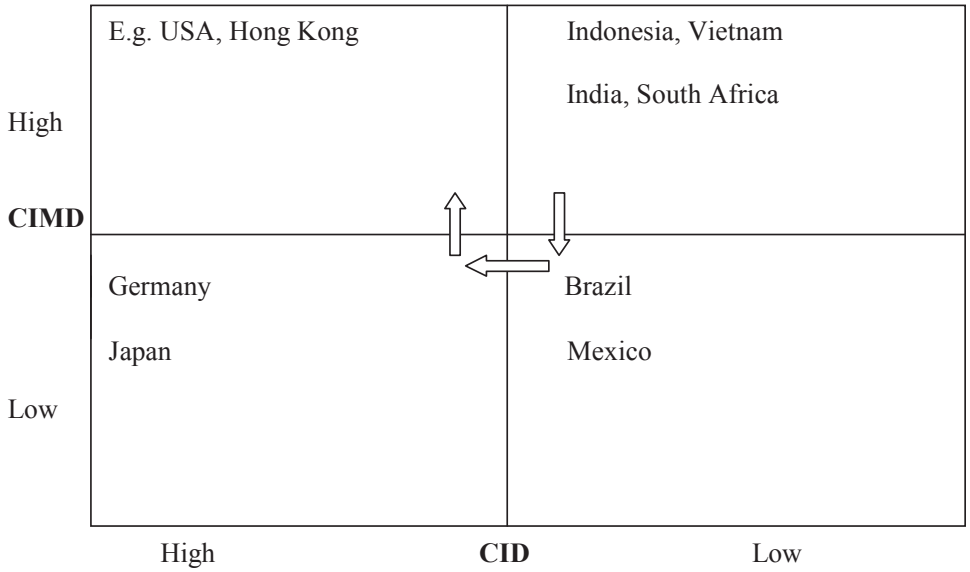

Figure 1:*CID/CIMD classification of countries (Cateora, 1997)*

- Developed infrastructure and developed marketing institutions are available in advanced countries such as USA and Hong Kong (Sharma and Dominguez,1992, in Sharma and Sheth, 2005) . These countries have invested resources in developing infrastructure and have rules and regulations that allow the development of competitive marketing institutions.
    - Developed infrastructure and restricted marketing is available in countries that protect legacy institutions or restrict size of stores, for example, Germany and Japan respectively. In such countries there are advertising restrictions, minimum margins or resale price maintenance.
    - Low levels of infrastructure development and developed marketing institutions is available in some less developed countries but have developed print and advertising media as well as distribution systems, for example, Brazil and Mexico (Cateora, 1997).
- Low infrastructure development and low developed marketing systems are available in countries that have not developed efficient and effective distribution systems due to geography or legal restrictions. These countries have limited access to e-commerce (Cateora, 1997).

Methodology

The research was conducted among marketing, IT and customer service executives of companies in the manufacturing and tourism industries in Harare, Bulawayo, Mutare, Masvingo and Victoria Falls. Executives of companies that offer support services such as Internet advertising agencies, website designers and phone and Internet connectors were also included in the sample.

The sample consisted of 15 manufacturing companies, 10 tourism companies and 10 support service companies.

Sampling was purposive as the research focused on companies with international marketing involvement and have been in operation for at least 5 years.

Of the 35 companies sampled, 23 responded to the survey, constituting a 66% response rate. This is broken down as 10/15 or 66.7% for the manufacturing sector, 7/10 or 70% for the tourism and 6/10 or 60% for the support services sector.

The data collection instruments used were the questionnaire for the manufacturing and tourism sectors and personal interviews for the support service sector. This explains the lowest response rate for the support service sector as some of the target interviewees missed appointments or gave excuses. The questionnaire was developed using established methods (Fowler, 1998) and pre-tested in a pilot study of 5 companies in Gweru. Gweru was chosen because of its proximity to the researchers. Minor revisions were then made based on resultant findings.

Findings

Number of employees

The majority organisations that were sampled are SME s. 52 % of the organisations have less than 1000 employees.

Internet use

The results show that:

- 60% of the manufacturing companies surveyed have started using the Internet to enhance their business operations. There is a big difference with the results of the E-Readiness Survey Report, (www.ict.org.zw), which shows that 61% of the manufacturing companies do not use the Internet for other purposes other than the e-mail.
- 86% of tourism companies use the Internet as a marketing communication tool. This supports the results of the Zimbabwe E-Readiness Survey, (www.ict org.zw) which show that in Zimbabwe e-tourism is on stage 2 of the HUG model.
- 50% of the support service companies have started using the Internet to do their business. This means that the other 50% is still conducting all business face-to-face.

Promotion tools used by the companies

Table I presents the mean rankings out of five of the promotion tools used by the companies in the different sectors.

Table I: **Mean ranking of Promotional tools**

Promotion Tool	**Mean**		
	Manufacturing	Tourism	Support Service
Print Ad	3.6	4.8	4
TV Ad	2.7	3.75	2.5
Personal Selling	4.4	2.4	4.6
Sales Promotion	3.4	3.4	4.3
Internet	1	3.5	2
Any other	1.5	1	5

The results show that although all the sectors have adopted the Internet as a business model, it is still the least used marketing communication tool by manufacturing and support service companies (mean of 1.0 and 2.0 respectively) while it is the third most used tool by tourism companies (mean of 3.5). Manufacturing and support service companies mostly use personal selling and others like word of mouth (WOM) respectively while tourism companies mostly use print ads.

Website development

Our research shows that only 40% of the manufacturing companies, 86% of tourism companies and 17% of support service companies have their own websites. The skewedness towards tourism could be a result of this sector's endeavour to market its products to emerging markets particularly in Asia.

Internet service providers

Table II shows the main Internet service providers and the percentage of customers who use them.

Table II: **Internet providers and their market share**

Internet Service Provider	% of customers
Africa-on-line	36
M-Web	27
Eco-Web	9.25
Technopak	9.25
Telco	9.25
Others	9.25

The results show that Africa-on-line is the most preferred, followed by M-Web. The rest of the service providers have the same market share.

The reasons for the choice of these service providers include good security, user friendliness, easy access, affordability, efficiency and speed.

Main uses of the Internet

Table III illustrates the main uses of the Internet by companies in the three different sectors.

Table III: **Main uses of the Internet and % of companies using them**

Internet function	**% of companies using each Internet function**		
	Manufacturing	**Tourism**	**Support Service**
Product promotion	20	29	34
Company image enhancement	40	58	17
Support customers after sale	10	43	17
Promote company as a whole	40	29	17
Prospect for new customers	40	58	21
Receive payment (using e-money)	0	14	0
Virtual exhibition	40	29	17
Revenue generation (using banner ads)	10	14	17
Individualise customer	20	29	17
Solicit international business	50	43	17
Product procurement	50	14	17

50% of manufacturing companies mainly use the Internet to solicit international business and for product procurement while no manufacturing company is using the Internet to receive or effect payments.

58% of tourism companies use the Internet to prospect for new customers and to enhance the image of the company. Only 14% of the companies use the Internet to generate revenue, to receive payment and for procurement of products.

Those companies in the support service sector use the Internet mainly for promotion of their products and to prospect for new customers.

The companies using the Internet have faced several challenges that include the following:

- slow navigation
- Perception of risks by customers
- Power blackouts
- Low computer penetration leading to reduced Internet connectivity
- Few customers with access to Internet

- Downfall time caused by ISP
- Creating awareness of the function
- Shortage of technical expertise

Factors affecting adoption of Internet model

Table IV shows the reasons for failing to adopt the Internet as a business model and their mean weight out of 10.

Table IV: F**actors affecting Internet adoption**

Factor	Mean weight/10
Limited Internet access by customers	6.5
Limited financial resources	6.2
Lack of technical expertise	5.3
Few customers with credit card	5.2
Service too slow	4
Lack of privacy and security	3.1

From table IV, it can be seen that the most deterrent factors in the adoption of the Internet as a business model are:

- Limited access to Internet by customers
- Limited financial resources
- Lack of technical expertise
- Few customers have credit cards for online payment

Conclusions

The study has shown that the tourism sector is ahead of the manufacturing and support service sectors in the adoption of the Internet. However, the main constraints for the rapid adoption and use of the Internet by the three sectors studied are:

- Absence of the Internet legislation regarding the recognition of electronic signature or e-documents as official contracts between companies in B2B or B2C transactions.
- There is absence of a unified payment system which is trusted and accepted by both buyers and sellers.
- Few customers have credit cards for online payment.
- The financial constraint as a result of the harsh economic environment. Some of the companies are struggling to survive and therefore, the Internet access and establishment of corporate websites are not in their list of top priorities.
- Low computer penetration, low telecommunication density and low band- width experience coupled by limited technical expertise.

Recomendations

The Internet experience in Zimbabwe is evolving very slowly compared to other developing countries and as a result of that, we recommend the following:

- Government could put in place an act of parliament that recognises e-documents as official contracts between companies and should authenticate e-commerce transactions. This should be able to develop trust and confidence among the potential users of the Internet.
- Financial institutions, other companies in the private sector and the Government could work together and improve restrictive regulations on the acquisition of credit cards for online transactions.
- Internet start-up costs could be reduced by further lowering tariffs on the importation of computers and related materials as well as supporting local companies that manufacture computer hardware or develop the software.
- There could be promotion of awareness among the SME s particularly in the manufacturing and support service companies on the benefits that can be derived from the adoption and appropriate use of the Internet. The Ministry of Science and Technology and Tertiary Institutions could spearhead these campaigns.
- Both private and public companies could collaborate with tertiary institutions to design, develop, fund and run human resource development programmes that broaden the level of technical skills needed to implement online strategies.
- Private companies could support Government to partner with other neighbouring countries to adopt strategies for the expansion of the local as well as the international bandwidth.
- Companies in the same sector or related sectors could form alliances and work together to acquire, develop and use online technologies more effectively.

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