E-Commerce In Librareis In Light Of Mobile Computing

P. Venkateshwar Rao
Dept. of Library Information Science
Univ. Coll. Of Science, Osmania University
Venkatesh9pitla@yahoo.com

Abstract: E-Commerce is becoming ubiquitous but what does it mean for libraries? Some would argue that in strict terms, libraries have been involved in e-commerce for years with the marketing of services and resources through web pages. Another side of e-commerce is libraries are the companies delivering products and services to libraries. Delivering materials to libraries using e-commerce methods has some benefits and some drawbacks to previous methods. An additional feature to be considered is the increased use of credit cards which speed the process. On the other hand the need to work with consortia and hierarchical or group buying of other sorts brings new complexity. Media Sleuth enables the purchase of non print educational media and the accompanying MARC cataloging over the web. This article will examine trends and developments for E-Commerce & mobile devices and will discuss what impact they may have on the future of academic library services. The students that we serve in higher education often own a variety of mobile devices, including laptop computers, cell phones, and MP3 players or other audio player devices. In 2008, the annual EDUCAUSE survey of undergraduates' use of technology stopped asking about student ownership of cell phones because they are so ubiquitous.

Keywords: Mobile Computing, E-Commerce, New Technology Library Services, Modern Libraries, Mobile Libraries

I. INTRODUCTION

In the past few decades, some technological changes have appeared gradually and their impact on higher education has been incremental. In other cases, over relatively short periods of time, technological changes, such as the introduction of Web browsers, have had a major, and some would say revolutionary, impact on higher education as well as the broader society. Which will it be for mobile devices?

There is a case for both points of view. Since individuals have been using devices such as laptops and mobile phones for decades, one might argue that the impact of the use of mobile devices on peoples' behavior in general and on higher education in particular has been relatively gradual. On the other hand, as devices with compelling new features emerge and wireless connectivity is almost ubiquitously available, we may be on the verge of a revolutionary phase of mobile device impact on higher education and libraries.

The organizations including libraries today are developing new relationships with customers/users, distributors, suppliers and partners. Internet has brought in a new concept, called e-commerce, in marketing and business fields. Now Libraries also getting help from e-commerce. As the world is enjoying the taste of doing business online, the Libraries are also in the way to adopt the new process of business to bring a revolution to the world of information.

II. DEFINIATION OF E-COMMERCE

There is no universally accepted the definition of the term e-commerce. It is the pre-eminent buzzword of the online business revolution. It is the art and science of selling products and / or services over the Internet. E-Commerce is the buying and selling of goods and services on the Internet.

III. E-COMMERCE IN LIBRARIES

Libraries have so far been very slow in embracing electronic commerce. This is largely due to that fact that most libraries are originally institutionalized as non-profit organizations. Furthermore, the cost of setting up an e-commerce infrastructure was a barrier as libraries are generally not cash-rich organizations. However, electronic commerce and Internet have played a significant role in the way libraries operate and the way library services have developed. Many libraries have made their presence felt on the Web by making their collections searchable and their services accessible. Whether in digital or traditional environment, libraries were set to provide various mechanisms for knowledge archival, preservation, and maintenance of culture, knowledge sharing, information retrieval, education and social interaction.

Barker (1994) states that as an educational knowledge transfer system, a library fulfils a number of important requirements, these being:
a. The library is a meeting place – a place where people can interact and exchange ideas.
b. The library provides a range of resources that access to them otherwise is difficult.
c. The library provides an effective mechanism for information acquisition and dissemination.

A. *How e-commerce is useful in LIS?:*

Library and Information Science (LIS) also getting help from e-commerce. As the world is enjoying the taste of doing business online, the library and information centers are also in the way to adopt the new process of business to bring a revolution to the world of information.

B. *In Improvement of Information Services:*

An important goal for many libraries is to improve its information services by increasing access to information. The library may achieve this goal through the use of e-commerce.
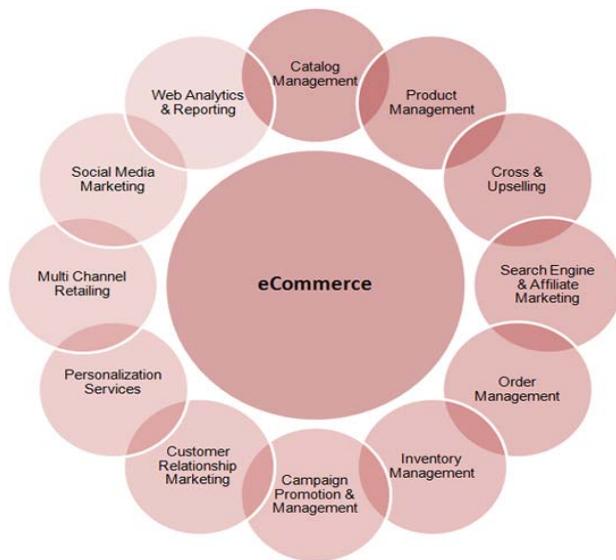
CONFERENCE PAPER
Two day National Conference on Innovation and Advancement in Computing
Organized by: Department of IT, GITAM UNIVERSITY Hyderabad (A.P.) India
Schedule: 28-29 March 2014

136

Figure: 1

C. Access to Information:

With the proliferation of computers and Internet access in homes, libraries and workplaces across the world, increased access to information is possible for many people throughout the world. E-commerce opens up a whole new global market for the libraries. Anything chosen to place on the library's web site will be available for anyone to access at any time of the day or night (sometimes referred to as 24/7).

D. Financial advantage:

E-commerce can solve the financial problem of LICs by decreasing delivery cost of the materials. Besides, online ordering and online payment can give some relief to the libraries. The marketing cost is also negligible in comparison to traditional marketing. Besides, discount given to some of the items is very attractive.

E. Advantages over traditional paper-based libraries:

a. Selling documents, or charging for their use, over the Internet offers many advantages over traditional paper-based libraries.
b. It provides the customer with more choices and customization options (e.g. choice of font).

F. Developing an E-commerce Strategy for the LIS:

a. Determine the library's primary goal in relation to e-commerce
b. What is it the LIC wants to achieve
c. Do the LIC want to increase revenue or efficiency?
d. Do the LIC want to be marketed?

IV. INFORMATION COLLECTION

Many e-commerce sites directly ask users for personal information through forms. However, in addition to such information, many sites also record data about their users' browsing habits. This data can be matched with personal and demographic information to create a profile of user preferences. Sites might use these profiles to target advertising or offer customized services. Or, sites might engage in web lining, where different users are offered different prices based on their profiles. Users who have more money or want a product more are charged more;

alternately, reduced prices are denied to users who shop so well for bargains that vendors will make no profit by selling to them.

A. Common Technology:

a. Cookies:

Cookies collect information as user surfs the web and feed the information back to a web server. An online vendor's site will send cookies (which are most simply an identification number) to a user's computer, where it is stored in a file on the user's hard drive and serves as a digital identifier tag that notifies the vendor whenever that user re-enters the vendor's website. Although users can configure their browser to disable cookies, some sites require users to accept them before allowing entry.

B. Privacy Policy:

a. Privacy Audit:

The first step is to conduct a privacy audit to decide what information will be collected, how it will be used, and whether it will be shared with outside parties.

C. General information about privacy policies:

Privacy policies should be drafted in plain and direct English. If the site targets consumers in non-English-speaking nations, translations should be available. Privacy policies should be customized. Sensitive or personally identifiable information may require a higher degree of protection than aggregate or non-personally identifiable information.

D. Elements of a privacy policy:

a. What data is being collected? How? Are cookies or web bugs used?
b. What is the primary use of the data? What are other secondary uses?
c. What third parties will have access to the information?
d. What security measures are in place to ensure the confidentiality and accuracy of information
e. Are goods and services offered on the website made available to users only if they provide personal information?
f. Will the site owner disclose users' personal information if it believes in good faith that the law requires it?

V. BENEFITS OF E-COMMERCE

a. **Global Accessibility and Sales Reach:** An e-commerce can receive orders from just about any country in the word.
b. **Market Base Expansion** An e-commerce can open its critical information systems to entirely new groups of users, including employees, customers, suppliers, and business partners, who formerly did not have timely access to them.
c. **Increased Profits** With e-commerce companies reach more and different customers and gain exposure in new markets not covered by existing physical channels.
d. **Improved Customer Service and Loyalty** E-commerce enables a company to be open for business whenever a customer needs it. It provides day-night service.

CONFERENCE PAPER
Two day National Conference on Innovation and Advancement in Computing
Organized by: Department of IT, GITAM UNIVERSITY Hyderabad (A.P.) India
Schedule: 28-29 March 2014

137

e. **Supply Chain Integration** E-commerce enables the full integration of a business, making the entire supply chain more efficient from the point of customer contact all the way back through physical distribution, warehousing, manufacturing, resource management, and purchasing.

f. **Easy Access to Far-off Markets** The problem of access to far-off markets now has been solved by the Internet. The publishers and suppliers can be given order by the help of e-mail facility as most of them have their.

g. **Creating One-to-one Relationship with Users** Internet is a terrific way for online marketers to interact with consumers. A variety of tools exists for markets, including e-mail, form us, bulletin boards, newsgroups, and mailing lists. These can be used to dispense information about new products and services and the LIC`s background to foster a relationship. People who having questions about the LIPS can send e-mail to the LIC. They might have seen the address on advertisement or product package. Responding to each message individually helps to develop one-to-one relationship with consumers.

h. **Creation of Database** One can create a database of valuable information on where people can be contacted and what their key interests are. The tactic of using a separate mailbox for information replies can also be used to track the numbers of responses from a particular source.

i. **Sending Specific Information** The LICs might send the users specific information about the products that entice them to order directly. The LICs might build a relationship with them by sending a newsletter every month or quarter that gives them interesting new ways to use the LIPS.

VI. MOBILE DEVICES IN LIBRARIES

Mobile devices are ubiquitous in today's society, and there's no evidence that that is going to change. According to the Pew Internet and American Life Project, as of mid-2010, 82% of American adults own a mobile phone or a mobile computing device that works as a phone. it is crucial for librarians to understand mobile devices and provide services through them.

What evidence would provide a good indication that the day had come for your library to focus concerted efforts on mobile services? Maybe if a large percentage of those phone owners demonstrably used their device to access the internet? Perhaps if Smartphone sales began to approach sales of PCs? If major information service providers were shifting their focus from the desktop to mobile devices? If the trend turned away from mobile devices mimicking the functions of desktop computers, and instead desktops began to emulate mobiles? Maybe if there was evidence that traditional desktop connectivity wasn't reaching people who could be reached on their mobile devices?
If so, then that day is today.

Figure: 2

VII. MOBILE COMPUTING AND E-COMMERCE

Mobile computing is human–computer interaction by which a computer is expected to be transported during normal usage. Mobile computing involves mobile communication, mobile hardware, and mobile software. More and more users and businesses use smart phones as communication tools but also as a means of planning and organizing their work and private life. Within companies, these technologies are causing profound changes in the organization of information systems and therefore they have become the source of new risks. Indeed, smart phones collect and compile an increasing amount of sensitive information to which access must be controlled to protect the privacy of the user and the intellectual property of the company.

All smart phones, as computers, are preferred targets of attacks. These attacks exploit weaknesses related to smart phones that can come from means of communication like SMS, MMS, wifi networks, and GSM. There are also attacks that exploit software vulnerabilities from both the web browser and operating system. Finally, there are forms of malicious software that rely on the weak knowledge of average users. Different security counter-measures are being developed and applied to smart phones, from security in different layers of software to the dissemination of information to end users. There are good practices to be observed at all levels, from design to use, through the development of operating systems, software layers, and downloadable apps.

Communication issues include ad hoc and infrastructure networks as well as communication properties, protocols, data formats and concrete technologies. Hardware includes mobile devices or device components. Mobile software deals with the characteristics and requirements of mobile applications.

A. **Devices:**
Many types of mobile computers have been introduced since the 1990s including the:
  a. Personal digital assistant/enterprise digital assistant
  b. Smartphone
  c. Tablet computer
  d. Ultra-Mobile PC
  e. Wearable computer Limitations

CONFERENCE PAPER
Two day National Conference on Innovation and Advancement in Computing
Organized by: Department of IT, GITAM UNIVERSITY Hyderabad (A.P.) India
Schedule: 28-29 March 2014

138

B. Range & Bandwidth:

Mobile Internet access is generally slower than direct cable connections, using technologies such as GPRS and EDGE, and more recently HSDPA and HSUPA 3G and 4G networks. These networks are usually available within range of commercial cell phone towers. Higher speed wireless LANs are inexpensive but have very limited range.

C. Security standards:

When working mobile, one is dependent on public networks, requiring careful use of VPN. Security is a major concern while concerning the mobile computing standards on the fleet. One can easily attack the VPN through a huge number of networks interconnected through the line.

D. Power consumption:

When a power outlet or portable generator is not available, mobile computers must rely entirely on battery power. Combined with the compact size of many mobile devices, this often means unusually expensive batteries must be used to obtain the necessary battery life.

E. Transmission interferences:

Weather, terrain, and the range from the nearest signal point can all interfere with signal reception. Reception in tunnels, some buildings, and rural areas is often poor.

F. Potential health hazards:

People who use mobile devices while driving are often distracted from driving and are thus assumed more likely to be involved in traffic accidents.[2] (While this may seem obvious, there is considerable discussion about whether banning mobile device use while driving reduces accidents or not.[3][4]) Cell phones may interfere with sensitive medical devices. Questions concerning mobile phone radiation and health have been raised.

G. Human interface with device:

Screens and keyboards tend to be small, which may make them hard to use. Alternate input methods such as speech or handwriting recognition require training.

VIII.   CONCLUSION

The article implies the magnificent role of e-commerce in libraries. The libraries can utilize this opportunity and make them self-sufficient in financial sector. With the changing environment there is need to take bold step. It is an encouraging sign with good number of consortia efforts are done in India by the consortium for group of libraries falling under certain disciplines viz. FORSA for Astronomy, CSIR for Scientific labs, INDEST for libraries in the area of Engineering and Technology including management libraries.

It is possible that the uptake of the use of mobile devices for access to and creation of content will be uneven and slower than indicated by some of the trends highlighted in this article.

IX.   REFERENCES

[1].   Cliatt, C. (2009), "Pilot of Amazon's e-reader launched with fall semester", News at Princeton, available at: www.princeton.edu/ main/news/archive/ S25/37/09I09/index. xml?section top stories (accessed 4 December 2009).

[2].   EDUCAUSE Learning Initiative (2009), "7 Things You Should Know About . . . QR Codes", EDUCAUSE Learning Initiative, Boulder, CO, available at: http://net.educause.edu/ir/ library/pdf/ELI7046.pdf (accessed 4 December 2009).

[3].   Ezell, S. (2009), "Contactless mobile payments", Information Technology& Innovation Foundation, available at: www.itif.org/files/2009-mobile-payments.pdf (accessed 4 December 2009).

[4].   Jacobs, M.L. (2009), "Libraries and the mobile revolution: remediation¼relevance", Reference Service Review, Vol. 37 No. 3, pp. 286-90.

[5].   Joseph,S. J. (2007). E-Commerce: An Indian Perspective, New Delhi: Prentice Hall, 214p

[6].   Kamlesh, K. B. & Debjani, N. (2008). E-Commerce: The Cutting Edge of Business, New Delhi: Tata McGraw Hill, 146p.

[7].   New Media Consortium and EDUCAUSE Learning Initiative (2009a), 2009 Horizon Report, available at: www.nmc.org/publications/2009-horizon-report.pdf http://en.wikipedia.org/wiki/Mobile_computing http://www.americanlibrariesmagazine.org/article/libraries-and-mobile-services