E-Commerce & Web Services :A review

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ABSTRACT

Web services will ease the constraints of time, cost, and space for discovering, negotiating, and conducting e-business transactions. As a result, Web services will change the way businesses design their applications as services, integrate with other business entities, manage business process workflows, and conduct e-business transactions. The early adopters of Web services are showing promising results such as greater development productivity gains and easier and faster integration with trading partners. Web Services that are related to electronic commerce from the organizational, economics, and technical perspectives. Research opportunities of Web services and e-commerce area are fruitful and important for both academics and practitioners. We wish that this introductory article can shed some light for researchers and practitioners to better understand important issues and future trends of Web services and e-business.

Keywords— E-commerce, Web services, E-business, Related Work, Methodology, Data Source

I.INTRODUCTION

The use of Web services over the intranet and Internet has increased rapidly. Web services are used to support application-to-application communication and to address interoperability issue for systems integration project, particularly in the context of electronic commerce and e-business. These Web services provide a standard-based approach for different software applications or components involved in supporting real-time information retrieval or presenting dynamic context -driven information to the user. The early adopters of Web services are showing promising results such as greater development productivity gains and easier and faster integration with trading partners. However, there are many issues worth studying regarding Web services in the context of e-commerce. This special issue of the JECR aims to encourage awareness and discussion of important issues and applications of Web services that are related to electronic commerce from the organizational, economics, and technical perspectives.

Today e-commerce has become an integral part of everyday life. Accessibility to e-commerce platforms is not a privilege but rather a necessity for most people, particularly in the urban areas. There are alternative e-commerce platforms available (instead of the traditional physical platforms) for almost every aspect of our lives, starting from purchasing of everyday household items to online brokage. Mail order or catalogue shopping has been in existence in the United States since 1980. This was the predecessor of online commerce, which started in India post 2000.

According to a report provided by Forrester5 Research, social networks play an important role in driving consumers online and getting them to engage with brands. This would gain specific significance in light of facts such as India being ranked as Facebook's second largest audience after the US.6 However, it should be kept in mind that there still exists a form of 'digital divide' in India where the benefits of internet have not fully percolated to non-urban areas. In this scenario, mobile connections would play a very important role. India has close to 914.92 Million wireless subscribers.7 Mobile phones have been and will be a key tool in helping users connects in a market where overall internet penetration may be low.

A.   E-commerce:

E-commerce has defied the traditional structure of businesses trading with consumers bringing to the fore various business models which has empowered consumers. it is generally used in the sense of denoting a method of conducting business through electronic means rather than through conventional physical means. Such electronic means include 'click & buy' methods using computers as well as 'm-commerce' which make use of various mobile devices or smart phones. This term takes into account not just the act of purchasing goods and / or availing services through an online platform but also all other activities which are associated with any transaction.
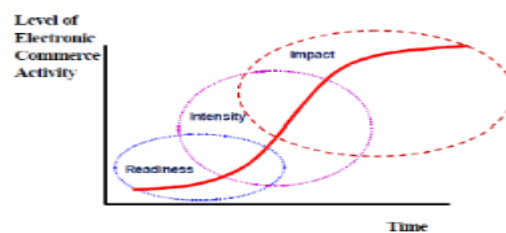

Fig: Level of E - Commerce

Some of the common business models which are facilitated by e-commerce are as follows:

B2B:

E-commerce has enabled various businesses to build new relationships with other businesses for efficiently managing several of their business functions. IndiaMART.com is one such B2B online market place which provides a platform for businesses to find other competitive suppliers.

B2C

Direct dealings between businesses and consumers have always existed; however with the emergence of e-commerce such transactions have gained further momentum However, in an online model one finds the manufacturer or the intermediary directly trading with the consumer.

C2C:

Traditionally consumers have had dealings with other consumers, but only few of those activities were in a commercial sense. E-commerce has made it possible to bring together strangers and providing a platform for them to trade on. For example, portals such as eBay and quikr enables consumers to transact with other consumers.

C2B:

This relatively new model of commerce and is a reverse of the traditional commerce models. This type of transaction can be seen in internet forums where consumers provide product development ideas or in online platforms where consumers provide product reviews which are then used for advertisement purposes.

B2B2C:

A variant of the B2C model wherein there is an additional intermediary business to assist the first business transact with the end consumer. This model is poised to do much better in a web based commerce with the reduced costs of having an intermediary. For instance, Flipkart, one the most successful e-commerce portals provides a platform for consumers to
 purchase a wide variety of goods such as, electronic goods, apparels, books and music CDs.

B.   Web Services

Web services, like the Internet, is less about technology but more about creating more efficient ways to do business and identifying new business opportunities. Web services will lead to major changes to business processes. Such changes will require IT organizations to evaluate their system architectures and determine how they will deliver these new business services. The experiences of early Web services adopters reflect the fundamental shift towards service-oriented architecture. Today's IT imperative is to reduce technical complexity so as to increase business flexibility, and Web services provide the first widely accepted, standards-based framework for the new agile enterprise. Open standards and

Interoperability are major drivers of Web services' acceptance. Such technical benefits as flexibility, visibility, and leverage of Web services can also enable bottom-line returns. By adopting Web services, businesses can realize lower costs, application sharing, flexibility, streamlined business processes, additional new revenue streams, and new business models. The business implications of Web services are significant and there are many opportunities that these new

standards present for reducing costs and creating new business opportunities. Web services refer to a family of technologies that can universally standardize the communication of

applications in order to connect systems, business partners, and customers cost-effectively through the World Wide

Web. The emerging Web services standards and technologies enable companies to provide software functions and

business services over the Web to be integrated by internal business processes or with trading partners. Web services

have been proclaimed as "bigger than the Internet" by many advocates. These supporters believe that Web services

are "the" technology to bridge the gap between IT and business. Beyond the hype, Web services hold the promise to Chen et al.: The Implications and Impacts of Web Services to E-Commerce Research and Practices handle and solve complex business problems in the foreseeable future of global competition. It generates a

renewed interest and excitement in B2B electronic commerce and mobile commerce, as well as enterprise application integration (EAI). Major software vendors such as IBM, Microsoft, SAP, SUN, and Oracle are all embracing Web services standards and are releasing new products or tools that are Web services enabled. Web services will ease the constraints of time, cost, and space for discovering, negotiating, and conducting e-business transactions. As a result, Web services will change the way businesses design their applications as services, integrate with other business entities, manage business process workflows, and conduct e-business transactions. Research opportunities of Web services and e-commerce area are fruitful and important for both academics and practitioners. We wish that this introductory article can shed some light for researchers and practitioners to better understand important issues and

future trends of Web services and e-business

C.   E-Business

As an alternative strategy adopted to reach the small businesses, some Information and Communication Technology (ICT) layers offer the software on demand through online access. While the road to Internet-based Software as a Service (SAAS) was a bumpy one in the early days, online services have become a credible – and often desirable – alternative to packaged software. SAAS layers are thriving in multiple market segments, from the Small and Medium Business (SMB) segment to the large enterprise sector, and in almost every application category. As Internet-based computing becomes viable for an increasing array of individual and business requirements, customers can focus more on getting the functionality and outcomes they need from the application, and less on the underlying operating system, middleware and infrastructure requirements. The ----- trend for the SAAS industry development is for growth, as top players such as Microsoft, Google, IBM and salesforce.com battle to build SAAS systems. At the same time, new SAAS players and solutions will continue to emerge, and the likelihood of any one player dominating this landscape is very low.
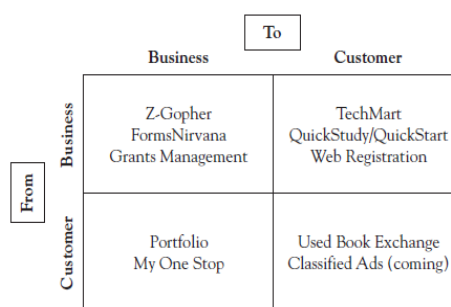

Fig.: E-Business Models

For mail servers, the research done by Falko Timme (2004) shows a market share of popular open source mail servers such as Send mail or Exim of around 50% (refer Figure 5). The market share of Microsoft's browser has been declining ever since 2004 (The counter, 2007), and its currently around 71% while Mozilla Firefox has now around 12% market share (39) and continues growing significantly. The market for office suites is still dominated by Microsoft Office, but Open Office is getting increasingly popular, particularly with SMEs.
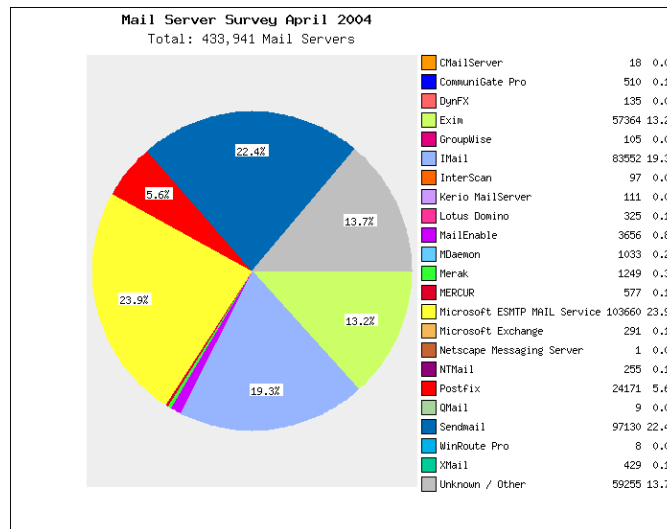
Fig.: Falko Timme - Mail Server Survey (2004).

a. Theoretical Background and Related Work

i)E-business Adoption

As a new approach to business (including innovation, technology, application, service, and business model), e-business implementations must be adopted before benefits can be realized [Zhu et al. 2006]. As such, technology adoption theories and technology diffusion theories have been applied in the context of e-business. Summarizing some literature on e-commerce adoption, Hong & Zhu [2006] find over 10 theories that have been employed. Similarly, upon summarizing 43 articles on the adoption of online purchasing, Cao & Mokhtarian [2005] find about 10 theories being used.

ii) E-business and Its Approach

E-business is an approach to achieving business goals in which (network)ked, computer-based) technology for information exchange enables or facilitates execution of activities in and across value chains as well as supporting decision making that underlies those activities.

b. Related Work

As background, we begin with 'a review of review studies' that pertain to e-business. Table 1 summarizes review studies published during 2002-2012, exclusive of any that do not report quantitative aspects of their samples. Further, we exclude review studies that focus on narrow areas of e-business, such as online discussion forums in e-learning scenarios. Overall, most of the reviews cover e-business, in general, or focus on a specific aspect of e-business adoption. Only three journals published more than a single review article: *Journal of Electronic Commerce Research* (*JECR*), *Journal of Internet Banking and Commerce*, and *European Journal of Marketing.* Of these, *JECR* is the only wide-coverage e-business journal. The studies vary greatly in sample size, ranging from 30 [Chitura et al. 2008] to 7,823 [Wang & Chen 2010], and years covered, ranging from 4 [Casanovas 2010] to 17 [Urbaczewski et al. 2002]. Their starting year for sample articles ranges from 1982 to 2006, with closing year ranges from 1998 to 2010. Because sample articles in most of the studies are fairly old,

updating the landscape of e-business research with recent articles is warranted, including research concentrating on e-business adoption.

In order to efficiently attain a relatively comprehensive list of sample articles, most of review studies search articles from electronic databases using various keywords and their synonyms. Additionally, most of them select journal articles for their review and describe results in terms of the following dimensions: publication year, publication outlet, journal type, units of analysis, data source (either geographic focus or economic focus), research method, and research theme. Accordingly, we search, code, and analyze sample articles using the similar approach .

c. Methodology

Our research steps are shown in Figure 3. Their details are described in each of the following subsections. A final subsection discusses techniques used to improve and measure this study's coding reliability.

1.Database Selection

To obtain research articles in which e-business adoption is the primary focus, we use the Google Scholar (GS) database. Its search facility is convenient and, compared to other bibliographic databases, the GS journal tracking is more comprehensive and offers the highest coverage of core/important articles [Jacsó 2005, 2008a, b, c; Noruzi 2005; Walters 2007; Harzing & van der Wal 2008; Gehanno et al. 2013]. These scientometric researchers conclude that GS is an excellent meta-search engine/tool for literature discovery and retrieval. Additionally, GS covers books, proceedings, non-English journals, open-access journals, and new journals [Walters 2007; Harzing & van der Wal 2008; Jacsó 2008a]. Interestingly, through experiments, Gehannoet al. [2013] find that the coverage of GS for studies included in prior systematic reviews is 100%, and then conclude that GS could be the first choice for systematic reviews or meta-analysis. Thus, we use GS to explore the landscape of e-business adoption research

2.Article Search

We identify relevant articles using a "keyword" approach [Schibrowsky et al. 2007]. While a specific keyword can appear anywhere in a publication, we focus on title location as representative of those having a focus is on e-business adoption. This includes relevant publications, and excludes those that treat the topic in an incidental or minor way. Each item in our sample has a title that includes both an e-business-related term and an adoption-related term. In particular, the e-business-related keywords are: e-business, electronic business, ebusiness, e-commerce, electronic commerce, ecommerce, online, web, webpage, website, and internet. The adoption-related terms are: acceptance, adoption, accept, and adopt. Inclusion of these key terms is based on our review of e-business and e-business adoption studies previously mentioned.

3.Data Cleansing and Initial Coding

We manually check, and then code, the articles. Those articles not written in English, without an official source, not actually related to e-business adoption, duplicated with the same version, and/or actually outside timeframe

are dropped – leaving 1,441 articles for coding and analysis. For instance, we find forty-three articles have an incorrect publication year (e.g., recorded as 2008 when actually published in 2009, due to pre-print availability). More than 90% of search results are actually relevant to e-business adoption, indicating that the keyword approach works well.

4.Improve and Measure Reliability

Coding reliability is critical for all review studies. According to Krippendorff [2004], there are three types of reliability pertinent to content coding: stability, reproducibility, and accuracy. Stability refers to "the extent to which the results of content classification are invariant over time" [Weber 1990, p. 17]. Reproducibility, also called inter-coder reliability, refers to "the extent to which content classification produces the same result when the same content is coded by more than one coder" [Weber 1990, p. 17]. Accuracy refers to "the extent to which the classification of the context responds to a standard or norm" [p. 17]. Although accuracy is strongest form of reliability, it is only used when a standard coding for some text has been established. Therefore, Weber [1990, p.17] demonstrates that "researchers seldom use accuracy in reliability assessment".

D. Data Source

Data source refers to the geographic region from which the data are collected. Overall, data sources are classified as: general (i.e., no particular region), single region/country, and multiple regions/countries (i.e., data collected from at least two regions/countries). As Table 3 shows, an overwhelming majority of journal articles on e-business adoption are single region/country (87.2%), and this characteristic is especially distinct for research focusing on individual consumers (90.5%). Among the 52 multiple regions/countries articsles, two purposes are evident: detecting cross-regions differences and seeking to increase generalizability of results. In the first case, data source is typically treated as an independent variable; in the second case it serves as a control variable. Among 591 articles indicating data sources, three involve more than 30 countries across continents. We exclude them from the following report of data sources by geographic focus and economic focus.

II.CONCLUSION

Based on a systematic review, this study reveals the current landscape of e-business adoption research. Overall, e-business adoption is a growing topic, both across years (longitudinally) and compared with other topics (horizontally). Although the distribution of publication outlets varies across years, journal articles keep growing, either in the frequency or percentage. Web services refer to a family of technologies that can universally standardize the communication of

applications in order to connect systems, business partners, and customers cost-effectively through the World Wide Web. The emerging Web services standards and technologies enable companies to provide software functions and business services over the Web to be integrated by internal business processes or with trading partners. The rapid pace of growth of the e-commerce industry is not only indicative of the increasing receptiveness of the public but has also brought to the fore the issues that the legal system of the country has been faced with.

III.ACKNOWLEDGEMENT

REFERENCES

[1.] Chen et al.: The Implications and Impacts of Web Services to E-Commerce Research and Practices 'Andrew N. K. Chen''Benjamin B. M. Shao' The Implication and Impacts of web services to Electronic Commerce Research and Practices.

[2.] In Chapter III, we have discussed how the FDI Policy categorises e-commerce activities. However this categorization is relevant from the point of view of foreign investments which we have dealt with in Chapter III.

[3.] Accenture, "Web Services and Enterprise Integration: Friends Not Foes."   http://www.accenture.com/xdoc/en/ services/web/insights/web_enterprise.pdf, 2003a.

[4.] *I.J. Information Engineering and Electronic Business*, 2012, 5, 9-16 Published Online October 2012 in MECS (http://www.mecs-press.org/)

[5.] Andrews, T. et al., Business Process Execution Language for Web Services Version 1.1, http://www-106.ibm.com/developer works/web services/, May 5, 2003.

[6.] Landscape." In R. N. Katz. *Dancing with the Devil.* San Francisco: Jossey- Bass, 1998

[7.] [Suh, B and Han I., 2003, The Impact of Customer Trust and Perception of Security Control on the Acceptance of Electronic Commerce, *International Journal of Electronic Commerce, Vol 7, No. 3, pp. 135-161*

[8.] Lam, J. C. and M. K. Lee, "Digital inclusiveness--Longitudinal study of Internet adoption by older adults," *Journal of Management Information Systems*, Vol. 22, No. 4:177-206, 2006.