A Landscape Design for E-Business in Developing Countries

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Abstract. E-Business has gained much attention as a new opportunity to provide global competitiveness for companies in developing countries. This study is primarily focused on critical success factor of e-Business systems in developing countries, especially in Kazakhstan. This study aims to provide a framework to unfold the barriers and challenges so that companies in Kazakhstan take benefit of making a right decision for e-Business implementation.

To achieve the goal of the research, the survey was conducted to assess and understand the landscape of of e-Business in Kazakhstan and identify the key success factors which can be utilized in improving the design and implementation of e-Business systems. Kazakhstan, as a leader of Central Asia, has a great potential to impact expansion of e-Business systems in this region. In order to prepare a well designed e-Business systems which reflect success factors identified in this study, a framework to develop a landscape design for e-Business systems might be necessary.

This study revealed critical factors affecting successful implementation of e-Business in Kazakhstan, which has shown the reality of success factors in developing countries. It is expected that success factors identified in this study can be utilized in designing and implementing e-Business systems in developing countries. In addition, it might be desirable to stay aware of opportunities and challenges, and see it as an initiative to improve businesses rather than the solution, especially in developing countries.

Keywords: e-Business, Critical Success Factors, e-Business in Developing Countries

1. Introduction

Rapid advances in information technology and wide availability of internet have accelerated the new opportunities for e-Business and closer collaborations between service providers and clients. E-Business has gained much attention as a new business paradigm. E-Business enables companies to integrate their information systems more efficiently and flexibly, to work more closely with suppliers and partners, and to better satisfy the demands of their customers. In practice, e-business is more than just e-commerce which is referred as a process of buying and selling products over the internet. e-Business involves business processes spanning the entire value chain: electronic procurement, enterprise resources planning, supply chain management, handling customer service, and knowledge management systems.

Special technical standards for e-business facilitate the exchange of data between companies. E-Business software solutions allow the integration of intra and inter firm business processes. E-business can be conducted using the Web, the Internet, intranets, extranets, or some combination of these.

With the rapid expansion of the Internet in Central Asia and Kazakhstan the opportunities and challenges for e-Business has started to grow with a slow, but stable pace. According to ICT Marketing, the Internet penetration level of Kazakhstan in 2010 reached 4.8 million people, which is 30% of the population. The increasing availability of an access to internet has driven a lot of companies to do start-ups in an e-Businesses, especially focusing on e-Commerce.

The impact of the internet to the society of Central Asia and Kazakhstan has been enormous, particularly with respect to customer services in the Central Asia and Kazakhstan, where the trend is apparent to adopt the Internet as a new medium to trade and purchase goods and services. It is quite reasonable to mention that recently the Internet has been widely available and consequently e-Business has become very promising business opportunity in Kazakhstan.

This study is primarily focused on critical success factors of e-Business systems in developing countries, especially in Kazakhstan. This study aims to provide a framework to unfold the barriers and blinds so that companies in Kazakhstan take benefit of making a right decision about whether it is time to start up e-business in Kazakhstan or whether there are some areas that are still needed to be developed or the infrastructure that has to be built up.

To achieve the goal of the research, the survey was conducted to assess and understand the landscape of of e-Business in Kazakhstan and identify the key success factors which can be utilized in improving the design and implementation of e-Business systems. This study adopted a survey questionnaire, which was distributed to industry and student groups, to determine the key success factors of e-Business in Kazakhstan. The critical success factors were identified through a literature review. Inhibitors and obstacles to success are used to identify what factors are perceived more important to support successful implementation of e-Businesses in Kazakhstan. Previous studies about developing countries were used to ensure whether the critical success factors are relevant to situations in Kazakhstan.

Furthermore, after identifying key success factors for e-Business system in Kazakhstan, this study proposed a framework to develop a comprehensive landscape design of e-Business system in developing countries. Further consideration to develop infrastructure for e-Business system and establishing e-Business regulation and law were mentioned reflecting the current social/economic situation of Kazakhstan.

1. Literature review

1.1. Infrastructure for e-Business in developing countries

There have been scarce researches focused on e-Business infrastructure in developing countries. A lot of developing countries are now attempting to rapid development in integrating IT infrastructure to support a new business opportunities such as e-

Business. Mukti [15]found that problems restricting the expansion of e-commerce in Malaysia include security concerns, payment issues, Internet access issues, and technical skills of workers. The Electronic Commerce Steering Group, Asia Pacific Economic Cooperation (APEC) [7] have published the E-Commerce Readiness Assessment Guide. This guide is designed to aid governments in developing policies that will support e-commerce. The guide looks at the areas of basic infrastructure and technology, technology and commercial services, current Internet usage, standards committees, people skills, and government policies and regulation.

According to Stylianou, Robbins, and Jackson, China has the third largest Internet user population and is expected soon to be the largest Internet and e-Business market in the world. China, however, is still struggling with integrating e-Business due to infrastructure deficiencies such as payment systems, regulations, and telecommunications. Cloete, Courtney, and Fintz [5]discussed small/medium businesses' acceptance and adoption of e-commerce in South Africa. Their findings include that e-commerce adoption is heavily influenced by factors within the organization. Lack of access to computers, software, other hardware, and telecommunications at a reasonable cost, low e-commerce use by competitors and supply chain partners, concerns with security and legal issues, low knowledge level of management and employees, and unclear benefits from e-commerce were identified to inhibit adoption. Dedrick and Kraemer [6] also discussed e-commerce in China. They found that although there is considerable interest in e-commerce, there are also significant barriers to establishing e-commerce ventures. Limited diffusion of computers, high cost of Internet access, and a lack of online payment processes were found to be important infrastructor factors. Inadequate transportation and delivery networks, limited availability of banking services, and uncertain taxation rules are also identified as indirect factors to affect e-commerce adoption.

 Sharma and Gupta[21] reported that e-commerce adoption in India has been slow due to a lack of online credit card authorization, inadequate telecommunication infrastructure and relatively small online population. Chepaitis[3] analyzed e-Commerce and the information environment in Russia and found that the information environment can be an impediment to the development of e-commerce in emerging economies. Many developing countries do not have a culture of sharing data. The ability to pool data for statistical analyses is necessary for many business processes and organizations. The absence of shared data can result in a lack of effective information systems due to the lack of reliable and consolidated marketing, customer, and economic data. This also usually results in low data quality and trust in the data that is available. Twelve factors were identified that affect the information environment in an emerging economy. The factors focus on the business culture of the economy and will limit the emergence and scope of e-commerce in these economies. The factors include unsuccessful/intrusive government planning and regulation, formal barriers to entry and dictated pricing in distribution and supply, informal entrepreneurship such as black markets and barter, ineffective methods for managerial accounting, political fear and widespread avoidance of information sharing, unstable currency, nascent financial regulations.

The Electronic Commerce Infrastructure Info-Communications Development Authority
of Singapore (IDA) [Staff, 23] describes the e-commerce infrastructure in Singapore.

Key components of this infrastructure include infrastructure services, a legal and regulatory framework, a set of open standards for technical services such as security, network protocols, email, and information exchange, and an incentive system of investment and tax breaks designed to encourage e-commerce development and investment.

Infrastructure services include network services for linking online businesses, directory services for search and retrieval, security services for secure identification and communication, secure payment services, and solution providers for creating e-commerce systems. Sukovskis [24]describes the IT sector in Latvia. Factors supporting e-commerce include government support for regulation encouraging e-commerce, a fairly well developed telecommunications infrastructure available for a price, and a growing cadre of IT professionals. Grandon and Mykytyn[10] claimed that Chile provides a good case of more advanced infrastructure, especially telecommunication infrastructure which is crucial to e-Commerce implementation.

1.2. Critical Success Factors for e-Business

Reflecting the growing interest in e-Business, there have been a lot of studies done looking at success factors, issues, and requirements for
e-commerce/e-business. Lertwongsatien and Wongpinunwatana[14] examined key factors affecting e-commerce adoption in Thailand. Palvia and Vemuri [18]discussed obstacles and critical success factors for global e-commerce. They identified critical success factors such as the ability to maintain a personal touch while using a web site for business, localizing the web site to fit local customer requirements including recognizing culture, local regulations, pricing constraints, and language, keeping automated processes simple and fast due to low attention spans of customers and less reliable connections in developing countries, foster trusting relationships between customers or organizations involved in a B2B relationship, focus on processes that improve convenience, information, intermediation, and pricing, have the site found near the top of the search engine results, evolve the site as technology changes and capabilities expand, and plan for mobile connectivity.

Wong[26] conducted a study in Singapore and identified that the biggest reason companies were not adopting e-commerce was the top management's decision which did not see it as necessary. Other important factors identified were cost, security and readiness of customers or suppliers. Sairamesh et al. [19]also discussed the importance of search and navigation but focused on these features within the e-commerce site. Gattiker, Perlusz, and Bohmann [10]discussed the importance of global economic and cultural factors. Global economic factors include the cost of connecting to the Internet and disposable income for shopping online. Global cultural factors include differences in work habits and language. Hall [11] emphasized cultural issues by discussing the importance of localization. The importance of organizational culture was mentioned for the organization implementing an e-commerce strategy and found that e-commerce initiatives would not reach their full potential if the people in the organization cannot adapt to the changes caused by e-commerce. Freeman [8]discussed contract
and other legal risks including intellectual property protection, conflict and dispute resolution, fulfillment of contracts, use of patented business processes, and trademark

and copyright issues. The success factor from these risks is having legal consultation available for review of documents, processes, and contracts. Castelluccio [2] identified fourteen critical success factors. These success factors include having adequate business processes, maintaining account information and a relationship profile, good site navigation, good use of graphics, providing decision support and communications, using shopping cart technology, monitoring post purchase delivery, acquiring and retaining customers, providing gift services, maintaining site content and continuity, providing international services and multi-channel integration. Furthermore, Castelluccio [2] discussed several issues that detracted from success. These factors include dead links on sites, inaccessible call centers, deceptive post-purchase spam, sites not living up to promise, and lack of convenience for potential customers who do not yet have an account. It may be required for companies to invest significant amount of efforts and budgets to develop strategies to adopt and market e-business technologies. It is essential to recognize that top management perception to adopt e-commerce is very important as well as added values perceived by customers.

2.3. E-Business and the environment in Kazakhstan

Even though the Internet penetration has overreached the critical required level of 20% generally required for the successful operation of e-commerce, there are still very few e-businesses operating in Kazakhstan. Vladimir Tutykin, deputy chair of the board of directors of JSC "Kazkontent" shared his view on the advantages of e-trading. According to his words, e-commerce enables an entrepreneur to enlarge the seller's market because the worldwide web has no boundaries, better manage expenses (saving on space, salary of employees etc.), enhance the supply chain. Addition to the advantages listed above, he added that the e-business is always open (site works without breaks and on weekends). It is also beneficial for clients and individual customers based on the benefits of larger selection, lower prices, time saving. According to the official data from the site E-commerce in Kazakhstan (www.onlinetrade.kz) Kazakhstan's e-commerce turnover is equal to nearly $240 billion. The leader in serving the Internet transactions is Kazkommertsbank and the most active merchant or e-retailer is Air Astana, the national air carrier.

Kazakhstan has recently made significant advancement in implementing information technologies in both private sector and public sector. According to UN Report(2008), Kazakhstan was recognized as a leader in Central Asia in IT strategydevelopment and its implementation.

While e-commerce is still in a relatively under-developed stage in Kazakhstan, the e-banking sector is exceptionally advanced. In fact, most of the 35 banks operating in Kazakhstan have implemented online banking systems for corporate customers. However, only 5 banks have implemented online banking systems for individual customers. Legislation on intellectual property and regulation on IT infrastructure has undergone significant changes in the recent years; however, additional work is needed.

To accomplish the objective of this study, a research model which was developed from the literature review was used to measure how people perceive the relative importance of critical success factors for companies establishing e-Businesses. Critical success factors were classified in five categories such as human resources factor, technical support factor, client interface factor, organizational infrastructure factor, regulation and environment factor. Each factor is then further classified into subfactors which were evaluated with regard to relative importance of each factor to the successful implementation of e-Business system. Figure 1 illustrates how these factors are interrelated from both provider and client perspective. The research model depicts the relationships among the five critical success factors and the entities participating in e-Business transactions.
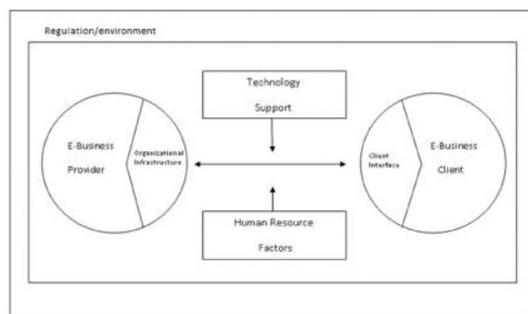

Fig. 1. E-Business Success Factor Model

To measure perceptions on success factors for e-Business system we conducted industry and student surveys which resulted in the accumulation of 168 surveys from industry and student group from three higher education institutions in Kazakhstan. More than 95% of respondents from students group are full time college students, and as would be expected, are between 18 and 29 years of age. The survey instrument was first distributed to 100 people from industry and student group respectively in an effort to reflect the characteristics of provider and client perspectives. Majority of industry group are in the age of 30 to 39. Respondent rates for industry and students groups are 72% and 96% respectively. Majority of both groups responded that they have visited e-Business web sites at least once per month over the last three month period.

The respondents are predominantly female, 57.2% and 58% respectively. Most of both groups indicated that they have more than five years of e-Business experience(73.8.3% and 78% respectively). Table 1 describes details of selected respondent demographics.

Table 1. Profile of Respondents

	Response category	Industry	Student
Age	18 to 29	16%	95.5%
	30 to 39	65%	4.5%
	40 to 49	8%	0%
	50 to 59	1%	0%
	60 and over	0%	0%
Gender	Female	57.2%	58%
	Male	42.8%	41%
e-Business experience	< 1 year	0%	.5%
	> 1 year to 2 years	2.5%	.2%
	> 2 years to 5 years	23.6%	21.3%
	> 5 years to 10 years	44.7%	51.2%
	> 10 years	29.1%	26.8%
How often do you e-Biz sites per month in last 3 months	0	0.2%	8.4%
	1	63.1%	56.9%
	2	29.4%	24.6%
	3	4.3%	5.9%
	4 or more	3%	4.2%

The number of individuals who have e-Business experience, and at least have an opportunity to use their web sites, should be a measure of baseline knowledge. Responses indicate that majority of both groups have visited e-Business web sites. Further, large percentages of the respondents have used e-Business web sites for more than two year. One surprise is the difference between the percentages of respondents who visited e-Business web sites more than three times per month. 14.1 % of student group have visited more than three times per month while 4.6% of industry group responded with the same ferquency.

The survey included five-point Likert scale responses(1 = Critical, 2—Very Important, 3—Important, 4—Useful, and 5—Not Important). Table 2 displays the critical success factors which were used in this study.Attributes that scored less than 2.0 were considered critical success factors while attibutes greater than 4.5 were eliminated from further analysis. Respondents from industry were asked to rate the importance of attributes with respect to their perception to the success of their organization. On the other hand, students were asked to assume they were evaluating potential e-Business sites and were asked to evaluate the attributes with respect to importance of selecting the e-Business websites. These perceptions can be examined to determine differences between the two groups. The survey result illustrates, regardless of the group, both groups report more importance on Regulation/Law factors, which is quite understanble considering that Kazakhstan is in growth stage of e-Business practices.Table 3 illustrates ANOVA calculations. Respondents of both groups share similar perceptions of the critical success factors, believing that e-Business systems in developing countries are required to meet guidelines and requirements set in regulation and law. Students reported higher levels of importance on Human Resources factor, Regulation/Law factor, and Environment factor while industry group demonstrated more emphasis on Technology Support factor and Client Service factor.

It is quite understandable that e-Business participants operate within a regulatory environment that provides the legal framework in which both entities must comply. The environment can be interpreted as either negative or positive impact to the ability of the participants to perform the transaction. Kazakhstan is an example of a regulatory environment that has encouraged business and e-commerce in recent years. Companies participating in e-Businesses also operate within an external technical infrastructure as well as internal factors such as human resources factor and client interface factor.

Table 2. Critical Success factors for e-Business

Factor	Attribute	Source of Attribute
Human Resorces	**Knowledge, experience** **Communication skills** **Culture/Values** **Project management**	**[Cloete, Courtney, and Fintz, 12; Mayer-Guell, 29; Sukovskis, 40] [Chepaitis,3; Gattiker, Perlusz,and v Bohmann, 19; Palvia and Vemuri, 35] [Murray and Amorosso,16; Chepaitis,3; Gattiker, Perlusz, and Bohmann, 19; Hall, 20; Kang and Corbitt, 28; Mayer-Guell, 29; Palvia and Vemuri, 35] [Chepaitis, 11; Cloete, Courtney, and Fintz, 5; Gattiker, Perlusz, and Bohmann, 19; Hall, 20; Kang and Corbitt, 28; Palvia and Vemuri, 35]**
Technical support	**Telecommunications infrastructure** **Hardware/Software** **Technical skills**	**[Cloete, Courtney, and Fintz, 5; Dedrick and Kraemer, 13; Domaracki, 16; Gattiker, Perlusz, and Bohmann, 19; Palvia and Vemuri, 35; Mukti, 15; Staff, 39; Sukovskis, 40] [Murray and Amorosso,16; Cloete, Courtney, and Fintz, 12; Dedrick and Kraemer, 13; Palvia and Vemuri, 35; Sukovskis, 40] [Murray and Amorosso,16; Cloete, Courtney, and Fintz, 12; Dedrick and Kraemer, 13; Mukti, 32; Palvia and Vemuri, 35; Sairamesh et al., 38; Sukovskis, 40; Staff, 39; Turban et al., 42]**
Client Interface	**Client contact point** **Trust between client and provider** **Effective communication Problem** **resolution process**	**[Murray and Amorosso,16] [Molla and Licker, 31; Palvia and Vemuri, 35] [Chepaitis, 3; Gattiker, Perlusz, and Bohmann, 19; Palvia and Vemuri, 35] [Freeman, 18]**
Organization infrastructure	**Strategic plan** **Business processes** **Cost control processes** **Advertising** **Client contact methods Payment processes**	**IBS; ITBS [[Murray and Amorosso,16; Mayer-Guell, 29] [Murray and Amorosso,16; Castelluccio, 8]; IBS; ITBS; [Palvia and Vemuri, 35] [Castelluccio, 8; Dedrick and Kraemer, 13; Turban et al., 42] [Murray and Amorosso,16; Palvia and Vemuri, 35; Turban et al., 42] [Castelluccio, 8]; IBS; ITBS; [Staff, 39] [Dedrick and Kraemer, 13]; IBS; ITBS; [Mukti 15; Palvia and Vemuri, 35; Staff, 39; Turban et al., 42**
Regulatory/ Environment	**Intellectual property protection Tax laws encourage e-commerce Banking/wire transfer laws overseas'electronic payments Customs laws support global e-commerce Exchange rules/rates favorable Telecom regulations favor business**	**[Murray and Amorosso,16; Chepaitis,3 [Chepaitis,3; Gattiker, Perlusz, and v Bohmann, 19; Palvia and Vemuri, 35 Wong[26]; Buihiyan[1]** **Hall, 20; Kang and Corbitt, 28; Palvia**

		and Vemuri, 35] Wong[26]; Buihiyan[1] [Murray and Amorosso,16; Chepaitis,3				

4.1. Human resources factors

Human resources factors has significant implications for making adecision on e-Business design and implementation. These factors ares related to whether companies have adequate human resources to meet the demands of its clients. This also involves with having knowledgeable workers who understand the core values, culture and possess effective communication capability. Worker knowledge skills are considered critical by all

groups of respondents. Project management skills were considered important by all providers. Communication skills was considered not important by industry group and was dropped. All respondents considered culture/value important but not very important so it was dropped. Student group showed higher importance on human resources factor than industry group.

4.2. Technical support factors

Technical support factors are related to telecommunication infrastructure, hardware/software availability, technical skills of workers. These factors have direct impact on the ability to design and implement e-Business systems. It is very essential for companies to be able to develop the applications and web sites necessary to implement and operate e-Business ventures. Ttechnical skills attribute was considered critical while all other attributes were considered very important. This might signify that people recognize that e-Business requires very high technical ability and solutions. As expected, industry group responded with greater importance on this factors than student group.

Table 3. ANAOVA Table for

Human Resources Factor							
	N	Mean	Sum of Squares	df	Mean Square	F	Sig.
Industry	72	1.96	Between Groups 15.13	1	9.1285	14.0552	0.000
Student	89	1.72	Within Groups 166.39	159	0.6315		
Total	161	1.84	Total 181.52	160			

Technology Support Factor							
	N	Mean	Sum of Squares	df	Mean Square	F	Sig.
Industry	72	1.80	Between Groups 208.45	1	237.5	109.43	0.000
Student	92	2.10	Within Groups 262.69	162	2.1700		
Total	164	1.95	Total 471.03	163			

Client Service Factor							
	N	Mean	Sum of Squares	df	Mean Square	F	Sig.
Industry	72	1.88	Between Groups 302.97	1	431.50	269.68	0.000

				Sum					
				Within					
Student	96	2.21	Groups	289.49	166	1.6			
Total	168	2.04	Total	592.46	167				

Organizational infrastructure Factor

				Sum	of	Mean			
14		Mean		Squares	df	Square	F	Sig.	
			Between						
Industry	71	1.69	Groups	31.32	1	32.56	32.1501	0.000	
			Within						
Student	91	1.45	Groups	215.28	160	0.8949			
Total	162	1.57	Total	346.60	370				

Regulation/Environment Factor

				Sum	of	Mean			
14		Mean		Square	df	Square	F	Sig.	
			Between						
Industry	72	2.24	Groups	106.23	1	106.47	84.5	0.000	
			Within						
Student	89	1.78	Groups	310.76	159	1.26			
Total	161	2.01	Total	416.99	160				

4.3. Client interface

This factor is closely related to establishing and maintaining the relationship with clients. Client contact point, trust level, effective communication, problem resolusion process were included in this factor. Trust, communication, and problem resolution were chosen as critical while client contact point was considered very important in both groups. However, surprisingly enough, industry group demonstrated higher importance on this factor than student group.

4.4. Organizational infrastructure

Organanizational infrastructure has very important roles of ensuring companies to be able to manage e-Business adoption, operation, and maintenance. Strategic plan and business processes enable companies to operate e-Business with sustainable competitiveness. Electronic payment system, advertising, and cost control processes rather focuses on financial feasibility of e-Business. Student group indicated higher importance on these factors than industry group. This might explain the necessity of well designed of electronic payment system, advertising to maximize the exposure of the business and client contact methods.

4.5 Regulation/environment factors

The regulation/environment factors establish guidelines and standards as to how e-Business will be conducted. In a globalized society, differences between regulation/environment factors are very significant in making decisions about e-Business ventures. All attributes are considered very important but not critical. The lack of systematic regulation and business environment can create a problem of the global competitiveness of the region or the country. Student group showed higher importance on this factor than industry group. It can be interpreted as the effect of education considering Kazakhstan is still making progresses on these afctors.

5. Landscape Design for e-Business Systems in Kazakhstan

Kazakhstan government recently announced an ambitious plan to join 50 most competitive countries in the world by 2030. Information technology and e-Business systems will take a very significant role in achieving this goal. Kazakhstan has so far made significant progress in promoting utilization of It in business sectors as well as public sectors including e-Government. Kazakhstan, as a leader of Central Asia, has a great potential to impact expansion of e-Business systems in this region. In order to prepare a well designed e-Business systems which reflect success factors identified in this study, a framework to develop a landscape design for e-Business systems might be necessary. Figure 2 depicts a landscape design for e-Business systems in Kazakhstan, which in turn can be applied to various developing countries as well.
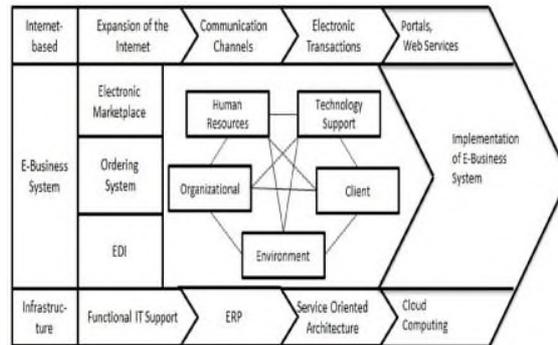

Fig. 2. Architecture for E-Business implementation

As wide availability of the internet is observed, the role and the adoption of e-Business systems have gained attention from academia and practitioners as a tool for the innovation to improve businesses in developing countries. With the introduction and extension of e-Business systems, companies face the challenges of multichannel management and the coordination of communication. Different channels (subsidiaries, sales agents, call centers, etc.) are operated over various communication channels such as web, EDI, email, phone, fax, etc. The nature of electronic interaction can be realized by web portals bundling data and application on the basis of users and roles.

With more active electronic communication, infrastructure and technology requirements increase and the need for integration of IT systems rises. First of all, network based information systems are the primary component which transcend organizational boundaries. The evolution of inter -organizational systems is characterized by the convergence of electronic marketplaces, ordering systems and EDI systems. ERP based systems are designed to provide internal information integration into the company by managing cross functional information integration and integrated business process support. The scope of ERP based systems can be

expanded to customers and suppliers through customer relationship management system and supply chain management system.

Web services and service oriented architectures allow users to integrate various applications on different platforms using open internet standards. Cloud computing as a delivery model for IT services is defined by the National Institute of Standards and Technology (NIST) as "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction". With the increased mobility and agility, cloud computing can be a potential solution for e-Business systems in the ever changing ubiquitous society.

6. Conclusion

Findings of this study about benefits of e-Business in developing countries, by and large, are not being realized very well, especially in Kazakhstan. There is very little empirical evidence on e-Business benefits in developing countries reported. This study has been more comprehensive in both conceptualization of success factors and breadth of coverage including industry sector and academic sector.

There was no strong evidence from this study that e-Business is delivering the benefits necessary to address issues such as information poverty and asymmetry and exclusion from global supply chain which might negatively affect business in developing countries. E-Business may be providing positive communication benefits which could deliver strategic business values to companies in developing countries. There might be a concern that foreign companies can utilize the benefits of e-Business to penetrate markets in developing countries. Therefore, it is quite essential for developing countries to oversee the benefits of e-Business and identify what factors are important to successful implementation of e-Business for the development of their economy.

This study identified critical factors affecting successful implementation of e-Business in Kazakhstan, which has shown the reality of success factors in developing countries. These results might contradict the dominant theoretical theories which might be rooted in cases in developed countries. It is expected that success factors identified in this study can be utilized in designing and implementing e-Business systems in developing countries. In addition, it might be desirable to stay aware of opportunities and challenges, and see it as an initiative to improve businesses rather than the solution. It is hoped that this study can provide a contribution for researchers and practitioners who might be interested in e-Business system in developing countries. This study, however, can't be generalized too widely because the survey data were collected from mainly students and companies at a convenience.

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