Information Systems in Banking Sector in Kazakhstan

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Abstract

Kazakhstan has a two-tiered banking system, with the National Bank of the Republic of Kazakhstan (the "NBK") making the first tier and the remaining banks comprising the second tier. The NBK is a State-owned bank and an independent legal entity. It operates as the central banking authority with supervisory control over the banking sector. The NBK regulates banking activity in Kazakhstan and issues instructions, which are binding on all second-tier banks. As on June, 2005, there were 36 banks in Kazakhstan. Being one of the most populated cities of Kazakhstan, Almaty has offices of all the banks. Further, activities of banks in Kazakhstan are out rightly based on information technology (IT). IT has made most of the banks as lean organization and acted as a vehicle of sustainability of banking sector in Kazakhstan. In this article, authors have discussed the finding of a study on six dimensions relating to application of information systems in banking in Kazakhstan. These dimensions are (i) types of system softwares and enterprise softwares (ii) selection criteria and decision making with respect to creating IT infrastructure, (iii) factors affecting usage of Information systems and IT, (iv) role of information technology and information systems, (v) application of web technology, (vi) analysis of demographics of respondents/ organizations. It is interesting to not that all major types of information systems are in use in banking sector of Kazakhstan but strategic use of data collected is still missing. One of the reason based on feedback of those are implementing and maintaining information system is lack of trained business analytics, data minors or OLAP (on line analytical processing) analytics. The study is based on primary as well as secondary data from internet and public domain literature from the banks. Primary data is specific to Almaty city only.

1.0 Introduction

According to the Economist Intelligence Unit and Engineering Export Promotion Council, "Kazakhstan's financial services sector is poorly developed, suffers from weak loan quality and plays a relatively minor role in financing the real economy"[1] . It is an old story now. Recently, Kazakhstan banking system[2] is considered as one of the most developed among the CIS countries after Russia an Ukraine with the biggest asset capitalization. Moody's investor service rating agency assigned BBB rating to Kazakhstan banking Sector (Walker et al., 2005).

One of the major trends seen in Kazakhstan banking sector is significant reduction in number of banks over the period of last decade. The number of banks fell from (200 in 1993) to (130 in December, 1995) to (76 in April 1998[3]) to (42 in January 2002) to (39 in June 2003) to (36 in June 2005) to 35 in the first half of 2006 because of mergers, increased capital requirements as made mandatory by the central bank, and the re-licensing of smaller banks as credit unions or partnerships**.** The number of branches has also come down from 458 in 1998 to 377 at the end of 2004. There are 15 banks with at least one-third foreign ownership. The government is a dominant force in the banking industry and maintains 100 percent ownership of the Development Bank of Kazakhstan and the Export–Import Bank of Kazakhstan. Foreign insurance companies may not operate in Kazakhstan except through joint ventures with domestic firms[4] . To be more specific, as of January 2004 the number of second tier banks in Kazakhstan was 35, including 2 banks that are 100% owned by the Government, the newly set-up Development Bank of Kazakhstan (DBK) and 10 affiliates of foreign banks (i.e., minimum one-third of shares, property, or management of non-residents)[5] . Top 5 banks (Kazkommertzbank, TuranAlem, Halyk Bank, Alliance Bank, Temirbank) in Kazakhstan accounted for 74% of total assets of banking sector as on July 01, 2006. The total asset of Kazakhstan banks is 46,552, 308,000 US $ on July 1, 2006 (Deloitte, 2006).

IN 2007, there were 33 banks in Kazakhstan[6] . The details of the number of banks in Kazakhstan along with other statistics are given in the following table 1.

Table 1: Banking Statistics of Kazakhstan[7]

Bank /Office	01.01.09	01.03.09
Second Tier banks including Hundred % owned by the Government	37 (1)	37 (1)
Branches	379	380
Additional cash office (clearing cashier points)	2167	2168
Foreign banks' rep offices	31	33
Banks – participants of the deposit insurance system	35	36
Banks with foreign participation	11	11

CAABI (2004) affirms that nowadays banks face global and local competition, customer attrition, risk management, corporate accountability, mergers and acquisitions, government regulation, cost reductions and profit generation, and thus they are forced to change their strategies in order to stay competitive in the high-tech and multi-channel environment of today's banking industry. Many researchers have suggested that mere implementing information systems would not serve the purpose. Banks has to adopt tools like business intelligence, business analytics, predictive analytics, CRM analytics etc to stay ahead in this competitive environment. It will help them in gaining customer loyalty and the evaluation of their reaction to new products and services. Applications such as CRM are becoming buzz words in the banking industry. It is presenting a full picture about their customers and thus helps in increasing revenues, predict customer behavior, and improve the use of resources throughout the company. To conclude, CRM enables business entities to gather information and create a single comprehensive view of "customer profiling, segmentation, cross-selling, up-selling and retention efforts. Introduction of call center realty is another glorification of information technology/ information systems. Internet Banking, usages of plastic cards with ATMs is another feather in the wing of the banks (Furst et al., 2000). It has resulted in various business strategies/ models for the banks in generating revenues and for providing value added services to their customers.

Statistics of plastic money (Credit card and ATM in Kazakhstan): A Kazakh private bank introduced the first plastic card linked to VISA International on 7th October, 1994[8] . Developments since that day have shown the people in Kazakhstan have learned to love their plastic money and many other trappings of a modern banking system economy such as mortgage credits and small business loans. ON 7th October, 2004 there were 2.1 million people in Kazakhstan with debit or credit cards, 14 percent of the overall population. In all 35 private banks in Kazakhstan are using plastic for payments of all sorts, while 20 banks have licenses to issue the cards. These include TuranAlem Bank, which introduced the original cards a decade ago, Kazkommertzbank, Kazakhstan's largest private bank, Narodnyi Bank and others. According to current updates there are 6808 ATMs in Kazakhstan as on 31st October 2009. Currently, in Kazakhstan there are 7.3331 **millions** of Charge cards and 6.7635 millions of users of charge card as on 31st October, 2009[9] . The major IT/IS application in Kazak banks are listed in the following table 2.

Table 2: Recent Application of IT/IS in Banks in Kazakhstan

Year	Bank	Application description
2003	Bank Turan Alem	Misys International Banking Systems' Trade Innovation: According to bank Turan Alem, it will support full range of trade related business applications, from traditional letters of credit to collections of bills, financing, syndicated lending and clean payments[10].
2005	ATF Bank	TEMENOS, a provider of integrated core banking systems, today announced that ATF Bank, acommercial bank in Kazakhstan, Central Asia, has selected TEMENOS T24 to replace its legacy core systems. The bank will implement TEMENOS T24, the company's flagship modular software application, at its head office, 18 branches and 13 sub-branches, serving some 250,000 end-user accounts. (Temenos 2005).
2005	All Banks	KazCard Project: It is new national card system based on WAY4™ Pre-Authorized technology, developed by OpenWay. Its aim is to reach all territory of the republic even where telecommunication facilities are not available (News & Event 2005).
2005	NurBank	Two major component of the project are (i) 32 processor server Prime Power 1500 which needs the Solaris plate form having high degree of scalability and (ii) analytic system based on the products of Oracle - Oracle Financial Service Applications (NurBank (2005)).
2005	Demir Kazakhstan Bank (renamed as Bank Pozitiv Kazakhstan in May 2008)	Bank has introduced corporate internet banking with features such as retail banking and corporate/ SMR banking[11] . In addition, bank has also implemented core banking by changing technology. Bank is issuing credit cards also. Further customers can make utility payments on line via many devices such as mobile phone or PC.
2006	Kazkommertsbank	Improvement of management information systems and operating efficiencies through organizational restructuring and investments in human resources and information technology. The Bank intends to continue to introduce more advanced information systems in the future.
2006	Halyk Bank	Payment for mobile communication directly from mobile phone. In addition, by the end of 2006 it will be possible to make municipal payments, place money for the credit, make remittances each other, make purchases on Internet - shops and pay accounts at restaurants (News 2006, BIS 2004). The number of Halyk banks charge card has reached the figure of 2.5 million[12].
2006	Bank Turan Alem (BTA) (BTA Bank JSC). (http://www.bta.kz)	TRITOM: Bank Turam Alem has awarded an order to 3i Infotech for its **Universal Lending Solution, TRITON™**. BTA will implement TRITON to assist its operations in loan origination, management and collection[13]. It is also using the system in its subsidiaries in CIS countries,. It has also selected Trade Innovation solution to support the expansion of the bank's trade finance business from Bank Misys International Banking Systems (Misys-IBS) (M2 Presswire (2003)).
2006	Temirbank (http:// temirbank.kz)	The bank will implement TRITON, 3i Infotech's Universal Lending Solution, covering loan origination, management and collection[14].

These statistics are an ample proof of trends in usage and implementation of information systems/ information technology in banking sector Kazakhstan. In addition, National Information Super Highway (NISH)[15] project running 10,000 km through out all regions of Kazakhstan, IT Park at Alatau for developing IT applications and infrastructure will create e-business culture in general with special focus on banking sector.

In this article, authors have discussed the finding of a study on six dimensions relating to application of information systems in banking in Kazakhstan. These dimensions are (i) system softwares and enterprise softwares (ii) selection criteria and decision making with respect to creating IT infrastructure, (iii) factors affecting usage of Information systems and IT, (iv) role of information technology and information systems, (v) application of web technology, (vi) analysis of demographics of respondents/ organizations. This is an exploratory study. Not much is available in the literature about the banking sector in Kazakhstan. These dimensions are the basic to the application of information systems/ information technology.

2.0. Methodology

With the constraint of fund and time the research team had

decided to limit the locale of the study of Almaty which alone houses 28 banks, 29 subsidiaries and 229 cash-processing centers and also known as financial capital. Both primary and secondary data were collected. The secondary data was collected from various reports available on internet. Primary data was collected with the help of structured questionnaire. Team approached with structured questionnaire the head of IT departments of different banks in Almaty for collecting primary data. The data were collected through face-to-face interview prior appointment with IT heads and other functional heads in various banks. As mentioned above there are in total 37 banks in Kazakhstan, the data was collected from about 22 banks. The response of the IT head is treated as response of the Bank. A sample of 22 banks out of 37 can be treated as an excellent representative sample. Questionnaires were given in both languages, i.e., English and Russian in advance to the responding organizations. To seek the validity of the questionnaire, a pilot study was conducted with a view to incorporate the suggestions in the beginning. The most interesting feedback was about the options in each question. In all there were six major dimensions in the questionnaire including demographics of the responding officials and banks. The data so collected were coded and analyzed mainly for frequency distribution analysis using Excel spreadsheet. The objectives of the analysis were to ascertain the importance of various factors which formed a dimension. The major source of secondary data is Internet since most of the publications were in Russian language. It was not possible for the team to translate every statement in English. However, attempts were made to include it as much as possible.

3.0. Results & Discussion

The analysis is carried along the following six dimensions of the questionnaire that is (i) types of system software's and enterprise software's, (ii) selection criteria and decision making with respect to creating IT infrastructure, (iii) factors affecting usage of Information systems and IT, (iv) role of information technology and information systems, (v) web technology, and (vi) demographics of respondents and organizations. The results of data analysis and their conclusions are detailed in the following sub-sections.

3.1. First Dimension: Types of Enterprise Systems and System Software's used in banks in Kazakhstan

The basic objectives of collecting information on System software's and enterprise systems/application softwares were to have an idea of type of systems is in use in banking sector of Kazakhstan. The results are summarized in Table 3. The data were collected on 13 subcategories of these systems. These are general banking software, ERP software, CRM software, business intelligence, data warehouse, OLAP etc. The findings of the study are complied in table 2. It is evident from the table 2 that all type of system softwares (Windows, Unix, Linux, etc) and application software /ERP software's such as (Kontur Corporation, Way 4, SAP BW, In-house, Open Plan, Crystal Reports, IBSO, 1C, Premia) are in use in banking sector of Kazakhstan. Further, sophisticated tools such as business intelligence, data mining, and CRM, OLAP / data warehouse are in use in banking sector in Kazakhstan. Usage of large number of information systems by banks as evident from table 3, can be taken as surrogate variable of technological advancement of banking sector. It is technology which has made banking sector of Kazakhstan number one banking industry among CIS countries.

Table 3: Major Information System Implemented in Banking Sector of Kazakhstan.

SN	Type of Software	Name of the Software
1	**General Banking Software's**	Software developed by their Bank, SCORE; In-house, COLVIR (Operational bank day and "Credit - Deposit" module); RealSoft; RB (Personnel Registration and Salary stock); SAP MM (moving material) , ORACLE; MS SQL; IBSO; Monolit, Temenos (Temenos T24), Pragma TX, SWIPT Alliance Workstation; IBSO - access to accounts of customers, Acrobat Reader, LINGVO,
2	**ERP software**	Kontur Corporation (the name is in Russian), Way 4, SAP BW (integration is in process), In-house; Open Plan, Crystal Reports; IBSO, 1S; PREMIA;; Navision, Diasoft Master, Pragma TX, WinRAR, AVP Kaspersky,
3	**CRM softwares**	Call Center, Virtual payment system; Siebel, They are planning to implement CRM Software, Pragma TX,
4	**Business Intelligence Softwares**	Cognos; Inhouse, SAP BW; COLVIR, They work with several providers, ORACLE;Contour Standard (Contour Corporation) from Moscow Company "Intersoft lab", BPM software, EPM software; Suite 4, Obraksis, Flex Cube, ORACLE Financial Services Applications, Integrated automated banking system, Pragma TX,
5	**Data Mining Softwares**	Centralized data warehouse (their own development), SAP BW (Business Warehouse), They use software of several providers which are integrated together, Sybase IQ; DBMS ORACLE, They use some data mining software, CCDB, ORACLE Warehouse Builder,

6	**OLAP/ data warehouse**	ORACLE; Inhouse, SAP BW; COLVIR, They have intentions to start using ata warehouse of Moscow company "ContrCorporation" ,DBMS Sybase Contour Standard (Contour Corporation) from Moscow Company "Intersoft lab" Seagate Crystal Reports, Systemized with Obraksis, Pragma TX,
7	**Software's for online banking services**	In-house software, Bank - Client; Internet Banking (My bank); Internet Services ORACLE, APACHI Servers,They have been installing Moscow Software - (BSS??) No official Web site in Kazakhstan,Software developed by their bank They have no Web site , Pragma TX - Internet Office, No Internet Banking is established,
8	**Personal Productivity Software's**	MS Office, Lotus Notes,
9	**Operating software's**	Windows, Unix, Linux, Novell Netware,
10	**Group collaborative systems**	Microsoft Outlook Express, Microsoft Outlook , Microsoft Exchange, Landoks, Lotus Notes
11	**Communication software's**	TELEX, SWIFT, Aliance (system of document e-transfer), General Data transfer software, Office Net, SBMI (System of Banking Documents Interchange) FASIT (Financial Automated System of Information Transfer), E-mails
12	**Financial Software**	1C
13	**Software for HR Departments**	Centralized System of employee registration, Testing systems for employees, HR, Lookuppro, People Soft - their own development

3.2. Second Dimension: Selection Criteria and Decision Making with respect to IT Infrastructure

The data about decision makers is analyzed for 3 answers (Yes, No, No response) and frequency distribution for the same is presented in table 4. From the results it is clear, that in the majority of banks either top management or cross functional teams appointed by the Top management is responsible for taking decisions in acquiring/ implementing the softwares. These categories are not mutually exclusive. The statements have multiple responses.

Table 4: Distribution function of the respondents- Who is responsible for taking decisions in acquiring softwares in Kazakhstan banks?

S.N.	Decision Makers	Yes	No	N/R
1	Team of IT department	5(16.5)	24(77.5)	2 (6)
2	Top Management	8(26)	21(68)	2 (6)
3	Cross functional teams appointed by the top management	17(55)	12(39)	2(6)

3.3. Third Dimension: Factors Affecting use of Information Systems / Information Technology

Under this dimension, the primary data was collected on two aspects, that is (i) the factors/ statements (user friendliness, cost, consultant advise, etc) being considered by the banks in creating IT infrastructure specifically with respect to information system selection. The data was collected on 1 to 5 Likert type scale. One represents that factor is not at all important and other extreme (5) represents that factor is very important, (ii) the factors creating hindrances in implementing IT/IS, such as technology, human, financial, environmental etc. The data analyzed for frequency distribution for the first part is presented in table 5.

From the results presented in table 5 it is clear that all the 10 factors/ statements except sales-persons advise and flexibility of report format have very high importance in the mind of management while acquiring information systems. The user friendliness is one of the most important factor followed by fitness of the application and software integration in the decision making process while acquiring information systems.

Table 5: Distribution of the Rating of Respondent on (1 to 5 Scale) of the Factors being Considered for Acquiring Information Systems in Banking Sector in Kazakhstan.

S.N.	Factors	Scale (1 -5)					
		1	2	3	4	5	N/R
1	User friendliness	0	0	1(3)	9(29)	18(58)	3(3)
2	Cost	0	0	6(19)	11(35)	9(29)	5(16)
3	Consultant's advice	0	2(6)	(26)	8(26)	8(26)	5(16)
4	Compatibility	0	0	3(32)	10(32)	15(48)	3(10)

5	Past experience of the software	0	0	7(22.5)	10(32)	9(29)	5(16)
6	Software integration	0	(3)	(9)	9(29)	15(48)	3(9)
7	Flexibility of report formal	0	3(9)	14(45)	10(32)	2(6)	2(6)
8	Salesperson's advice	2(6)	8(26)	8(26)	8(25)	1(3)	4(13)
9	Industry standard	0	1(3)	8(26)	10(32)	8(26)	4(13)
10	Fitness for application	0	0	3(10)	7(22.5)	17(55)	4(13)

The scale meanings are 1 - Not at all important, 2- Some what important, 3- Neither important nor unimportant, 4- important to certain extent, 5- Very Important) factors considered in selecting computer software. The data in brackets is percentage.

In the following sub sections technology, human, financial, environmental factors on information technology implementation is discussed.

3.3.1. Technological Factors

There are six questions/statements with respect to technological constraints. Respondents were asked to select one of the 4 answers (Yes, No, to some extent, No response (N/R)) for questions/statements. The frequency analysis of the responses is presented in tables 6.

Table 6: Distribution of the Respondents as They Perceive- Technological Factors Hindering the use of Information Systems / Information Technology

S.N.	Reasons Hindering the use of IT	Yes	No	To some ext.	N/R
1	Rapid changes in technology	7 (22.5)	15(48)	5(16)	4(13)
2	Integration / compatibility problems	16 (52)	4(13)	7(22.5)	4(13)
3	Security not guaranteed	18(58)	2(6)	6(19)	5(16)
4	Software problems	10(32)	10(32)	5(16)	6(19)
5	Reliability / breakdown problems	17(54)	3(9)	6(18.5)	6(18.5)
6	Hardware problems	9(29)	12(39)	5(16)	5(16)

It is evident from the results security related issues are most important hindrance in the usage of technology followed by reliability and issues relating to integration of different technologies acquired at different times.

Rapidly changes in technology, software and hardware related problems are also identified by the respondents but these are less important in comparison to security, reliability and integration. The rapid changes in the technology confuse the user with respect to its integration with the existing systems and security issues. They also pointed out that by the time they see maturity in the existing system, the vendor tries to push either new set of technologies or the new versions of the existing technology with out much justification in turn of Return on Investment (ROI) most of time.

3.3.2. Human Factors

Six human factors that are hindering the usage of the technology, considered important in the context of Kazakhstan. The analyzed data of six human factors is presented in table 7.

Table 7: Distribution of the respondents as they perceive -. Human factors are hindering the use of Information Systems / Information Technology

S.N.	Reasons Hindering the use of IT	Yes	No	To some Extent	N/R
1	Lack of knowledge / awareness of available IT	14(45)	10(32)	4(13)	3(9)
2	Inadequate training	8(26)	14(45)	5(16)	4(13)
3	Fear / mistrust of technology	13(42)	11(35)	4(13)	3(9)
4	Poor management	7(22.5)	17(55)	3(9)	4(13)
5	Poor leadership	5(16)	20(64)	2(6)	4(13)
6	Poor teamwork	8(26)	16(52)	3(9)	4(13)

The six statements for the human factors were Lack of knowledge/awareness of availability of technology, inadequate training, Fear/Mistrust in technology, Poor Management, Poor leadership, and Poor teamwork. The major areas of concern in relation to human resources are lack of knowledge/awareness of available IT, fear/ mistrust in technology followed by lack of training and poor teamwork. Irrespective of these concerns every one appreciate the utility of IS/IT in serving their customer better.

3.3.3. Financial Factors

Three questions presented in table 8 were asked to the respondents. It is evident from the analysis that availability of funds is a problem to some extent but as such availability of funds for implementing or acquiring technology is not a major problem with majority of banks. The most important factor they perceive the justification of cots of information systems vis-à-vis direct benefits. In addition, they find TCO calculation difficult in case of intangible part of cost and benefits.

Table 8: Distribution of the Respondent Responses- Which Financial Factors is Hindering the use of Information Systems / Information Technology.

S.N.	Financial Hindering the use of IT	Yes	No	To some ext.	N/R
1.	Difficulty in proving that the benefits of IT are greater than the associated costs	8(25)	11(35)	7(23)	5(16)
2.	Difficulty in calculating the total cost of operations (TCO).	5(16)	15(48)	7(22)	4(13)
3.	Lack of available funding	4(13)	19(61)	4(13)	4(13)

3.3.4. Environmental Factors

Four questions were asked to the respondents in relation to environmental factors affecting the usage of information systems/ information technology. These were relating to conservative nature of the industry, project driven industry, susceptibly of the industry to economic changes, and complex / fragmented industry. About 20 percent have not responded to any of these questions. Remaining perceived that industry is slow to change and complex followed by susceptible to economic climate. During the face to face interviews it was evident from the discussion that an industry which moves money in figures and not physically is complex in its operations and slow to change due to fear and insecurity with new technology. They feel any security related lapse may ruin the faith of customer and will be very costly to the bank.

Table 9: Distribution of the Respondents- As they Perceive Environmental Factors are Hindering the use of Information Systems / Information Technology

S.N.	Environmental reasons hindering the use of IT	Yes	No	To some Extent	N/R
1	Conservative industry that is slow to change	9(29)	12(39)	4(12)	6(19)
2	Project driven industry with short term outlook	2(6)	21(68)	2(6)	6(19)
3	Susceptibility of industry to economic climate	7(22)	13(42)	5(16)	6(19)
4	Complex / fragmented industry	9(29)	11(35)	4(13)	7(22)

3.4. Role of Information Technology/ Information Systems

To ascertain the role of information technology in banks questions related to two aspects were asked to the respondents on one to five points scale (5- most significantly enabled, 4- considerably enabled, 3 - moderately enabled, 2- slightly enabled, 1- not enabled). The first aspect was "To what extent has IT enabled your bank to accomplish its strategic goals in the following areas?" and second was "To what extent do you agree with the following predictions about information technology/ information systems applications in banks in the next five years?"

It is evident from the results presented in table 10, that IT is instrumental in helping banks in achieving their strategic goals in almost all areas that is communication, timeliness, Business development, funding high quality projects, increasing profits, providing easy access and safety to the data resources in particular, Similarly, as it is evident from table 11 results IS/IT application will be on top priority among banks for conducting their business in future in terms of identifying profitable customer, identification of the fraud, and better monetary control. On the other hand banks feel that it will require excessive training and will become more and more costly in days to come.

Table 10: Distribution of Respondents: To What Extent IT Enabled the Bank in Achieving their Strategic Goals in Various Areas.

S.N.	Areas	1	2	3	4	5	N/R
1	Communication	0	0	1(3)	7(22)	16(52)	4(12)
2	Timeliness	0	0	2(3)	5(16)	20(65)	4(12)
3	Business development	0	0	0	14(45)	13((42)	4(12)
4	High quality projects	0	0	1(3)	9(29)	17(55)	4(12)
5	Profit	0	2(6)	5(16)	7(22)	12(39)	5(16)
6	Safety	0	0	2(6)	6(19)	17(55)	6(19)

Table 11: Distribution of the Respondents for their Observation Regarding IS/IT Application in Future in Banks in Kazakhstan in the Next 5 Years: (5 - Strongly agree, 4- Agree, 3 – Neither Agree nor Disagree, 2 – Disagree, 1- Strongly Disagree)

S.N.	Prediction of IT applications	1	2	3	4	5	N/R
1	IT will improve Communication	0	0	1(3)	7(22)	20(64)	3(9)
2	IT will result in improved monetary control	0	1(3)	2(6)	11(35)	13(42)	4(12)
3	IT will benefit monetary research	0	2(6)	8(25)	12(39)	5(16)	4(12)
4	IT will help in detecting frauds	0	0	5(16)	11(35)	11(35)	4(12)
5	IT will lead to improved profits	0	0	8(25)	9(29)	11(35)	4(12)
6	IT will require excessive training	0	0	4(12)	7(22)	16(52)	4(12)
7	IT will become prohibitively expensive	4(12)	6(19)	9(29)	5(16)	2(6)	5(16)
8	IT will help in identifying profitable customers	0	1(3)	7(22)	7(22)	12(39)	4(12)

4.0: Web Technology

Web technology is used by all the banks for disseminating the information with respect to operations of the banks among customers (internal /external) and out side environment. The web technology is also used to get feedback about product and services of the banks from communities including their customers. The data was collecting on three broad dimensions of web technology, i.e., usage of web site, usage of e-mail and factors restricting the usage of e-mail.

It can be inferred from the data presented in table 12 that web technology (primary usage) is used for disseminating general information of the banks and information about product & services followed by public feedback, personnel requirement and information to shareholders.

Table 12: Distribution of the Respondents as per their Responses about the Statement "Primary Purposes of having a Company Web Site (5 - Strongly agree, 4- Agree, 3 – Neither Agree nor Disagree, 2 – Disagree, 1 - Strongly Disagree)

S.N.	Primary Purpose	1(3)	2(6)	3(9)	4(12)	5(16)	N/R
1	General company information	0	0	0	4(12)	20(64)	7(22)
2	Information to share holders	3(9)	5(16)	5(16)	2(6)	7(22)	9(29)
3	Personnel recruitment	1(3)	2(6)	2(6)	8(25)	11(35)	7(22)
4	Public feedback	1(3)	1(3)	3(9)	6(19)	13(42)	7(22)
5	Product & services information	0	0	0	4(12)	20(65)	7(22)

E-mail is used mainly for sending formal messages and distribution of documents to other organizations (Table 13). Personal uses of e-mails are not allowed in all banks. The reasons for restricted usage of e-mail as perceived by the banks are losing sensitive information followed by legality of e-mail process (table 14).

Table 13: Distribution of the Respondents as per their Response about Usage of e-mail by the Banks in Kazakhstan.(5 - Strongly agree, 4- Agree, 3 – Neither Agree nor Disagree, 2 – Disagree, 1 - Strongly Disagree)

S.N.	Purpose of using E-mail System	1	2	3	4	5	N/R
1	Sending simple / informal message	6(19)	4(12)	4(12)	4(12)	9(29)	4(12)
2	Distribution of documentation to other organization	3(9)	1(3)	2(6)	4(12)	15(48)	6(19)
3	Sending formal messages	2(6)	2(6)	1(3)	7(22)	14(45)	5(16)
4	Distribution of documentation within the organization	5(16)	5(16)	6(19)	5(16)	5(16)	5(16)
5	Purchasing	5(16)	5(16)	6(19)	5(16)	5(16)	5(16)
6	Distributing software	11(35)	5(16)	3(9)	4(12)	3(9)	5(16)

Table 14: Factors Restricting the use of e-mails are given in the following table. To what extent you agree with these factors on 1 to 5 scale (5 - Strongly agree, 4- Agree, 3 – Neither Agree nor Disagree, 2 – Disagree, 1 - Strongly Disagree)

S.N.	Factors restricting use of E-mail	1	2	3	4	5	N/R
1	Afraid of losing sensitive information	1(3)	2(6)	5(16)	6(19)	13(42)	4(12)
2	No user training	11(35)	6(19)	7(22)	2(6)	1(3)	4(12)
3	Lack of management awareness and support	15(48)	3(9)	4(12)	4(12)	1(3)	4(12)
4	Insufficient management control over out-going information.	7(22)	3(9)	7(22)	8(25)	2(6)	4(12)
5	No e-mail system implemented	22(71)	2(6)	0(0)	1(3)	2(6)	4(12)
6	E-mail does not have legal standing in legal proceedings.	11(35)	1(3)	3(9)	4(12)	8(25)	4(12)

Concluding Remarks

Almaty being one of the most important cities of Kazakhstan and major business center in Central Asia has branches or head offices of all banks in Kazakhstan. While conducting study it has been observed that all the banks (public sector banks, private banks, or foreign banks) using information technology not only as a mean of doing business but also as a strategic tools for survival in a highly volatile and competitive environment. Majority of operations either front office task or back office job is done with the help of information technology. Communications are also conducted in electronic media. Sharing of information about the technology is not a common practice among banks. Banks treat technology as a strategic weapon for their business which should not be disclosed. However, banking environment is high tech environment in Kazakhstan

Banks in Kazakhstan are using all types of latest information systems/ information technology tools such as data warehouse, data mining, OALP and other enterprise systems. The major considerations for acquiring technology are user friendliness, compatibility and integration. Most of the decisions relating to technology acquisition are team decisions. Rapid developments, lack of security, proof of real monetary benefits, and conservative approach by the industry are major hindrances at times. However, funding is not a major issue with majority of the banks. The major advantages as perceived by the banks are timeliness and communications. Web technology is used for disseminating general information and information about product and services. Restricted E-mail usage is the policy of all banks due to fear of loosing sensitive business information. In addition, a new dimension of business is emerging with respect to usage of either plastic cards or other IT services of banks for making payment of utilities by their customer. The minimum size of a branch office of the banks in Almaty is 5 and maximum is 1000+. Most of the respondents of the study were graduate and middle level officers of the bank.

Limitations Study

It is an exploratory study. In depth interviews are needed further to have more information on issues with respect implementation & usage of information technology in banks in Kazakhstan.

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