Implementation of the New Core Banking System (eICBA) in a Local Bank in the Philippines

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Abstract - *Increasing consumer demands, competition, issue on work productivity, high operational costs and profitability are some of the major reasons why banks acquire a core banking system. This study generally aimed to assess the implementation of the new core banking system of Bangko Kabayan. More specifically, it described the demographic profile of the users, determine the level of effectiveness of its use, tested the significant difference on the effectiveness of the use of the system when grouped according to demographic profile and proposed measures to address common problems on the system use. The descriptive method was utilized in the conduct of study. The respondents of the study are all users of the system at Bangko Kabayan consisting of 230 employees.*

The study revealed that the users are satisfied with the new system and that it is effective in terms of software utilization, work productivity, ease of use and system security (Robin, 2012). Based on the four categories, ease of use and system security got the highest composite mean of 2.95 in terms of effectiveness. There is a significant relationship on the level of effectiveness of the system and the demographic profile of the users specifically when grouped according to age, gender and length of service. The common problem encountered by the users is related to system downtime. It proves that no system can work with 100% full performance in a given specific period of time.

Keywords: *eICBA, Core Banking System, System Security*

INTRODUCTION

In today's world, organizations are pursuing complex objectives that are often difficult to reconcile, in order to become more competitive, more productive and more profitable. One of the major strategies of the organizations to cope up with this is a good technology implementation. The increasing growth and development of technology has created a major change in different aspects of human life and organizational performance. Along with the evolution of computer and specialized technologies, provision of high quality and up to date services and product is an opportunity that no reliable organization can ignore.

Adopting a new system for the organization requires extensive study and thorough analysis of the existing as against the replacement to be able to come up to a right decision. Based on a study conducted by Aggarwal (2006) on the Roadmap to Successful Core Banking System (Beimborn, et al., 2007) Replacement, core banking is a highly efficient "customer accounting" and transaction processing engine for high volumes of back-office transactions.

Once an employee enters transactions in the deposit or loans module, the system will automatically generate the corresponding entries in the GL module and it is stored in the system's database for report purposes. It is an integrated system in the sense that once you enter data, the system will process and it will generate the output in report forms.

With the fast changing technology, banking sector is able to improve their processes and services because of this advancement. Big banks like universal and commercial banks can easily cope up with these advances and can even acquire more sophisticated system due to availability of resources and capital. However, small banks like the rural banks are a little bit late in the implementation of the said technology due to various constraints such as cost to acquire and the capabilities to evaluate and implement the system.

Infosys (2009), noted that "the current competitive environment with increasingly demanding

customers is forcing banks to analyze their technology environment and ensure that their strategy is aligned to their business objectives. Core banking upgrade or replacement is often the only solution to their problem."

Implementing a new core banking system is a big challenge for every organization, particularly the small ones which come from a manual processes and eventually converting into automated. All existing data need to be aligned with the requirement of the new system (Wagner et al., 2006). If a bank is coming from a manual process, it will take time for them to encode all existing data in a spreadsheet and eventually migrate to the new system. There will also be a constraint if the available data of the customers in the bank are incomplete, so to be able to come up with an accurate and complete data base of clients, they should first request all clients to update their information to the bank. It will be useless if the system will not be able to give a complete picture of a client. In addition to the client database, all the necessary beginning balances and transaction history of the accounts should be correctly forwarded otherwise, the organization may encounter problem not only with the system but also with the external clients.

It's a challenge for every organization to run the implementation of the new system very smoothly. There will always be problems glitches that may come out after the full implementation but still it depends on the organization's team how they will resolve and handle the situation.

Integrated core banking system is beneficial to the bank as it integrates all of the functions of the company. It is also advantageous for the organization since having a core banking system may result to a substantial reduction of operation cost, particularly manpower. Cost reduction was mainly due to the effect of streamlining of processes which greatly affect the operations. Easier introduction of new products can also be expected from the system. Most system now a days are custom made wherein you can customize the products that you will offer to the client depending on their need on a faster and more convenient way. Integration of all products and services leads to improved risk management. It is quite difficult to trace risk and fraud on the manual processes unlike with the system like this. There are various tools incorporated in the system that are capable to track unusual transactions and the audit trail is always available.

Having a real time transaction processing is also one of its advantages. The management can assess the performance of the organization any time since all transactions are always recorded real time. Most of the available core banking system today is capable of giving efficient and easy transactions which can be conducted 24/7. It is only up to the organization whether they are ready to use all the facilities available in the system. Majority of the banks nowadays are already using an integrated core banking system. However, it is not an assurance that users will not encounter error when using automated system as compared to the traditional way.

System limitation includes the issue on garbage in garbage out. It means that what user encodes in the system is the information that it will store and process inside and at the same time, the reports will be based on it. So when a user inputs erroneous information, it will not be prompted by the system and that data will be converted to reports. Although there are some parameters set to check the information entered into the system, it will not be captured 100%.

Core banking system does not deal with the customer-facing front end of the bank. Core banking systems do not include a comprehensive Customer Information Repository though they include Customer Information File of Customer Information System focused on their own processing and reporting needs. (Aggarwal, 2006).

With Bangko Kabayan's vision of being the preferred financial institution in Region IV and delivering relevant financial service with excellence, it is continuously branching out and offering reasonable products and services from different parts of the region, particularly in Batangas, Quezon and all the way to Laguna. Additional branch network means additional client base. The bank has been very aggressive in branching and developing new products to get a larger market share. In order to improve the services and products given to the clients, develop a complete client data base and increase productivity of the employees by reducing manual processes all leading to increase profitability, the management of the company came to a decision to acquire an integrated banking system for the bank.

All organizations are looking for ways on how to improve the processes inside the company which at the same time improve the products and services offered to the clients. Collaborating with all other fellow rural bankers from the alliance of RB's, they commissioned a Philippine independent company to develop a core banking system for them and in the

year 2010 the Deposit module was up and used by the banks. During this time, the deposit module is being used in a centralized set up wherein interbranch transactions are possible, however, loans and General Ledger (GL) module are running in the old system, so it a stand-alone and not yet integrated with the deposit module. Each branch maintains an accountant and a loans bookkeeper to manually encode and reconciles the daily transactions. Consolidation of bankwide reports are done only every month end since it takes time to send the back-up files to the head office and process the consolidation. So usually reports as of a given period are distributed after two or three weeks from the last day of the month. With this set-up decision makings for the organization are delayed whereas the competitors with highly advanced technology are doing it on time.

While the competitors have a lot of technological advances and a good customer data base to move aggressively, the bank is left behind still waiting for the delivery of the remaining modules. Since the vendor of the system takes time to develop and implement the loans and GL module, Bangko Kabayan decided to screen and evaluate other vendors coming locally and even from other countries.

In the year 2012, after the thorough screening and evaluation process, the eICBA system developed by Infopro was selected as the new core banking system of the bank. It is a comprehensive, integrated yet modular banking solution designed to meet the demands of today's financial institutions. The eICBA Banking System supports institutions of every operational size and complexity, including corporate banks, retail banks, microfinance banks, and financial cooperatives of any kind.

Since it is the first ever integrated system used by the bank, it takes time to update all the records electronically for the initial stage of conversion as well as train all the users of the system. The bank decided to convert the old system to the new system on a per module basis. Since the deposit module was previously under a newly developed system, it takes less time and effort to convert it as compared to the GL and loans. Conversion of Deposit and GL module was completed last September 2012 while the loans module was done after 5 months or last February 2013.

After the full implementation of the new core banking system, all the transactions are done and posted real time. As the teller processes a deposit or loan payment transaction, it will automatically generate the corresponding general ledger entries and eventually generate the necessary reports. Because of this improvement caused by the system, streamlining and centralization on various processes are implemented resulting to a lesser personnel compliment particularly at the branch level. Ratio of Branch accountants to branch of 1:1 was reduced to 1:4 and the loans bookkeeper position was eliminated, however there are some positions at the head office that was added as a result of centralization. Reports can now be generated from the system on daily, weekly, monthly or quarterly basis depending on the need of the user.

The eICBA system is one of the biggest investment of the organization and part of the objective in acquiring such is to increase productivity and streamline processes. This study is intended to gain an understanding on how the users respond after the implementation of the new system and assess the level of effectiveness in terms of software utilization, work productivity and ease of use. The result of this study will help the organization to improve and enhance the use of the system for work efficiency leading to an improved and satisfied employees and customers.

OBJECTIVES OF THE STUDY

The study generally aimed to assess the implementation of the new core banking system (eICBA) of Bangko Kabayan. More specifically, it described the demographic profile of the users of the system in terms of gender, age, marital status, length of service and position; to evaluate the effectiveness of the system in terms of software utilization, work productivity, ease of use and security; to identify the common problems encountered by the employees on the use of the system; to test the significant difference on the evaluation on the effectiveness of eICBA when grouped according to demographic profile and to propose a plan of action that will enhance the use of the system.

METHODS
Research Design

This study utilized the descriptive method to assess the implementation of the new core banking system at Bangko Kabayan. Descriptive research is a study designed to depict the respondents in an accurate way. It involves the use of written questionnaires to gather data from the respondents.

Participants

The respondents involved in the study are all existing users of the new core banking system in the

bank. A total of 230 users out of 328 employees of the bank as of January 2015 or a total of 70 percent served as respondents who were reached through the branches of the bank as well as all the users in the head office.

Instrument

The instrument used was adopted from the research of Catena, (2014) with some modifications to align with my study. It was then presented to the adviser for further evaluations and after which the final copies were distributed. The questionnaire consisted of three parts; Part I is the profile of the users of the new system in terms of socio demographic profile which consists of age, gender, marital status, length of service and position; Part II includes the questions proper as to the level of effectiveness on the implementation of the system in terms of software utilization, work productivity, ease of use and security; Part III of the questionnaire focuses on the problems encountered in using the new system

Procedures

The following steps were undertaken in gathering the data to answer the objective of the study. An email to formally request to conduct a survey among employees of the bank was sent to the HR manager. The questionnaire was then forwarded to the branches through the Branch Operations Head (BOH). The BOH are the point persons who have been in charge in distributing it to their staff, collecting and transmitting back to the head office. For the head office personnel, it was personally distributed and collected by the researcher. An interview was also conducted to some users of the new system to support their numerical responses.

Data Analysis

The result of the survey were tallied, encoded and sent to the university statistician for interpretation using different statistical tools. These include Frequency Distribution, Weighted Mean and Analysis of Variance (ANOVA). In addition, the data were computed using PASW version 18 to further analyze the result with 0.05 alpha level.

The given scale was used to interpret the level of effectiveness: 3.50 – 4.00: Very Effective (VE); 2.50 – 3.49: Effective (E); 1.50 – 2.49: Less Effective (LE); 1.00 – 1.49:Not Effective (NE). The given scale was used to analyze the problems encountered: 3.50 –

4.00: Always (A); 2.50 – 3.49: Often (O); 1.50 – 2.49: Seldom(S); 1.00 – 1.49: Never(N).

RESULTS AND DISCUSSION

Table 1. Percentage Distribution of the Clients' Profile

Profile Variables	f	%
Age		
21 – 30 years old	128	55.70
31 – 40 years old	78	33.90
41 – 50 years old	20	8.70
51 -60 years old	4	1.70
Gender		
Male	85	37.00
Female	145	63.00
Marital Status		
Single	106	46.10
Married	119	51.70
Separated	4	1.70
Widow	1	0.40
Length of Service		
Less than 1 year	39	17.00
1 – 3 years	82	35.70
4 – 10 years	78	33.90
11 – 15 years	11	4.80
16 to 19 old	15	6.50
More than 20 years	5	2.20
Position		
Branch Manager	15	6.50
Branch Operations Head	19	8.30
Teller/Senior Teller	33	14.30
CRA/CSA	20	8.70
Community Dev Specialist/Loan Officer	81	35.20
Executive Office Personnel	62	27.00

Table 1 presents the percentage distribution of the respondent's socio demographic profile. In terms of age, majority of the respondents are 21-30 years old with a frequency of 128 and 31-40 years old with a frequency of 78, which comprise 55.7 percent and 33.9 percent respectively. Age bracket of 21-30 years old is the highest since majority of the employees who entered the bank are fresh graduates. The organization also has a high turnover for Community Development Specialist with an average of 30 percent, a position replaced usually by younger candidates. This is followed by 41-50 years old with 8.70 percent and lastly 51-60 years old with 1.70 percent. eICBA users are mostly female with a frequency of 145 out of 230 respondents or 63 percent whereas males account for the remaining 37 percent.

In terms of marital status, 51.7 percent or more than half of the respondents are married, 46.10 are

single and the 2.1 percent accounts for separated and widow. Majority of the respondents are in the younger age bracket. It also shows on the length of service wherein those who are 3 years and below account for a total of 52.7 percent, followed by 33.9 percent for 4-10 years. This was also due to the additional employees who are hired for the newly opened branches in the last two years as well as the additional staff in relation to the centralization of various processes. Out of the 230 respondents who are users of the eICBA system, 81 or 35.2 percent are Community Development Specialist (CSD)/Loan Officer. They are the ones in charge for small loans particularly the microfinance and each branch has more than 1 CSD. This was followed by back office personnel at the head office and tellers with 27 percent and 14.30 percent respectively. The back office personnel includes the support group from the head office composed of the accounting department, credit management department, credit support department, branch banking unit and the IT department. The third position in terms of distribution of respondents is the teller, the one who accepts and processes deposits, withdrawals and loan payments.

Table 2. Level of Effectiveness of the New Core Banking System in terms of Software Utilization

Indicators	WM	VI	Rank
1. The system is easy to use and navigate	3.12	E	1
2. The system is always updated such that when used, the results are free from error.	2.81	E	4
3. The system enhances my production of high quality results	2.97	E	2
4. The system has the ability to execute a job without failure under any condition.	2.73	E	5
5. The new banking system meets my expectation in terms of system computerization.	2.83	E	3
Composite Mean	2.89	E	

Table 2 shows the Level of Effectiveness of the New Core Banking System in terms of Software Utilization. Results indicate that the overall assessment of the users on the system is effective with a composite mean of 2.89. The system is easy to use and navigate with the highest weighted mean of 3.12 is perceived effective followed by the system's enhancement of production for high quality results with a composite mean of 2.97, perceived effective.

An effective system should have a good interface that allow users to perform those functions faster and with less effort (Fadeyev, 2009). If the system is easy to use and navigate, the user can easily adapt and the tendency is to explore by herself of what other possibilities or functionalities can the system give which will then help the users. It shows that the system is very easy to access and the user can easily understand it even those who are not IT graduates. It is user friendly and easy to operate.

Based on the survey, the system enhances the production of high quality results ranked second. The use of a core banking system reduces most of the manual processes being done previously and at the same time reduces human intervention resulting to a higher work productivity of the employee, lesser error and more accurate result.

The use of computerization (Okoukoni, 2011) reduces human intervention, some process have completely automated. The benefits of which is that it saves labor, save materials, improve quality, accuracy and precision (Catena , 2014).

Having an integrated banking system is a real time solution to help the organization use their time in analyzing and interpreting the results of the transaction rather than consuming their time in manually inputting the daily transactions and looking for variances. Since the reports are automatically generated, there is no need to wait for the reports to be prepared. With just one press on the keyboard one can get the report needed. It can even be presented already in a dashboard with all the graphs and charts ready.

The new banking system is effective in meeting user's expectation in terms of system computerization, ranked third with a weighted mean of 2.83. When computerization is mentioned, the first instinct is that work will become easier and that most of the processes will be automated. However, this is not always the case. Since it is inputted by human, errors may still occur and it takes time to clean up the data when it is already in the system, unlike in manual where it will be easier to erase or make corrections.

A computerized system (Arcega et al., 2015) has many benefits, including improvement of the reports, minimal mathematical errors – with computers doing the math, errors are virtually eliminated (unless the data keyed in is incorrect); better record keeping and ensures that there is a reference for all transactions (Catena, 2014).

The system is always updated such that when used, the results are free from error and the system has

the ability to execute a job without failure under any conditions, with lowest weighted mean of 2.81 and 2.73 respectively. The system is always updated, in the second lowest mean because according to the interview with the users, when they encounter glitch on the system, they report it to the IT team and once it is patched and corrected, there are instances that other accounts become affected by the patch.

Table 3. Level of Effectiveness of the New Core Banking System in terms of Work Productivity

	Indicators	WM	VI	Rank
1.	Through the use of the new banking system, I have been able to finish my assigned task on time.	2.94	E	4
2.	Through the use of the new banking system, my work has been faster, more accurate, effective, efficient and reliable.	2.93	E	5
3.	The use of the system has enhanced and increased the quality and quantity of my work.	2.95	E	3
4.	The new banking system is of utmost importance to my job.	3.16	E	1
5.	I was able to increase my productivity and eliminate most of the manual processes.	2.88	E	6
6.	Reports generated from the system are very useful on my day-to-day bank routine and in making business decisions.	3.13	E	2
7.	Reports generated from the system are free from errors.	2.79	E	7
8.	My customers, both external and internal are satisfied with the result/output of the new system.	2.76	E	8
	Composite Mean	**2.94**	**E**	

Table 3 represents the level of effectiveness of the new core banking system in terms of work productivity. Productivity is a measure of the efficiency of a person, machine, factory, system in converting inputs into useful outputs. Productivity is computed by dividing average output per period by the total costs incurred or resources consumed in that period. It is a critical determinant of cost efficiency. Acquiring a core banking system involves a big capital investment for an organization, so this should impact on the productivity of the employees.

Based on the results, the overall assessment of the users as to level of effectiveness of the new core banking system in terms of work productivity is effective with a composite mean of 2.94. The banking system is of utmost importance in the job, the highest ranking with a weighted mean of 3.16 and verbal interpretation of effective.

Computers were originally used as productivity tool for office workers (Morley & Parker, 2009). It is an essential requirement for an organization to provide the employees with computers to be able to deliver their outputs in a fast, presentable and accurate way. However, this will be more useful if it is equipped with a specialized tools applicable to the organization like the core banking system for a banking industry.

Every organization has its own unique tool that can be used to deliver their work in a more efficient and effective way. It is the employee's partner to carry out their day-to-day duties in the organization with utmost confidence unlike if it is done manually. With the new system, errors on loan computations are eliminated and at the same time the possibility of it being charged to employee was also reduced. In turn, the employee can work with peace of the mind since the computations were generated by the system and they have nothing to worry of having a short or over collection.

Rank 2 with a weighted mean of 3.13, the system is effective to generate reports from the system, something very useful on day-to-day bank routine and making business decisions. Reports generated from the system are either submitted to the external clients of the organization like the regulatory agencies and those for internal users like the employees and the management. Reports are an important tool for any organizations, it is where the user based the judgment or decision for a certain problem or issue and it is also used for strategic planning process. Reports generated from the system that it consumes less time and effort as compared to those that are manually done. Since it is system generated and less manual intervention, it is supposed to be more accurate.

In a bank, the branch managers are able to generate the report on maturing loan accounts ahead, for them to have time in talking to the client to convince them to renew their loans. They will be able to prepare the necessary requirements and when the renewal time came, it is easy to process since all the documents are ready. This is the same with the Community Development Specialists (CSD) who are able to generate the daily delinquency reports wherein they can monitor their respective clients account when it turns past due. They have the time to follow up with the clients and ask them the reason for delayed

payments. Since part of their performance is measured by the past due ratio, they are eager to monitor status of the account of the client whether it is already updated and converted back again to current. Back office personnel like the accountants generate the daily trial balance to determine and check the movements and balances of the accounts of the organization.

Each position in the organization has his/her set of required reports that satisfy corresponding duties. Reports are necessary to carry the day-to-day activity of an employee and it is also the tool of the management for various decision making and strategic planning in the long run. They check the historical performance of the company and project the possible future trend of the organization based on historical and other factors. Reports empower executives to make informed decisions, and having instant access to them can only make success likely (Rashid, 2011).

The lowest ranking on the category of work productivity includes, being able to increase productivity and eliminate most of the manual process. The reports generated from the system are free from errors and that customers are satisfied (both internal and external) with the result/output of the new system with a weighted mean of 2.88, 2.79 and 2.76 respectively all verbally interpreted "effective". Core banking system, includes most of the processes that are standardized and automated. The manual processes here will be reduced if not eliminated. However, upon interview with a group of Community Development Specialists, there are some reports that was already in the system and yet they have to prepare it manually with the same information and submit to the head office. Sometimes, it is only a matter of procedural guidelines. These cases should minimize to avoid duplication of work and to be able to maximize the full potential of the system. So instead of preparing reports again which are actually in the system, they will be able to use their time in a more productive way.

Second from the bottom in terms of work productivity is that the reports generated from the system are free from errors. As discussed on the previous paragraph, reports are necessary tools for every employee and to the organization as a whole, so it is important that the report generated by the system is accurate and free from errors, otherwise, it will be misleading and there will be a possibility of erroneous decision making.

The lowest indicator in terms of work productivity is that the customers, both external and internal, are

satisfied with the result and output of the system. Included in the objective in acquiring a new core banking system is customer satisfaction. When an employee is able to deliver the job well with the aid of the new system, it reflects with the customer. They feel the satisfaction for the service and products delivered to them. However, if there will be glitches in the system that may affect the external client, then the organization needs to face it and resolve it immediately so that it will not create a bad impression about the company. With customer expectations increasing, banks have moved towards centralized systems with customer-centric architecture, where they drive the business through a single view of the customer and the paramount consideration in all decisions is the customer (Aggarwal, 2006). Business is nothing without the customer, so the organization should always make it a point that they will be able to deliver the products and services with a personalized service and excellence to be able to get the loyalty and satisfaction of the customers.

Table 4. Level of Effectiveness of the New Core Banking System in terms of Ease of Use

Indicators	WM	VI	Rank
1. It takes less time to learn the various system processes and applications	2.94	E	3
2. It is simple to learn the system processes and applications	3.00	E	1
3. The new banking system makes my job easy and simple.	2.88	E	4
4. The system is user friendly.	2.99	E	2
Composite Mean	**2.95**	**E**	

Table 4 reveals the level of effectiveness in terms of ease of use of the system. Based on the survey, overall assessment is effective with a composite mean of 2.95. The indicator that got the highest ranking is the simplicity of learning the system processes and applications and the system being user friendly with a weighted mean of 3.00 and 2.99, both verbally interpreted "effective". The system can be better appreciated by the user when it is easy to use and operate. Users will feel comfortable to navigate if it is user friendly. If the system's processes and application are easy to learn and understand, the user can easily adapt from changing the manual processes to automate. With proper training, they can easily understand the system functionalities.

On the other hand, other items rated effective includes taking time to learn the various computer processes and making the job easy and simple but got the lowest mean of 2.94 and 2.88 respectively. This could be because of the change in processes, there are some positions affected like the CSD. Due to control procedures done on the system, their access on the savings account of the client was deleted and since they need the history of the account balances of the client, they need to request it from the teller or get a photocopy of the passbook of the client, unlike previously that they have access and they can view it in the system. So they find it complicated compared to the previous process.

Based on the study conducted by Aggrawal et al. (2000), Hall (2001) and Wexler (2001), self-efficacy and computer anxiety do influence the people perception about the ease of use.

Table 5. Level of Effectiveness of the New Core Banking System in terms of Security

Indicators	WM	VI	Rank
1. Because of the new banking system, I am confident that all bank data are protected and free from hackers.	3.02	E	2
2. Computerized system helps me track my unfinished work.	2.84	E	4
3. Through the new banking system, I have limited access or manipulation of data from the outside system.	3.09	E	1
4. Malicious user access, modify or destroy data or services within the system.	2.85	E	3
Composite Mean	**2.95**	**E**	

Table 5 indicates the overall assessment of the respondents on the level of effectiveness of the new core banking system in terms of security with a composite mean of 2.95 and verbal interpretation of effective. System security is defined as the control of access to a computer system's resources, specially its data and operating system files (Bautista & Mojares, 2013). Security has always been a concern for banks. This is a very critical factor particularly in banks, since it handle thousands of client confidential information like balances of bank deposit and others. It is essential that the users are confident with the security of the system that they are using.

The respondents rated the indicator that through the new banking system, they have limited access or manipulation of data from the outside system with

highest rank and weighted mean of 3.09. The lesser the human intervention and manual process, the lesser the possibility of errors. The respondents are confident that since they have limited access or manipulation, the data and the system itself are secured. Prior to the implementation of the system, the corresponding user access per position has been defined to be able to minimize the possible security risk. Functionalities not intended for one user is disabled.

Other indicators, confidence that all bank data are protected and free from hackers, malicious users accessing modifying, or destroying data or services within the system and computerized system (Dalci et al, 2004) helping to track unfinished task got an effective verbal interpretation with a weighted mean of 3.02, 2.85 and 2.84 respectively.

Since all transactions of the organization are stored in the system, the corresponding IT infrastructure should be fully secured as well as the individual users should even be protected by passwords. Unauthorized access of the data and information stored in the system could result to information leakage and may impose a big problem to the organization. To prevent this from happening, certain measures are being applied by the IT unit such as application security.

According to a study conducted by Sec-Consultant, an international leader in application security services, there are a number of important reasons why effective application security in core banking system must be developed and maintained. These include the need to stay abreast of a changing threat landscape, the need for compliance with regulations and a developing understanding of application security issues. The hackers of today penetrate applications using state-of-the-art skills, tools and knowledge. To protect the organization against these threats, the system must then ensure that the application security is equally near to the cutting edge.

Table 6. Summary Table on Level of Effectiveness of the New Core Banking System

Key Results Area	Composite Mean	VI	Rank
1. Software utilization	2.89	E	1
2. Work Productivity	2.94	E	1
3. Ease of use	2.95	E	1
4. Security	2.95	E	1
Grand Mean	**2.93**	**E**	

Table 6 shows the effectiveness of the new core banking system. The overall assessment of the users of the system was effective with a grand mean score of 2.93. Effectiveness in terms of ease of use and security got the highest mean score of 2.95. This implies that the users are confident that the system that is currently being used is secured and they find it easy to use.

The table indicates that the two key results area that got the lowest mean score are work productivity and software utilization with 2.94 and 2.89 respectively, both interpreted as effective.

Table 7. Problems Encountered in Using eICBA

	Indicators	WM	VI	Rank
1.	System glitch/bugs results to error	2.05	S	4
2.	System downtime	2.22	S	1
3.	System error affects external client	2.17	S	2
4.	System error results to unfinished task	2.14	S	3
5.	Delay of reports	1.77	S	8
6.	System error occurs again even after being fixed/patched	1.87	S	7
7.	Data inaccuracy	1.75	S	9
8.	Report formats are not user friendly	1.91	S	6
9.	Report generation appears to be time consuming	1.91	S	5
10.	Problem of security and confidentiality	1.60	S	10
	Composite Mean	**1.94**	**S**	

Table 7 shows the result on the problems encountered using the new core banking system. For almost three years of using the system, the respondents feel that all of the indicators are seldom experienced by the organization having a composite mean of 1.94. The top three seldom encountered problems encountered in using the new system includes system downtime, system error affects external client and system error results to unfinished task with weighted mean of 2.22, 2.17 and 2.14. These top three items are related to each other, since once the organization encounters system downtime, the external clients will be affected as well as the productivity of the employees resulting to unfinished task.

According to Robert McFarlane, reputable studies concluded that as much as 75 percent of downtime is the result of some sort of human error. Systems are expected to be simply be there, just as power, gas and water are not expected to fail, and are expected to be restored quickly if they do. There are a lot of factors that can be lost because of system downtime and it includes corporate image, monetary value and loss of customers.

Kleyman (2011) noted that "the first step in mitigating any downtime is planning. If an outage occurs and there was no plan for it, one can expect some negative prolonged results. Being well trained and prepared for an emergency will create a more stable environment when the need for a disaster recovery solution arises. Planning, testing and actual execution of a DR plan will help any environment ready for an emergency. The more redundant and prepared an environment is, the better it can handle an emergency outage."

The three problems encountered in using the system that got the lowest ranking includes delay of reports, data inaccuracy and problems of security and confidentiality having a weighted mean of 1.77, 1.75 and 1.60 respectively. Since the system is functioning on a real time basis, the problem of having delayed reports is very seldom that will occur as long as the system is running smoothly. Delay of reports may only be experienced when there are frequent system downtime which may result to unfinished task of both the user and the system. Data inaccuracy, however, is usually a result of human error, since what user enters into the system is what it will process and convert to output. So once an incorrect data is entered, then it will go through all the way to the output of the system.

Table 8. Difference of Responses on the Level of Effectiveness of the New Core Banking System in terms of Software Utilization When Grouped According to Profile Variables

Profile Variables	F-value	p-value	Interpretation
Age	2.764	0.043*	Significant
Gender	2.429	0.016*	Significant
Marital Status	0.645	0.587	Not Significant
Length of Service	1.766	0.121	Not Significant
Position	0.683	0.637	Not Significant

*Legend: *Significant at p-value < 0.05*

Based on the result of Table 8, only age (0.043) and gender 0.016) show significant difference on the level of effectiveness on the new core banking system in terms of software utilization. This was observed

from the obtained p-values of less than 0.05 alpha level. This means that the respondents' assessment varies when grouped according to age and gender. And also implies that the male employee have different assessment on the system compared to female as well as those who are already old and young employee. The younger employees are usually experimental and they are not afraid to open other functionalities offered by the system. It is because with the technological advances now a days, almost all in the younger generations are equipped with gadgets and so they find it easy to operate and navigate the system same as how they do it in their laptops and smart phones.

In terms of gender, there is a significant difference in the assessment of male and female probably because males are usually inclined in technical know-how of computers and so they find it easy to utilize the system. However, females are usually hesitant to explore the system because they are afraid that they might do it incorrectly of that it might cause errors on the system. This is aligned with the findings of Jhonson Phil (2015), that female programmers are less confident than the males. However it is contradictory with one study conducted by Shah, Zakia and Uzma (2013), which states that there is no significant relationship found between the views of the male and females students regarding utilization of the system.

Table 9. Difference of Responses on the Level of Effectiveness of the New Core Banking System in terms of Work Productivity When Grouped According to Profile Variables

Profile Variables	F-value	p-value	Interpretation
Age	1.852	0.139	Not Significant
Gender	3.482	0.001	Significant
Marital Status	1.199	0.311	Not Significant
Length of Service	2.994	0.012	Significant
Position	2.022	0.077	Not Significant

Legend: Significant at p-value < 0.05

Table 9 reveals that there is significant difference on the level of effectiveness of the system when grouped according to gender and length of service, thus the researcher rejects the null hypothesis above the treated variables. This means that the level of effectiveness of the system in terms of work productivity varies as to gender and the employees' length of service. In terms of gender, it is the nature of the female employees that they are keen on details

and specific unlike the male employees who are usually doing things in a general way. There are certain works that can be advantageous to female and there are also for male. In a bank, it can be observed that most of the front liners who are the tellers are female however; those in the field are usually the males. This can be explained because of the nature of work, female tend to accept works that are usually office work rather than the field work.

In terms of length of service, work productivity of those with lesser tenure in the organization are usually more competitive. Since they are new in the organization, they like to excel and prove that hiring them is a good decision of the management. Also, they are still in the stage wherein they are aggressive to learn and accept the challenges. However, those with tenure of 16 years and above are usually burnt out already and that they tend to just do what their duties for the sake of going to the office daily, adapting to the changes in the organization. Their priority is their family and they are no longer in to promotions that sometimes affect their work productivity unlike the younger ones who are usually single, who tend to excel to get a better position in the company. In the bank most of the seniors who are offered to take the management class in preparation for promotion do not like to take the opportunity because they do not want to move out of their comfort zone, hesitant to accept higher responsibility and avoid to be assigned in far branches.

Table 10. Difference of Responses on the Level of Effectiveness of the New Core Banking System in terms of Ease of Use When Grouped According to Profile Variables

Profile Variables	F-value	p-value	Interpretation
Age	2.652	0.049	Significant
Gender	1.958	0.051	Not Significant
Marital Status	0.737	0.531	Not Significant
Length of Service	2.162	0.059	Not Significant
Position	1.170	0.325	Not Significant

Legend: Significant at p-value < 0.05

As shown from Table 10, the level of effectiveness of the system in terms of ease of use differs when grouped according to the respondent's age. It was observed from the obtained p-value of 0.049 which is less than 0.05 alpha level. This only means that the easiness of the system varies as to age. It really happened during the initial implementation of

the system wherein those in the latter age really finds difficulties in adapting to the new system.

They are not confident to use the system and they do not want to go out of their comfort zone which is doing the manual process. But eventually after several trainings, they cope up with the new system. However, it is not the same as the eagerness of the younger ones to explore and discover other functionalities from the system. Those who are older are confined in a box of what only they should know and do from the system. They do not want to cross those boundaries.

Table 11. Difference of Responses on the Level of Effectiveness of the New Core Banking System in terms of Security When Grouped According to Profile Variables

Profile Variables	F-value	p-value	Interpretation
Age	2.652	0.049	Significant
Gender	0.574	0.566	Not Significant
Marital Status	0.708	0.548	Not Significant
Length of Service	2.342	0.042	Not Significant
Position	1.397	0.226	Not Significant

Legend: Significant at p-value < 0.05

As shown from Table 11, the level of effectiveness of the system in terms of security differs when grouped according to the respondent's age. It was observed from the obtained p-value of 0.049 which is less than 0.05 alpha level. This only means that the system security varies as to the age of the employees. Being in a technological age, the younger employees are more capable and aware on how system is being attacked by hackers and infected with virus. They are more cautious on the possible problem that may arise if the system security will be compromised. However, the older generations are not that detailed and concerned in terms of system security (Ravi et al., 2004). For them, they will just do what they know and what is indicated on the policy.

CONCLUSION AND RECOMMENDATION

Majority of the users of the core banking system are in the age bracket of 21-30 years old, female, married, with a length of service ranging from more than 1 to 3 years and they are mostly Community Development Specialist or loan officers. The users agree that the implementation of the new core banking system in the bank is effective particularly in terms of software utilization, work productivity, ease of use and security.

Based on the result of the study, it is therefore concluded that there is a significant difference between the level of effectiveness on the use of the system in terms of software utilization when grouped according to age and gender. However when it comes to effectiveness based on work productivity, there is a significant difference when the respondents are grouped according to gender and length of service. Lastly there is also a significant difference in the effectiveness level in terms of ease of use and security when the users are grouped according to age. Age significantly differs to the effectiveness when it comes to software utilization, ease of use and security.

It is recommended that the management of the Bangko Kabayan may continuously seek and develop processes and improvements that will help the bank maximize the full potential of the system and at the same time help the employees perform their job in a simple, easy, accurate and fast manner. The management of Bangko Kabayan may also revisit the existing processes per position to identify and address the concerns of each user and eventually use the system efficiently and effectively.

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