Information and communication technology profile of naguilian national high schoo...

The ICT profile of Naguilian National High School Library was determined through the use of survey checklist of the existence of hardware, software, peopleware, network components. According to Zhenhui (2010), information and communication technology (ICT) enabled the user to participate in a rapidly changing world in which work and other activities were increasingly transformed by access to varied and developing technologies. In addition as cited from the study of Castro et. al. (2012) Information and communication technology (ICT) is an umbrella term that includes any communication device or application, encompassing radio, television, cellular phones, computer and network hardware software, satellite systems and so on, as well as the various services and applications associated with them, such as video conferencing and distance learning, is often spoken in a particular context, such as ICTs in education, health care, or libraries. Table 2 shows the ICT Profile of Naguilian National High School Library in terms of hardware, software, peopleware and network.

Hardware

The system developed must meet the minimum hardware requirements to run effectively according to its features and the hardware components identified to be present were Desktop PC, printer, router, Network Cable and Storage Media. Table 2 shows that all hardware components were identified as " existing" by the librarian. In addition, according to Abubo et. al (2011), hardware is an important tool on having a computerized system. If there's no hardware, the system is useless. The presence of hardware is important in order for the researchers to pursue the study. Hardware encapsulates the system developed and serves as the communicator or mediator between the

users and the system. Computer hardware and components are required in order for the system to be useful to the library. The hardware parts are the central part of a computer that allows the machine to carry out the tasks efficiently. Based on the aforementioned ideas and the presence of the minimum hardware components, it implied that it can be able to support and maintain the operations of the developed system. Software

Table 2 shows the ICT profile at Naguilian National High School's Library in terms of software. The software items identified to be present were Office Automation Software in terms of 1. 1 Software / Application Package (e. g. MS office, Open Office, Word Perfect). The respondent identified the softwares needed as " existing". Moreover, according to Becht (2008) wrote in an article entitled, " Definition of Software", that software is created with programming languages and related utilities, which may come in several of the above forms: single programs like script interpreters, packages containing a compiler, linker, and other tools; and large suites that include editors, debuggers, and other tools for multiple languages. Peopleware

Tables 2 shows the ICT profile of Naguilian National High School Library in terms of Peopleware. Based from the result, the organization has only computer ICT administrator and data encoder. These identified peopleware were responsible for the maintenance and management of the system. The ICT administrator secures the maintenance of all the ICT resources that are needed for the developed system and the Data Encoder serves as the person who manages the data and records of the students who are making transactions in the library. In addition, according to Techterm. com (2009), peopleware is less tangible than hardware or software, since it can refer to

many different things. Examples of peopleware include individual people, groups of people, project teams, businesses, developers, and end users. While peopleware can mean many different things, it always refers to the people who develop or use systems. Based on the contentions above and the existence of peopleware at Naguilian National High School, there are persons who are knowledgeable enough in the operation of the system.

Network

Table 2 shows the ICT Profile of Naguilian National High School Library in terms of Network. The result gathered implied that there is a network connection in the library. There is a minimal need of a network in the system since it is a standalone system that only needs hardware and software components to run. Network can be used as a reference in browsing books and other related materials. Furthermore, according to Techtarget. com (2005) stated that computer network, often simply referred to as a network, is a collection of hardware components and computers interconnected by communication channels that allow sharing of resources and information. Where at least one process in one device is able to send or receive data to or from at least one process residing in a remote device, then the two devices are said to be in a network. Capabilities and Constraints of the Existing Library System

To determine the capabilities and constraints of the existing library system, the researchers used the PIECES framework by Wetherbe (2011). Famuyide (2013) discussed in his article that PIECES framework is used as a checklist for ensuring that functional requirements are covered in the requirements specification document. Testers in addition, can develop test cases focusing

on the critical system aspects outlined by the PIECES framework. The framework includes performance, information, economics, control, efficiency and services as indicator. Performance

Table 3 shows the capabilities and constraints with the existing system in terms of performance as perceived by the respondents. The respondents answered neutral to all the indicators which resulted to an overall mean rating of 3. 02 and considered as constraint of the existing system. The indicator stating that amount of work is performed over a period of time got the highest mean of 3. 03 while the indicator which states that there is a great amount of delay time between transaction and a response to a transaction request got the lowest mean of 3. 02. This implies that the respondents do not agree nor disagree whether the existing library system of Naguilian National High School Library was experiencing some setbacks in performing its processes resulting to low performance level.

To satisfy the users, the dissemination process of information must be presented in a more advanced way and there should be a faster and timely response to the user's requests and transactions. In addition, Gilbert (2003) stated that performance has two aspects- behavior being the means and its consequence being the end. It is much easier to fix situations by making structural changes to the organization, rather than trying to fix or change people. Moreover, Arms (2001) cited that computing power can be used to find information. Paper documents are convenient read, but finding information that is stored on paper can be difficult

Table 3. Capabilities and Constraints of the Naguilian National High School Library in terms of Performance Indicators| Mean| Descriptive Rating| Descriptive Equivalent| 1. The amount of work performed over some period of time| 3. 03| Neutral| Constraint| 2. There is a great amount of delay between transaction and a response to the transaction request| 3. 02| Neutral| Constraint| Mean| 3. 02| Neutral| Constraint|

Information

Table 4 shows the capabilities and constraints of the existing system in terms of information rated by the respondents. With a grand mean of 3. 10, the indicator Information was rated as neutral which means that the existing system can still support the Information given. The respondents disagreed to the indicator stating that reports contain too much information which is not needed which garnered 2. 87. On the other hand, the respondents agreed to the indicator stating that reports contain inaccurate output information which obtained the highest mean of 3. 43. The remaining other indicators were all considered constraints of the existing system.

This result implies that the existing system does not produce accurate information, loses information easily like theft and alteration and also captures redundant data which makes the existing system to be unreliable. Furthermore, Bryce (2006) defined information as the understanding or insight gained from the processing and/or analysis of data. It is created as a result of collection, processing and analysis of data in a prescribed manner. It also supports specific business related actions and decisions.

Indicators	Mean	Descriptive Rating	Descriptive Equivalent
1. Forms used do not accurately capture data because forms lack the required information which will the user would fill-in	3. 24	Neutral	Constraint
2. Forms used capture data redundantly because of too many forms containing the same information	3. 33	Neutral	Constraint
3. Forms used capture too much data which are irrelevant	3. 21	Neutral	Constraint
4. Lack of required forms to capture data	3. 11	Neutral	Constraint
5. Reports contain incomplete information	2. 73	Neutral	Constraint
6. Reports contain too much information which is not needed	2. 87	Neutral	Constraint
7. Reports contain unnecessary and irrelevant information.	2. 88	Neutral	Constraint
8. Reports contains inaccurate output information	3. 43	Agree	Constraint
9. Reports are not timely generated and cannot be produced easily	3. 16	Neutral	Constraint
10. Data/information is stored redundantly in multiple files and/or databases	3. 22	Neutral	Constraint
11. Data information is not secured from accident, theft or vandalism	3. 08	Neutral	Constraint
12. Stored data/information is not accurate	3. 25	Neutral	Constraint
13. Data is not accessible	3. 05	Neutral	Constraint
14. Data/information is not well organized	2. 98	Neutral	Constraint
15. Data is not flexible-not easy to meet new information needs from stored data	3. 08	Neutral	Constraint
Mean	3. 10	Neutral	Constraint

Table 4. Capabilities and Constraints of the Activities of the Naguilian National High School Library in terms of Information Economics

Capabilities and constraints of the existing system in terms of economics are shown in Table 5. The indicator economics got a grand mean rating of 3. 15 which indicates that it was considered constraints of the system. The

respondents agreed to the indicator which states that costs are too high to maintain and operate the system got the highest mean of 3. 51. However, the indicator stating that costs are unknown got the lowest mean of 2. 87 and was considered as neutral. This implies that the existing operation in managing the library costs much. Moreover, according to Martin (2010) initially referred economics as the study that includes factors regarding the usage of resources by people. As a whole, he defined it as the study of labor, investments, land, money, incomes and production of the taxes as well as the government expenditures. He also said that economics help in examining the trade-offs between various goals and thus, it anticipates the consequences of the changes that occur in terms of the government policies, practices of the companies, or may be population composition.

Table 5. Capabilities and Constraints of the Activities of the Naguilian National High School Library in terms of Economics Indicators| Mean| Descriptive Rating| Descriptive Equivalent| Costs are too high to maintain and operate the system.| 3. 51| Agree| Constraint| Cost are untraceable| 3. 07| Neutral| Constraint|

Cost are unknown| 2. 87| Neutral| Constraint|
Mean| 3. 15| Neutral| Constraint|

Control

The capabilities and constraints of the existing system in terms of control is shown in Table 6. The indicator control was rated as neutral with a mean of 3. 08 and was considered as constraints of the existing system. The indicator which states that ethics are breached on data or information-refers to data

or information getting to unauthorized person got the highest mean rating of 3. 27. On the other hand, the indicator stating that excessive controls cause processing delays got the lowest mean rating of 2. 87 which means that the existing system of controlling and managing library resources of Naguilian National High School is not properly controlled.

Moreover, according to Levy (2011) mentioned in his article " Choosing an Access Control System? What You Need to Know?" that when choosing an access control system, there are key points that need to be considered before making final decision. Moreover, access control systems are greatly dealing in the complexity and ease of use. Some involve nothing more than entering a security code on the keypad while others use biometrics to gain access. Table 6. Capabilities and Constraints of the Activities of the Naguilian National High School Library in terms of Control Indicators| Mean| Descriptive Rating| Descriptive Equivalent| 1. Input data/information is not adequately edited.| 2. 94| Neutral| Constraint| 2. Ethics are breached on data or information-refers to data or information getting to unauthorized person| 3. 27| Neutral| Constraint| 3. Redundant stored data is inconsistent in different files on database| 3. 11| Neutral| Constraint| 4. Data privacy regulations or guidelines are being(or can be) violated| 3. 18| Neutral| Constraint| 5. Processing errors are occurring (either by people, machines, or software| 3. 12| Neutral| Constraint| 6. Excessive controls cause processing delays| 2. 87| Neutral| Constraint| Mean| 3. 08| Neutral| Constraint|

Efficiency

Table 7 shows the capabilities and constraints of Naguilian National High School in terms of efficiency. Efficiency connotes whether the current system

makes good use of resources. All indicators were rated as the system's constraints and garnered the mean of 3. 29. With a mean of 3. 47, the respondents agreed to the indicator stating that accepts and gives data redundantly which in turn has the same records at a time.

This implies that making the existing library system into a more efficient system could increase its user satisfaction more and could make the system visible and remarkable to the users. In addition Victoria (2011) stated that efficiency is cost reduction. True efficiency should be obtained through a reduction of human effort by better methods, labor-saving equipment and the elimination, simplification, or combination of process. Efficiency should be accomplished by reduction in the cost of materials.

Table 7. Capabilities and Constraints of the Activities of the Naguilian National High School Library in terms of Efficiency Indicators| Mean| Descriptive Rating| Descriptive Equivalent| 1. Accepts and gives redundant data| 3. 47| Agree| Constraint| 2. Data is redundantly processed| 3. 27| Neutral| Constraint| 3. Efforts required form tasks are excessive| 3. 15| Neutral| Constraint| 4. Materials required are excessive| 3. 27| Neutral| Constraint| Mean| 3. 29| Neutral| Constraint|

Service
The Capabilities and constraints of the Naguilian National High School Library System in terms of service are presented in Table 8. All of the indicators were identified as constraints and have a grand mean of 3. 20. The respondents agreed to the indicator stating that the system produces inaccurate results garnering the highest mean of 3. 40 while the indicator

stating that the system produces inconsistent results got the lowest mean of 3. 02.

This implies that the current system of Naguilian National High School in terms of the service in library usage is still reliable since six indicators were rated as neutral. Results of any information may not be reliable enough for the needs of the users.

As cited in the study of Neri (2011), entitled Computer-based Library System of DMMMSU-NLUC, he used the PIECES framework in determining the capabilities and constraints of the DMMMSU-NLUC Library Management System. The result shows that except in Performance and Efficiency all the criteria were considered as constraint. Findings indicate that the existing DMMMSU-NLUC Library Management System is beset with a technique for evaluating of the manual operation identifying the defects and problems. Table 8. Capabilities and Constraints of the Activities of the Naguilian National High School Library in terms of Services Indicators| Mean| Descriptive Rating| Descriptive Equivalent| 1. The system produces inaccurate results| 3. 40| Agree| Constraint| 2. The system produces inconsistent results| 3. 02| Neutral| Constraint| 3. The system produces unreliable results| 3. 12| Neutral| Constraint| 4. The system is not easy to learn and use| 3. 26| Neutral| Constraint| 5. The system is inflexible to new , exceptional situational or change| 3. 28| Neutral| Constraint| 6. The system is not coordinated with other systems