INFORMATION TECHNOLOGY UTILIZATION AMONG GOVERNMENT AGENCIES: ITS IMPACT ON MANAGERIAL EFFECTIVENESS

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APPROVAL SHEET

In partial fulfillment of the requirements for the degree, **MASTER OF ARTS IN PUBLIC MANAGEMENT** this thesis entitled **"INFORMATION TECHNOLOGY UTILIZATION AMONG GOVERNMENT AGENCIES: ITS IMPACT ON MANAGERIAL EFFECTIVENESS"**, was prepared and submitted by NERIE BABON CABANGANAN, who having passed the comprehensive examination with a rating **PASSED**, is hereby recommended for oral examination.

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DEDICATION

To my Daddy, Mommy,

Kuya Bhoy and Family,

Ate Gegie and Family,

Nador and Family,

Geline

and especially to

My Papatot

This book is affectionately dedicated. . . .

Mamatot

ABSTRACT

This study attempted to assess the relevance of information technology with particular focus on its availability and utilization, the competence of the management in order to gain competitive advantage and extend the limit of the computer for decision-support and for a more effective use of the various agencies of Catbalogan. The computed F values of the five management functions of planning - 3.05, organizing 0.056, staffing 2.19, directing 0.081 and controlling - 0.5761 proved to be lesser than the tabular/critical F-values of 3.51, 5.14. 3.89, 5.14 and 3.89, respectively. Therefore, the hypothesis that "There are no significant differences among the perceptions of the top management, middle management and the rank and file on the extent of IT utilization along the five considered management functions" was accepted. This implies that the three groups of respondents were in agreement in their assessment, an indication that the respondents were in agreement in their assessment, and indication that the responses that were elicited from them were objective. Among the various agencies in Catbalogan, Samar is utilized to a moderate extent as evidenced by the assessment of the three groups of respondents. The quality of management along the five managerial functions as assessed by the stakeholder of the fifteen government agencies in Catbalogan, Samar is very satisfactory. For the recommendation, computer training programs designed to the needs of the personnel in each department should be continuously undertaken to distribute computing workloads thereby increasing efficiency in each department.

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Chapter 1

THE PROBLEM AND ITS BACKGROUND

INTRODUCTION

Technological development through the years has enabled us to do more with less effort. We have continuously striven to find a better way of doing things. Each invention and new development have allowed us to extend our capabilities (Stair, 1984: 6). The emergence of computer for example is one of the most significant invention of this century. The ability of the computer to store, analyze and make decisions about information give its powers once thought to be uniquely human. Its potential use in the society seems unlimited and new applications are being identified constantly and the effects of its use are being felt in many ways (Deck and Essick, 1981: 438).

As our technology changes, fast, still humans and their organization change slowly. Organizational inertia is one of the greatest problems that business organizations and humans are facing in terms of catching up to the potential strategies value of information technology. Microcomputers and user-oriented software have put computers in the hands of professionals described as knowledge workers, resulting in the leveraging of knowledge insofar as managers are learning to act on information on the basis that you know everything now. The latter trends are resulting in business transformations and the emergence of Information Technology (IT) as a major player with a strategic role (Parker, 1996: 3).

As modern organization being regarded as a system of mutually dependent parts and variables, it has been an assemblage of people, materials and other resources geared to task accomplishment through a series of interactions and integration into a

social system (Johnson, 1963: 55). This increases the difficulty in meeting the real information needs of people in changing dynamic company structure. The result of all these changes in company structure. The result of all these changes in company activity and organization is a much longer line of communications from the source of data to top management making information more and more difficult to obtain (Licauco, 1979: 4).

The power of information and the pace of change shapes the world faster and yet organizations are slow to change. Aside from lack of leadership or of management, the other culprit is technology or more specifically, an organization's lack of up-to-date computer and communications technologies. One could not expect to keep up with change if one does not have the proper instruments (Magsaysay, 1997: 3).

In view thereof, the above-mentioned scenario poses a dilemma to the manager as he has the responsibility to keep himself informed of all activities at all levels. He is the nerve center in an information network in the organization (Kast and Roserweig, 1985: 413). Not only must he demand a more meaningful and accurate information for effective decision-making, he must also get such information more and more rapidly and the need to organize the handling of information in a systematic manner. Thus, IT utilization, to a company regardless of size or the nature of its business are immeasurable in terms of quick and accurate decision making, planning and control for a more effective and efficient management.

Samar has been tagged as under-served and underdeveloped. As observed by the researcher, the place is quite behind in terms of communication technologies and facilities, which are the prerequisite of effective and judicious use of information technology to keep abreast with the present trend. In the different government

agencies of the said place, it was, however observed that computers are already available. This necessitates the assessment of the extent to which these computers are used and their effect to effectiveness and efficiency of the key officials of these agencies, hence, this thesis.

Statement of the Problem

This study attempted to assess the relevance of information technology with particular focus on its availability and utilization, the competence of the management in order to gain competitive advantage and extends the limit of the computer for decision-support and for a more effective of the various agencies of Catbalogan.

Specifically, this endeavor sought answers to the following questions:

1. What is the profile of the government agencies in Catbalogan, Samar vis-à-vis:
    1.1. IT resources;
    1.2. Precise number of personnel; and
    1.3. Nature of its business?
2. What is the profile of the top management, middle and the rank and file personnel with respect to:
    2.1. Sex and age;
    2.2. Educational qualifications; and
    2.3. Length of service?
3. As perceived by the three categories of respondents, what is the extent to which IT is utilized in the following management functions:
    3.1. Planning;
    3.2. Organizing;

3.3. Staffing;

3.4. Directing; and

3.5. Controlling?

4. Are there significant differences on the perceptions of the three groups of respondents on the extent of IT utilization along the different management functions?
5. As perceived by the three groups of respondents, what is the quality of management in their respective agencies along the five management functions?
6. Are there significant differences on the perceptions of the three groups of respondents on the quality of management in their respective agencies along the five management functions?
7. Is there a significant relationship between the extent of IT utilization and the quality of management observed in the government agencies in Catbalogan, Samar?
8. What are the possible measures to be taken as perceived by the respondents in order to improve organizational services and obtain better efficiency in complying the needs of the organization and its clientele.

Hypotheses

Based on the aforelisted specific questions, the following null hypotheses of this study were drawn and tested.

1. There are no significant differences on the perceptions of the top managers, middle managers and the rank and file personnel on the extent of Information

Technology utilization along the five managerial functions of planning, organizing, staffing, directing and controlling.

2. There are no significant differences on the perceptions of the three groups of respondents on the quality of management in their respective agencies and the quality of management as observed in the government agencies in Catbalogan, Samar.

Theoretical Framework

This study is premised on the theory propounded by Mutia (1994: 1) with the assumption that the active promotion and judicious use of Information Technology in all sectors of bureaucracy will not only enhance productivity and efficiency but will stimulate demand for sophisticated IT products and services, an exposure needed to gain confidence in seizing global business opportunities.

Thus, this theory brings into fruition the main goal of the National Information Technology Plan 2000 (NTP2000) approved by former President Ramos, namely, global excellence and people empowerment.

In view thereof, this study was conducted only to enable the government agencies of Catbalogan to take active participation in putting the vision of Philippine 2000 into a reality by IT utilization on the management to enhance agency's productivity and delivery of service to meet the anticipated challenges to local administration even beyond year 2000.

Conceptual Framework

This study is premised on the assumption that the proper utilization of information technology would result to a more effective and efficient management of all the agencies/instrumentalities in the discharge of their functions.

Using this concept as an anchorage, this study undertook the five management functions as variables and used the managers and rank and file personnel of some agencies of Catbalogan as respondents.

Figure 1 illustrates the conceptual framework of the study. At the base of the aforecited figure is the research environment, the fifteen government agencies in Catbalogan, Samar from which the sources of information were taken. The top managers, middle and the rank and file personnel were used as respondents of this study.

The perceptions of the three groups of respondents with respect to IT utilization as well as quality of management in the identified research environment were elicited along five management areas, to wit: 1) planning, 2) organizing, 3) staffing, 4) directing and, 5) controlling. These perceptions were compared, thus, the two way arrow was presented to represent this analysis. Moreover, the extent to which IT is utilized and the quality of management were also connected with a two-way arrow was presented to represent this analysis. Moreover, the extent to which IT is utilized and the quality of management were also connected with a two-way arrow depicting the correlational analysis that were undertaken. The results of the above-mentioned analysis provided anchorage for generating management redirections to be applied to the considered

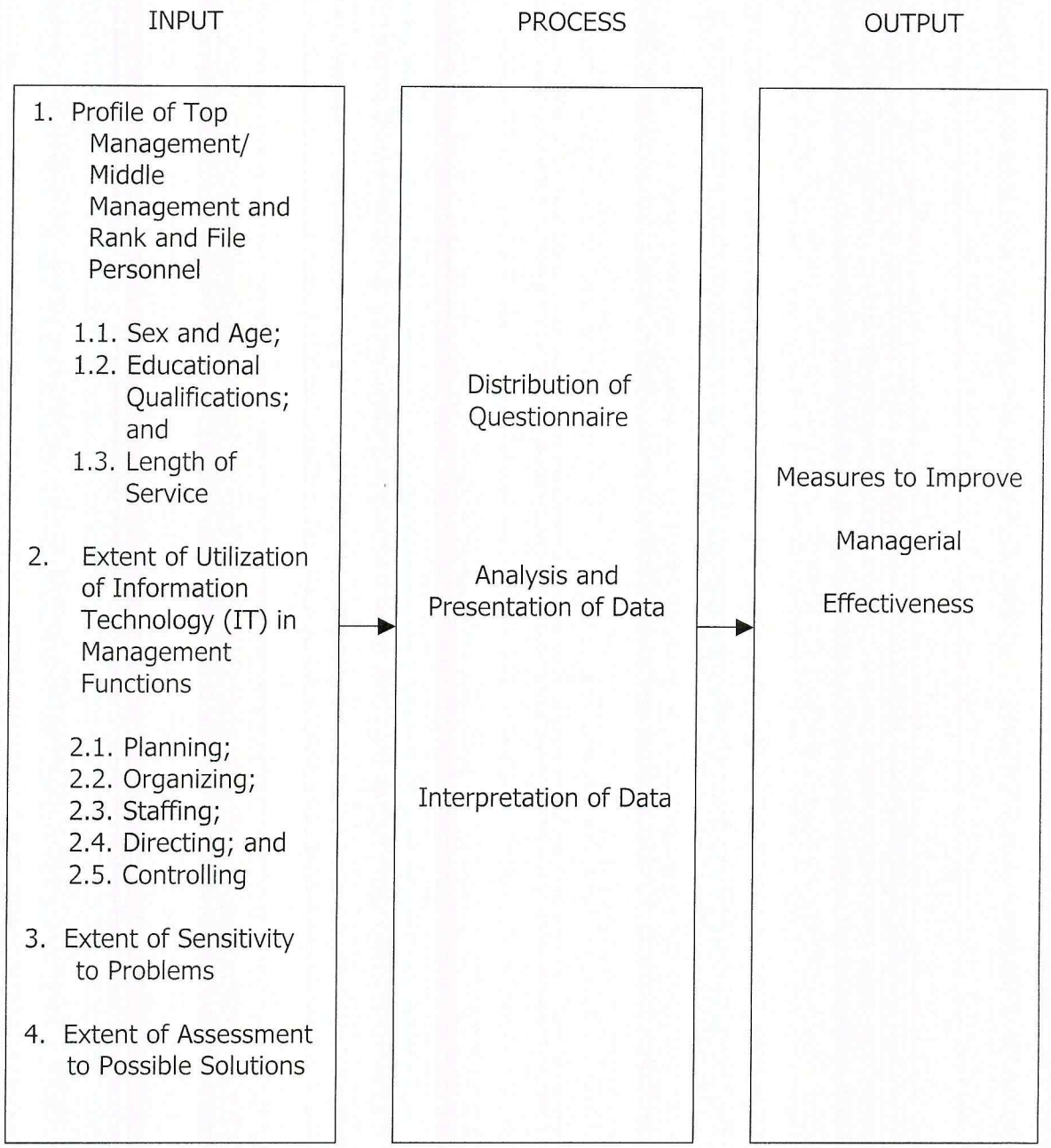

Figure 1. Schematic Diagram of the Conceptual Framework

research environment, thereby attaining an effective management of government agencies in Catbalogan, which is the ultimate aim of this study.

Significance of the Study

Integrated information system and information technology applications have become central to the operations of an organization/agency and an important link to corporate strategy. This changing role of information technology represents an important challenge for top management as larger investments in technology become necessary and the risks more difficult to predict. Thus, this study is in response to the need since there are many examples of ways in which organizations can utilize information technology to provide a competitive advantage to them.

The judicious and optimal utilization of IT among various agencies in Catbalogan will provide benefits to managers, rank and file personnel, their clientele, the community as a whole and future research enthusiasts. The managers of these government agencies can become more updated with the latest decision-support system, thus, can enhance their wise selection of options and choices and they can prove to be competitive and comparable with managers from other regions and even the entire country.

The rank and file personnel will also benefit from this study since its purpose is to achieve higher/better efficiency and effectiveness of their managers. Consequently, better management of their organizations will also redound to the enhancement of the efficiency and effectiveness of the rank and file personnel.

The clientele, or service target groups of the government agencies in Catbalogan will enjoy better and greater access to more adequate, reliable and timely data, hence, they will be served best by the agency concerned.

Moreover, the community will likewise benefit from the findings of the study. The government agencies are established to serve the community, hence, effectiveness and efficiency of these organizations would mean that they have catered to the needs of the respective communities they are supposed to serve.

Finally, future researchers will be able to use the findings and recommendations of this study to enable them to conceptualize similar or related studies and use this study as their valuable research material.

Scope and Delimitation of the Study

This study focused on analyzing the extent of Information Technology utilization of the various agencies in Catbalogan, Samar, how IT utilization affects the quality of management of these agencies and its impact on managerial effectiveness and efficiency.

Fifteen government agencies were involved in this particular study, namely; Armed Forces of the Philippines (AFP), Bureau of Internal Revenue (BIR), Department of Agrarian Reform (DAR), Department of Environment and Natural Resources (DENR), Department of Interior and Local Government (DILG), Department of Labor and Employment (DOLE), Department of Public Works and Highways (DPWH), Department of Social Welfare and Development (DSWD), Department of Trade and Industry (DTI), Land Bank of the Philippines (LBP), Land Transportation Office (LTO), State Polytechnic College (SSPC) and WESAMAR.

All stakeholders in each of these company/agency were utilized as sources of information. They were accordingly grouped into three. The first group comprised the top managers – the President, Vice-President, Manager, Branch Manager and Chief Executive Officer. The second group was composed of the middle managers – Operation Manager, Human Resource Manager, Division Heads, Administrative Officers, Supervisors and Office Managers while the third group were those in the rank and file.

This study was undertaken during SY 1998-99. The data gathering was done during the last part of first semester of the same school year.

Definition of Terms

In order to establish a common frame of reference and understanding, the following terms used in this study are herein defined.

Accessibility. This term means the quality or state of being capable of being reached, approached, used, even, known or experienced (Gove. 1986: 11). In this study, this term means the availability of data or information to the users when needed by them and are availed of without unreasonable amount of effort.

Agency. This term refers to a department or other administrative unit of a government (Gove, 1986: 40). As used in this study, it includes the government agencies of Catbalogan, Samar which is the research environment.

Automation. Conceptually, automation is the process or technique of making an apparatus a means of automatically controlling, operating, processing, manufacturing and producing an output (Gove, 1986: 148). Operationally, this term means using computers for data storage, retrieval and/or generation of reports.

Central Processing Unit (CPU). This term refers to a very high-speed electronic device that can accept data and instructions, use the instructions to perform logical and mathematical operations on the data, and report the results of its processing (Burstein, 1986: 8).

Computer. This term refers to a very high-speed electronic device that can accept data and instructions to perform logical and mathematical operations and report the results of the processing (Burstein, 1986: 26). As used in this study, it is a tool where managers can provide themselves with the information they need to manage their agencies' resources.

Computer Peripherals. This term refers to equipment like printers, monitors, modulators/demodulators (MODEM), sound blasters, and the like that are attached to the central processing unit (CPU) of the computer (Long, 1996: 540).

Computer System. This term refers to a collection reference to all interconnected computing hardware, including processors, storage devices, input/output devices and communicative equipment. Operationally, this is considered in most organizations as an effective communication tool for an efficient management (Long, 1996: 541).

Controlling. This term means the process of checking whether performance conforms to the plan laid out. It's a function of management which monitors and evaluate activities (Newman, 1975). This is one of the variables used in this particular study.

Decentralization. This term means the transfer of power and authority from the central institution to the lower or local levels of government system to allow maximum participation of the citizen in governmental and community activities (Martin, 1988: 32).

Directing. It is a function of management which involves in the issuing of instructions and guidelines to subordinates (Newman, 1975). This is another management area used as variable in this particular study.

Effective. This term means doing the right thing (Griffin, 1987: 9). As used in this study, this relates on the impact of IT utilization in the discharge of managerial functions. In general, successful management involves being effective and efficient.

Efficient. This term means doing things in a systematic fashion without unnecessary waste (Griffin, 1987: 9). As used in this particular technology utilization on the part of the management in the discharge of their respective functions.

Electronic Mail (E-mail). This term refers to a computer application whereby messages are transmitted via data communications to "electronic mail box" within an office, between branch location or across the world (Long, 1989: 546). This is one of the services available in the internet.

Government. It is generally defined as an institution or aggregate of institution by which an independent society makes and carries out those rules of action which are necessary to enable men to live in a social state or which are imposed upon the people forming that society by those who possess the power or authority of prescribing them (Marin, 1988: 7). As used in this study, this refers to the government agencies of Catbalogan which is the source of information.

Information System. This term means the collection of interrelated resources organized to provide information needed by individuals or organizations to carry out their functions effectively, efficiently and acceptably (Lewis, 1994). As used in this study, this refers to the collection of processed data/information which needs are paramount to carry out management functions in a more effective, efficient and acceptable manner.

Information Technology. This term refers to a new field of science which deals with the subservience of facts, data and information, processing in the fastest and easiest possible way (Long, 1989: 22). As used in this study, this term includes the use of computers as tools for the accurate and timely acquisition of needed information for an effective and efficient management.

IT related In-Service Training. This term refers to seminar/training programs attended by the respondents focusing on Information Technology.

Intranet. This term refers to web site that is only accessible within the company which is used as an internal communications tool (DOST handout, 1996).

Internet. This term refers to the international network which is considered as the world's largest network. It performs the role as the global information superhighway where one can search for data on almost any topic. In this network, e-mail, transfer, remote access, on-line information search and discussions or chat are available (DOST hand-out, 1996). As of this time, internet is not yet available in the province but its accessibility would surely be a big advantage on the management in terms of information and communication.

ISSP. This is an acronym for Information System Strategic Plan.

Management. This term means the process of planning and decision-making, organizing, staffing, directing and controlling an organization's human, financial and information resources to achieve organizational goals in an efficient manner (Griffin, 1987: 8). As used in this study, this refers to the top managers, middle managers and the rank and file personnel and how they perceive the extent of IT utilization in their agency.

Manager. This term refers to someone whose primary activities are a part of the management process. In particular, a manager is someone who plans and makes decisions, organizes, directs and controls humans, financial, physical and information resources (Griffin, 1987: 9). As used in this study, this includes the top managers and the middle managers.

Middle Manager. This term refers to those person/s composing the largest group in most organization (Griffin, 1987: 15). They are responsible for implementing the policies and plans developed by top management and supervises and coordinates the activities of the rank and file personnel.

Network. Operationally, this term refers to an integration of computer systems, workstations and communications link (DOST handout, 1996).

Organizing. This means a function of management which involves the determination and grouping of activities, delegation of authority and fixation or responsibility (Daft, 1986). This is another management area used as variable in this study.

Planning. Generally, it refers to the determination of a course to achieve desired result. It is the process of thinking before doing it (Allen, 1986: 25). It connotes the

manager's function to decide what he wants to accomplish, setting a short and long-range goals for his organization (Dale, 1990: 5). This is another management function used in this particular study.

P-net. This term refers to the first large scale Internet gateway in the Philippines which provides full access to the internet. All the services provided by the internet and discussions on the local scene are some of the available services it offers (DOST hand-out, 1996).

Rank and File. This term refers to individuals who constitute the body of an organization, society or nation (Gove, 1986: 1881). As used in this study, this refers to the subordinates whose presence in the organization is indispensable for the attainment of agency's goals and objectives. IT utilization of the management redounds to their benefit; minimize workload thus, attain better efficiency.

Staffing. This term means a function of management which involves the estimation, selection, training and placement of manpower (Smapath, 1994). This is another variable used in this study.

Stakeholders. This term refers to persons' entrusted with the custody of property or money of a permanent interest or enterprise (Gove, 1986: 2221). As used in this study, this term refers to the management directly affected by the operations of the company/agency. This includes the top managers, middle managers and the rank and file personnel.

Top Management. This term connotes the establishment of the management's organizational goals, over-all strategy and operating policies (Griffin, 1987: 14).

Top Managers. This term refers to persons who make up the relatively small groups on executives who control the organization (Griffin, 1987: 14). They officially represent the organization by meeting with government officials, executives of other organizations and so forth.

Word-processing. This term refers to an office automation application that uses a combination of computer hardware and software to perform typing operations. The feature is the computer storage which enables a document to be revised easily and used many times (Maclead, 1990: 892).

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

The researcher undertook stringent readings using several books, theses, dissertations, researches, periodicals, reports and other documents which have bearing on the problem under study. Magazines and other materials were also reviewed to give more substance to this particular study.

Related Literature

Information, when organized and readily accessible, is power and an indispensable tool for a more effective and efficient management of an organization (Deans, 1996: 140). Information is a necessity for a manager to be able to use the resources at his disposal more effectively, meet his organization's objectives and successfully perform his management functions of planning, organizing, staffing, directing and controlling (Long, 1989: 14-15).

With the Philippine vision to be a Newly Industrialized country by the turn of the century, different agencies in the country including the municipality of Catbalogan, feels that its information technology plans be utilized fully, for a more advanced and highly technical information system to serve its clientele better, and for a more efficient and effective management in the performance of their respective functions.

The government, being the largest user and provider of information can best demonstrate the potentials and importance of IT as the country aims for Newly Industrialized Country by the Year 2000 (Mutia, 1194: 1). Global realities today dictate that information is the strategic resource for economic growth and the active promotion and judicious use of information technology in all sectors of bureaucracy that will not

only enhance productivity and efficiency, but will stimulate demand for sophisticated IT products and services. The collective benefit of these undertakings will arise from forging and strengthening of the alliance between the government and the private sectors. These sectors shall transport the Filipino into "Information Age" where Filipinos can stand with pride and dignity, like citizens of the developed countries.

These days we read and speak volumes on the power of information and the pace of change, yet, in the face of these pronouncements, organizations are still slow to change (Masaysay, 1997: 1). Lack of leadership on the part of the management is one thing but the most common culprit is the organization's resistance, or seemingly inability to change; for even the most sincere and charismatic leaders cannot be expected to bring about change and guarantee organizational agility, even when the old rules remain. Another shortcoming is technology or, more specifically, the organization's lack of up-to-date computer and communication technologies. After all, one cannot expect an organization to keep up with change if it does not have the proper instruments.

While computers may be the key to unlocking a treasure of potential for both the company and the individual, for managers who had been out of school for more than a decade now, these computers are new. They would be uneasy about the role these new machines will play, thereby that key may as well be to a psychological prison cell (Dellecave, 1997: 76).

As E-mail and the internet continue to grow throughout the companies and corporations, computers are becoming the primary vehicle for communicating and conducting research. Managers who will not incorporate the computer into their day-to-day workflow is sure to become obsolete in the information age.

The underlying issue is change and managers must have the ability to cope with it (Goldsmith, 1997: 76). He stressed that change is the primary factor but it is the ubiquity of technology that is turning it into a catalyst of fear. He lamented that managers are in the most compromising position at all being caught in the middle. On one hand, they are intimidated by the technology themselves and on the other they are expected to carry the corporate torch to their employees.

Massie (1996: 78), a think tank devoted to technology training offers the following advice for getting over technology phobia, namely: 1) become self-reliant, 2) learn the resources, 3) know your learning style and 4) find a mentor.

The aforecited author explained that to become self-reliant means that when one encounters trouble or problem in dealing with their technological resources, he must try to deal with it himself first rather immediately call for technical support. This way, he becomes more adept with the machines and next time a problem occurs, he can relax and overcome his fears. It was suggested that a cal for help will be made as a last resort.

Meanwhile, learning the resources suggests that the user should know where help is available, not just from help desk but being familiar with manuals and on-line help and frequently avail of them.

Furthermore, everybody learns differently, hence, the learner himself must be aware of his learning style, that is, there are tips to a training course required by the learner. He must be able to acquire and learn these tips through experimenting.

Finally, the learner must identify someone who belongs to the same organization who is highly knowledgeable about the technology to be relied upon for guidance and mentoring through the technological hurdles.

To cope with their role on their organization's technology initiative, a manager must learn to look beyond training and seek out a technological mentor within the company to help guide them through the transition. Technophobic manager must also take the time to learn exactly what the new computers will offer him and his employees and must put aside how the technology is going to benefit the agency instead on himself. More often than not, the manager will find that new computers will allow them to stay in better contact with the staff, especially those in the field and to stay organized.

Information technology plays a critical role as the key enabler of a new business process in an organization and has the following impacts; it eliminates human labor from a process, capture process information for understanding, closely monitor process status and objectives, improve analysis of information for decision-making and coordinate process across distance (Humpries, 1997: 21).

Integrated information system and information technology applications have become central to the operations of the firm and an important link to corporate strategy. This changing role of information technology represents an important challenge for top management as larger investments in technology became necessary, thus providing them the leverage to utilize IT fully for competitive advantage (Deans, 1996: 141).

However, managers often experience difficulty in taking advantage of information processing technology when formulating organizational strategy. Many top managers

seems to be unable to cope with the problems of controlling information processing activities in their organization. The following are common problems related to information processing (Lucas, 1986: 84).

1. Managers and other users are uncomfortable with the method by which new applications are chosen.
2. There appear to be no priorities for selecting new computer applications.
3. There are many complaints about the quality of information processing service.
4. Requests for computer staff and equipment are escalating.
5. The firm's information systems are not congruent with the firm's goals.
6. Top management feels that information processing is not under its control.

He stresses that if an organization has a number of these symptoms, it may be depriving itself of the opportunity to gain a major competitive advantage through the creative use of information technology. He believes that from the service sectors to manufacturing, information technology plays a major role in managing the firm.

Several enterprises must therefore reshape their managerial structures around the flow of information and in any organizational operations which are in the process of moving into genuine automation, management needs to restructure and redesign it as an information-based organization (Drucker, 1986: 203).

Nilo (1990: 22) in his part presented a concept on Government-Wide Data Banking and stressed that in an era of information explosion, government planners are faced with the overgrowing need to organize and structure their data for effective decision-making.

At the agency level, data can be classified into major groups, the transaction data gathered internally from its operations and the external data gathered from its environment and from other government agencies needed for strategic planning. At the national government level, these are further grouped into logical data clusters called sectors which is the primary mechanism by which government policies and programs are formulated, implemented and monitored. The national budget, which basically mirrors the government's priorities in financial terms, is analyzed in terms of sectoral allocations during deliberations at Congress.

For the Department of Budget and Management (DBM) with its enormous task of preparing, executing and controlling the budget of the entire government machinery and with the tons of documents it has to process and prepare in order to meet the budgetary requirements of every government agency. IT utilization is a must to get rid of usual and routinary problems, (Isla, 1989: 15).

With the advent of IT among agencies, information system planning is turning out to be imperative to enable agencies to cope up efficiently and effectively. However, information system planning for each agency requires much effort and time inasmuch as for the information systems to be effective, it must consider the uniqueness of the agency concerned.

According to Hawley (1997: 10) as organizations attempt to exploit their information resources, same are adopting the broader concept of "business worth" as a guideline in setting management and investment priorities. This approach centers on the two key questions about information resources, vis: 1) what would happen to the business if the information changes after one day, one week and one year?

Committee argues that all significant information resources should be considered as business assets. Company directors must set the strategy governing how these assets are managed and who does the managing. The following are the ten points he considers can help the agenda:

The management should ensure that:

1. The company should have board members.
2. Board members are needed to support all the issues on the normal board agenda.
3. The board's use of information, collectively and individually, complies with laws, requlations and recognized ethical standards.

A specific information strategy should also be developed so that:

1. Information assets are identified and classified into those of value and those of low value to the company.
2. The quality and quantity of information, at every level, is sufficient, timely, reliable and consistent.
3. There are clear responsibilities for creation, safekeeping, access, change, and destruction of information.
4. Capable, suitable and trained people are on hand to safeguard enhance information assets.
5. Information is protected from theft, loss, and unauthorized access.
6. Information assets are harnessed and used for the maximum benefit of the organization; and

7. The strategy for IT enhances the usefulness of all information assets, and takes full account of the costs, benefits and risks of maintaining an effective information resource for the future.

Since information drives organizational efficiency and productivity, it must be managed, nurtured, preserved and above all used effectively.

Related Studies

Several studies which delved on information technology were painstakingly reviewed by the researcher to give substance to the present study.

Anchored on the basis that utilization of information technology in this computer-based era is very vital for the full realization of organizational goals and objectives and as such, the extent of how it is utilized must be enhanced fully for an efficient, effective and acceptable management to answer the increasing demands of time.

In this rapidly industrialized society, the success of an organization depends not only on the amount of attention given to production, marketing and finance but on the management's ability to handle and use of information technology quickly and effectively. As the company grows and its structure changes, the need to be systematically informed becomes crucial. Thus, Information Technology utilization is designed to fill the need to enable companies to keep pace with the development of this fast and ever-changing world.

The study conducted by Abts (1987) involved initial decision of management regarding use of computer in decision making. In her research, she considered initially the factors that might influence before and after the acquisition of the machines thereby personal and environmental factors were highlighted. In the investigation, a finding of

"no significant relationship" was established between the size of the department and of the department's budget on its inception either on the initial use and the subsequent use of computers pointed out that the respondents felt that the equipment has made their jobs easier and has helped them make better decisions because of increased speed and accuracy in information storing and processing.

The study of Abts is related with the present study since it focused on the use of computers and also undertook correlational analysis between the use of computers and the department's size and budget. Meanwhile, it differed from this study due to the following aspects, namely: 1) research environment of Abts' study was conducted in a foreign setting, and 2) the scope of the analysis of Abts' study considered the department size and budget as the major variate, while this study considered quality of management along planning, organizing, staffing, directing, and controlling.

Colaba (1987) in his study delved on the use of computers in a management system as to recommend necessary support and functions to the basic ones in accommodation to trend, development and technology. He pointed out the incapability of a tradition-bound management perspectives and how these could be cured with the uses of computers as aid to management functions of planning, organizing, controlling, staffing and directing.

Colaba's study bears similarity with present study in terms of the focus on the use of computers in the five management functions. However, they differed in relation to: 1) the research design, the present study used descriptive-normative; and 2) the research environment – Colaba's study focused on a private university. Divine Word University while this study covered government agencies in Catbalogan, Samar.

Another research that described and demonstrated a new approach for management to answer questions on computer utilization efficiency was made by Herman (1980). His dissertation contained techniques which provided corporate management a systematic way of achieving meaningful results from computer operation. The researcher's investigation which included analysis of computer system management and application in small and manageable units, concluded for management to adopt the essentials of identifying problems and its areas covered to come up with probable solution to be fed into the computer for accuracy of analysis. The same study ultimately recommended problem-solution model to ascertain the comprehension of the worked problem.

Herman's study, like the present study focused on computer utilization. However, they differed in terms of the purpose. While this study intends to find out the impact of computer utilization on managerial effectiveness and efficiency of managers in Catbalogan, Samar, the past study looked into critical areas in management where computers could be used as decision-support system. Furthermore, the settings of the two studies differed. The study of Human was conducted in a foreign setting while this study was conducted locally.

Because of the increasing awareness of the importance of computers in every organization, Cason (1986) in her research tried to determine the significant differences of attitudes among the administrators, teachers and students towards scheduling process, on the theory that there might be variations among the groups since each group has its own computer impact. Her findings revealed statistical differences among the three groups thereby concurring the initial theory.

Cason's study and this study are similar inasmuch as both focused on the utilization of computers. However, they differed on the aspect considered. While Cason tried to elicit and compared the attitude towards computers by the administrators, teachers and the students, this study attempted to generate information on the impact of using computers to managerial effectiveness and efficiency.

Salonga's study (1981) likewise determined the viability of computer utilization among educational institutions. His study outlined a proposed computer program for use in educational administration and catered to areas on enrollment projections, class scheduling and space utilization. The objective of his research was to introduce computer utilization thereby freeing educational administrators valuable time to attend to more pressing and important matters. His study helped also define clearly the role of computers in school administrations.

While Salonga's study beards similarity with the present study in terms of its purpose and objective, his study was limited on the educational sector along areas of class scheduling and space utilization whereas the study at hand deals more on the different government agencies and IT's effects on managerial effectiveness.

Cardoso (1996) in her study, proposed a model for maximizing computer utilization focusing on the four areas of educational management: students, personnel, supplies/equipment and financial management. Basically, the anchorage of the research was in response for the demand for a more systematic as well as strategic utilization of the information in the division sector in order that the delivery of each service to the target clientele is best attained with the Implementation of Information System Strategic Plan (ISSP) which is the main course of her study. The educational managers,

institution development planner, heads of department, the storage, college personnel and other line agencies are benefited in terms of providing them tools for decision making and efficiency in the performance of their jobs.

The above cited case is related to the present study in terms of aiming to maximize the utilization of computer to fast track with the race in meeting the demands of time. However, the previous research was broader in scope in terms of the covered areas and considered state colleges and universities in Eastern Visayas as the source of information whereas the present endeavor is limited in scope covering only the extent of IT utilization among government agencies in Catbalogan, Samar.

Patrocinio (1990) took as point of reference in his study the theory that management information system is a scheme designed to aid management in fulfilling its functions of making plans and decisions, exercising general control of the agency or firm by providing it with significant information pertaining to operations, This information or data must be controlled, gathered, quantified, classified, and distributed rapidly, efficiently and economically. Thus, while it can be said that extensive use of computer and other electronic devices characterizes IT operation in the company, the effectiveness of MIS is not dependent on the technological advances of the equipment used.

While the present study and the above cited cases deal with computer utilization for effective management, the latter delved more in the improvement of the management information system processing and reporting system as well as other related system to complement the effective operation of the Management Information System as a whole. Other point of distinction is that while the present endeavor

considered government agencies in Catbalogan as respondents focusing along the management functions and planning, organizing, directing, staffing and controlling, the study of Patrocinio confined to the management of the private entity in Cebu City with areas of construction which includes major functions of financial management, marketing, production and operation and personnel management.

The research work by Prudenciado (1985) is similar with the present endeavor inasmuch as her study focused on its functions and maximum utilization of IT technology by revolutionizing offices among agencies with the establishment of EDP services bureau while her study considered agencies in Tacloban City, this study focused on the national government agencies at Catbalogan, Samar.

Lapitan (1992) study on the other hand, is premised on the principles that modern management system would not have been possible without the computer and in tern the basic foundation for any useful management information system depends on a good processing system. In his study, the school administrators are provided with vital information for determining the condition and contribution of the EDP system to its present operation. The information also assists them in the identification of the new system so that the administrators could evolve better management techniques and operational system to improve the present functions and operations of its management information center.

The purpose of Lapitan research was to inquire into the effectiveness of the EDP system of the University of San Jose Recoletos (USJR) as well as its strengths and weaknesses and to inquire into the problems met by the students and faculty members in order to formulate proposals for the improvement of the EDP system.

Based on the findings of his study, the following conclusions have been formulated:

1. The EDP system of the USJR is perceived by both faculty and students to be effectively rendering a wide range of services, however there is a need to improve these services because of the growth and expansion of the said school.
2. There were no significant differences in the faculty members and students perceptions regarding the effectiveness of EDP system of the school.

The present study is designed to maximize IT utilization among government agencies with the use of computer for an effective management which makes it closely related to the above-mentioned case. Lapitan's study differed from the present endeavor merely on the setting and the respondents inasmuch as while he considered a private school in Cebu City as respondents, this study focuses on the government agencies of Catbalogan, Samar.

Iligan (1996) in her research focuses on the operation of the EDP and the people who run schools, the educational administrators can benefit form the applications. Computers can help administrators to compile and produce class lists and schedules, organize and evaluate testing and counseling and order books and supplies. Accounting, budgeting and payment of bills can be accomplished in a more orderly way and all student and personnel records are efficiently stored, streamlining the complicated business of keeping a school running smoothly. Her study delved on the use of computer in schools which includes grade reporting, school registration and class scheduling. From a time a student starts going to school, a computer keeps track of all

the subjects that he takes and the grades he earns. With the services rendered by the EDP center, the administrators and the faculty are benefited in terms of efficiency in the performance of their functions and the students for the prompt release of their grades.

While the above study and the case at hand are similar inasmuch as both focused on computer utilization, they differed on the aspect considered, while Iligan tried to compare the perception of the school administrators, faculty and students on the efficiency of the services rendered by the EDP center, this study attempted to analyze the impact of IT utilization on managerial effectiveness.

Joseph (1988) in her research, focused on the use of computers among middle school teachers from several school districts and came up with the conclusion that cognitive style affects the implementation of computers. Other factor included teacher's sex and his/her socio-economic status in the society. It was concluded in the study that woman tend to be more adoptive to the technological change than their male counterpart.

The study of Joseph bears similarity to the present study inasmuch as it focused on maximizing the use of computers in order to develop a new instructional delivery system comprised of human-computer based information system. However, her study centers on maximizing the use of computers in student management whereas this endeavor focuses on the computer/information technology utilization among the government agencies and its impact on the management of these agencies.

Kraft (1987) in her study about information work confirmed the study made by Joseph, that women tend to be more adoptive to the technological change than their man counterpart. Findings of her research conducted provides that of all the employed

persons to do information work, women are the main beneficiaries of the growth and they are increasing rapidly as information workers. Of the total workers categorized by sex, 59% of employed women are into information work while only 39% of employed men are connected with information work. This led into the conclusion that women are more dependent on information work than men. Another finding was the adoption of microcomputers which has not decreased information work, through the percent of clerical workers decreases while that of the managers increases, implying need for information processing and greater need for control.

In a business world where men are the dominant factor, the advancement of IT increases employment for women, thus, invading the world of processing new data and contribute in planning and control, women are, therefore, considered as being more benefited by this trend than their male count counterparts.

The above study is similar to the present study since it considered computers as tools for information work, however, it focused more on discerning the sex of the worker as factor for a more effective IT utilization while this study focused more on its impact on the management's efficiency and effectiveness in government agencies.

Chapter 3

METHODOLOGY

This chapter presents an overview of how the study was undertaken, the methods and the procedures used in answering the problems posed, the research design, in gathering the data, the sampling procedure as well as the statistical tools in the treatment of the data gathered.

Research Design

The research design used for this particular study was the normative-descriptive research method using the questionnaire and the survey checklist as the main instruments in gathering the pertinent data. The questionnaires were administered to the three groups of respondents – the top managers, middle and the rank and file personnel. In addition to the questionnaires and survey checklist, interviews were likewise utilized in order to augment the functionality and reliability of the data availed of.

Instrumentation

In gathering information for this study, the instruments used were the survey questionnaires, survey checklist, documentary analysis, observation and interview.

The Survey Questionnaire. The main instrument used was categorized into two sets. Set 1 was administered to the top and middle management, while set 11 was for the rank and file personnel.

The questionnaires as shown in Appendix C contains four major parts as follows:

Part 1 was designed to elicit data on the personal and official characteristics of the respondents like age, sex, educational qualification, length of service, civil status, position, and the like.

Part II attempted to find out the extent of computerization in the agency concerned as well as the perceived of management of this agency along the five considered functions. To quantify the responses, the five-point likert scale was used, as follows: For the extent of computer utilization; 5 means maximum (MAX), 4 means high, 3 means moderately utilized (MOD), 2 means slightly utilized, and 1 not utilized at all (NU). For the quality of management: 5 means excellent (E), 4 means very satisfactory (VS), 3 means satisfactory (S), 2 means poor (P) and 1 means needs improvement (NI).

Part III of the questionnaire was intended to collect information on the problems encountered by the respondents. Five possible responses were expected: 5 – very much felt (VMF), 4 – much felt (MF), 3 – moderately felt (MODE), 2 – slightly felt (SF) and 1 – not felt (NE).

The last part, Part IV tried to collect possible suggestions that the respondents recommended. In this part, possible solutions were listed and the answers of the respondents were ranged from 1, 2, 3, 4 and 5 for disagree, strongly disagree, uncertain/undecided, agree and strongly agree, respectively.

Survey Checklist. In finding out the available information technology resources and facilities, a survey checklist was developed by the researcher. The survey checklist likewise served as tally sheet to reflect observations of the researcher gathered from her ocular survey, documentary analysis and interview.

Documentary Analysis. The researcher also utilized documentary analysis as one of the instruments in gathering some pertinent data. Important documents and official records were examined from the respondent agencies for profile specifications.

Interview. Both structured and unstructured interview were utilized in the conduct of this study. The structured interview was administered to all top managers in eliciting information regarding the agency's profile and IT utilization. The unstructured interview was undertaken by the researcher on the other hand, in cases where there was a need to validate or verify responses made the respondents of the study as reflected in the questionnaire.

Validation of the Instrument

To ensure that the questionnaires were able to elicit the pertinent data needed by this study and that the instrument was not vague, a tryout or dry-run was undertaken at LIT, Tacloban City. The results of the dry-run were used as bases for modifying and improving the questionnaires.

Moreover, expert validation was also conducted. The researcher's adviser, members of the panel during the pre-oral and other technical experts were consulted during the finalization of the questionnaire for their criticism, suggestions and planned modifications of the questionnaire.

Misspellings and other minor errors were also checked to arrive at the final draft of the questionnaire before it was administered to the respondents of the study.

Sampling Procedure

In the selection of the top management group, total enumeration was used. This means that all the heads of agencies of the fifteen government offices in Catbalogan were considered as respondents of the study.

Meanwhile, for the middle managers and the rank and file personnel, random sampling was used.

In determining the sample size n, for the middle and rank and file from each agency, the Sloven's formula was employed, vis (Pagoso, 1985: 182).

$$n = \frac{N}{1 + N_e^2}$$

Where n refers to the sample size

N = refers to the total head count of the target

e = refers to the margin of error which is set at .05 in this study

After the desired sample size was determined, the selection of the actual respondents was done through random sampling wherein the names of the prospective respondents were written n a piece of paper, rolled and placed in a box and the researcher drew the number of samples needed as provided by the above formula.

Data Gathering Procedure

The researcher personally undertook the distribution of the research instruments to the respondents. She asked permission from the different heads of agencies concerned by submitting a letter request properly indorsed by the Vice-President for Academic Affairs of the Samar State Polytechnic College and approved by the President of the College.

Moreover, the researcher undertook the interview during the retrieval period and almost a hundred percentage of return was ensured by paying several follow-up visits to the respondent-agencies.

Statistical Treatment and Analysis of Data

The researcher used frequency counts, weighted means, Pearson Product Correlation Coefficient, Fisher's Test and Analysis of Variance in the processing and analysis of data.

Frequency Counts. This descriptive tool was used in relation to the profile of the respondents.

Weighted Means. This special type of average was applied to the five-point Likert scale responses of the top management, middle management and rank and file personnel using the formula given by Walpole (1982: 307) as follows:

$$\overline{X}_w = \frac{\sum W\overline{x}}{\sum W}$$

Where Xw refers to the weighted mean

$\overline{X}$ = represents the value of each item ranging from 1 – 5

W = represents the frequency for each $\overline{X}$ item

$\sum W$= refers to the total of the frequencies

In analyzing and interpreting the computed value of the weighted means, the following guide was used:

Weighted Mean	Interpretations
4.51-5.0	Maximum/Excellent/Very Much Felt
3.51-4.50	High/Very Satisfactory/Much Felt/Agree

	Moderate/Satisfactory/Moderately Felt/Undecided
1.51-2.50	Slight/Poor/Slightly Felt/Disagree
1.00-1.50	Not utilized/Needs Improvement/Not Felt/Strongly Disagree

Pearson Product Moment Correlation Coefficient. This was designed to determine the relationship between the extent of IT utilization and quality of management in the five management functions. The formula used in (Walpole, 1982: 401):

$$r = \frac{N\sum XY - \sum X\sum Y}{\sqrt{[N\sum X^2 - (\sum X^2)]\,[N\sum Y^2 - (\sum Y)^2]}}$$

Where r refers to the correlation coefficient

X – refers to the extent of IT utilization

Y – refers to the quality of management

N – refers to the number of pairs

Fisher's t-test. This was used as a posteriori test of Pearson r and were utilized to test the significance of the relationship between IT utilization and quality of management using the formula:

$$t = \frac{r\sqrt{N-2}}{\sqrt{1-r^2}}$$

Where r refers to the correlation coefficient

t – refers to the computed t-value

N – refers to the number of pairs

ANOVA. This one-way analysis of variance (Walpole, 1982: 386-387) was applied in relation to determining significant differences among the perceptions of the three groups of respondents. The working formula is shown below:

Source of Variation	Degrees of Freedom	Sum of Square	Mean Squares	Computed F
Between Groups	K – 1	$SSB = \sum \frac{\sum X^2\text{-}(F)}{Ng}$	$MSB = \frac{SSB}{K1}$	$FC = \frac{MSB}{MSW}$
Between Groups	N – K	$SSW = \sum\sum X^2 - CF$	$MSW = n - K$	
Total	N – 1	$SST = \frac{\sum xy^2 - CF}{m}$		

Chapter 4

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter presents, analyzes and interpret the data gathered with the use of questionnaires, documentary analysis, survey checklist, observation and unstructured interview.

Inclusive in this chapter are the Information Technology (IT) resources and size profile of the fifteen government agencies in Catbalogan, Samar, the age and sex, length of service and the educational qualifications of the top management, middle and the rank and file personnel as well as the extent of computer utilization and the quality of management along the five management functions as perceived by the three of respondents.

Information Technology (IT) Resources Profile of the Government Agencies in Catbalogan, Samar

IT Resources Precise Number of Personnel. With the use of survey checklist, the available IT facilities of the fifteen government agencies in Catbalogan, Samar were determined according to their classification, namely: computers, telephone lines, facsimiles, Xerox machines and voice mail/answering machines. These available facilities are presented in Table 1. As shown in the table, two of these agencies still have no computer/s installed and others need additional computers in their offices. Three out of fifteen respondent agencies have already access to the internet, the Land bank of the Philippines, Wesamar and the Department of Agrarian Reform. As of this writing, no local internet provider is available in the area, thus, the said agencies have

their access to the internet thru long distance (MOZCOM-Tacloban). Telephones are available in all agencies while only few have facsimiles installed.

Table 2

Size Profile of the Government Office in Catbalogan, Samar

Name of Agency	Number of Personnel				Percentage
	Top Management	Middle Management	Rank and File	Total	
AFP	1	7	300+	300+	
BIR	1	6	22	29	
DAR	1	33	110	152	
DENR	3	12	156	171	
DILG	2	3	34	39	
DOLE	1	-	1	2	
DPWH	2	6	56	64	
DSWD	3	-	7	10	
DTI	1	2	17	20	
LBP	1	-	20	21	
NFA	1	6	35	42	
PNP	4	10	51	65	
SSPC	3	6	145	154	
WESAMAR	2	35	80	117	
TOTAL					
Percentage					

Table 3 depicts the nature of services by the fifteen government agencies to their respective clientele. For the delivery of services among various clientele, these includes among others the Department of Agrarian Reform, Department of Labor and Employment, Department of Public Works and Highways, Department of Social welfare and Development, Land Bank of the Philippines, Samar State Polytechnic College and the WESAMAR, Regulating Services includes the Department of Environment and Natural Resources, Department of Interior and Local Government, Department of Trade and Industry and the Land Transportation Office. For national security and peace and order in our society, the Armed Forces of the Philippines and the Philippines National Police are task to protect every citizen.

Table 3

Nature of Business of the Government Agencies in Catbalogan

Nature of Business	Number of Agency	Percent
Delivery of Service	7	47%
Regulating Services	6	40%
Military/Peace Keepers	2	13%

Table 4 shows the age and sex profile of the top managers. It can be gleaned from the table that age ranging from 55 to 59 had the highest percentage rating of 37.0%, followed by 50 to 54 with 25.9%. Among the top managers, male dominates

with a percentage of 77.8 with an average age of 54.4 while female counterpart occupies the remaining 22.2% with an average of 49.5.

Table 4

Age and Sex Profile of the Top Management

Age	S E X		Total	Percent
	Male	Female		
60 – 64	3	1	3	1.1%
55 – 59	9	1	10	37.0%
50 – 54	5	2	7	25.9%
45 – 49	3	2	5	10.5%
40 – 44	1	1	2	7.4%
Total	21	6	27	100%
Percent	77.8%	22.2%	100%	
Average Age	54.4	49.5	53.3	
SD	5.4	5.2	5.6	

The age and sex profile of the middle managers are shown in Table 5. Among these respondents, ages ranging from 45 to 49 to 39 had the highest percentage rating of 19.0, followed by ages 50 to 54 with 16.2%. The lowest percentage rating of 2.9 corresponds to ages from 25 to 29. Males dominate with 65.7 percentage with an

average age of 44.4 while their female counterpart holds the remaining 34.3% with an average age of 45.8%.

Table 5

Age and Sex Profile of the Middle Management

Age	S E X		Total	Percent
	Male	Female		
60 – 64	2	3	5	4.0%
55 – 59	9	4	13	12.4%
50 – 54	11	6	17	16.2%
45 – 49	13	7	20	19.0%
40 – 44	10	5	10	14.3%
35 - 39	13	7	20	19.0%
30 – 34	9	3	12	11.4%
25 – 29	2	1	3	2.9%
Total	69	36	105	100%
Percent	65.7%	34.3%	100%	
Average Age	44.4	45.8	44.9	
SD	9.0	9.4	9.1	

Table 6 illustrates the age sex profile of the third group of respondents. As shown below, ages ranged from 35 to 39 had the highest percentage rating of 19.7% followed by 17.2% which corresponds to ages ranging from 30 to 34. The lowest rating occupied by ages ranging from 60 to 64 with a percentage of 1.8. Male dominates with 63.38%

with an average of 38.8 years while female holds the remaining 36.7% with an average age of 36.3 years.

Table 6

Age and Sex Profile of the Rank and File

Age	S E X		Total	Percent
	Male	Female		
60 – 64	9	5	14	1.0%
55 – 59	39	12	51	6.5%
50 – 54	55	15	70	9.0%
45 – 49	43	27	70	9.0%
40 – 44	73	43	116	14.9%
35 – 39	96	58	154	19.7%
30 – 34	85	49	134	17.28%
25 – 29	43	38	81	10.4%
20 – 24	32	26	58	7.4%
15 – 21	19	13	32	4.1%
Total	494	286	780	100%
Percent	63.3%	36.7%	100%	
Average Age	33.8	36.3	37	
SD	10.0	10.4	10.8	

Table 7 shows the length of service among the three groups of respondents. It can be depicted in the said table that years from 16 to 29 holds the highest percentage rating of 25.9, followed by 11 to 15 years of service with a percentage of 16.9%. The lowest rating occupied by years of service ranging from 36 to 40 with 2.1% for by this time, many workers had already retired from the service in order to enjoy their fruit of labor.

Table 7

Length of Service of the Respondents

Length of Service	Respondents Category			Total	Percent
	Top Management	Middle Management	Rank and File		
30 – 40	1	6	12	19	2.1
31 – 35	1	15	59	75	0.2
26 – 30	3	22	86	111	12.2
21 – 25	8	25	113	146	16.0
16 – 20	7	17	212	236	25.9
11 – 15	4	13	137	154	16.9
6 - 10	2	5	84	91	10.6
1 – 5	1	2	77	80	8.8

Table 8 depicts the educational qualifications among the three groups. As shown in the table, employees with a bachelors or baccalaureate degree obtained the highest percentage rating of 43.1. Others especially in the top and middle management still pursued their studies and earned masters and doctorate degree. Post secondary or

non-degree workers occupied the 10.2 percentage while those who did not reach college obtained the lowest rating of 2.3%.

Table 8

Educational Qualifications Profile of the Respondents

Educational Qualification	Respondents Category			Total	Percent
	Top Mgt.	Middle Mgt.	Rank and File		
Ph. D./Ed. D.	9	11		20	22
MA/MS w/ Pd. D. units	7	31	32	70	7.7
MA/MS	5	29	86	120	13.2
BS/AB w/ MA units	4	24	117	195	21.4
21. 4BS/AB	2	10	381	393	43.1
Post Sec./Non-Degree	-	-	93	93	10.2
Secondary	-	-	21	21	2.2
Total	27	105	780	912	100%
Percentage	3.0	11.5	85.5	100%	

Extent of Computer Utilization Along the Function of Planning as Perceived by The Three Groups of Respondents

Among the areas pre-identified under the management functions of planning in terms of computer utilization, "Research and development" obtained the highest weighted mean from the top management of 3.70 or "high" as shown in Table 9. This was followed by "proper budgeting", "benefits", "setting of objectives", "forecasting" and "vision, mission, goal" with weighted mean of 3.59, 3.56, 3.55, 3.53 and 3.52, respectively, all with qualitative meaningful "high".

Table 9

Extent of IT Utilities Along the Management Function of Planning
As Perceived by the Top Management

Planning	Extent of Utilities					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
	20	48	15	6	5	95		
1. Vision/Mission/Goal	4	12	3	3	6	27	3.52	High
	30	52	6	4	4	96		
2. Setting of Objectives	6	13	2	2	4	27	3.55	High
	25	60	3	4	4	96		
3. Forecasting	5	15	1	2	4	27	3.55	High
4. Policies	35	48	9	6	2	100		
a. research & dev't	7	12	3	3	3	27	3.70	High
	20	48	21	2	3	94		
b. prod'n & procurement	4	12	7	1	3	27	3.48	Moderate
	15	20	39	2	5	81		
c. finance	3	8	7	5	4	27	3.00	Moderate
	15	52	15	10	4	76		
d. sales	3	8	7	5	4	27	2.81	Moderate
	10	48	21	8	2	89		
e. marketing	2	12	7	4	2	27	3.29	Moderate
	25	44	15	4	4	92		
f. recruitment	5	11	5	2	4	27	3.41	Moderate
	30	52	9	-	5	96		
g. benefits	6	13	3	-	5	27	3.56	High
5. Programs	35	36	9	4	6	90		
a. training programs	7	9	3	2	6	27	3.33	Moderate
	15	48	12	4	6	85		
b. advertisement programs	3	12	4	2	6	27	3.15	Moderate
	15	24	30	6	5	80		
c. sales promotion program	3	6	10	3	5	27	2.96	Moderate
6. Procedures	15	28	27	4	6	90		
a. handling of cash	3	7	9	2	6	27	2.96	Moderate
	20	48	10	2	4	92		
b. placing of orders	4	12	6	1	4	27	3.41	Moderate
c. granting of leaves for employees	25	52	12	-	5	94		
	5	13	4	-	5	27	3.48	Moderate
7. Budget								
a. correlating budget to authority delegation	30	48	6	4	5	93		
	6	12	2	2	5	27	2.44	Moderate
b. fitting the budget w/ department operation	20	36	15	8	5	84		
	4	9	5	4	5	27	3.11	Moderate
c. long-range capital expenditure planning	35	48	6	-	6	95		
	7	12	2	-	6	27	3.52	High
d. proper budgeting technique application	30	40	15	8	4	97		
	6	10	3	4	4	27	3.59	High
e. mobilization of fixed and working capital	35	36	15	4	4	94		
	7	9	5	2	4	27	3.48	Moderate
Grand Mean						70.3/21 =	3.35	

It can be gleaned from the said table that the over all assessment of the top management on the computer utilization of the management function of planning is

"moderate" with a grand weighted mean of 3.35.

For the middle management, "correlating budget to authority" got the highest weighted mean of 3.44 by "training programs" with a weighted mean of 3.39 or "moderate", "setting of objectives" research and development", "benefits", 3.39, 3.32, 3.21 respectively all with a qualitative of "moderate".

In general, the middle management assessed planning as utilizing computers to a moderate extent with a grand weighted mean of 3.16 as depicted in Table 10.

Finally, for the rank and file respondents, "production and procurement" and "training programs" earned the highest weighted mean of 3.52 which mean "high" followed by "granting leaves for employees". Thus, in general, the rank and file personnel assessed that the computer utilization along the management function of planning is utilized to a moderate extent.

The summary of the assessment of these groups are reflected in Table 11.

Comparison of Responses of the Top Management, Middle and the Rank and File on the Extent of IT Utilization Along Planning

As shown on the above tables, the top management gave the highest numerical rating of 3.35 which means "moderate" followed by the rank and file and lastly the middle management which likewise assessed the extent of computer utilization of planning as "moderate" with the weighted mean of 3.25 and 3.16 respectively. The combined assessment of the three categories of respondents are 3.25 which indicated

Table 10

Extent of IT Utilities along the Management of Planning As Perceived by the Middle Management

Planning	Extent of Utilities					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
	90	140	41	12	8	291	2.77	Moderate
1. Vision/Mission/Goal	18	35	38	6	8	105		
	50	172	106	18	7	355		
2. Setting of Objectives	10	43	36	9	7	105	3.38	Moderate
	50	144	73	32	12	331		
3. Forecasting	10	36	31	16	12	105	3.15	Moderate
4. Policies	80	124	114	22	9	349		
a. research & dev't	16	31	38	11	9	105	3.32	Moderate
	55	112	144	16	10	337		
b. prod'n & procurement	11	28	48	8	10	105	3.21	Moderate
	40	136	105	24	16	321		
c. finance	8	34	35	12	16	105		
	40	108	111	38	14	311		
d. sales	8	27	37	19	14	105	3.05	Moderate
	75	112	105	32	11	335		
e. marketing	15	28	35	16	11	105	2.96	Moderate
	30	156	89	36	9	330		
f. recruitment	6	39	33	18	9	105	3.14	Moderate
	45	152	126	18	7	348		
g. benefits	9	38	42	9	7	105	3.31	Moderate
5. Programmes	55	184	87	22	8	356		
a. training programs	11	46	29	11	8	105	3.39	Moderate
	65	112	93	44	11	325		
b. advertisement programs	13	28	31	22	11	105	3.09	Moderate
	15	140	141	8	16	320		
c. sales promotion program	3	35	47	4	16	105	3.05	Moderate
6. Procedures	15	76	132	48	15	286		
a. handling of cash	3	19	44	24	15	105	2.72	Moderate
	45	116	159	12	8	340		
b. placing of orders	9	29	53	6	8	105	3.24	Moderate
c. granting of leaves for	20	152	105	40	8	325		
employees	4	38	35	20	8	105	3.09	Moderate
7. Budget								
a. correlating budget to	60	172	105	18	6	361		
authority delegation	12	43	35	9	6	105	3.44	Moderate
b. fitting the budget w/	20	128	147	18	11	324		
department operation	4	32	49	9	11	105	3.09	Moderate
c. long-range capital	40	164	108	12	9	353		
expenditure planning	8	46	36	6	9	105	7.36	Moderate
d. proper budgeting	25	168	129	6	12	340		
technique application	5	42	43	3	12	105	3.24	Moderate
e. mobilization of fixed	20	124	156	22	7	239		
and working capital	4	31	52	11	7	105	3.43	Moderate
Grand Mean						66.33/21 =	3.16	Moderate

that at present the government agencies in Catbalogan, Samara utilizes computers at a "moderate" extent. The ocular survey and interview undertaken by the researcher concurred this assessment, some agencies still used manual typewriters.

Table 11

Extent of IT Utilization Along the Management Function of Planning as Perceived by the Rank and File Personnel

Planning	Extent of Utilization 5 max	4 high	3 mod	2 slight	1 nu	Total	Weighted Mean	Interpretation
	210	1132	1164	70	32	2608		
1. Vision/Mission	42	283	389	35	32	780	3.34	Moderate
Goal	145	1192	1197	40	34	2608		
2. Setting of	29	298	399	20	34	780	3.34	Moderate
Objectives	135	124	1122	100	48	2529		
3. Forecasting	27	281	374	50	48	780	3.24	Moderate
4. Policies	320	526	1548	60	38	2494		
a. research & development	64	132	516	30	38	780	3.19	Moderate
	190	1688	774	58	33	2743		
b. prod'n & procurement	38	422	258	29	33	780	3.52	Moderate
	325	504	1608	38	34	2509		
c. finance	65	126	536	19	34	780	3.22	Moderate
	210	936	1308	60	28	2542		
d. sales	42	234	436	30	28	780	3.26	Moderate
	155	856	1197	232	20	2460		
e. marketing	31	214	399	116	20	780	3.15	Moderate
	195	1176	1128	82	30	2611		
f. recruitment	39	294	376	41	30	780	3.35	Moderate
	165	1144	1251	48	20	2628		
g. benefits	33	286	417	24	20	780	3.37	Moderate
5. Programmes	425	1448	744	90	40	2747		
a. training programs	85	362	248	45	40	780	3.52	High
	190	844	1164	196	45	2439		
b. advertisement	38	211	388	98	45	780	3.13	Moderate
Programs								
c. sales promotion	170	792	1257	174	42	2435		
Program	34	198	419	87	42	780	3.12	Moderate
6. Procedures	215	784	1197	184	50	2430		
a. handling of cash	43	196	399	92	50	780	3.11	Moderate
	90	768	1488	24	42	2512		
b. placing of orders	38	192	496	12	42	780	3.32	Moderate
c. granting of leaves for	40	2064	576	30	49	2759		
employees	8	515	192	15	49	780	3.54	High
7. Budget								
a. correlating budget to	85	672	1578	60	39	2434		
authority delegation	17	68	526	30	39	780	3.12	Moderate
b. fitting the budget w/	210	660	1206	246	48	2370		
department operation	42	165	402	123	48	780	3.09	Moderate
c. long-range capital	250	744	1194	202	45	2435		
expenditure planning	50	186	398	101	45	780	3.12	Moderate
d. proper budgeting	230	732	1236	194	42	2434		
technique application	46	183	412	97	42	780	3.12	Moderate
e. mobilization of fixed	195	376	984	474	92	2111		
and working capital	39	94	328	237	82	780	2.71	Moderate
GRAND MEAN						67.78/21 = 3.23		Moderate

With the response noted among the three groups of respondents on the extent of IT utilization along planning, significance of these assessment was analyzed by utilizing one-way ANOVA with the results shown in Table 12.

The variations between groupings proved to be lesser than the variations within groupings with the mean squares between groups equal to 0.0281 to the mean square within groups equal to 0.0555. The ratio of these values gave a computed F value 3.05 which proved to be lesser than the tabular F-value at degrees of freedom = 2 and 60 which was 0.0479. These results led to the acceptance of the null hypothesis which states that *"There are no significant differences between the perceptions of the top management, middle and the rank and file on the extent of IT utilization Along the function of Planning."*

Table 12

ANOVA Table for Comparing the Perceptions of the Three Groups of Respondents on the Extent of IT Utilization Along Planning

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Squares (MS)	Computed F VA	Tabular F Value @= .05	Evaluation
Between Groups	0.292	2	0.146	3.05	3.15	NS
Within Groups	2.075	60	0.0479	-	-	
T o t a l	3.167	62	-	-	-	

Legend: Not Significant Accept Ho

Extent of Utilization Along Organizing

As demonstrated by Table 13, the top management perceived computer utilization along the function of organizing as "Moderate" having obtained a grand mean of 3.41 of

the organizing areas identified, "establishment of interrelationship" obtained and grouping of activities" and "delegation of duty and fixation of responsibility with weighted means of 3.52 and 3.15 respectively.

The over-all assessment on the management function of organizing as perceived by the middle management was likewise "moderate" computer utilization assigning a grand weighted mean of 3.31. The highest weighted mean obtained was 3.60 which corresponded to "establishment of interrelationship" followed by "determining and grouping of activities" and "delegation of duty and fixation of responsibility" with weighted means of 3.25 and 3.01, respectively.

For the rank and file, the over-all assessment on the management function of organizing was likewise "moderate" with a grand weighted of 3.22. The highest weighted mean obtained were "delegation of duty and fixation of responsibility" and "establishment of interrelationship with weighted mean of 3.22 followed by "determining and grouping of activities" with a weighted mean of 3.21.

Of IT Utilization Along Organizing

A comparison of the responses of the top management, middle and the rank and file on the extent of IT utilization on organizing was undertaken and reflected on the previous table. It can be noted that of the three groups of respondents, the top management assigned a higher grand mean of 3.41 or "moderate" compared to the middle and the rank and file who assigned a grand mean of 3.31 and 3.22 respectively.

Table 13

Extent of IT Utilization Along the Management Function of Organizing As Perceived by the Respondents

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
1. Top Management								
1. determining &	40	40	6	4	5	95		
grouping of	8	10	2	2	5	27	3.52	High
activities								
2. delegation and	30	24	18	8	5	85		
fixation of	6	6	5	4	5	27	3.15	
responsibility								
3. Establishment	40	36	12	4	4	96		
of	8	9	4	2	4	27	3.56	High
interrelationship								
Overall Mean						10.23/3	3.41	
2. Middle Management								
1. determining &	25	180	102	26	34	341		
grouping of	5	45	34	13	8	105	3.25	Moderate
activities								
2. delegation and	15	128	138	22	13	311		
fixation of	3	32	46	11	13	105	3.01	
responsibility								
3. establishment of	30	196	87	36	7	386		
interrelationship	12	49	29	18	7	105	7.68	
Overall Mean						9.94/3	3.31	
3. Rank and File	65	126	536	19	34	780	3.22	Moderate
1. determining &	200	1180	861	204	56	2501		
grouping of	40	295	287	102	56	780	3.21	Moderate
activities								
2. delegation and	215	1448	624	134	90	2511		
fixation of	43	362	218	67	90	780	3.22	Moderate
responsibility								
3. establishment of	295	1028	942	194	53	2512		
interrelationship	59	257	314	97	53	780	3.22	Moderate
Over all Mean						9.65/3	3.22	
Combined Grand Mean							3.31	Moderate

Comparison of Responses of the Top Management, Middle and the Rank and File on the Extent

Table 14 noted the perceptions of the three groups of respondents on the extent of computer utilization, the significance of these responses was analyzed using onw-way *ANOVA.*

The variations between with the mean squares within groups equal to 0.0555. The ratio of these values gave a computed F value at degrees of freedom 2 and 6 which is 5.14 which led to the acceptance that of the null hypothesis which states that *"there are no significant differences among the perceptions of the top management, middle and the rank and file on the extent of computer utilization along organizing."*

Extent of Computer Utilization Along the Management Function of Staffing

Five pre-identified areas were assessed by the top management pertaining to the extent of computer utilization along the management function of staffing. Among these, the highest weighted mean computed was 3.70 or "high" which corresponded to

Table 14

ANOVA Table for Comparing the Perceptions of the Three Groups of Respondents on the Extent of IT Utilization Along Organizing

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F VA	Tabular F Value @= .05	Evaluation
Between Groups	0.0561	2	0.0201	0.506	5.14	
Within Groups	0.3327	6	0.0555	.25		
T o t a l	0.3888	8				

Legend : Not Significant Accept Ho

maintenance of record related to staff. This was followed by "recruitment, transfer, promotion and initiation of disciplinary actions", "defining jobs and skills required", "estimation of manpower needed at different levels of management" with weighted means of 3.63 of "high", 3.52 or "high" and 3.48 or "moderate", respectively. On the other hand, the lowest weighted mean was 3.26 or "moderate" which was assigned to "training of employee".

As a whole, computer utilization on the function of staffing was assessed by the top management as "high" with a grand mean of 3.52. For the middle management, among the five pre-identified areas, the highest value was obtained by "maintenance of records related to staff" having a weighted mean of 3.69 or "high" computer utilization. This was followed by "defining jobs and skills required", "estimation of manpower needed at different levels of management", and recruitment, transfer, promotion and initiation of disciplinary actions with weighted means of 3.38, 3.21 and 3.16 respectively all considered as "moderate". The lowest rating on the other hand, was 3.06 or "moderate" which was assigned to "training or employee".

For the rank and file personnel perceptions on the other hand, among the five areas, the highest value obtained by maintenance or records relating to "staff" having a weighted mean of 3.55 or "high". These was followed by "recruitment, transfer, promotion and initiation of disciplinary action" and "defining jobs and skills required" with weighted means of 3.53 or "high", 3.04 and 2.95, respectively considered as "moderate". The lowest rating was 2.61 or "moderate" which was assigned to "training of employees".

The over-all assessment of the rank and file on computer utilization along the function of staffing is considered "moderate" inasmuch as this area obtained a weighted mean of 3.14.

The summary of the assessment of these groups are reflected on Table 15.

Comparison of Responses of the Top Management, Middle and the Rank and File on the Extent of IT Utilization Along Staffing

The combined assessment of the extent of computer utilization on the management function of staffing was "moderate" as evidenced by the grand weighted mean of 3.32.

Table 16 reflected the perceptions of these groups, and it can be noted from the said table that the weighted means are more variable between groupings as indicated by the mean squares for between groups having a values of 0.18362 than within groupings with a corresponding mean square of 0.00372, giving a ratio or computed F-

Table 16

ANOVA Table for Comparing the Perception of the Three Groups of Respondents on the Extent of IT Utilization Along Staffing

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	0.36724	2	0.18362	2.19	3.89	NS
Within Groups	1.0046	12	0.08372	-	-	
Total	0.1372	-	-	-	-	

value of 2.19. Additionally, comparing Fc to that of the tabular value of 3.89, at a = 0.05 and degrees of freedom of 2 and 12, the former proved to be much lesser than the latter which led to the acceptance of the null hypothesis which stated that *"There are no significant differences among the perceptions of the top, middle and the rank personnel on the extent of IT utilization along staff."*

Extent of Computer Utilization Along the Function of Directing As Perceived by the Three Groups of Respondents

Table 17 demonstrates the assessment of the government agencies in Catbalogan top management on the extent of computer utilization along the management function of directing. The areas under directing was categorized into three, viz; 1. Issuing of orders or instructions, 2. Guiding the subordinates and 3. Supervising. The highest weighted mean given by the top management on directing was 3.41 or "moderate" computer utilization which correspond to "guiding the subordinates". This was followed by "supervising" with weighted mean of 3.33 or "moderate". The lowest rating on the other hand, was 3.15 or "moderate", which corresponded to "issuing of orders or instructions".

As a whole, computer utilization under the management function of directing was assessed by the top management as "moderate" with a grand mean of 3.29.

The middle management on the other hand, gave a general assessment of computer utilization under the function of directing as "moderate" as evidence by the grand mean of 3.33. Table 22 reflects the assessment of the middle management on the computer utilization of directing. Specifically, "issuing of order of instructions" obtained was 3.16 or "moderate" corresponding to "guiding the subordinates".

Table 17

Extent of IT Utilization Along the Function of Directing
As Perceived by the Respondents

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
1. Top Management								
1. issuing of orders	10	52	15	2	6	85		
or instructions	2	13	5	1	6	27	3.15	Moderate
2. guiding the	30	44	9	4	5	92		
subordinates	6	11	3	2	5	27	3.61	Moderate
	20	40	21	6	3	90		
3. supervising	4	10	7	3	3	27	3.33	Moderate
Over all Mean						9.87/3	3.29	
2. Middle Management								
1. issuing of orders	45	212	84	12	9	362		
or instructions	9	53	28	6	9	105	3.48	Moderate
2. guiding the	85	44	168	28	7	332		
subordinates	17	11	56	14	7	105	3.16	
	65	144	114	24	6	353		
3. supervising	13	36	38	12	6	105	3.36	Moderate
Over all Mean						10/3	3.33	
3. Rank and File								
1. issuing of orders	340	668	1254	168	43	2473		
or instructions	68	167	418	84	43	780	3.17	Moderate
2. guiding the	305	1304	987	62	33	2691		
subordinates	61	356	329	31	33	780	3.45	Moderate
	295	1248	1008	78	34	2663		
3. supervising	59	312	336	39	34	780	3.41	Moderate
Over all Mean						10.03/3	3.34	
Combined Grand Mean							3.32	Moderate

For the rank and file assessment pertaining to the computer utilization along the function of directing as shown on also Table 17, the highest weighted mean was 3.45 or "moderate" which corresponded to "guiding the subordinates" followed by "Supervising" with a weighted mean of 3.41 or "moderate". The lowest weighted mean was 3.17 or "moderate" which were assigned to "issuing or orders or instructions".

As a whole, computer utilization on the management function of planning was assessed by the rank and file personnel as "moderate" with a grand mean of 3.34.

A comparison table on responses of the top, middle and the rank and file personnel is presented in Table 18. As depicted by the said table, the computed F-value at a=.05 and degrees of freedom = 2 and 6 which is 5.14. Hence, the null hypothesis starting that *"There are no significant differences among the perceptions of the top management, middle and the rank and file on the extent of IT utilization along the function of directing"* is accepted.

Extent of Computer Utilization Along Controlling As Perceived by the Three Groups of Respondents

Five pre-identified areas were assessed by the top management pertaining to the computer utilization along the function of controlling, among these the highest value was obtained by "inspecting the work in progress" having a weighted mean of 3.77 or "high". This was followed by "establishment of a standard of accountability", "taking corrective measures", and "finding out deviations and interpreting results: with weighted

Table 18

ANOVA Table for Comparing the Perception of the Three Groups of Respondents on the Extent of IT Utilization Along Directing

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	0.0036	2	0.0018	0.0081	5.14	NS
Within Groups	1.1336	6	0.0223			

Legend : Not Significant Accept Ho

means of 3.52 or "high", 3.19 and 3.15 considered as moderate, respectively. The lowest rating was 2.93 or "moderate" which was assigned to "analyses of costs and effects".

In general, computer utilization on the management function of controlling was assessed by the top management as "moderate" inasmuch as this area obtained a grand mean of 3.31.

For the middle management perceptions pertaining to the extent of computer utilization along the management function of controlling are shown in Table 19. Among these, the highest weighted mean computed was 3.60 or "high" which corresponded to "establishment of a standard of accountability". This was followed by "finding out deviation and interpreting results", "inspecting the work in progress" and "taking corrective measures" with weighted means of 3.40, and two 3.36, respectively. The lowest weighted mean on the other hand, was 3.18 or "moderate" which corresponded to "analyses of cost of effects factors".

Computer utilization on the function of controlling as a whole was assessed by the middle management as "moderate" with a grand mean of 3.39.

On the other hand, the rank and file personnel gave a general assessment of computer utilization under the management function of controlling as "moderate" as evidenced by the grand mean of 3.22. Table 19 reflects also the assessment of the rank and file personnel on the computer utilization of controlling. Specifically, "establishment of a standard of accountability" obtained the highest weighted mean of 3.56 or "high", followed by "analyses of costs and effects", "taking corrective measures", and "finding out deviation and interpreting results" with weighted means of 3.39, 3.23 and 3.04,

Table 19

Extent of IT Utilization Along the Function of Controlling
As Perceived by the Respondents

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
1. Top Management								
1. establishment of	55	20	12	2	6	95		
standard of accountability	11	5	4	1	6	27	3.52	High
2. inspecting the	60	20	15	2	5	102		
work in progress	12	5	5	1	5	27	3.77	High
3. finding out deviation	45	16	15	8	5	39		
and interpreting results	9	4	5	4	5	27	3.29	Moderate
4. analysis of costs and	20	32	18	6	6	82		
effects factors	4	8	6	3	1	27	3.04	Moderate
5. taking corrective	25	36	18	6	4	89		
measures	5	9	6	3	4	27	3.29	Moderate
Over all Mean						16.56/3	3.31	
2. Middle Management								
1. establishment of	95	164	108	4	7	378		
standard of accountability	19	41	36	2	7	105	3.6	High
2. inspecting the	75	116	144	10	8	353		
work in progress	15	29	48	5	8	105	3.36	Moderate
3. finding out deviation	85	144	114	16	6	365		
and interpreting results	17	36	38	8	6	105	3.4	Moderate
4. analysis of costs and	25	168	102	30	9	334		
effects factors	5	42	34	15	9	105	3.18	Moderate
5. taking corrective	45	156	135	10	7	353		
measures	9	39	43	5	7	105	3.36	Moderate
Over all Mean						16.98/5	3.39	
3. Rank and File								
1. establishment of	455	1568	396	190	70	2779		
standard of accountability	91	392	132	95	70	780	3.56	High
2. inspecting the	220	732	1236	196	43	2429		
work in progress	144	183	412	98	43	780	2.86	Moderate
3. finding out deviation	150	544	1506	122	51	2373		
and interpreting results	30	176	502	51	51	780	3.04	Moderate
4. analysis of costs and	325	1064	1161	58	33	2641		
effects factors	65	266	387	29	33	780	3.39	Moderate
5. taking corrective	170	1184	936	186	45	2521		
measures	34	296	312	93	45	780	3.2	Moderate
Over all Mean						16.08/5	3.21	
Combined Mean							3.31	Moderate

respectively all considered as "moderate".

As a whole, a computer utilization under the function of controlling was assessed by the rank and file personnel as "moderate" with a grand mean of 3.22. grand mean was 3.39 or "moderate", followed by the top management with a grand mean of 3.31 or "moderate" and the rank and file with a grand mean of 3.22 or "moderate".

Table 20 depicts the responses of these respondents on the extent of IT utilization as analyzed using one-way ANOVA. As shown on the table, the variations between groupings proved to be lesser than the variations within groupings with the mean squares within groups equal to 0.0704. The ratio of these values gave a computed F

Table 20

ANOVA Table for Comparing the Perception of the Three Groups of Respondents on the Extent of IT Utilization Along Controlling

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	0.00112	2	0.04056	0.5761	3.09	NS
Within Groups	0.84452	12				

Legend : Not Significant Accept Ho

value 0.5761 which proved to be lesser than the tabular F-value at degrees of freedom = 2 and 14 which is 3.89. These results led to the acceptance of the null hypothesis which states that *"There are no significant difference among the perceptions of the top management, middle and the rank and file personnel on the extent of IT utilization along controlling."*

Quality of Management As Perceived by the Three Groups of Respondents Along Function of Planning

Presented in Table 21 are the responses of the top management on the quality of management along the function of planning and their over-all assessment was "very satisfactory" with a grand mean of 4.00.

For the middle management, "granting of leaves to employees" got the highest weighted mean of 4.26 or "very satisfactory", succeeded by vision, mission, goal" with a weighted mean of 4.19 or "very satisfactory", "setting of objectives" and "benefit", both with a weighted mean of 4.13 or "very satisfactory".

In general, the middle management assessed the quality of management along the function of planning is "very satisfactory" with a grand mean of 3.95 as shown in Table 22.

Comparison of Responses of the Top Management, Middle and the Rank and File on the Quality Of Management Along Planning

With the differences noted among the responses of the three groups of respondents on the quality of management, significance of these differences was analyzed by utilizing one-way ANOVA with the results shown in Table 23.

It can be noted from the said table that the weighted means are more variable between groupings as indicated by the mean squares for between groups having a value of 2.0838 that within groupings with a corresponding mean square of 0.0864, giving a ratio or computed F-value of 14.461. Additionally, comparing Fc to that of the tabular value of 3.15, at a = 0.05 and degrees of freedom of 2 and 23, the former proved to be

Table 21

Quality of Management Along the Function of Planning
As Perceived by the Top Management

Planning	Extent of Utilization 5 max	4 high	3 mod	2 slight	1 nu	Total	Weighted Mean	Interpretation
1. Vision/Mission	65	32	18	-	-	115		
Goal	13	8	6	-	-	27	4.26	VS
2. Setting of	75	28	15	-	-	118		
Objectives	15	7	5	-	-	27	4.37	VS
	60	40	15	-	-	115		
3. Forecasting	12	40	5	-	-	27	4.26	FV S
4. Policies	70	36	12	-	-	118		
a. research & development	14	9	4	-	-	27	4.37	VS
	20	52	24	4	-	100		
b. prod'n & procurement	4	13	8	2	-	27	3.7	VS
	10	48	30	6	-	94		
c. finance	2	12	10	3	-	27	3.48	VS
	5	40	36	8	-	89		
d. sales	1	10	12	4	-	27	3.29	VS
	10	36	39	4	-	89		
e. marketing	2	9	13	2	-	27	3.29	VS
	20	44	27	6	-	97		
f. recruitment	4	11	9	3	-	27	3.59	VS
	75	36	9	-	-	120		
g. benefits	15	9	3	-	-	27	3.59	VS
5. Programmes	60	48	9	-	-	117		
a. training programs	12	12	3	-	-	27	4.44	VS
b. advertisement	30	52	15	6	-	103		
programs	6	13	5	3	-	27	4.33	VS
c. sales promotion	10	52	27	6	-	95		
programs	2	13	9	3	-	27	3.81	VS
6. Procedures	45	32	21	6	-	104		
a. handling of cash	9	9	7	3	-	27	3.52	VS
	40	40	27	-	-	107		
b. placing of orders	8	10	9	-	-	27	3.85	VS
c. granting of leaves for	65	48	6	-	-	119		
employees	13	12	2	-	-	27	3.96	VS
7. Budget								
a. correlating budget to	45	40	12	12	-	117		
authority delegation	13	10	4	4	-	27	4.33	VS
b. fitting the budget w/	60	36	18	18	-	114		
department operation	13	9	6	6	-	27	4.22	VS
c. long-range capital	70	44	6	6	-	120		
expenditure	14	11	2	2	-	27	4.44	VS
d. proper budgeting	60	36	18	18	-	114		
technique application	12	9	6	6	-	27	4.22	VS
e. mobilization of fixed and	45	36	21	21	-	105		
working capital	9	9	7	7	1	27	3.89	VS
GRAND MEAN							84.03/21	VS

Table 22

Quality of Management Along Planning As Perceived by the Rank and File

Planning	Extent of Utilization 5 max	4 high	3 mod	2 slight	1 nu	Total	Weighted Mean	Interpretation
1. Vision/Mission	145	1316	1239	8	5	2719		
Goal	29	329	413	4	5	780	3.48	S
2. Setting of	713	1668	591	30	8	3012		
Objectives	143	417	197	15	8	780	3.86	VS
	325	1128	1186	40	117	2698		
3. Forecasting	65	282	396	20	17	780	3.46	S
4. Policies	460	1592	804	20	12	2898		
a. research & development	92	398	268	10	12	780	3.7	VS
	495	844	1248	42	99	2662		
b. production and	99	211	416	21	33	780	3.41	S
procurement	195	748	1336	44	20	2543		
c. finance	39	187	512	22	20	780	3.26	S
	145	1172	1188	66	29	2660		
d. sales	29	293	396	33	29	780	9.39	S
	200	1088	1236	58	32	2594		
e. marketing	40	267	412	29	32	780	3.33	S
	330	580	1608	22	20	2568		
f. recruitment	66	147	536	11	20	780	3.29	S
	415	1844	615	36	13	2923		
g. benefits	83	461	205	18	13	780	3.75	VS
5. Programmes	280	776	1549	16	6	2626		
a. training programs	56	194	516	8	6	780	3.37	S
	140	432	1584	36	12	2348		
b. advertisement programs	28	108	528	18	12	780	3.27	S
c. sales promotion	110	784	1548	192	38	2320		
programs	22	196	516	96	38	780	2.97	S
6. Procedures	215	752	1197	130	77	2403		
a. handling of cash	43	188	399	65	77	780	3.08	S
	155	1792	1369	46	15	2537		
b. placing of orders	31	448	523	23	15	780	3.25	S
c. granting of leaves for	415	420	612	40	19	2908		
employees	89	105	204	20	19	780	3.73	VS
7. Budget								
a. correlating budget to	145	422	1324	234	26	2339		
authority delegation	29	105	508	112	26	780	3.73	VS
b. fitting the budget w/	230	1184	1149	76	16	26.7		
department operation	46	296	383	39	16	780	3.41	S
c. long-range capital	75	1948	774	18	11	2826		
expenditure	15	487	258	9	11	780	3.62	VS
d. proper budgeting	100	2144	504	66	23	2837		
technique application	20	536	168	33	23	780	3.64	VS
e. mobilization of fixed	35	1132	1188	17	17	2548		
and working capital	11	298	396	17	17	780	3.27	S
GRAND MEAN						72.47/21	3.45	

much higher than the latter which led to the rejection of the null hypothesis which states that *"There are no significant differences among the perceptions of the top management, middle and the rank and file on the quality of management along the function of planning."*

With the significance of the difference between the quantitative assessment of these three groups of respondents, further test to find which group pairs have significant differences was done through Scheffe's test as shown below.

Table 23

ANOVA Table for Comparing the Perceptions of the Three Groups of Respondents on the Quality of Management Along Planning

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	3.1255	2	1.5628	14.10	5.14	S
Within Groups	0.6649	6	0.1108	-		

Legend : Not Significant Accept Ho

The three possible pairings were: pair 1 – the top management and the middle management and the rank and file, and pair 3 – the middle management and the rank and file. The absolute differences between the group means of the aforecited pairs were 0.05, 0.55, and 0.50, respectively. The pair 1 of the computed F' which was 6.00, was found to be lesser than the critical F' which is 6.60 whereas 66.84 and 60.76, for pairs 2, and 3, respectively were found to be greater than the critical F'. Thus, except pair 1, the respondents varied in their assignment of scales in assessing the quality of

management along planning. This could be attributed to the fact that these groups of respondents made their observations and developed their own assessment independent of each other.

Table 24

Scheffe's Test for Comparing the Means

Means Compared	Difference in Means (Absolute)	Scheffe's F-Value	Tabular Value	Evaluation
Top Mgt. (4.00) & Middle Mgt. (3.95)	0.05	6.08	6.30	NS
Top Mgt. (4.00) & Rank & File (3.45)	0.55	66.84	6.30	S
Middle Mgt. (3.95) & Rank & File (3.45)	0.50	60.76	6.30	S

Quality of Management Along Organizing As Perceived by the Top Management, Middle And the Rank and File

Table 25 demonstrates the assessment of the top management on the quality of management along the function of organizing. Areas under organizing was categorized into three; 1) determining and grouping of activities, 2) delegation of duty and fixation or responsibility, and 3) establishment of interrelationship. The highest weighted mean given by the top management was 4.96 or "excellent" quality of management which corresponded to "determining and grouping of activities". This was followed by "delegation of duty and fixation of responsibility" with weighted mean of 4.63 or

"excellent". The lowest rating was 4.07 or "very satisfactory" which corresponded to "establishment of interrelationship".

Table 25

Quality of Management Along the Function of Organizing
As Perceived by the Respondent

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
1. Top Management								
1. Determining and	78	40	18	6	-	134		
grouping of act.	14	10	6	3	-	27	4.96	EX
2. Delegation and	60	40	15	-	-	125		
fixation of responsibility	12	10	5	-	-	27	4.63	EX
3. Establishment of	50	36	24	-	-	110		
Interrelationship	10	7	3	-	-	27	4.07	VS
Over all Mean						13.66/3		
2. Middle Management								
1. Determining and	235	120	72	4	-	439		
grouping of act.	47	32	24	2	-	105	1.18	VS
2. Delegation and	165	192	72	-	-	429		
fixation of responsibility	33	48	24	-	-	105	4.09	VS
3. Establishment of	280	148	36	-	-	464		
Interrelationship	56	37	12	-	-	105	4.42	VS
Over all Mean						12.69/3	4.23	
3. Rank and File								
1. Determining and	200	792	936	366	47	2341		
grouping of act.	40	198	312	183	47	780	3.00	S
2. Delegation and	255	496	1188	334	42	2315		
fixation of responsibility	51	124	396	167	42	780	3.98	S
3. Establishment of	565	1092	1008	78	20	2761		
Interrelationship	113	273	358	38	20	780	3.54	VS
Over all Mean						9.52/3	3.17	
Combined Grand Mean							3.99	VS

As a whole, the quality of management under organizing was assessed by the top management as "excellent" with a grand mean of 4.55.

On the middle management, the highest weighted mean assessed on the quality of management along the function of Organizing was 4.42 or "very satisfactory" which correspond to "establishment of interrelationship" with a weighted mean of 4.18 or "very satisfactory". The lowest rating was 4.07 or "very satisfactory" which corresponded to "delegation of duty and fixation of responsibility".

Summary of their assessment is reflected also in Table 25, considered "satisfactory" with a grand mean of 4.23.For the rank and file on the other hand, the highest weighted mean as assessed by them on the quality of management along the function of Organizing was 3.54 or "very satisfactory" corresponded to "establishment of interrelationship. This was followed by "determining and grouping of activities" with a weighted mean of 3.00 or "satisfactory" and the lowest rating was 2.98 or "satisfactory" corresponded to "delegation of duty and fixation of responsibility".

The general assessment of the rank and file was "satisfactory" with a grand mean of 3.17.

Comparison of the Perceptions of the Top Management, Middle and the Rank and File on the Quality Of Management Along Organizing

Table 26 compares the assessment of the three groups of respondents on the quality of management along organizing. Inasmuch as there existed variations in the quantitative assessments of these respondents, the Analysis of Variance for one-way classification was employed and the results are reflected below. It can be noted from the said table that the weighted means are more variable between groupings as indicated by the mean squares for between groups having a value of 1.5628 than within

groupings with corresponding mean square of 0.1108, giving a ratio of computed F-value of 14.10. In comparing Fc also to the of the tabular value of 5.14, at a = 0.05 and degrees of freedom of 2 and 23, the former proved to be much higher than the latter which led to the rejection of the null hypothesis which states that *"There are no significant differences on the perceptions of the top management, middle and the rank and file on the quality of management along organizing".*

With the rejection of the null hypothesis, Scheffe's test was administered as shown in Table to further determine where the significant difference (s) lie (s).

Table 26

ANOVA Table for Comparing the Perceptions of the Three Groups of Respondents on the Quality of Management Along Organizing

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	3.1255	2	1.5620	14.10	5.14	S
Within Groups	0.6649	6	0.1108	-	-	
Total	3.7904	8	-	-	-	

Legend : S Significant at $\propto$ = .05 (Reject Ho)

With the rejection of the null hypothesis, Scheffe's test was administered as shown in Table to further determine where the significant difference (s) lie (s). Analysis of differences between group pairs was done for three pairs – pair 1, pair 2 and pair 3 corresponding to top management, middle and the rank and file, respectively. Computed F' value for pair 1 which was 4.33 is considered lesser compared to the corresponding critical F' value of 10.20, unlike pair 2 and 1 which are 18.08 and 14.35,

respectively, when compared are greater than their corresponding critical F' value of 10.28, the difference between group means were both considered significant.

Table 27

Scheffe's Test for Comparing the Means

Means Compared	Difference in Means (Absolute)	Scheffe's F-Value	Tabular Critical F Value	Evaluation
Top Mgt. (4.55) & Middle Mgt. (4.23)	0.32	4.33	10.20	NS
Top Mgt. (4.55) & Rank & File (3.17)	1.38	18.68	10.28	S
Middle Mgt. (4.23) &	1.06	14.35	10.28	S
Rank & File (3.17)	0.50	60.76	6.30	S

Legend : NS – Not Significant at $\propto$ = 0.05 (Accept Ho)
S – Significant at $\propto$ = 0.05 (Reject Ho)

Quality of Management Along the Function Of Staffing As Perceived by the Three Groups of Respondents

Table 28 shows the general assessment of the top management on the quality of management along the function of staffing. The highest weighted mean was 4.44 or "very satisfactory" which corresponds to "estimation of manpower needed at different levels of management". This was followed by "recruitment, transfer, promotion and initiation of disciplinary actions" with a weighted mean of 4.41 or "very satisfactory". "Training of employees" and "maintenance of records relating to staff" have weighted mean of 4.30 or "very satisfactory". The lowest rating was 4.33 or "very satisfactory"

which corresponds to "defining jobs and skills required". The grand mean was 4.39 or "very satisfactory.

Table 28

Quality of Management Along the Function of Staffing
As Perceived by the Respondents

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
Top Management								
1. Defining jobs and skills	65	40	12			117		
required	13	10	4			27	4.37	VS
2. Estimation of manpower at	75	36	7			120		
different levels of	15	9	3			27	4.44	VS
management								
3. Recruitment, transfer	70	40	9			119		
promotion and initiation	14	10				27	4.41	VS
	75	21	15			112		
4. Training of employees	15	7	5			27	4.38	VS
5. Maintenance of records	65	44	9			118		
relating to staff	13	11				27	4.38	VS
Over-all Mean						21.94/5	4.39	Vs
Middle Management								
1. Defining jobs and skills	175	256	18			447		
required	35	64	6			105	4.28	VS
2. Estimation of manpower at	185	244	21			450		
different levels of	37	61				105	4.29	VS
management								
3. Recruitment, transfer	295	152	24			47		
promotion and initiation	57	38	8			105	4.48	VS
	190	216	39			445		
4. Training of employees	38	54	13			105	4.24	VS
5. Maintenance of records	280	136	45			461		
relating to staff	56	34	15			105	4.39	VS
Over - all Mean						21.68/5	4.34	VS
Rank and File								
1. Defining jobs and skills	415	1529	594			2782		
required	83	382	198			780	3.57	VS
2. Estimation of manpower at	760	1504	405			2984		
different levels of	192	376	135			780	3.83	VS
management								
3. Recruitment, transfer	510	1592	648			2849		
promotion and initiation	102	398	216			780	3.65	VS
	25	392	1236			2286		
4. Training of employees	50	98	412			780	2.73	VS
5. Maintenance of records	510	1604	597			2841		
relating to staff	102	401	199			780	3.64	VS
Over - all Mean						117.62/1	3.52	VS
Combined Grand Mean							4.08	VS

For the middle management, the general assessment on the quality of management along the function of staffing was 4.34 or "very satisfactory". The highest weighted mean was 4.48 or "very satisfactory" which correspond to "recruitment, transfer, promotion and initiation of disciplinary actions at different levels of management". These was followed by "maintenance of records relating to staff", "estimation of manpower needed at different levels of management", and "defining jobs and skills required" with weighted means of 4.28, 4.29 and 4.28, respectively all considered "very satisfactory". The lowest rating was 4.24 or "very satisfactory" which correspond to "training of employees".

For the rank and file personnel, the grand mean was 3.52 or "very satisfactory" on the quality of management along the function staffing. The highest weighted mean was 3.83 or "very satisfactory" which corresponded to "estimation of manpower needed at different levels of management". This was followed by "recruitment, transfer, promotion and initiation of disciplinary actions", "maintenance of records relating to staff", and "defining jobs skills required" with weighted means of 3.65, 3.64, and 3.57, respectively all assessed as "very satisfactory". Their overall assessment is shown on Table 28 also.

Comparison of Responses of the Top Management, Middle and the Rank and File on the Quality of Management Along Staffing

With the aforementioned differences in the quantitative responses of the three groups of respondents on the quality of management, the one way analysis of variance for comparison was undertaken. As shown below, the computed F value was found to be greater than the tabular F-value of 3.49 at .05 level of significance and degree of freedom = 2 and 12. Therefore, the null hypothesis that "*There are no significant*

differences among the perceptions of the top management, middle and the rank and file on the quality of management along staffing" was rejected.

Table 29

ANOVA Table for Comparing the Perceptions of the Three Groups of Respondents on the Quality Management Along Staffing

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	2.3476	2	1.1738	26.95	3.49	S
Within Groups	0.5227	12	0.0436	-	-	

Legend : S Significant at = .05 (Reject Ho)

With the rejection of the null hypothesis, Scheffe's test was further administered to determine where the significant difference/s lie/s. Analysis of differences between group pairs was done for three pairs pair 1, pair 2, pair 3 corresponding to top

Table 30

Scheffe's Test for Comparing the Means

Means Compared	Difference in Means (Absolute)	Scheffe's F-Value	Tabular Critical F Value	Evaluation
Top Mgt. (4.39) & Middle Mgt. (4.34)	0.05	2.87	6.98	NS
Top Mgt. (4.39) & Rank & File (3.52)	0.87	49.89	6.98	S
Middle Mgt. (4.34) & Rank & File (3.52)	0.82	47.02	6.98	S

Legend : NS – Not Significant at $\propto$ = 0.05 (Accept Ho)
S – Significant at $\propto$ = 0.05 (Reject Ho)

management, middle and the rank and file, respectively. With the computed F' values for pairs 1, 2 and 3 which are 2.87, 49.89 and 47.02, and when compared, pair was lesser while others were greater than the corresponding critical F' value of 6.98. This shows that the difference between group means in pair 1 was not considered significant whereas pairs 2 and 3 were considered significant.

Quality of Management Along Directing As Perceived by the Top Management, Middle and the Rank and File

The quality of management along the function of Directing as perceived by the top management is reflected in Table 31. As shown in the table, the grand mean as assessed by the top management was 4.35 or "very satisfactory". The highest weighted mean was 4.40 or "excellent" which corresponded to "issuing or orders or instructions". These was followed by "guiding the subordinates" with a weighted mean of 4.37 or "very satisfactory" and the last was "supervising" with a weighted mean of 4.19 or "very satisfactory".

For the middle management on the other hand, the general assessment on the quality of management along the function of Directing was "very satisfactory" with a grand mean of 4.29, as shown on the table, the highest weighted mean was "supervising" with a weighted mean of 4.38 or "very satisfactory", followed by "issuing of orders or instructions" with a weighted mean of 4.34 and the lowest rating was 4.14 or "very satisfactory" which corresponded to "guiding the subordinates".

Table 31

Quality of Management Along the Function of Directing
As Perceived by the Respondents

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
1. Top Management								
1. issuing of orders or instructions	75	40	6			121		
	15	10	2			27	4.48	EX
2. guiding the subordinates	80	36	2			118		
	16	9	2			27	4.37	VS
	60	32	21			113		
3. supervising	12	8	7			27	4.19	VS
over all Mean								
2. Middle Management								
1. Issuing of orders or instructions	260	148	48			456		
	52	37	16			105	4.34	VS
2. guiding the subordinates	202	476	54			435		
	40	44	18	4	1	105	4.24	VS
	265	156	39	2	1	460		
3. supervising	53	39	13			105	4.38	VS
over all Mean						12.86/	4.29	VS
3. Rank and File								
1. Issuing of orders or instructions	430	1460	409	122	65	2686		
	86	365	203	61	65	780	3.44	S
2. guiding the subordinates	320	1808	615	64	27	2834		
	64	452	205	32	27	780	3.63	VS
	320	2048	402	78	31	2879		
3. supervising	64	512	134	39	31	780	3.69	VS
over all Mean						10.76/3		
Combined Grand Mean							4.07	VS

As shown in Table 31, the rank and file over-all assessment on the quality of management along the function of Directing was "Very satisfactory" with a grand mean of 3.59. The highest weighted mean was 3.69 or "very satisfactory" which corresponded to "supervising", followed by "guiding the subordinates with a weighted mean of 3.63 or "very satisfactory". The lowest rating was 3.44 or "satisfactory" which correspond to "issuing of orders or instructions".

Comparison of Responses of the Three Groups of Respondents on the Quality of Management Along Directing

As shown in the above table, the top management gave the highest grand mean of 4.35 followed by the middle Management with a grand mean of 4.29 and the rank and file with grand mean of 3.59, all considered "very satisfactory".

Table 32 demonstrates the assessment of these three groups of respondents and the analysis resulted to a computed F-value of 30.31 which was numerically higher than the tabular F-value of 5.14 at a = .05 and degrees of freedom 2 and 6. Thus, the hypothesis stating that *"There are no significant differences between the perceptions of the top management, middle and the rank and file on the quality of management along directing"* was rejected.

Table 32

ANOVA Table for Comparing the Perception of the Three Groups of Respondents on the Quality of Management Along Directing

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	1.0712	2	1.5556	30.31	5.14	S
Within Groups	0.11	6	0.0183	-	-	
Total	1.1812	8	-	-	-	

Legend : S Significant at = .05 (Reject Ho)

Table 33

Scheffe's Test for Comparing the Means

Means Compared	Difference in Means (Absolute)	Scheffe's F-Value	Tabular Critical F Value	Evaluation
Top Mgt. (4.39) & Middle Mgt. (4.34)	0.06	9.84	10.28	NS
Top Mgt. (4.39) & Rank & File (3.52)	0.76	124.59	10.28	S
Middle Mgt. (4.34) & Rank & File (3.52)	0.70	114.75	10.28	S

Legend : NS – Not Significant at $\propto$ = 0.05 (Accept Ho)
S – Significant at $\propto$ = 0.05 (Reject Ho)

Quality of Management Along Controlling As Perceived by the Top Management, Middle and the Rank and File

Five pre-identified areas were assessed by the top management on the quality of management along the function of controlling and their general assessment was "very satisfactory" with a grand mean of 4.48. As shown on Table 34, the highest, mean was 4.55 or "excellent" which corresponded to "analysis of cost and effect factors". This was followed by "finding out deviations and interpreting results" with a weighted mean of 4.51, "inspecting the work in progress" and "taking corrective measures" both with a weighted mean of 4.80 or "very satisfactory". The lowest rating was 4.40 or "very satisfactory" which correspond to "establishment of standard of accountability".

Table 34

Quality of Management Along the Function of Controlling
As Perceived by the Respondents

	Extent of Utilization					Total	Weighted Mean	Interpretation
	5 max	4 high	3 mod	2 slight	1 nu			
1. Top Management								
1. establishing of standard of	70	40	9			119		
accountability	14	10	3			27	4.4	VS
2. inspecting the work in	75	40	6			121		
progress	15	10	2			27	4.48	VS
3. finding out deviation and	80	161	6			122		
interpreting results	16	9	2			27	4.51	EX
4. analysis of costs and	85	32	6			123		
effects factors	17	8	2			27	4.55	EX
5. taking corrective measures	70	49	3			121		
	14	12	1			27	4.45	VS
Over all Mean						22.42/5	4.48	
2. Middle Management								
1. establishing of standard of	150	216	48	6	2	422		
accountability	30	64	16	3	2	105	4.02	VS
2. inspecting the work in	190	229	30			448		
progress	38	57	10			105	4.27	VS
3. finding out deviation and	175	208	54			437		
interpreting results	35	52	18			105	4.16	VS
4. analysis of costs and	185	156	78	4	1	424		
effects factors	37	39	26	2	1	105	4.04	VS
5. taking corrective measures	195	180	63			438		
	39	45	21			105	4.17	VS
Over all mean						20.66/5		
3. Rank and File								
1. establishing of standard of	185	944	1242	86	50	2507		
accountability	37	236	414	43	50	780	3.21	S
2. inspecting the work in	325	860	1198	138	35	2546		
progress	65	215	396	69	35	780	3.26	S
3. finding out deviation and	310	1672	585	126	42	2735		
interpreting results	62	418	195	63	42	780	3.51	VS
4. analysis of costs and	410	772	1308	62	38	2590		
effects factors	62	193	436	31	38	780	3.32	S
5. taking corrective measures	340	1584	585	138	52	2699		
	68	396	195	69	52	780	3.46	S
Over all mean						16.76/5	3.35	S
Combined Mean							3.99	VS

The middle management assessment on the quality of management along the function of Controlling was "very satisfactory" with a grand mean of 4.13. The highest weighted mean was 4.27 or "very satisfactory" which corresponded to "inspecting the

work in progress. This was followed by "taking corrective measures", finding out deviation and interpreting results", and "analysis of costs and effects factors, with weighted means of 4.17, 4.16 and 4.04, respectively, all considered "very satisfactory". The lowest rating was 4.02 or "very satisfactory" which corresponded to "establishment of standard of accountability".

Finally, for the rank and file personnel, their general assessment on the quality of management along the function of Controlling was "satisfactory" with a grand mean of 3.35 as shown on Table 34. The highest weighted mean was 3.51 or "very satisfactory" which corresponded to "finding out deviations and interpreting results". This was followed by "taking corrective measures", "analysis of cost and effect factors, and "inspecting the work in progress" with weighted means of 3.46, 3.32 and 3.26, respectively, all considered "satisfactory". The lowest rating was 3.21 or "satisfactory" which corresponded to "establishment of standard of accountability" as provided in table 34.

Comparison of Responses of the Top Management, Middle and the Rank and File on the Quality of Management Along Controlling

Comparatively, the top management in Catbalogan Samar considered their quality of management along controlling deemed "very satisfactory" with highest grand mean of 4.48 followed by the middle management with a grand mean of 4.13, considered "very satisfactory" and the rank and file with a grand mean of 3.25 or "satisfactory".

Table 35

ANOVA Table for Comparing the Perceptions of the Three Groups of Respondents on the Quality of Management Along Planning

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean of Squares (MS)	Computed F Value	Tabular F Value @= .05	Evaluation
Between Groups	3.35622	2	1.6781	166.15	3.49	S
Within Groups	0.1207	12	0.0101			
Total	1.4769	14				

Legend : S Significant at = .05 (Reject Ho)

Table 35 presents the summary of their perceptions and to verify whether this numerical difference is significant, the one-way ANOVA was utilized.

The variations between groupings proved to be greater than the variations within groupings with the mean squares between groups equal to 166.15 as compared to the mean squares within groups equal to 0.0101. The ratio of these values gave a computed F value = 166.15 which proved to be greater than the tabular F value at degrees of freedom = 2 and 12 which is 3.49. Thus, these results led to the rejection of the null hypothesis which states that *"There are no significant differences among the perceptions of the top management, middle and the rank and file on the quality of management along controlling".*

With the rejection of the null hypothesis, Scheffe's test was administered to further determine where the significant difference (s) lie (s).

As shown in the table above, analysis of differences between group pairs was done for three pairs: pair 1, pair 2 and pair 3 corresponding to top management, middle

and the rank and file, respectively. With the computed F' value for pair 1, 2 and 3 which are 86.63, 279.70 and 193.07, respectively, and when compared are greater than their corresponding critical F' value at 6.98, the difference between group means were all considered significant.

Table 36

Scheffe's Test for Comparing the Means

Means Compared	Difference in Means (Absolute)	Scheffe's F-Value	Tabular Critical F Value	Evaluation
Top Mgt. (4.39) & Middle Mgt. (4.34)	0.06	9.84	10.28	NS
Top Mgt. (4.39) & Rank & File (3.52)	0.76	124.59	10.28	S
Middle Mgt. (4.34) & Rank & File (3.52)	0.70	114.75	10.28	S

Legend : NS – Not Significant at = .05 (Accept Ho)
S – Significant at = .05 (Reject Ho)

Relationship Between IT Utilization and Quality of Management

The correlational analysis undertaken between IT utilization and Quality of Management is reflected in table 37. As depicted by the said table, the computed correlation coefficient between IT utilization and quality of management along planning, organizing, staffing and directing are 0.76, 0.95, 0.85 and 0.74, respectively. The corresponding Fisher's t values are 2.49 for planning, 6.08 for organizing, 3.23 for staffing and 2.20 for directing, respectively. The hypothesis that "There is no significant relationship between IT utilization and quality of management" was rejected. IT

utilization and quality of management" was rejected. This means that for these areas, the IT utilization proved to have a positive impact of improving and enhancing the quality of management. Meanwhile, along controlling, the computed correlation coefficient of 0.67 obtained a Fisher's t-value of 1.01 which was lesser than the tabular t-value of 2.01. This led to the acceptance of the null hypothesis that "There is no significant relationship between IT utilization and quality of management". This implies that relative to the management function of controlling, IT utilization turned out to have no impact at all.

Table 37

Correlation Coefficient/Relationship Between IT Utilization and Quality of Management Along the Five Management Functions

Management Function	Computed Pearson r	Computed Fisher's t-value	Tabular t-value	Evaluation
Planning	0.76	2.49	2.01	Reject Ho
Organizing	0.95	6.08	2.01	Reject Ho
Staffing	0.85	3.23	2.01	Reject Ho
Directing	0.74	2.20	2.01	Reject Ho
Controlling	0.67	1.81	2.01	Reject Ho

Problems Encountered by the Top Management Middle and the Rank and File and their Sensitivity to the Problems

Presented in Table 38 are the problems encountered by the three groups of respondents categorized into two, namely; 1) facilities and equipment, and 2) problems on manpower/peopleware. For the first category, the highest weighted mean obtained was 4.04 or "much felt", that, our "computer has no internet". This was followed by a

Table 38

Problems Encountered by the Respondents and their Extent of Gravity

Problems	Sensitivity to the Problem					Total	Weighted Mean	Interpretation
	5 V	4 MF	3 Mod	2 SF	1 NF			
A. Facilities/Equipment								
1. Our department does not	465	276	501	478	344	2064		
have a single computer unit	93	69	167	239	344	912	2.26	Slightly Felt
2. The computer installed is out-	380	356	360	470	392	1958		
moded, very slow in data processing	76	89	120	235	392	912	2.15	Slightly Felt
3. our computer cannot handle	310	304	273	694	336	1917		
vast amount of data to be	62	76	91	347	336	912	2.1	Slightly Felt
processed	2885	360	237	76	128	2686		
4. our computer has no intranet	577	90	79	38	128	912	4.04	Moderately Felt
5. The computer in our	310	276	432	414	430	1862		
department has bogged down	62	69	144	207	430	912	2.04	Slightly Felt
and under repair								
OTHERS								
	30							
-No single computer available	6							
		16						
-lacking computer units		4						
-no updated programs like			6					
Windows 95/Office 97			2					
B. Problems on Manpower								
1. No one in our department	475	816	648	490	152	2581		
knows to operate a computer	95	204	216	245	152	912	2.83	Moderately Felt
2. Has little technological know-	570	804	759	384	152	2669		
how or has techno-phobia	114	201	253	192	152	912	2.93	Moderately Felt
3. No computer technician to	500	856	801	406	128	2691		
repair computer	100	214	267	203	128	912	2.95	Moderately Felt
4. The level of computer literacy	105	209	234	225	139	2652		
in computer operation is	525	836	702	450	139	912	2.91	Moderately Felt
almost zero								
5. Due to lack of knowledge,	575	392	939	432	170	2508		
personnel render overtime	115	98	313	216	170	912	2.75	Moderately Felt
OTHERS								
-Personnel has inadequate		12						
training computer operation		3						
GRAND MEAN						26.96/1	2.69	Moderately Felt

weighted mean of 2.26 or "slightly felt" which corresponded to "the computer in our department has bogged down and is under repair". Some respondents identified under this category that their departments are "lacking in computer units", "no single

computers available" no updated problems like Windows 95/Office 97 installed". Under problems on manpower, the highest mean provided by the respondents was 2.95 or "moderately felt" which corresponded to "no computer technician to maintain/repair our computer". These was followed by "has little technological know-how or has no techno-phobia" with a weighted mean of 2.95 or "moderately felt" and 2.93 or "moderately felt" which corresponded to "level of computer literacy is almost zero". Some respondents mentioned that "personnel has inadequate training on computer operations.

In general, problems encountered by the respondents were considered by them as "moderately felt" as evidenced by the grand mean of 2.69.

Suggested Solutions as Assessed by the Respondents to Improve Organizational Services and Obtain Better Efficiency

Among the listed solutions, the respondents assessed that "the agency must endeavor to hook up with the internet to have on line information around the globe" having the highest weighted mean of 4.67 or "very much felt". These were followed by "information system must be developed in our agency", "the agency should endeavor to engage in IT activities that could enable them to generate income for maintenance, repair and upgrading of IT facilities" and "the agency must develop a computerization program to include procurement of facilities and equipment, recruitment of IT staff, training programs and the like" with weighted means of 4.52 or "very much felt", 4.49 and 4.29, respectively both considered "much felt". The lowest rating was 3.87 or "much felt" which corresponded to "there must be plantilla positions for IT staff to attract computer enthusiasts to apply and be employed in the agency. Other respondents specified computers to be with weighted means of 4.52 or "very much felt",

Table 39

Suggested Solutions Assessed According by the Respondents

	Assessment					Total	Weighted Mean	Interpretation
	5 SA	4 A	3 U	2 D	1 SD			
1. Information System must be develop in our agency.	3485 637	628 157	217 73	90 45		4119 812	4.52	Very Much Felt
2. Agency must develop a computerization program for procurement of facilities	2230 446	1296 324	34 115	36 18		3596 612	4.29	Much Felt
3. Agency must hook up with the internet for info access around the world	3360 672	712 178	189 62			4261 912	4.67	Very Much Felt
4. Agency must engage in IT activities to generate income for maintenance	2595 519	1300 325	183 61	14 7		4092 912	4.49	Much Felt
5. There must be plantilla positions for IT staff to attract computer enthusiasts	1355 271	1464 366	579 193	10 52	30 30	3532 912	3.87	Much Felt
OTHERS								
-provide enough computers in each department	45 5							
-send personnel to attend computer programmings to upgrade their skills in computer operation		8 2						
-IT-related trainings to keep up with the latest information on computer/information technology	20 5							
GRAND MEAN						21.84	4.36	Moderately Felt

4.49 and 4.29, respectively both considered "much felt". The lowest rating was 3.87 or "much felt" which corresponded to "there must be plantilla positions for IT staff to attract computer enthusiasts to apply and be employed in the agency. Other respondents specified computers to be provided in each department, to continuously send personnel to attend IT-related trainings to upgrade their skills on computer operations and to keep them abreast with the latest information on computer of information technology.

Over all, respondents "agree" to the suggested solutions by obtaining the grand mean of 4.34.

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions and recommendations of this study which provided data and information on enhancing the full utilization of information technology among the different agencies in Catbalogan, Samar for managerial effectiveness.

Summary of Findings

1. Out of the fifteen respondent agencies, almost everybody utilizes computers in their respective agencies except the Land Transportation Office and the Philippine National Police where up to this time, not even a single computer is installed. Telephone lines are available in all agencies while others still have no fascimiles and xerox machines installed. Access to information around the globe called the INTERNET is already available in some agencies like the WESAMAR, Land Bank of the Philippines and the Department of Agrarian Reform.

2. For the top managers, ages ranging from 55 to 59 obtained the highest percentage rating of 37.08 and the lowest rating was 7.48 which corresponds to ages ranges from 40 to 44. Among the middle managers, the highest rating were ages ranging from 35 to 39 and 45 to 49 with a percentage of 19.0 while the lowest rating was ages between 25 to 29 which obtained a percentage rating of 2.9. For the rank and file, the highest rating ranges between ages 35 to 39 with a percentage of 19.7 while the lowest rating was obtained between ages 60 to 64. Male dominates in the working force than their female counterpart.

3. A total of 236 respondents have at least 16 to 20 years of service in the government obtaining the highest percentage rating of 25.9. The lowest rating of 2.18 are those respondents with 36 to 40 years length of service.

4. Of all the respondents, more than half of them have at least a bachelors or baccalaureates degree. Others especially those from the higher echelon of the organization pursued masters and even doctorate degree/s. The post secondary or non-degree occupied the 10.28% of the population while those who did not reach tertiary level obtained the percentage rating of 2.38%.

5. For planning, the 27 top managers, 105 middle managers and 780 rank and file personnel of the fifteen respondents agencies in Catbalogan, Samar deemed computer utilization along the management function of planning as "moderate" assigning weighted grand means of 3.34 – "moderate", 3.16 – "moderate" and 3.16 – "moderate", respectively with their combined means pegged at 3.25.

6. On organizing, it was assessed by all the respondents in utilizing computers to "moderate" extent as evidenced by their combined grand mean of 3.31. The top management gave a higher rating of 3.41 which means "moderate", followed by the middle management with a grand mean of 3.31 and the rank and file with a grand mean of 3.22 both referred to as "moderate".

7. On staffing, computer utilization was deemed by the top management as "high", having a grand mean of 3.52, while the middle and the rank and file assessment in this area was deemed "moderate" with grand means of 3.30 and 3.14, respectively.

8. For Directing, computer utilization under this was deemed "moderate" by the top management, middle and the rank and file with a combined grand mean of 3.32.

9. Along Controlling, computer utilization along this area was deemed "moderate" by the top, middle and the rank file obtaining weighted means of 3.31, 3.39 and 3.22, respectively from them. Correspondingly, the combined grand mean was also classified under "moderate", the value of which was 3.33.

10. The computed F values of the five management functions of planning – 3.05, organizing 0.056, staffing 2.19, directing 0.081 and controlling – 0.5761 proved to be lesser than the tabular/critical F-values of 3.51, 5.14, 3.89, 5.14 and 3.89, respectively. Therefore, the hypothesis that *"There are no significant differences among the perceptions of the top management, middle management and the rank and file on the extent of IT utilization along the five considered management functions"* was accepted. This implies that the three groups of respondents were in agreement in their assessment, an indication that the respondents were in agreement in their assessment, an indication that the responses that were elicited from them were objective.

11. For quality of management along Planning, it was deemed among the top management, middle and the rank and file as "very satisfactory", having a combined grand mean of 1.18. The top management provided a weighted mean of 3.89 or "very satisfactory", the middle management group gave a weighted mean of 3.95 which also means "very satisfactory" while the rank and file gave a rating of 3.45 or "satisfactory".

12. Relative to Organizing, it was assessed by the respondents on the quality of management to "very satisfactory" as evidenced by their combined grand mean of 3.65. The top management gave a higher rating of 4.55 which means "excellent", the middle management gave a weighted mean of 4.23 which means "very satisfactory" while the rank and file group obtained a weighted mean of 3.17 or "satisfactory".

13. The quality of management under staffing as perceived by the respondents was deemed "very satisfactory" having a combined mean of 4.08. The top management obtained a weighted mean of 4.49, middle management 4.34 and the rank and file 3.52 all considered "very satisfactory".

14. For Directing, all the respondents deemed the quality of management along this area as "very satisfactory" assigning a combined grand means of 4.08. The top management obtained a grand mean of 4.35, the middle management group 4.29 while the rank and file personnel gave a rating of 3.59, all considered "very satisfactory".

15. The quality of management along controlling was deemed "very satisfactory" as evidenced by their combined grand mean of 3.65. The top management gave a higher rating of 4.48, the middle management weighted mean of 4.13, both considered "very satisfactory" while the rank and file gave a rating of 3.34 or "satisfactory".

16. The computed F-values for planning, organizing, staffing, directing and controlling which were 24.12, 14.10, 26.95, 30.31 and 166.15, respectively turned out to be greater than their corresponding tabular F-values of 3.15 for planning, 5.14 for organizing, 3.49 for staffing, 5.14 for directing and 3.49 for controlling which led to the rejection of the null hypothesis that "There are no significant differences among the perceptions of the three categories of respondents on the quality of management along the five management functions". This means that the respondents differed in their assessment of the quality of management along the five management functions in their respective agencies. The grand means showed that the top management gave a higher rating than the two other groups, indicating that they felt more satisfied with the quality of management in their respective agencies compared with those in the middle

management and the rank and file. This could be attributed to the fact that the top management group are the ones who directly perform the functions of planning, organizing, staffing, directing and controlling, thus, they regard the quality of management along these areas to be much better.

17. The computed correlation coefficient between IT utilization and quality of management along the five functions of planning, organizing, staffing and directing which were 0.78, 0.95, 0.85 had their corresponding Fisher's t values of 2.49 for planning, 6.08 for organizing, 3.23 for staffing and 2.20 for directing. These values proved to be greater than their critical F-values of 2.01 along the five functions, thus, the null hypothesis that *"There is no significant relationship between IT utilization and quality of management"* was rejected. This means that for these areas, the IT utilization proved to have a positive impact of improving and enhancing the quality of management. Meanwhile, along controlling, the computed correlation coefficient of 0.67 obtained a Fisher's t-value of 1.81 which was lesser than the tabular t-value of 2.01, thus, this led to the acceptance of the hypothesis that "there is no significant relationship between the extent of IT utilization and the quality of management". This implies that relative to the management function of controlling, IT utilization turned out to have no impact at all.

18. The problems encountered by the three groups of respondents were deemed by them as "moderately felt" with their grand weighted mean of 2.69. In problems on facilities and equipment, the highest weighted mean was 1.011 or "much felt" which corresponds to "our computer has no intranet" while problems on manpower, "no computer technician to maintain/repair our computer" obtained the highest weighted

mean which was 2.95 or "moderately felt". Some respondents commented that they need additional computers in their department and updated programs like windows 95 and office 97 while others seek that they may be provided IT-related training to keep abreast with the present trend.

19. Among the five suggested solutions, the respondents assessed that "the agency must endeavor to hook-up with the internet to have on-line information around the globe" by obtaining a higher rating of 4.67/followed by "information must be developed in our agency" with a weighted mean of 4.52, both considered as "strongly agree". Correspondingly, the combined weighted grant mean as assessed by the three groups of respondents was 4.37 or "agree". Aside from the listed solutions, same respondents suggests other solutions such as; a) that a systematic data storage and retrieval should be established in the agency to facilitate data processing and report generation making use of computers as tools for efficiency, b) train all personnel in computer programming c) provide each department in the agency with computer units and d) send personnel to attend IT-related training to upgrade their knowledge and skills on computer operation.

Conclusions

From the given findings, the following conclusions were drawn:

1. Thirteen out of fifteen respondent agencies have computers installed and are being used.
2. IT among the various agencies in Catbalogan, Samar is utilized to a moderate extent as evidenced by the assessment of the three groups of respondents.

3. There were in significant differences on the perceptions of the three groups of respondents on the extent of IT utilization along the live management functions.
4. Some respondents have still that "fear factor" or has techno-phobia and has little technological know-how in the use of computers.
5. The quality of management along the five managerial functions as assessed by the stakeholder of the fifteen government agencies in Catbalogan, Samar is very satisfactory.
6. There were significant differences on the quality of management along the functions of planning, organizing, staffing, directing and controlling as perceived by the respondents.
7. There were significant relationships on the extent of IT utilization and the quality of management along the functions of planning, organizing, staffing, and directing among the government agencies in Catbalogan.
8. The problems encountered by the respondents were deemed moderately felt and though manageable, still need upgrading.

Recommendations

In the light of the findings and conclusions derived from this study, the researcher recommends the following:

1. Computer training programs designed to the need of the personnel in each department should be continuously undertaken to distribute computing workloads thereby increase efficiency in each department.

2. Agencies must hook-up with the internet to have on-line access around the world and to keep up with the latest information on computer or information technology.
3. Provide personnel to attend IT-related seminars to upgrade their skills on computer operation.
4. Information system must be developed in every agency in order that the delivery of its services to their clientele is best attained by providing them tools for decision making and efficiency in the performance of their jobs.
5. A personnel in each agency must be sent to attend training on computer repair/maintenance to avoid hiring additional worker.
6. A parallel study maybe undertaken to determine the impact of IT utilization in other province of Samar and Leyte islands.
7. A sequel study maybe conducted to determine the impact of IT on instruction.
8. Another study could be undertaken focusing on the perceptions among public and private agencies on the extent of IT utilization in relation to their quality of management.

A P P E N D I C E S

Appendix "A"

A Letter to the Respondent

Samar State Polytechnic College
Catbalogan, Samar

Dear Respondent:

The undersigned is in the process of gathering data in connection with her thesis entitled "Information Technology Utilization Among Government Agencies: Its Impact on Managerial Effectiveness", as a requirement of the Graduate School of Samar State Polytechnic College, for the degree Master of Arts in Public Management.

Your honest appraisal on the informational technology utilization, problems and suggestions would be highly appreciated since there is always a room for improvement and professional growth to keep abreast with the demands of the fast changing society. Rest assured that your responses will be held confidential. Your responses will be used in the making of some measures for improvement which might be useful for better performance and managerial effectiveness the employees and manager.

Thank you very much for your cooperation and concern.

Sincerely yours,

NERIE B. CABANGANAN
Researcher

Appendix "B"

A Letter of Request to the Head of Agency

Republic of the Philippines
Samar State Polytechnic College
Catbalogan, Samar

_____

The Head of Agency
_____
_____

Madam/Sir:

The undersigned is presently undertaking a research entitled: "Information Technology Utilization Among Government Agencies: Its Impact on Managerial Effectiveness", as a requirement of the Graduate School of Samar State Polytechnic College, Catbalogan Samar for the degree Master of Arts in Public Management.

It is humbly requested that she be allowed to administer questionnaires to the respondents of the study who are under some jurisdiction.

Realizing that the ultimate goal of today's society is to improve individual's career opportunities and as such public employees must continue to seek a new paradigm in the face of accelerating emergence and technological advancements, the researcher is prompted to conduct this study. The potentials of the employees and managers may be maximized through outputs of this study.

Your favorable action on this request is highly appreciated for the success of this study.

Thank you for your cooperation.

Respectfully yours,

NERIE B. CABANGANAN
Researcher

Appendix "C"

QUESTIONNAIRE
ON

INFORMATION TECHNOLOGY UTILIZATION AMONG GOVERNMENT AGENCIES: ITS IMPACT ON MANAGERIAL EFFECTIVENESS

Part I. Profile

Direction: Please supply the information indicated below.

1.1. Information Technology (IT) Resources

1.2. Precise Number of Personnel

1.3. Nature of Its Business

Please check (✓) appropriate level.

Top Management ☐

Middle Management ☐

Rank and File ☐

Supply the necessary information.

2.1. Sex: ____

Age: ____

2.2. Educational Qualification: _____

2.3. Length of Service: _____

Part II. The Extent of IT Utilization Along the Management Functions As Perceived by the Rank and File Personnel

Direction: Please put a check (✓) mark on the space provided for each item indicating the Extent of IT Utilization Along the Management Functions As Perceived by the Rank and File Personnel

	Extent of Utilities				
	5 max	4 high	3 mod	2 slight	1 nu
1. Vision/Mission/Goal					
2. Setting of Objectives					
3. Forecasting					
4. Policies					
a. research & development					
b. production & procurement					
c. finance					
d. sales					
e. marketing					
f. recruitment					
g. benefits					
5. Programs					
a. training programs					
b. advertisement programs					
c. sales promotion program					
6. Procedures					
a. handling of cash					
b. placing of orders					
c. granting of leaves for employees					
7. Budget					
a. correlating budget to authority delegation					
b. fitting the budget with department operation					
c. long-range capital expenditure planning					
d. proper budgeting technique application					
e. mobilization of fixed and working capital					

Legend: Max = Maximum
Mod = Moderately utilized
Slight = Slightly utilized
NU = Not utilized

	Extent of Utilities				
	5 max	4 high	3 mod	2 slight	1 nu
1. Top Management					
1. determining and grouping of activities					
2. delegation and fixation of responsibility					
3. establishment of interrelationship					
2. Middle Management					
1. determining and grouping of activities					
2. delegation and fixation of responsibility					
3. establishment of interrelationship					
3. Rank and File					
1. determining and grouping of activities					
2. delegation and fixation of responsibility					
3. establishment of interrelationship					

Legend: Max = Maximum
Mod = Moderately utilized
Slight = Slightly utilized
NU = Not utilized

	Extent of Utilities				
	5 max	4 high	3 mod	2 slight	1 nu
1. Top Management					
1. issuing of orders or instructions					
2. guiding the subordinates					
3. supervising					
2. Middle Management					
1. issuing of orders or instructions					
2. guiding the subordinates					
3. supervising					
3. Rank and File					
1. issuing of orders or instructions					
2. guiding the subordinates					
3. supervising					

Legend:

Max = Maximum
Mod = Moderately utilized
Slight = Slightly utilized
NU = Not utilized

	Extent of Utilities				
	5 max	4 high	3 mod	2 slight	1 nu
1. Top Management					
1. establishment of standard of accountability					
2. inspecting the work in progress					
3. finding out deviation and interpreting results					
4. analysis of costs and effects factors					
5. taking corrective measures					
2. Middle Management					
1. establishment of standard of accountability					
2. inspecting the work in progress					
3. finding out deviation and interpreting results					
4. analysis of costs and effects factors					
5. taking corrective measures					
3. Rank and File					
1. establishment of standard of accountability					
2. inspecting the work in progress					
3. finding out deviation and interpreting results					
4. analysis of costs and effects factors					
5. taking corrective measures					

Legend:

Max = Maximum
Mod = Moderately utilized
Slight = Slightly utilized
NU = Not utilized

	Extent of Utilities				
	5 max	4 high	3 mod	2 slight	1 nu
Top Management					
1. Defining jobs and skills required					
2. Estimation of manpower at different levels of management					
3. Recruitment, transfer promotion and initiation					
4. Training of employees					
5. Maintenance of records relating to staff					
Middle Management					
1. Defining jobs and skills required					
2. Estimation of manpower at different levels of management					
3. Recruitment, transfer promotion and initiation					
4. Training of employees					
5. Maintenance of records relating to staff					
Rank and File					
1. Defining jobs and skills required					
2. Estimation of manpower at different levels of management					
3. Recruitment, transfer promotion and initiation					
4. Training of employees					
5. Maintenance of records relating to staff					

Legend:

Max = Maximum
Mod = Moderately utilized
Slight = Slightly utilized
NU = Not utilized

Part III. Problems Encountered by the Respondents and their Extent of Gravity

Direction: Please put a check (✓) mark on the space provided for each item indicating the Sensitivity of the Problem

Problems	Sensitivity to the Problem				
	5 V	4 MF	3 Mod	2 SF	1 NF
A. Facilities/Equipment					
1. Our department does not have a single computer unit					
2. The computer installed is out-moded, very slow in data processing					
3. Our computer cannot handle vast amount of data to be processed.					
4. Our computer has no intranet					
5. The computer in our department has bogged down and under repair					
- No single computer available					
- Lacking computer units					
- No updated programs like Windows 95/ Office 97					
B. Problems on Manpower					
1. No one in our department knows to operate a computer					
2. Has little technological know-how or has techno-phobia					
3. No computer technician to repair computer					
4. The level of computer literacy in computer operation is almost zero					
5. Due to lack of knowledge, personnel render overtime					
OTHERS - Personnel has inadequate training computer operation					

Legend:

VMF = Very Much Felt
MF = Much Felt
MODF = Moderately Felt
SF = Slightly Felt
NF = Not Felt

Part IV. Suggested Solutions Assessed by the Respondents

Direction: Please put a check (✓) mark on the space provided for each item indicated in the Assessment

Suggestions	Assessment				
	5 SA	4 A	3 U	2 D	1 SD
1. Information System must be developed in the agency.					
2. Agency must develop a computerization program for procurement of facilities					
3. Agency must hook up with the internet for info access around the world					
4. Agency must engage in IT activities to generate income for maintenance					
5. There must be plantilla positions for IT staff to attract computer enthusiasts					
OTHERS/S					
- provide enough computers in each department					
- send personnel to attend computer programmings to upgrade their skills in computer operation					
- IT-related trainings to keep up with the latest information on computer/information technology					

Legend:

SA = Strongly Disagree
A = Agree
U = Uncertain/Undecided
D = Disagree
SD = Strongly Disagree

CURRICULUM VITAE

A. PERSONAL BACKGROUND

Name	:	Nerie B. Cabanganan
Date of Birth	:	June 8, 1971
Place of Birth	:	Catbalogan, Samar
Residence	:	Catbalogan, Samar
Nationality	:	Filipino
Civil Status	:	Single
Religion	:	Roman Catholic
Name of Father	:	Dominador Q. Cabanganan
Name of Mother	:	Evangeline B. Cabanganan
Brothers	:	Eleniño and Dominador Jr. B. Cabanganan
Sisters	:	Vida C. Vieja
		Geline B. Cabanganan

B. EDUCATIONAL BACKGROUND

Elementary	:	Catbalogan Central Elementary School Catbalogan, Samar
Secondary	:	Samar State Polytechnic College Catbalogan, Samar
Collegiate	:	Sacred Heart College – A.B. Economics Catbalogan, Samar
		University of San Jose Recoletos – Bachelor of Laws Cebu City
Graduate Studies	:	Master of Arts in Public Management Samar State Polytechnic College Catbalogan, Samar

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