

MANAGEMENT INFORMATION SYSTEMS AND TELECOMMUNICATIONS SERVICES

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Abstract – Having in mind the role and importance of information system, in this paper I have tried to elaborate the role of information system in business and economy, understand the meaning of information systems, their division, functioning and impact in different domains of the economy. In a time of market economy, and a time when demand and need for the use of information technology is rapidly increasing in general, and particularly considering the fierce competition due to the rapid application of advanced technologies and information system, we can notice an increase in the need for using information technology. The reason why all this is occurring is related to the fact that nowadays information is an important resource whereas the information technology is a factor of success and efficiency in doing business. The research will contain data regarding the Information System and the Management Information System that is obtained from scientific and professional literature and from other researches previously conducted, but online resources and internet will also be used. Additionally, we will use narrative, comparative and systematic approach methods, together with the study and research methods and tabular and graphic presentations. The paper will mainly focus on the theoretical analysis by different authors from the field of Information systems and telecommunication services. However, the paper will be based on study cases that are related to the use of management information system.

Keywords: systems, information, management, telecommunications, services

I. PRINCIPLES OF THE INFORMATION SYSTEM

The Value of Information is directly related to how it helps decision makers to fulfill the goals of the organization. Models, computers, and information systems are constantly making organizations improve their way of doing business. Knowing the strong influence of information systems and having the skills to introduce these knowledge leads to a successful professional career, organizations achieve their goals and at the highest quality of society's life. System users, business managers, and information system personnel can work together to build a successful information system.

Information Systems and Business Enterprises

With the development of the enterprise we mean the process of transferring the enterprise from the existing situation to a new state. In that case it is expected that the new situation will be more effective, and that the enterprise will be able to shift many shifts in all areas of business. Information systems and enterprises have an impact on each other. Information systems are built by managers to serve the firm's business interests. At the same time, enterprises need to be aware and open to the impact of information systems to benefit from new technologies. Interaction between information technology and enterprise is complex and influenced by many mediated factors, including enterprise structure, standard operating procedures, policy,

culture, environment, management, and decision making. There are various information systems in the enterprise (Fig.8). They are divided into information systems at the strategic level, management level, level of knowledge (knowledge) and level of operations .

Information Support Systems for Decision Making

Significant technological improvements made information systems less costly, but more robust than previous systems. People of different levels of the organization began to use PC personal computers to perform various tasks: they were no longer dependent on the information system department for the information they needed. Meanwhile, they realized that computer systems could support some decision-making activities. A DSS decision support system is an organized set of people, procedures, database software, and tools that are used to support specific problem-solving decisions. The focus of the DSS is the effectiveness of decision-making.

II. MANAGEMENT INFORMATION SYSTEM

Structuring and Defining the Management Information System

Expression Management Information System (MIM) means an expression that represents a specific category of information systems that serve managerial functions at all levels of management and provides report managers or an on-line approach to the organization's current performance and in

historical records. This system is oriented to internal events and not to external environments or events. MIS is used to support planning, control, and decision-making functions at managerial levels. Generally, the management information system (MIS) depends on data occurring in the Transaction Processing System (TPS). The management information system summarizes and reports about the company's basic operations. The SIM transforms the transaction level data from sales, production, and accounting to the SIM file used to provide managers with reports. SIM provides data from the organization's transaction processing system (TPS). The management information system (MIS) is a system that provides the information needed to effectively manage an organization. The MIS and the information it generates are generally considered essential and necessary components for making business decisions. The MIS should have a clear set of guidelines, policies or practices, standards and procedures for organizing processes in the company. The MIS supports the long-term strategic goals and objectives of the enterprise. For example, besides other goals, the MIS is also one of the everyday financial accounting systems used to provide a basis for controlling financial activities.

III. SYSTEM OF INFORMATION MANAGEMENT AND TELECOMMUNICATIONS SERVICES

Telecommunications and Networks

In today's business world, effective communication is a critical factor in the organization's success. Often, what divides good management from poor management is the ability to identify problems and solve them with available resources. One of the most valuable resources is the efficient communication because it makes a company in touch with its operational divisions, customers, suppliers and shareholders. Telecommunication systems present a collection of hardware and software that are compatible and act together to enable the transmission of information from one location to another. Telecommunication system can transmit text, photograph, voice or video information. The main parts of a telecommunications system are:

- Computers as information processors,
- Terminals or any other input / output device that sends information.
- Communication channels enable the transmission of data or sound between the sending and receiving device in the network.
- Communication channels use telephone line, optical cables, packed cables, etc.
- Communicative software controls input and output activities and manages other communication functions in communication networks.

- Data transmission auxiliary functions provide modem, controllers etc.

Public Networks Services

Public network services provide personal computer users with access to large databases and other services, generally paying an initial payment plus an expense of use. Public network services allow their clients to book airline tickets, check weather forecasts, get information such as TV programs, analyze stock prices or investment information, communicate with others on the network to play games, read newsletters or various publications, etc. These services are offered against payment. Network service providers are for example Microsoft, America Online, Prodigy.

IT Infrastructure

In information technology and the Internet, infrastructure is the physical hardware used to connect computers and users. Infrastructure includes computers, servers, peripherals, networking equipment, broadcast media, including telephone lines, cable television lines, satellites and antennas, as well as routers, repeaters and other devices that control the transmission routes. Infrastructure also includes software used to send, receive, manage transmitted signals, maintain network hardware, enable interconnection and collaboration, archive and data management, application operation, and infrastructure development. Many experts in this field describe IT Infrastructure as everything that supports the circulation and processing of information.

IT Common Services

This level represents infrastructure as a set of services that users can understand, use and share, for the purpose of realizing their business. For example, connecting with customers and partners can be accomplished with the customer service management channel. To manage data, you can use data management services. For security, they can use security and risk services. Authors Weill and Vitale (2002) identified nine service areas required by IT-enabled business models - with 70 sub-services as a whole. Thus, the IT infrastructure description as a set of reliable services enables business people and technologists to discuss business models and infrastructure needs as both parties share common interests.

IV. INFORMATION SYSTEMS IN SOME ENTERPRISES

Management Information System at Orange Net Operator

During the research as we have already mentioned in the beginning, we have conducted research in some small companies that offer telecommunications services in the market. But in this chapter we will

explain the role, functionality and benefits that OrangeNet operator will have through using the information system. Just as we have said at the beginning that most of the small operators are working with an analog and some digital transmission system but not using any information system, and the biggest problem they have is the issue of collecting financial resources from customers, since the termination of the service must be done manually one by one, and in some cases in the TV services, it must be disconnected from the port of supply.

This section will describe the research of the management information system at the OrangeNet Telecommunication Enterprise which deals with services: Internet, Cable and Fixed Telephone (VOIP).

It can be described as an Information System that consists of three Information subsystems or three parts, respectively as an automatic link of three systems:

1. Billing Systems.
2. The Conax system and
3. Radius Manager

Billing, Conax, and Radius systems are physically separate systems that are connected and communicate with each other through IPs by accepting data from various protocols such as http, ftp etc, which are processed and transformed into information and later in management decisions. Therefore any avoidance of the data, information of one of the systems affects the other system. Specifically, the input of one subsystem is output to the other subsystem of the information and the output accuracy of one subsystem affects the accuracy of the input of the other subsystem. For example, if the correct start date and full customer termination date is not recorded in the Conax subsystem, this shortage will be recorded in the billing subsystem with an incorrect statement regarding the exact billing of the customer.

Billing System – The billing system represents the process for collecting call charges and services for a particular user or group of users by applying the amount deduction and the preparation of billing data. In a word, this system implements charging as a cost-set (in time) activity for a certain call. Telecommunication billing is the process for collecting call charges and services for a particular user or group of users, applying the deduction of the amount and preparation of the data for the bill. In telecommunications charging is the activity for determining the costs (in time) for a special call. In the following we will explain the operation of the Information System and Billing on the OrangeNet operator.

The overview of the operation of the Information System on OrangeNet is presented in Fig. 2.

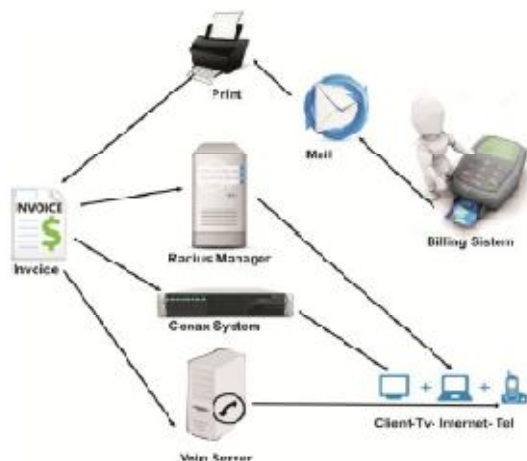


Figure 1. Payment System.

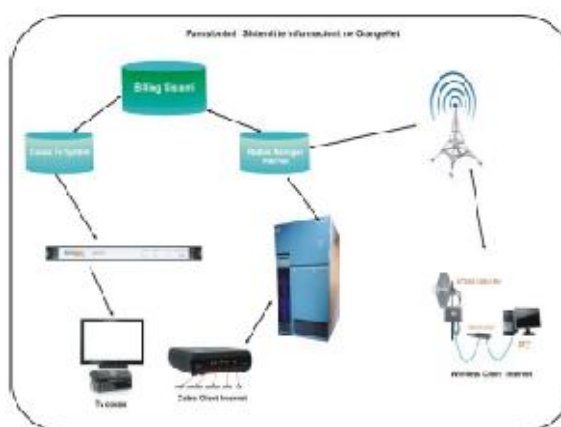


Figure 2. Operation of the OrangeNet Information System

CONCLUSION

During research in small telecommunication companies where we have made inquiries especially to operator N.T. OrangeNet we have noticed some of the problems that significantly damaging business on a continuous basis. One of the problems that we have encountered during the work of the aforementioned operator is that the interconnection of the systems between them is not automatic, which means that all the work will be done manually, the problems that are evidenced are:

1. Billing system is not connected to Conax system and Radius Manager. In this case there are three separate systems where the communication between them is completely manual and at the moment of payment by the client staff must separately make the registration of the invoice in the client list, set the expiration date of the deadline, enter in the Conax system to write at the date it has on the invoice the same thing should also be done in the Radius manager system. Where all this procedure often makes mistakes where dates do not match in Invoice, Conax and Radiusmanager. This undoubtedly reflects in a direct manner both the authority and

seriousness of the company when customers become mistaken.

2. The Billing System is not linked to the banking system, which causes many problems as a person should constantly have contacts with the banks where the Operator has accounts open, so that customers who have made payments to the bank payment to be processed in the Billing system. In this situation we often have complaints by the client because during the bank payment process there could be a mistake either by the bank staff or by our staff that the payment of the client should not be processed on time and accurately.
3. Technical support is done manually and classically, and this point is extremely sensitive to the reputation of the Company, as the nature of the business is completely servile. It is commonly known that Telecommunication companies 90% of their business is focused on Service Products and when we have a customer complaint, the manual way of getting a client is a bureaucratic procedure that lasts long and the client has no patience I wait too long.
4. Financial and investment reports are not automatic, which causes a lot of stress during reporting periods at institutions. It is known that Telecommunication companies, besides reporting to the Tax Administration, should also make statistical and financial reports and investments to the Telecommunications Regulatory Authority and also to the Independent Media Commission. Where all these reports should be in compliance with TAK, ARKEP and IMC.

In conclusion we can take a look at the work and during the research and also from receiving information from the National and International Literature and from the employees of the OrangeNet

operator we can say that we have validated the hypotheses raised since the beginning of the work. Therefore, the billing system should automatically connect to 2 other Conax systems and Radius Manager and be implemented in full SIM so that the company has hands-on business throughout its business, which will directly reflect the entire value of the Company.

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