



## ILOCOS SUR POLYTECHNIC STATE COLLEGE

### DEVELOPING A HUMAN RESOURCES INFORMATION SYSTEM FOR THE ILOCOS SUR POLYTECHNIC STATE COLLEGE

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## TABLE OF CONTENTS

	<b>Page</b>
<b>Preliminaries</b>	
TITLE PAGE	
APPROVAL SHEET	ii
INFORMATION TECHNOLOGY COORDINATOR'S AND DEAN'S ACCEPTANCE	iii
ADVISER'S RECOMMENDATION SHEET	iv
ACKNOWLEDGMENTS	v
DEDICATION	vii
ABSTRACT	ix
TABLE OF CONTENTS	xi
<b>Chapter</b>	
I. INTRODUCTION	1
Background of the Study	2
Statement of the Problem	3
Significance of the Study	3
Scope and Limitation	4
Scope	4
Limitation	4
Theoretical & Conceptual Framework	5
II. Methodology of the Study	7
System Development Life Cycle	
Planning	7
Analysis	8
Design	8
Implementation	9



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III.	Review of Related Literature	10
IV.	Data Gathering Procedures & Outputs	18
	Interview	18
	Document Analysis	19
	Research	19
V.	Documentation of the Current System	20
VI.	Requirement Analysis and Specification	23
	ER Diagram	29
VII.	System Design Specification	30
	Database design	30
	User Interface Design	32
	Program Design	33
	Architectural Design	34
VIII.	System Implementation Plan	
	Programming Consideration Issues and Tools	35
	System Requirement Specification	36
	Implementation Plan	36
IX	Conclusion and Justification	38
X	Recommendation	39
	Bibliography	40
	APPENDICES	
	Appendix A	Transcript of Interview
	Appendix B	Documents of the Current System
	Appendix C	User's Manual



## **Chapter I**

### **INTRODUCTION**

Companies, businesses, organizations rely on effective human resource management (HRM) to ensure that they hire and keep good employees and that they are able to respond to conflicts between workers and management. HRM specialists initially determine the number and type of employees that a business will need over its first few years of operation. They are then responsible for recruiting new employees to replace those who leave and for filling newly created positions. A company HRM division also trains or arranges for the training of its staff to encourage worker productivity, efficiency, and satisfaction, and to promote the overall success of the business. Finally, human resource managers create workers' compensation plans and benefit packages for employees.

Information Technology has a central role for improving company's services and achieves its goals and objectives. Providing information to help people perform their work is a primary purpose of most information systems. These activities involve the processing of data received from external sources, as well as data generated internally. The management information produced by transaction processing systems usually consists of detail reports of daily transactions or future transactions (Hutchinson 1992).



### Background of the Study

Although the College is already using information technology in the different functions, these computers are mainly used to automate office operations such as using word processors for creating reports and letters; using spreadsheets to create payroll and record enrolment data; and using desktop publishing programs to create reports. The College at present is not using a computer-based information system to improve its data processing, record keeping and information sharing.

The Human Resource Department for instance has a central role in managing the needs of the employees such as providing benefits, trainings, scholarships, promotions. The current system being used at the HRD of the College is mainly paper-based, where records of individual employees are contained in paper folders filed in cabinets. Although the HRD personnel do not encounter much problem with this set-up mainly because the number of employees in the College is not very big, problems arise when reports are required by higher authorities. There are several computers at the HRD Office but these are used mainly for preparing the payroll, service record of employees, reports, and communication letters.

Thus this study was conceived in order to develop a CBIS in the form of a human resource information system for the Human Resource Department in order to keep an electronic record of personnel information, provide easier updating of records and facilitate generation of reports required for submission to higher level.

**Statement of the Problem**

The study was conducted primarily to design and develop a Computerized Information System for the Human Resources Department of Ilocos Sur Polytechnic State College-College of Agriculture.

It sought to answer the following questions:

- 1) What is the current system being used at the Human resources Department of Ilocos Sur Polytechnic State College-College of Agriculture?
- 2) What are the problems encountered in the Current System?
- 3) How can a computer-based human resources information system improve the efficiency and work flow of the Human Resources Department of Ilocos Sur Polytechnic State College?
- 4) How to develop a Computerized Information System for the Human Resources of Ilocos Sur Polytechnic State College?

**Significance of the study**

The result of the study creates awareness of the adaptability of technology in different routine office functions and activities that are still using manual means to improve efficiency and productivity. Specifically, information drawn from the study provides the researchers/proponents insights in making a more reliable and convenient computer-based information system as a practical application of what they have learned in the course BSIT. It also serves as source of information for the institution for the development of information systems that could improve office productivity and



efficiency. Furthermore, results of the study will also serve as baseline information for further studies towards the improvement of Human Resource Information System.

## **Scope and Limitations**

### **Scope**

The focus of the study was on the development of a computer-based human resource information system for the Human Resource Department of Ilocos Sur Polytechnic State College.

The system is expected to:

- Create and maintain an employees database that includes:
  - Personal information
  - Educational background/attainment
  - Training/Seminar attended
  - Salary Grade and basic salary
  - Employment record
  - Awards received
- Add, edit and update records of employees
- Print reports

### **Limitations**

This study covers only the planning, analysis, design and development of a Human Resources Information System. The actual implementation and evaluation of the system is not included, however an implementation plan is provided.



This study was conducted from December 2005 to February 2006 at the Ilocos Sur Polytechnic State College, College of Agriculture.

### **Theoretical and Conceptual Framework**

The proper functionality of the new system is based upon the accurate identification of problems and opportunities in the current system, the gathering of complete requirements that the new system must have, and the appropriate design of the system components.

Figure 1.1 shows the conceptual paradigm of the study. The input is the current or existing system of the Human Resource Department. This will be analyzed to identify problems and opportunities for improvement. This information gathered will be subjected to the steps of the Systems Development Life Cycle in order to determine the requirements and design of the new system to be developed. The output will be a new computer-based information system that provides a solution to the problems identified in the current system and provide improved efficiency of the users.

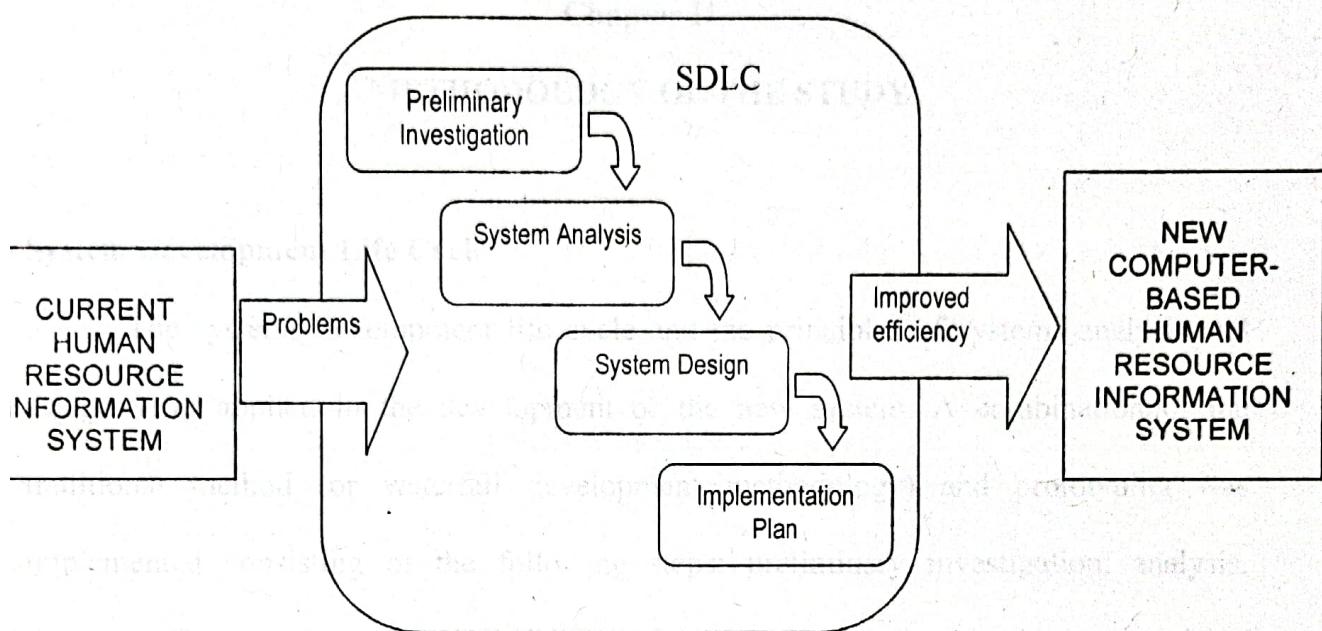


Figure 1.1 Conceptual Paradigm

### Planning

The first step undertaken by the researchers was to conduct a study of the HRIS.

They identified major concern or department areas in order to improve the system. The concerns were categorized into three groups: operational, administrative, and developmental. The team also goal for the building of system.

On March 3, 2009, the researchers prepared a request letter to the Department for the approval of

request to conduct the study and their approved conducted letter was in order to gain access to the company's HRIS.

After the study was conducted, the researchers analyzed. Some of the HRIS material were the company's which will include

the procedure of the current system procedures, the clients, the applications of the system, the reports generated, as well as problem notes in the current system.



## **Chapter II**

### **METHODOLOGY OF THE STUDY**

#### **System Development Life Cycle**

The systems development life cycle and the principles of systems analysis and design were applied in the development of the new system. A combination of the traditional method (or waterfall development methodology) and prototyping was implemented consisting of the following steps: preliminary investigation, analysis, design, and implementation. The last step was not undertaken because of lack of resources and time constraints. However, an implementation plan was proposed.

#### **Planning**

First step done by the researchers was on deciding what system to build. The researchers identified what company or department needs a system to improve their operations, and determining how the team will go about the building the system.

Then, the researchers prepared a request letter for the company for the approval of request to conduct the study and upon approval, conducted interview in order to gather data to be analyzed. Some of the data gathered were the company background included the procedure of the current system being used, the clients, the forms used by the office, reports generated, as well as problems encountered in the current system.



## **Analysis**

After Planning Phase, the researchers took the next step, which is the **systems analysis**. Here the researchers analyzed the current system of the company, identified the problems and improvement opportunities, and examined ways on how to design a new proposed system or improve the current system.

Extensive data gathering in the form of interview, document, analysis and observation was done in order to gather the requirements for the new or improved system. The focus of the analysis is gathering requirements for the inputs, processing and outputs. The process data model and data model were created after the requirements analysis.

## **Design**

Based on the models created in analysis, the system components were designed which included architecture design, software design, interface design and database design. The system designs served as specification in the construction of the new system so that the system will have the correct functionalities and features.

## **Construction and Testing**

Based from the system design created, the different components are constructed, namely the database, program modules, user interface, and connectivity.

Each of these components was tested for errors and bugs. The system documentation was also prepared at this stage.



## Implementation

This study did not include implementation and evaluation of the new system. However, an implementation plan was prepared, for subsequent system roll out.

The implementation plan will be implemented through three major components that will be carried out simultaneously. These are: (1) System Migration, (2) System Configuration, and (3) System Testing. The system migration will be done by the IT Department. This will involve the transfer of all data from the old system to the new system. The system configuration will be done by the IT Department. This will involve the configuration of the new system to meet the requirements of the college. The system testing will be done by the IT Department. This will involve the testing of the new system to ensure that it is functioning correctly and efficiently. The system migration will be completed within one month. The system configuration will be completed within two months. The system testing will be completed within three months. The total implementation period will be approximately six months.

## Computer-based Information System

A computer-based information system is a system in which a computer is used to support the management of an organization. A computer-based information system consists of four main components: hardware, software, data, and people. Data refers to the raw material that is processed by the computer. Hardware refers to the physical equipment that is used to process data. Software refers to the programs that are used to process data. People refer to the individuals who are involved in the management of the organization.

The computer-based information system can be categorized into centralized and decentralized systems. A centralized system is a system in which all data is collected and processed by a single computer. A decentralized system is a system in which data is collected and processed by multiple computers. The centralized system is more efficient than the decentralized system because it allows for faster processing of data. The decentralized system is more flexible than the centralized system because it allows for more autonomy in data processing.



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### BIBLIOGRAPHY

Albacea , Eliezer A., Information Technology Literacy. UPLB Foundation Inc. Laguna, Philippines. 2002.

Albano, May A., Ronnel R. Atole, Rose Joy Y. Ariola. Introduction to Information Technology. Trinitas Publishing inc., Bulacan, Philippines 2003

Alter, Steven. Information Systems: A Management Approach 2ed. Benjamin/Cummings Pub. Co., Inc. Californiaia. 1996

Hutchinson, Sarah E. & Stacey C. Sawyer. Computers: The User Perspective. Richard Irwin, Inc. Boston, MA. 1992.

Stair, Ralph M.. An Introduction to Information Systems. Course Technology. Cambridge, MA. 1997.