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Computerized Human Resource Information System (CHRIS)

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Abstract *– The project study assessed and implemented Computerized HRIS to be used by the Human Resource Department. The project study aimed to identify the level of difficulties or problems encountered in the traditional or manual Human Resource Information System of Lyceum Northwestern University and the importance level of implementing "CHRIS" in LNU, HR Department. The researchers employed the descriptive survey method using questionnaire. The data were treated using the average weighted mean and as a tool to descriptively interpret the rating from the assessment made. Other tools like consultation and research helped the researchers in the formulation of their study. Based from the study, the findings turned out to be "agree" in the difficulties or problems encountered in the traditional or manual HRIS. Based from the respondent's response on the importance of CHRIS, their evaluation was strongly agreed on its contributions to help them with the process. Based from the software evaluation, CHRIS had employed the best demand wherein respondents were strongly agreed on what the features could do for them and the office operations. From the conclusions drawn, there are problems and difficulties that are encountered from the manual HRIS the HR department is using that makes their jobs a burden. The implementation of the proposed software has introduced to the office an alternative to solve these problems. Based from the findings made and conclusions drawn, it is recommended that The HR personnel should be responsible enough to maintain security and reliability of the information stored the new system. New features should be included in the software like payroll system to extend the system's used to address solutions to problems from employee information system and management.*

Keywords *– Computerized, Human Resource,Weighted Mean, Information System, Employee .*

INTRODUCTION

Computer technology has progressed at an incredibly rapid pace since the widespread reliance on relatively large, slow, difficult-to-use mainframes of a mere ten to fifteen years ago. The current technology, and the hope of things to come, holds tremendous promise for the further development of the human resource function as a partner in the business. However, the great majority of companies still uses relatively outdated hardware and software and use HRIS for only the most routine of human resource tasks (Groe, Gerald M; Pyle, William; & Jamrog, Jay J., 1996).

There are many examples of companies who have automated routine HR administrative tasks, especially those in payroll and benefits administration, resulting in a reduction of HR headcount, as well as freeing up functional resources for attention to more strategic matters. There are fewer examples of more sophisticated HRIS applications, such as Internet-based recruiting and staffing, training using expert systems and human resource planning. These more sophisticated applications tend to occur within very large, information technology-intensive companies (Groe, Gerald M; Pyle, William; & Jamrog, Jay J., 1996).

In the future, HR will be more dependent on higher level and integrated HRIS approaches in order to support more complex, more "free-form" organizations. The drivers of the HRIS revolution will be the increasing globalization of business, the development of more flexible, non-traditional organization structures, the further development of information technology itself, and, last but not least, the "coming of age" of today's Generation X (generation of the new millennium) in more senior managerial positions. At the conclusion of our discussion of these topics a number of possible futuristic scenarios are presented.

HR Information Systems (HRIS) have a profound effect on firms who implement them. Most often these firms are replacing several related systems, such as a personnel database, and benefits system, with one HRIS that does it all. Many people focus on the improved reporting and processing that will be realized from the new system, and those are the reasons most firms choose to implement a new HRIS. But what many people don't focus on is that the new HRIS will most likely affect the company much more deeply – it will challenge the operating structure and principles of all the HR-related departments.

Many companies go through a process of comparing and evaluating several HRIS packages using

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a team of analysts or managers from the various departments affected – HR, Benefits, Employee Relations, Training and so on. As this team prepares its evaluation criteria and reviews HRIS features, much is learned about the goals and values of the various departments. The HR department of Lyceum Northwestern University is looking for improved reporting of employee data, while Benefits may be looking for a more streamlined hiring process. As this team drives deeper into the selection criteria, the members learn more about each other and may start to see the emergence of some really messy business processes. It can be a bittersweet process.

As the researchers evaluates an HRIS of L-NU, it begins to get a better grasp on what the entire institution's processes are, and therefore what might require in an Computerized HRIS. The researchers will most likely find that none of the packages are an exact fit and that substantial effort is required to modify or integrate the chosen HRIS.

To keep abreast of today's changing issues, utilizing a comprehensive human resource is crucial. Anyone who has worked in HR management knows that one of the most difficult tasks is keeping current with changing data. Each day new data are brought into effect that could alter the way you do things with employee files.

The research study concentrates upon the implementation of a "Computerized Human Resource Information System". The system only covers processes from inputs and updates of employee's information, like their status (full-time or part-time, and tenured), years of service and credentials (basis for promotions and increase), positions, basic salary and contracts (basis on the expiration of contract and the rate per hour of an employee), leaves and absences (number of remaining leaves and number of consumed days) and the system can be a tool for identifying positions that are available (a basis to when and how many are to be hired) as employee information for safe-keeping.

After implementing CHRIS and on the process of its operation, aside from the benefits or advantages the respondents and the institution can get as a whole, LNU can maintain files with security, accuracy and reliability. This will create efficient streamlined data management and control data access to specifications. The HR personnel would extend services not only to employees but also prior to other responsibilities. Adopting computer-based information system means updating the traditional method to a more advance and modern information system.

OBJECTIVES OF THE STUDY

1. Identifying the difficulties or problems encountered in the traditional or manual Human Resource Information System of Lyceum Northwestern University by the respondents.
2. Identifying the needs of implementing "Computerized Human Resource Information System" in LNU as perceived by the respondents.
3. Conceptualizing the design of the proposed system addressing solutions and answers to the current problems of the human resource personnel?

MATERIALS AND METHODS

The researchers conducted consultation from the HR Department as well as their advisers. Important documents were likewise reviewed to support and determine requirements of the HR office in support of their problem areas. Questionnaire was then used in gathering data.

Important documents were used and gathered to support and determined requirements through management and effective planning to established computer-based information system

To meet the requirements of the proposed system, the researchers used the SDLC (System Development Life Cycle) model composed of five phases: a) system planning, b) system analysis, c) system design, d) system implementation and e) system operation and support. These phases are discussed below.

1. *System Planning.* This phase was used to analyze the current system to determine whether it should be enhanced or introduce a new information system. Also, reviews on the current system gave the researchers a better insight to the feasibility of the proposed system.

2. *System Analysis*. This phase was used to understand the modeling requirement techniques. The researchers then used dataflow diagram to illustrate exactly the current system operation in the development of an effective system design.

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3. *System Design*. This phase was used to create a good and user-interface design, input and output design that involves the review of both the existing and the proposed system. The researchers had used such prototypes and interfaces as a design of proposed system.

4. *System Implementation*. This phase involves unit testing, integration testing and system testing (for bug detection) which were done after the system was finished to assure its quality in terms of operation and generation of information requirements from the faculty loads and schedules that will their basis later on.

5. *System Operation and Support*. Program maintenance or enhancements includes careful study of documents and the system from the proposed system.

Tools for Data Analysis

All information gathered was evaluated and tallied using the *Average Weighted Mean.* It has the following formula:

$$AWM = \frac{\sum fx}{N}$$

where

AWM = Average Weighted Mean
∑fx = the sum of all the frequency on x value
x = level of scale from 5 to 1
N = number of respondents

and the Overall Weighted Mean.

$$OWM = \frac{\sum AWM}{NQ}$$

where

OWM = Overall Weighted Mean
∑AWM = the sum of the all weighted mean value
NQ = number of question/items

The following scale and statistical range and descriptive equivalent rating were used to specifically identify the respondents' assessment on the research study. This scale was employed to present and analyze the perception of the respondents in the implementation of the proposed system along with their difficulties and problems on the current system.

Table 1. Statistical Treatment of Data

Rating Scale	Statistical Range	Descriptive Equivalent Rating (DER)
5	4.20 – 5.00	Strongly Agree (SA) Very Satisfactory (VS)
4	3.40 – 4.19	Agree (A) Satisfactory (S)
3	2.60 – 3.39	Uncertain (U) Slightly Satisfactory (SS)
2	1.80 – 2.59	Disagree (D) Unsatisfactory (U)
1	1.00 – 1.79	Strongly Disagree (SD) (Very Unsatisfactory (VU)

RESULTS AND DISCUSSION

The significance of this presentation and analysis was to briefly evaluate the processes involved and to restate some major concerns of the current procedures of HRIS with appropriate solutions.

All the information presented in this chapter were analyzed and interpreted by the researchers after the assessments were carried out.

The researchers had two surveys. One for the problem definitions and different areas of concerns and needs and the respondents perception on the importance level of implementing the proposed system, and the second was use to evaluate the performance level of the system proposal to see how it will help or solve problems.

The following are the results and interpretation of the assessment carried out by the respondents of Lyceum Northwestern University.

1. Level of difficulties or problems encountered in the traditional or manual Human Resource Information System of Lyceum Northwestern University.

Table 2 and figure 2 shows the detailed illustration on the level of difficulties or problems encountered in the traditional or manual HRIS from the assessment carried out by the HR personnel.

Based from table 2, the results of the assessment was "agree" under the descriptive equivalent rating. This can manifest from the overall weighted of 4.17.

Specifically, from item A, the respondents "agree" on certain difficulties they had especially if they want to locate files when needed. But under item B, respondents were "uncertain" in the instance when duplication of data happens. But on item C, the respondents were very confident that the current manual

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HRIS they used in the office was time wasting. This discloses to an average weighted mean of 4.50 and was interpreted "strongly agree". Because the HR personnel even though using manual process of information management, they make sure files are organized so they were "uncertain" in the survey indicated in item D but on item E they "strongly agree" and sure that using filing cabinet as the storage medium of information were not secured especially if intruders would like to spy or steal files from the office. Of course, even using computer to encode records when needed could help do task, it is very evident that computer-based information system can do things faster. Item F proved this manifestation. Daily maintenance of files needed to be updated. Based from item G, respondents were very affirmative of the difficulties they encountered. In response, delay of jobs always happened and this disclosed from the result that the respondents "strongly agree" on this item. Respondents "strongly agree" that using the current HRIS was very slow especially when reports are needed. OJTs (on-job-training) are needed sometimes two. This proved that additional employee or personnel to do tasks means additional manpower to overcome difficulties or problems in handling and management of information.

Table 2: Level of difficulties or problems encountered by the HR personnel in the traditional or manual HRIS *(N=4)*

Item no.	STATEMENT	5 SA	4 A	3 U	2 D	1 SD	AWM	DER
A	It is very difficult to locate files of an employee when needed.	0	2	2	0	0	3.5	A
B	Duplication or inaccuracy of data or information.	0	1	3	0	0	3.25	U
C	Time wasting. (data search)	2	2	0	0	0	4.5	SA
D	Unorganized files and records using the traditional filing cabinet.	0	1	3	0	0	3.25	U
E	Files or employee records are not secured if using filing cabinet. There is a chance that somebody who is not authorized from the Human Resource Office will intervene from confidential files.	3	1	0	0	0	4.75	SA
F	Generation of reports is slow especially when retyping the necessary and important one.	2	2	0	0	0	4.5	SA
G	File maintenance from a day to day basis is difficult (updates and data entry)	3	1	0	0	0	4.75	SA
H	Other jobs and responsibilities can be delayed, moved or ignored because of prolong processes using the manual method of human resource management.	1	3	0	0	0	4.25	SA
I	Maybe additional employee is needed to do other responsibilities inside the office.	3	1	0	0	0	4.75	SA
Over-all weighted mean							**4.17**	**A**

The needs of implementing "Computerized Human Resource Information System" in LNU as perceived by the respondents.

Based from the items presented in table 3 with all the necessary changes and advantages cited, the HR personnel were very aware of the benefits a computerized HRIS can give and what they can possible get if implemented. Almost all statements were "strongly agreed" by the respondents on the contribution on a computerized HRIS except that item A turned out to be "agree" with an average weighted mean of only 3.75. The researchers asked one of the respondent why on certain case easiness in the access or search of file using computer-based system was "uncertain" on her part. The interpretation was that her literacy on computer operation was not good so how can she access records faster since she was very comfortable with the old system. With regards to this uncertainty, results proved that the overall weighted mean suggest that implementing CHRIS is very feasible because they "strongly agree" on its possible advantages.

Table 3: The needs of implementing CHRIS in LNU as perceived by the respondents *(N=4)*

Item no.	STATEMENT	5 SA	4 A	3 U	2 D	1 SD	AWM	DER
A	Easy access or search on records or files of an employee when needed.	0	3	1	0	0	3.75	A
B	Eliminate duplication of clerical effort. Control of data redundancy.	3	1	0	0	0	4.75	SA
C	Using computerized system will speed up searching of data because the computer will do the job for you to locate specific employee records and/or other information.	3	1	0	0	0	4.75	SA
D	With one computer, all files and records can be stored with easy and systematically because the system will automatically organized it to you depending on requested data.	2	2	0	0	0	4.5	SA
E	Improve security. Security access can permit authorized personnel to take charge of the system.	3	1	0	0	0	4.75	SA
F	Help management in efficient retrieval and generation of reports depending on specific requirements.	3	1	0	0	0	4.75	SA
G	Help management in maintaining related information process as well as day to day activities.	2	2	0	0	0	4.5	SA
H	Stretches the hourly wage a little further by doing other responsibilities ahead of time.	2	2	0	0	0	4.5	SA
I	Save money without additional labor cost.	2	1	1	0	0	4.25	SA
Over-all weighted mean							**4.58**	**SA**

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Existing and Proposed Human Resource Information System (CHRIS)

A. Current Profile

Procedures in manual HR information system. Filing cabinet is the main storage medium from where information of all employees filed. All processes from storage to updates are carried out from manual operation. If reports are needed, the HR personnel will encode necessary information as required by different offices in the institution especially from the payroll office when they need updates of the basic salaries of every employee. The HR department use index cards to record and update holidays and absences filed by an employee. Sometimes data are duplicated, inaccurate and not updated because of the current system the office had. Sometimes basic pay of an employee differs from another one because of improper file handling without noticing others who are affected. If increase from merits are needed, generation of reports to identify who will get increase and how much make a prolong issue of producing records of employees to be modified in this process. Also, the HR department could not identify at once what positions need to be occupied from the different offices of L-NU. Lastly, to extend services and other responsibilities that HR personnel have, the manual system is time wasteful. The manual information system needs to be changed and to adopt a new and more advance computer-based information system.

B. The Proposed Project

Procedures in computerized HR information system. From the procedures cited above, with computerized HRIS, HR personnel will only sit in front of the computer and let the system do the updates for them. Just key in inputs from employee name, from information to reports, this will be an easy task to request of an information producing hardcopy of records. The software will permit only authorized users using passwords and produce back-up from another hard disk or another database for maximum security. All necessary information and records are stored in the database. Access is via name of employee or service number. Absences and holidays are updated from the database. Using the proposed system will certainly provide services and at maximum speed, reliability, accuracy, and interactivity.

Final Survey

This survey was completed after the proposed "*Computerized Human Resource Information System"* was developed. This survey was used to evaluate the quality of the software product through a series of unit testing. The following criteria are the basis of the software evaluation and for the respondents.

The assistance of user-friendliness

- The capacity of the software to effectively understand the interface by the HRD personnel.

Completeness

- Specific information is available in the software.
- The system allows you to edit and update employee records.
- The system is capable of eliminating data redundancy.
- The system has query and report features.
- The system can back-up files.
- The system can produce printed reports from an instant request.

Accuracy

- There is no inconsistency between functions at the specification level.
- Standard routines have been used in each module of the system.

Reliability

- The system provides up-to-date information.
- The system generates information that is consistent in any period of time.

Timeliness

- Response time to selected system functions is faster and on time.
- Information can be made available in a real-time period.

Security

- Safety measures have been installed against data corruption (back-up)
- It has security measures like having login or password before a user can use the system

Table 4 identifies the features of the software product. From the baseline, an overall weighted mean of 4.33 distinctly proved that the proposed CHRIS is very applicable in solving the current problems from the HR department. With a "very satisfactory" compliance, the system will introduce prolong benefits from the office.

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Table 4: Results of the software survey

CRITERIA	5 VS	4 S	3 SS	2 U	1 VU	AWM	DER
User-Friendliness	0	2	2	0	0	3.50	S
Completeness	1	3	0	0	0	4.25	VS
Accuracy	0	3	1	0	0	3.75	S
Reliability	3	1	0	0	0	4.75	VS
Timeliness	4	0	0	0	0	5.00	VS
Security	3	1	0	0	0	4.75	VS
Overall Weighted Mean						4.33	VS

CONCLUSION AND RECOMMENDATION

Based from the findings of the project study, the following conclusions were drawn. 1. Manual HRIS used in the HR department was not already doing the best thing in response to different criteria to addressed solutions to current problems of the office. In fact, the respondents were affirmative of these mentioned problems from the first part of the survey. 2. From the benefits or advantages they can get out of a new computerized HRIS, the respondents strongly agree that the current problems they had in the office will be eliminated and change so better services will be offered and management level to the limit of satisfaction. 3. The HR personnel were very satisfied along with the software's features and operations. This proved that problems they had will be solve from what they've seen with CHRIS.

Based on the findings made and conclusion drawn, the following recommendations are offered. 1. The HR personnel should be responsible enough to maintain security and reliability of the information stored from the new system. 2. New features should be included in the software like payroll system to extend the software's used to address solutions to problems from employee information system and management. 3. The system should be extended to payroll or accounting department by establishing client-server architecture. This will also provide solutions to other main problems. Additionally, CHRIS should be flexible and open for additional features in case of new processes are needed.

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