



Improvement for the Existing E-Leave Management System in Arthur C Clarke Institute for Modern Technology

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ABSTRACT

In “Arthur C Clarke Institute for Modern Technology”, there are several automated systems with the purpose of making work easier. But some systems may not be user friendly to workers as they expect. Existing e-leave management system is one that automates the leave application process. Although it makes the process easy, there are some factors which decrease the efficiency of the automated system. In the existing system, staff members have to sign into the system and apply for leave online. If there is an acting officer on behalf of the person who applies for leave and annual leave balance of the person is enough to apply for the leave, leave will be approved and online system may automatically be updated. To know about the leave approval, acting officer and the supervisor have to log into the system. Applicant also logs frequently to the system to know about the approval. In this study, the shortcomings of the existing system are found and analysed; alternative solutions for the issues are discussed. Finally the system is enhanced considering those suggested factors and then enhanced system is implemented successfully.

KEYWORDS: Efficiency, Electronic Leave Management System, Modern Technology, User Friendliness

INTRODUCTION

The “Arthur C Clarke Institute for Modern Technology” (ACCIMT) is an Institute for Research & Development and Training. The institute specializes in Electronics, Micro-electronics, Telecommunication, Information Technology, Space Technology, Robotics and other related fields of modern technology.

In ACCIMT, several systems are automated by the Information Technology division with the purpose of making work easy. But some systems may not be user-friendly and efficiency as workers expect because of their tight schedule of modern life.

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Leave management system is one of the important systems in any organization which plays a vital role for both employees and organization. When designing this kind of vital systems which include much calculation parts, performance of the system, accuracy and security of the data are to be properly maintained. Therefore, user-friendliness and efficiency of the system have been given less consideration by designers.

Existing e-leave management system is one that automates the leave application process. Although it makes the process easy, there are some factors which decrease the efficiency of the automated system.

Main objective of this study is to provide a better e-leave system by enhancing the existing system. And also in this study, the research problem is selected to;

- a) Give support to minimize the current problems faced by the institute, related to the existing e-leave management system.

- b) Improve positive attitude among the staff on organization.
- c) Improve relationship among the staff members of the institute through effective communication.
- d) Increase the user friendliness and the efficiency of the existing system.
- e) Improve the effectiveness and efficiency of the institute's administration. Organization can develop new systems in accordance with modern technology and dynamic life style.
- f) Increase number of external projects.

LITERATURE REVIEW

Cost of leave and absence mostly contribute to an organization's payroll and it affects to the overall growth of the organization.

Leave management process holds an important place in organizational policies because, if the organization pays for employees who are not working in time, it may create significant financial impact on a company's bottom line. Therefore, the organizations are always looking for paperless, effective solution that reduces or eliminates the margin of error in calculations.

In most of the leave systems, normal procedure for their e-leave application is that first users submit the leave application using e-leave system to the officer who approves the leave, and the officer will then approve or reject the leave.

Most of the automated leave management systems can be operated online and those show leave balance along with pending leaves (Current e-leave system – Viewed on 22nd October, 2014, Current e-leave system – Viewed on 23rd October, 2014, Current e-leave system – Viewed on 25th October, 2014). Besides that, user can also view leave history online up to one or

two year period. Moreover, employees will receive an email from their supervisors notifying them either an approval or the denial for their leave request.

In case the leave application is not processed by the supervisor, the applicant can request the supervisor to process it.

By using actual leave calculations, employees can determine that the leave will be available by the time they apply for leave. This is an important point to be considered when handling leaves for employees.

And also some e-leave systems provide facilities to check details of the employees who are currently on leave (Current e-leave system – Viewed on 25th October, 2014). Each company is able to configure the leave rules to suit their specific company policies.

RESEARCH PROBLEM

In ACCIMT, most of the projects are currently carried out for internal usage by the IT division. This research focuses on enhancing user friendliness and efficient functionalities which can convert the existing system into a modified system in order to make use of the modern technology and match with dynamic lifestyle.

In the existing e-leave system, staff members have to sign into the system and apply for leave online. If there is an acting officer on behalf of the person who applies for leave and annual leave balance of the person is enough to apply for the leave, leave will be approved and the online system will be updated. To know about the leave approval, acting officer and the supervisor have to log into the system. And applicant must also log in frequently to the system to check whether the approval is granted or not.

As people expectations are growing up and time is a very important factor in their life, there might be shortcomings in the

existing systems. In this study, user friendliness and the efficiency of the e-leave system are compared with modern technology and dynamic lifestyle. This kind of frequently used systems should be loyal to the users. Therefore user friendliness and the efficiency of the system should be considered while that system is being manually used.

METHODOLOGY

A questionnaire was designed to identify the shortcomings of the existing e-leave system. Then data was collected, by providing questionnaires, from employees who work in ACCIMT.

The data obtained from the questionnaires were analyzed using SPSS statistical package. Then shortcomings of existing e-leave system were identified. After that, based on the investigated shortcomings, the existing e-leave system was enhanced. Finally, the new system was successfully implemented.

When enhancing the system HTML, PHP, CSS and MySQL database are mainly used. Also SMTP server was used to send e-mails and Active Expert SMS component to send text messages (SMS components – viewed on 5th November 2015).

DATA COLLECTION AND ANALYSIS

In this research, forty questionnaires were distributed randomly among system users who are working at the organization. These data are collected to consider the user response on current e-leave system, user attitudes about modern technology and expected functions with the new system.

By using questionnaire, user response on functions which are already included in current e-leave system, the familiarity of the users with modern technologies and how often they are in touch with technology updates and expected functions on e-leave system are identified.

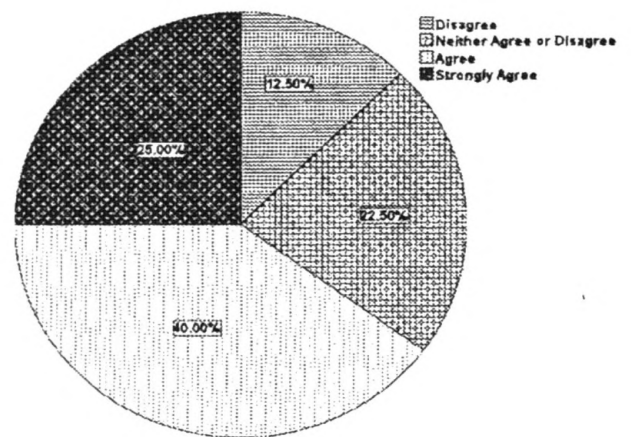


Figure 1: Satisfactory Level of existing e-leave System

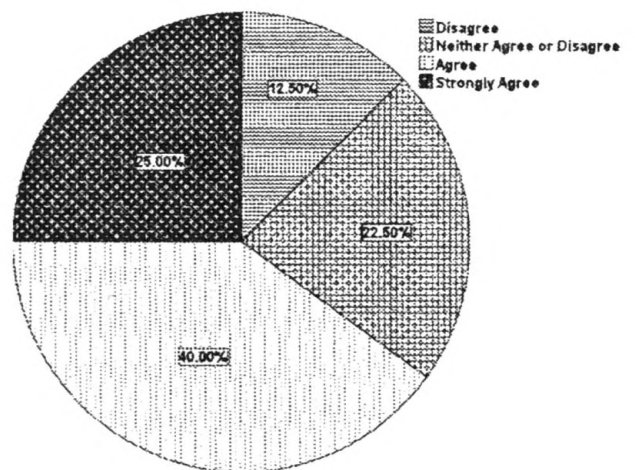


Figure 2: Efficiency Level of existing e-leave System

According to the above Figure 1 and 2, 65% of respondents were satisfied with functions of existing automated system, which was implemented on behalf of manual leave management system, and thought that the system enhances the efficiency of employee as well as the institute.

Also according to Figure 3, 55% of employees thought the existing system ensure the proper flow of two-way communication between the management and the employee.

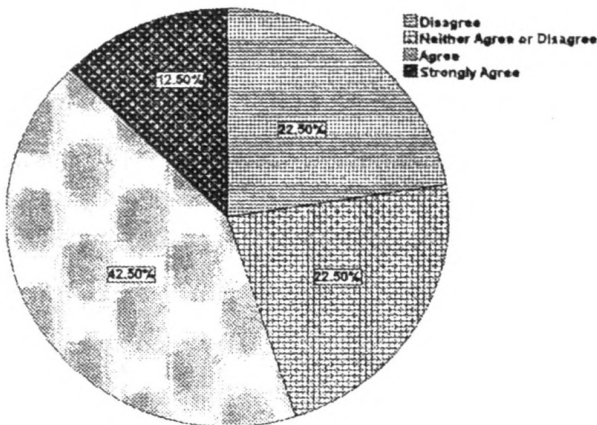


Figure 3: Effectiveness of Communication with existing e-leave System

But according to Figure 4, 52.5% of respondents thought that existing system is time consuming.

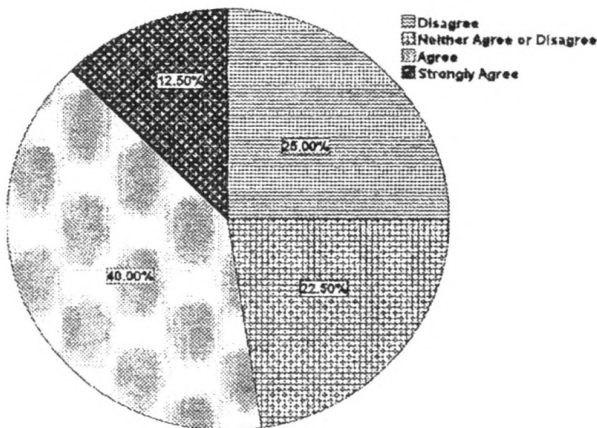


Figure 4: Time Consuming Level of existing e-Leave System

According to the above results of descriptive analysis, most of the employees are satisfied with the existing system compared with previous leave system which was handled manually. Therefore we can decide that there is no need to change the entire design of existing e-leave system.

But considering literature reviewed points, some functionalities can be added to the existing system which are related with modern technology. Therefore, familiarities of some new features which can be added to improve the existing system are checked.

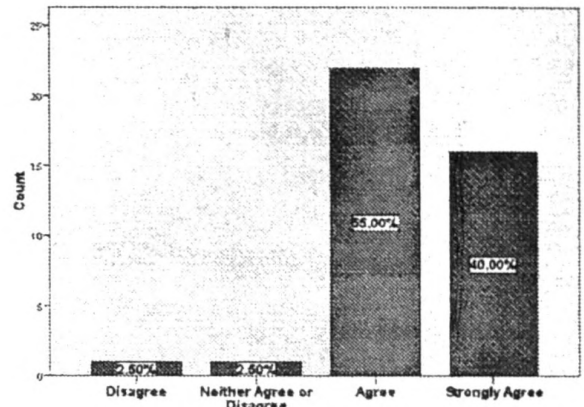


Figure 5: Level of Familiarity with Internet and Mobile phones

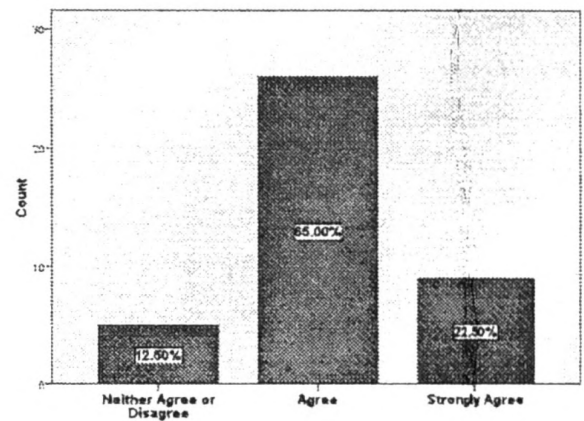


Figure 6: Frequency of Checking Mails

When considering the familiarity of the users with modern technology, 95% of employees are familiar with internet and mobile phones and 87.5% respondents check their emails frequently. These results show that most of the employees are familiar with internet and mobile phone.

Finally user expectations from the system, which are related with internet and mobile phones by proposing new functions, are considered.

According to Figure 7, if they get leave approval details through their mail account 92.5% of employees think that it enhances the efficiency of employees as well as the organization. Also Figure 8 shows that 87.5% of employees expected to have mobile alert for their leave approval.

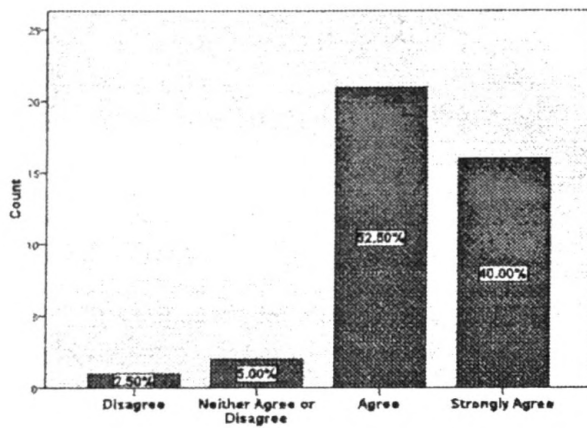


Figure 8: Level of expectation of email alerts

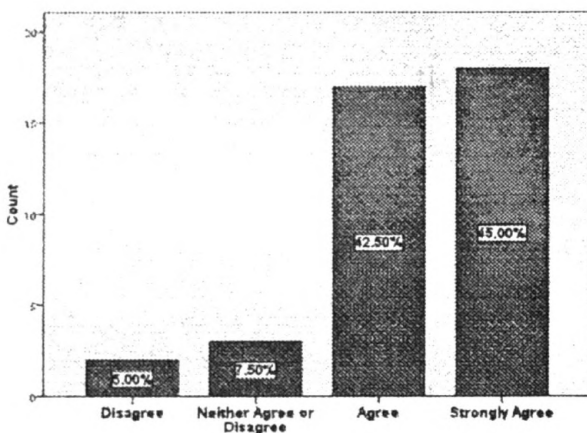


Figure 9: Level of Expectation for Mobile alert

RESULT AND DISCUSSION

Though most of the employees are satisfied with the existing automated leave system, several functionalities are expected by them in order to make the system to be more user-friendly and effective. Additional functionalities expected by those employees are:

1. An email with leave details is to be sent to the employee who applied for leave.
2. Approval is notified to the user by sending a text message to the employee's mobile phone.

In order to include above functionalities, all employees are expected to have a mobile phone, internet facilities and an email account. In our studies, we analyzed level of familiarity with internet and mobile phones and frequency of checking mails.

In addition to the above functions, some employees indicated that they expected a new e-leave system instead of existing e-leave system to overcome the weaknesses faced by them and some commented that they expected that the new system would be updated with leave approval details as soon as possible because the existing e-leave system of ACCIMT is not efficiently updated.

Total number of respondents is the most important factor when analyzing data obtained from questionnaires. But there are very few employees who use existing e-leave management system. That can affect the accuracy of the overall result.

According to the results, most of the employees would like to get their leave approval details to their email account. Therefore, when implementing the new system, email may be sent to employees with leave approval or reject details. But the organization doesn't have a mail server. Because of that reason, the organization requested to configure new mail server such as SMTP to the existing HFTP server as an alternative solution.

Another main problem faced was that the use of SMS Gateways. In Sri Lanka free text messages cannot be sent from web site by using SMS Gateways. Therefore, a modem was requested from the organization as a solution for this situation.

CONCLUSION

In this research, the way that the existing e-leave system of ACCIMT's works is studied and understood, and other e-leave systems are also reviewed. Then issues of the existing e-leave system in ACCIMT are identified and several ideas from the employees to overcome those issues are obtained by using questionnaire.

Finally existing system is enhanced by adding features such as sending an email to inform the approval of the leave and details of leave, sending text message to mobile phones to inform approval decision.

New e-leave management system is implemented and tested successfully.

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