International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

ERP System Building, and Integration with Internal Mailing System (IMS): A Study in ALTAMYZ ALRAEDAH Company Saudi Arabia

Khaled Abdulaziz[1], Cahyo Darujati[2]

klodi.5a9[at]gmail.com

Abstract: ***The Enterprise Resource Planning systems have a role in the sustainable development of the organization, the principle of Enterprise Resource Planning systems is useful to improve the performance of the organization. This aper will focus on building Enterprise Resource Planning systems integrated with Internal Mailing System for ALTAMYZ ALRAEDAH company in Saudi Arabia to escalate the work performance and decision making. Afterwards, the researcher conducted a simple interview to the top manager to see the effectiveness of the system. (ERP) solutions are used to manage an organization's activities (accounting, procurement, compliance, production, project management and other distribution chain operations). Implementing Enterprise Resource Planning systems can have a variety of effects depending on the organization. The main purpose of the system being built is to alter the manual company data storage into ERP system integrated with IMS system. The research method used is a Qualitative research based on the interviews with top managers and employees. The result showed that the top managers of the company agreed that ERP system improves their working performance, while the IMS enables a better means of communication for a faster decision making.***

Keywords: ERP System; IMS System;performance, implementation, effectiveness

1. Introduction

Businesses must use the most advanced technologies to gain a competitive advantage in the project-based environment if they are willing to thrive. These technologies aid in the reduction of redundancy, the minimization of costs, the integration of operations, and the improvement of quality. The majority of firms needed to deploy enterprise resource planning technology to integrate organizational operations and exchange knowledge effectively and efficiently across all stakeholders.

The ERP system's major benefits are to "lower expenses, boost revenue, and improve the market value" of the company. It was shown that certain firms can increase or not improve their performance by deploying ERP systems, but only if they have a solid plan and well-defined work procedures in place. These Enterprise Resource Planning systems also play a part in the organization's long-term development, although in general, Enterprise Resource Planning systems are beneficial to improving the organization's performance[1].

Another crucial factor for the company success is the ability to have an internal mailing system within the company amongst the employees and their supervisors or top management. This will make the communication and decision-making process easier and faster. Moreover, it will keep the company information stays confidential. Also, it will facilitate to find the one you looking for to email without the needs for remember his or her email all what you need just the name or what exactly his role in the company to be able to reach them and share sensitive data or information related to the company[2].

ALTAMYZ ALRAEDAH company Saudi Arabia, has an issue with data management for employees, departments, and projects. In the workshop, the current system is based on paper. The workshop's information records are still kept in cabinet files. There is a lot of useful information that is scattered all over the place. In case of retrieving certain data that is take time and cost which will affect directly to work performance and decision makers because paper-based information might risk of being lost or destroyed. Moreover, the manager cannot supervise the departments work or how to monitor the ongoing projects. On the other hand, one of the reasons that make the projects not successful is the lack of coordination between the top management and supervisors or between the departments in case they are working in one project. The best approach for this problem is to implement a tailor-made ERP system and integrate it with Internal Mailing System. The common programing language that is used to construct the system is Java language, Java Swing and SQL database to store the data. Base on the reason mentioned above this research is bringing innovation toward a better practice of business process for ALTAMYZ ALRAEDAH company by building a specialized ERP system integrated with IMS system.

2. Literature Survey

a study done by [3] about ERP System Implementation: Planning, Management, and Administrative Issues the aim of this study is to determine the concerns and challenges that a business has, such as planning, managing, and administering the ERP installation process. However, the data collected is qualitative data based on interview, to obtain more productive findings, a survey was conducted by various professionals and top management of various organizations' IT departments. It has been discovered that

the planning phase is critical to an organization's ERP system rollout. When a company decides to implement an ERP system, this is the first step of the project. Following the planning phase, it is required to implement management adjustments, which are necessary for the project's effective completion. Another important issue is choosing the correct ERP system, which is critical to the deployment plan's success.

However, there are many obstacles during implementing ERP system a study done by[4]about Critical Challenges in Enterprise Resource Planning (ERP) Implementation. aimed to identify major hurdles in the deployment of Enterprise Resource Planning (ERP) based on findings from an exploratory qualitative single case study in the Canadian Oil and Gas Industry. However, twenty interviews with members of four project role groups of senior leaders, project managers, project team members, and business users were done in a Canadian case organization. The data was entered into NVivo software for data coding and analysis, and the data was analysed. Consequently, it found that Twelve critical challenges that can affect an ERP implementation include: a quick disbanding of the project team, an interface issue, a lack of proper testing, time zone constraints, stress, offshoring, people's resistance to change, a short hyper-care period, data cleansing, excessive customization, and leadership that doesn't understand the complexities.

Also, A study done by [5] explained the effect of applying the ERP system on business. With title" Impact of Enterprise Resource Planning (ERP) Systems to the Construction Industry". The major goal of this study is to find out how ERP would affect the construction industry and to determine ways to assess ERP readiness prior to implementation. However, the study used 210 financial reports from 29 construction companies, representing 90 percent of medium and large-scale construction companies in both countries that have been developing and developed. And This study was conducted utilizing secondary data sources such as published materials from a wide range of sources, including National Stock Exchange websites, Public Limited Company (PLC) websites, and ERP vendor websites, using the quantitative (Sample size) technique. For data collecting, journal articles, conference papers, and ERP-related websites were also recommended. Therefore, it has been proven that 90% of organizations that have used ERP have had great success in their construction efforts. It is also confirmed that ERP readiness ratios of more than 10% for Investment/Revenue and more than 10% for Intangible Asset/Fixed Asset are necessary to meet managerial and technical standards for a successful installation. Furthermore, it has been shown that the construction businesses' training budgets are far less than what is required.

However,There are many benefits for the companies when they integrating ERP system with another NON-ERP system according to study done by [5]about Challenges and Benefits of ERP System and Non-ERP System Integration in a Developing Country. The goal of this research is to determine the need for ERP and non-ERP systems in order for an organization to meet all of its requirements, the hurdles of implementing and integrating both application systems, and the end benefit from the integrated application system. This paper examines a case study of a group company's integrated operational and financial system, which includes both ERP and non-ERP systems. The researcher's observations and literature analysis, as well as talks with consultants and research supervisors, were used to create the questionnaire, which was written in English. However, it found that Following the integration of the two apps, they perform as best-of-breed applications that provide the most value to the firm. The firm can get the benefits of the best of breed application. Automating the entire company process is also a cost-effective approach. Financial and non-financial data can readily be utilized to deliver administration data reports for decision-making. Furthermore, there will be minimal disruption/modification to the current business process or mode.

Among all other programming languages, Java has continuously ranked first in the TIOBE index. Despite the fact that numerous new languages have been developed, Java's popularity continues to grow. For more than two decades, Java has ruled over all other programming languages. Java is one of the most powerful and effective languages ever devised, and it is the most extensively used programming language in many domains, according to the majority of experts. However, Java is a general-purpose Object-Oriented programming language that may be used to construct programs and applications on any platform. Java has advantages to offer. Such as, Java is Simple, Object-Oriented Programming language, secure language, cheap and economical to maintain, java is platform-independent, high-level programm4ing language, provides Automatic Garbage Collection, supports Multithreading, distributed language and provides an efficient memory allocation strategy. In the same time JAVA has disadvantages for example, slow and has a poor performance, JAVA GUI has a nice appearance and feel, but Java doesn't have a backup feature. Java is a memory-intensive, verbose, and complex language codes. To conclude Despite all of Java's drawbacks. However, Because of its platform independence, security, and maintainability, Java is one of the most widely used programming languages in the software industry., security, and maintainability. Therefore, it will be used in ERP and IMS system implementation [7].

A database may be a collection of information that is organized. It may well be anything from a fundamental basic supply list to a photo exhibition or the gigantic volumes of information on a trade arrange. A database administration framework, such as MySQL Server, is required to include, get to, and handle information contained in a computer database. Database management systems, as standalone utilities or as components of other programs, play a major role in computing because computers are exceptionally good at processing enormous volumes of data Instead of putting away all of the information in one gigantic distribution

centre a relational database keeps it totally different tables. Physical files are used to organize the database structures, which are optimized for speed. The logical model provides a flexible programming environment with objects such as databases, tables, views, rows, and columns One-to-one, one-to-many, one of a kind, essential, or discretionary connections between information areas, as well as pointers" over tables, are all characterized by rules. Because the database enforces these constraints, your application will never encounter inconsistent, duplicate, orphan, out-of-date, or missing data if the database is well-designed. There are advantages such as Reduced Total Cost of Ownership, Portability, Seamless Connectivity, Rapid Development and Round-the-Clock Uptime and Data Security. However, "Structured Query Language" is the SQL part of "MySQL." The foremost broadly utilized standardized dialect for getting to databases is SQL. You can enter SQL directly (for example, to generate reports), embed SQL statements into code written in another language, or utilize a language-specific API that hides the SQL syntax, depending on your programming environment [8].

3. Methodology

The research technique is utilized as a guide in carrying out this study so that the best results are obtained while staying true to the original purpose. The author used waterfall method to build the system and the languages used are Java and SQL language to extract data from the database.

3.1 Data Collection

This stage involved conducting research, making observations, and conducting online interviews in order to obtain relevant data. This information will be used to help the research that will be carried out.

1) Observation

A review and direct study in the field are carried out in this observation approach to obtain and collect required data. SAUDI ARABIA'S ALTAMYZ ALRAEDAH business was the site of this investigation. ALTAMYZ is a company that offers immigration services. According to the findings, the process of entering, storing, and retrieving data for employees and departments, as well as projects, is still done manually, such as writing related information to the firm on paper and storing the data in cabinets where anybody can access it. As a result, these flaws must be addressed in order to satisfy top managers and staff. Data and information needed for system design and development are collected during observations.

2) Interview

Interviews with relevant individuals who are valuable for acquiring information and data needed for system design and development will be conducted via online interviews, namely:

a) By interviewing Mr. Muhammad, the owner of the ALTAMYZ ALRAEDAH company in Saudi Arabia, it is possible to acquire data and information as well as conduct testing on the system built.
b) Interviews with employees, in this case representing users, by conducting an interview with a group of them, which will be important for gathering information and testing the built system. The findings of this interview are useful in supporting the research debate in terms of developing and building systems, which can result in a system design that can assist SMEs while also providing user convenience.

4. Results and Discussion

ALTAMYZ ALRAEDAH company was established in Saudi Arabia in 2014 this company provided services related to the immigration. Therefore, the company deal with hundreds of customers daily. So, the company data must be organized and store in safe place which can be retrieve it easily and fast to make decision for the company. In this chapter the author will discuss the issues raised from observations in how the ALTAMYZ ALRAEDAH company deal with their data. The result conduct after the observation is the company has an issue with data management for employees, departments, and projects. In the workshop, the current system is based on paper. The workshop's information records are still kept in cabinet files. There is a lot of useful information that is scattered all over the place. In case of retrieving certain data that is take time and cost which will affect directly to work performance and decision makers because paper-based information might risk of being lost or destroyed. However, the ERP system and IMS system are done by collecting and analyzing files and documents required in the design of this system. In this research the author uses UML diagrams in compiling a system design that will made and Java as programming language for make implementation.

Implementation

Implementation is the creation or development of applications from the design that has been made so that it can be used as goals to be achieved. The result of the research is a desktop application.

4.1 Interface on Desktop

The following is the main view of ERP system integrated with IMS system that will appear for the users such as register page, login, profile, employee section, department section, projects section and the email channel.

Figure 3.4.1: This is a registration Mneu

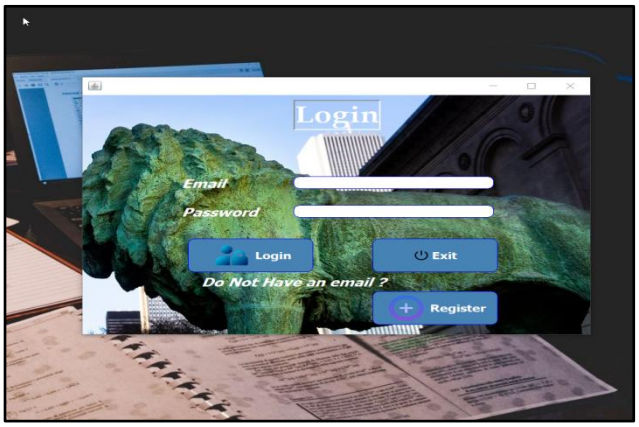

Figure 3.4.2: This is a Registration Mneu

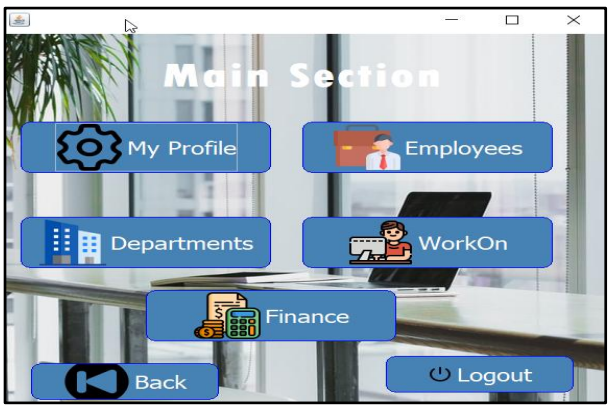

Figure 3.4.3: This is a Main Mneu

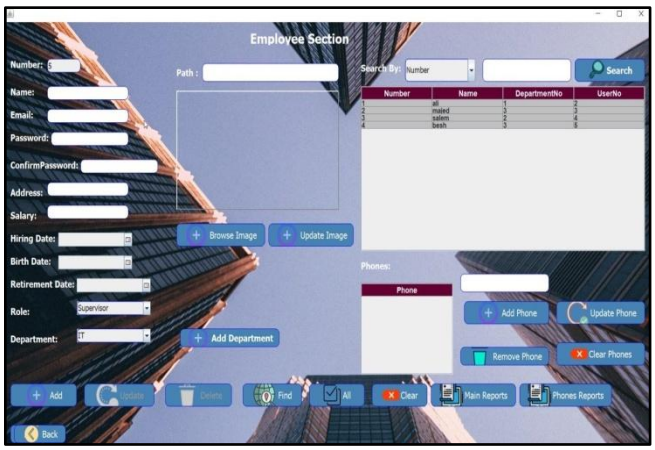

Figure 3.4.4: This is a Employees Mneu

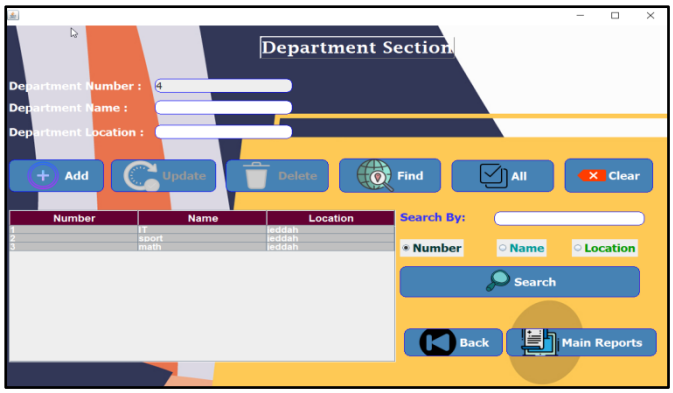

Figure 3.4.5: This is a Department Mneu

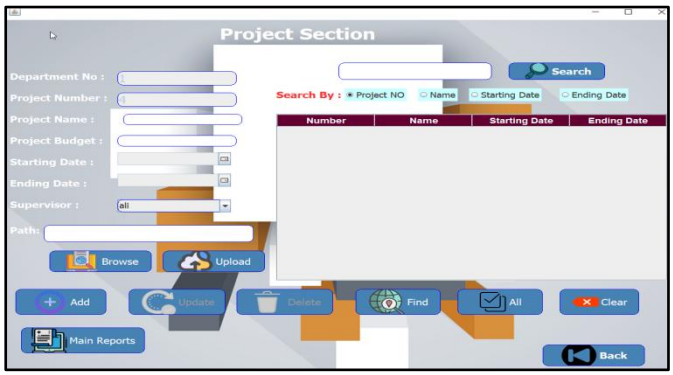

Figure 3.4.6: This is a Project Mneu

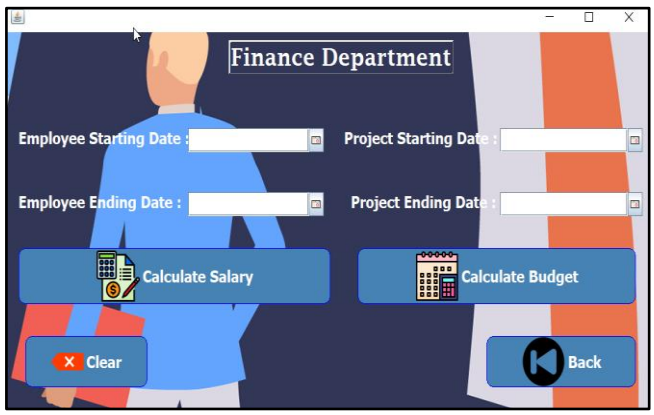

Figure 3.4.7: This is a finance Mneu

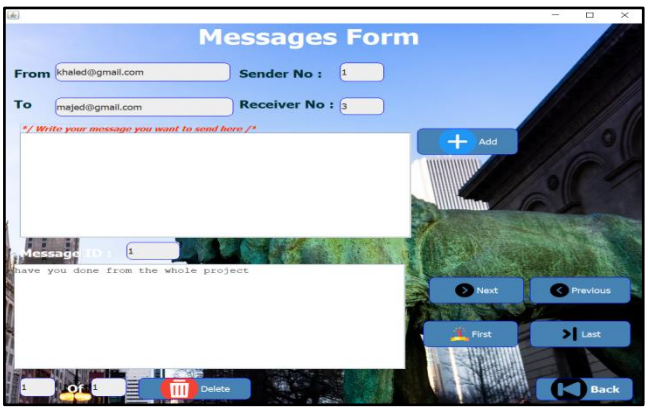

Figure 3.4.8: This is a Email Mneu

5. Conclusions

The benefit of implementing ERP system and IMS system at ALTAMYZ ALRAEDAH company are the following:

- The admin can create new account easily and the data will be save in the database.
- The user can access to the system after they login with valid data.
- After the admin login the system display the menu which include departments, employees, projects, work on, finance and profile.
- In the employee menu the admin can add new employees. Also, the admin can update, search or delete their data in the database or even upload image for them. In addition, print all employee's data
- In the department menu the admin can add new departments. Also, the admin can update, search or delete their data in the database. In addition, print all departments data.
- In the project menu the admin can add new projects. Also, the admin can update, upload documents, search or delete the project data in the database. In addition, print all projects data
- In the work on menu the admin can add employee in specific project and see the all employees who work in that project also delete employee from the project or print the all projects data.
- In admin profile menu the admin can update the profile image, change password and access the email inbox.
- In the finance menu the admin can calculate the employee's salary and projects budget in specific date.
- In the supervisor's menu the supervisor can update the profile image, change the password and see all the projects that under their supervision and upload documents related to the project. In addition, the supervisors can access their inbox email to see the emails that they receive and they can replay.
- In the staff menu the staff can update their profile image and change the password. Moreover, they can see the projects that they work on.
- In the email page where the admin and supervisor can send and receive message between each other and the message will be saved in the databases.

6. Future Scope

In the research that has been done, the author realizes that still there are shortcomings, therefore the author expects several things that can be developed from the research that has been done, namely:

1) The author suggests to have more functionality such as calculating the profit or predict the revenue in the finance page for certain projects will improve the system.
2) Adding more features such as measure the employee performance on work will keep the top manager updated about the employee's work.
3) Another advantage can be adding to the system to improve it is that the ability for employees to apply for day off through the system.
4) Also adding feature like showing the employees their bonus that they get from doing extra work it will help them to perform harder in their work.

References

[1] L. Eugenia and R. D. IGNA, "The influence of the implementation of ERP systems on the performance of an organization," SCIENDO, 2021. [Online]. Available: https://sciendo.com/article/10.2478/picbe-2021-0026.
[2] B. S. GANESH, "INTRANET MAILING SYSTEM USING LAN FOR SECURE EMAILS," 2021. [Online]. Available: https://www.ijcrt.org/.
[3] F. Mahar, S. I. Ali, A. K. Jumani and M. O. Khan, "ERP System Implementation: Planning,Management, and Administrative Issues," 2020. [Online]. Available: https://indjst.org/articles/erp-system-implementation-planning-management-and-administrative-issues.
[4] S. Menon1, M. Muchnick2, C. Butler3 and T. Pizur4, "Critical Challenges in Enterprise Resource Planning (ERP) Implementation," 2019. [Online]. Available: https://www.ccsenet.org/journal/index.php/ijbm/article/view/0/39726.
[5] T. Hewavitharana, S. Nanayakkara, A. Perera and J. Perera4, "Impact of Enterprise Resource Planning (ERP) Systems to the Construction Industry," 2019. [Online]. Available: https://www.researchgate.net/publication/334372698_Impact_of_Enterprise_Resource_Planning_ERP_Systems_to_the_Construction_Industry.
[6] M. Ahamed, M. Musthafa and F. Marikar, "Challenges and Benefits of ERP System and Non-ERP System Integration in a Developing Country," 2020. [Online]. Available: https://www.researchgate.net/publication/346058180_Challenges_and_Benefits_of_ERP_System_and_Non-ERP_System_Integration_in_a_Developing_Country.
[7] L. Christopher1 and A. Waworuntu, "Java Programming Language Learning Application Based on Octalysis Gamification Framework," 2021. [Online]. Available: https://ejournals.umn.ac.id/index.php/IJNMT/article/view/2049.
[8] B. Rawat, S. Purnama and M. , "MySQL Database Management System (DBMS) On FTP Site LAPAN Bandung," 2021. [Online]. Available: https://media.neliti.com/media/publications/407145-mysql-database-management-system-dbms-on-9953a0f6.pdf.