Implementation of Employee Quarters Management System in ERP SAP Foran Organization

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Abstract

The Employee Quarters Management system is an effective and customized comprehensive solution for the Allotment of Residential Quarters in an Organization. After the vast development in Globalization, Business dimensions and Principles are very rapidly changing. Also, the Global market is open for automation in the need of fulfilling the substantial improvements and customizing the service standards of the Organization. With the rapid growth of Human-Computer Interaction, more and more software applications are replacing the human efforts. This project also integrates the idea to an automatically enumerable system instead of manually managing the availability of Residential Quarters in an organization. Enterprise Resource Planning (ERP) helps Enterprises or huge organizations to enhance their employee services. As a result, this automation is done in ERP such that to reduce the possible human errors and also to provide and update the correct information instantly.It also enhances the accuracy of locating the Residential Quarters with respect to their priority, availability and posts.

Index Terms – HCM,ERP, Quarters Management System, Customization.

1. Introduction

In any Business, Organization or Government sector unit, the confidential data is in the form of paper, folder, e-book, or any digital information format [1]. It also takes much time when a certain record is to be searched. One of the main key components for any Enterprise is Optimization. The ERP package is the perfect solution for any enterprise that makes the system simple, even after it has built the entire structure of the requirement in over a time. To gain excellent quality andto achieve proposed targets in any Organization, Enterprise Control is the largest mission [3]. With the introduction of ERP systems,Automation and Tracking of all Business processes is simple that enables reporting and decision making easier.Thus, it ensures simplified storing and retrieving of employee and quarters records. It also guarantees total integrated real time and reliable solution. ERP Software is implemented in numerousOrganizations for the benefit of key managerial services. In anyOrganization, the combination of all Enterprise activities represents the complex operationsthat are reinforced through discrete and often incompatible data applications [4].

2. Enterprise Resource Planning

Enterprise Resource Planning (ERP) is a single commercialmanagement software that helps Organization (Enterprise),for integrating all the Business demands such as Material, Man Power, Machinery, Money, Maintenance (Resources) within a centralized and integrated system for the proper utilization (Planning).

ERP allows an organization to use system of integrated applications for managing the business and automating the back end functions. ERP enhances the ability to monitor and control the operations of the organization. This helps to manage the complete information about theemployees and also to automate the business processes. Among the multiple ERP packages that are implemented in the present Enterprisesare Oracle, SAP SE, JD Edwards, PeopleSoft, Microsoft, etc.,[6]A right choice of single comprehensive solution is required to address the need of the Organization. Thus, the widely used and proven ERP package is SAP thathas the capability to integrate multiple business modules. ERP combines all thebusiness functions and activities into a single centralized database, such that to integrate all the requirements of process in a business organization. ERP helps in improving the internal business process and overall business performance.

2.1 SAP

One of the two Tier-one solutions of ERP is SAP. System Application Products in Data processing (SAP) software is aleading Information and Management Enterprisesoftware that combinesall the business activities across different functional modules. Any business process in ERP SAP is termed as "Module". Its main goal is to satisfythe management requirementssuch that to help the enterprise for improving their business and connect them to one system that ensures coherence and efficiency[2]. It also reduces the need of using several software applications from different companies. SAP SE is a multi-module applicationthat automates the numerous operations in an organization, in order to get desired and accurate results within the stipulated time. It also helps in processing various transactions that are involved in various departments.

2.2 Three -Tier Architecture of SAP

❖ **Presentation Layer**: This layer typicallyconsists of components that make up SAP GUI. This layer acts as an interface between the system and its users. The presentation layer collects the data from the user and sends it to the application layer and displays the data that has retrieved back.

❖ **Application Layer:** This layer consists ofapplication servers and message servers. It is used to execute the business logic and process the business logic, client transactions and coordinate access to the database.

❖ **Database Layer:** This layer consists ofcentral database system which stores and updates the data that are loaded into application servers.

2.3 Benefits of SAP ERP

• It simplifies the Management Operations ofa Huge Organization in order to avoid unwanted communications between many functional departments.

• Helps in managingtheir daily business processes and resources and also to link the sections between each other in order to update and upgrade.

• Achieve consistent flow of data throughout thebusiness process integration to meet the qualitative and quantitative standards of the Organization.

2.4 Modules of Sap

SAP ERP consists of minimum 25 modules, and they they are classified into two types.They are: Functional Modules and Technical Modules. Some of the main functional and technical modules are:

Functional Modules
Logistics
• Sales and Distribution (SD)
• Material Management (MM)
• Warehouse Management (WM)
• Production Planning (PP)
• Plant Maintenance (PM)
• Project System (PS)
• Quality Management (QM)
Financial:
• Financial Accounting (FI)
• Controlling (CO)
• Enterprise Controlling (EC)
Human Resources:
• Personnel Administration (PA)
• Organization Management (OM)
• Time Management (TM)
• Employee Self Services (ESS)
Technical Modules:
• ABAP
• BASIS

2.5 Phases of ERP SAP

SAP is a stage by stage development in implementation of SAP Project. The phases of ERP is Accelerated SAP (ASAP) Methodology, which are tailor made for an effective, fast, and well-organized Business Project. The Phases are:

Project Preparation - This phase defines the scope, objectives, goals, strategy of the project.

Business Blueprint- This phase illustrates about the requirements, baseline scope to refine the overall schedule, overall design of the goal and a document to define the business process.

Realization-This phase depicts about the system implementation, Project Management, System Management, Customization, and theQuality Check.

Final Preparation –It involves in testing the artifact, Evaluating with end user training, managing the system and itsactivities for the release of production.

Go Live and Support - Pre-production is done to set live production for the support of organization andthat involves Continuous improvement.

3. Human Capital Management

HR Module provides huge solutions for different modules in order to get access to a specific employee record. This paper emphasis on implementation of Quarters for the Employees of the Organization. The ERP based HR module plays a major role for the utilization of resources in an effective manner[3].

The main goal for deployment of SAP is to reduce the communications between the IRM (Immediate Reporting Manager) and the Allotment Authority such that to unify the systems across the Organization.This also leads to restructure the Organizational Chart by unifying the systems. By enhancing the digital procedures, we can reduce the time spent on paperwork[4].The HCM Module plays an important role in the success of an Organization that includes capabilities like Recruitment, Training, Payroll, Rewards & Recognition, and Workforce Management. The Humancapital Management (HCM) is fully supported by Planning and Analytics[5]. In any organization, HR functions are fully integrated and mainly focusing on management, recruitment and providing compensation to the employees.

This paper includes the following HR business process:

3.1 Organization Management

The Organizational Management includes the statistical structure of an organization's information like staffing schedules & task description [5]. A structure is defined such that Departments and positions are connected in which job roles and attributes are related to the organization with the aid of personnel.

The figure below shows the data model & relationships among them.
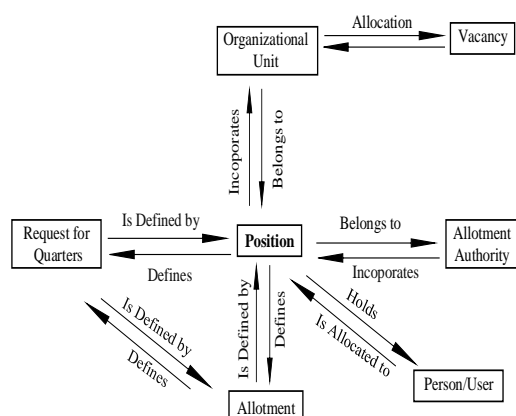
3.2 Personnel Administration

The Personal Administrationdeals with theEmployee master data, their Immediate Reporting Authority and also with the Allotment Authority. The figure below shows the typical allotment to vacate business process associated with the HR module:
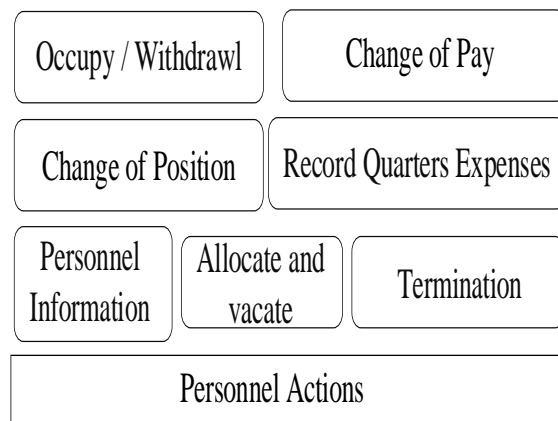
3.3 Payroll Accounting

The Payroll automates by storing the master data andsalary accounts. The total pay is calculatedby various earnings, taxes and deductions such that to manage the transactions and submits the periodic pay receiptsof the employee.The figure below shows the flow chart of Payroll affected by the pay of Quarters:
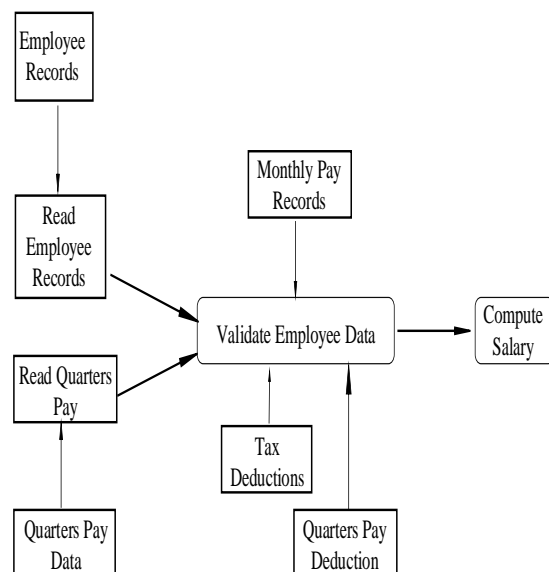
4. Module Pool Programming

The creation of Custom SAP Screens is possible with the help of Module pool programming that satisfies the requirements of the Organization. It is also called Interface Programming or Dynpro Programming or Dialog Programming or Transaction Programming[7]. These programs are created in ABAP Development Workbench by using the type as '**M**' – Module Pool. SAP-ABAP supports two types of programs: (i) Report Program (ii) Dialog Program.

4.1 Module

Each subprogram in the main program is called Module[7]. ABAP Code is written in the form of Modules, because Flow-Logic can understand ABAP

statements. Since the entire ABAP logic is divided in the form of modules, it is called Module Pool Programming.

4.2 Module Pool Events

1. **PBO** (Process Before Output): Default event Triggered before MPP Screen and also whenever there is a call to the screen is displayed. It process or execute the entire code in the module.

2. **PAI**(Process After Input): Triggered after MPP Screen is displayed, also whenever user raises an action or to check the user input, to trigger dialog steps also to update tasks.

3. **POV** (Process on Value Request): Triggered when user clicks on search help or F4Button for the dynamic use of ABAP Dictionary.

4. **POH** (Process on Help Request): Specified data element is executed whenever F1 is pressed. If this event does not exist in the logic screen, the ABAP Dictionary is taken on basis and displayed.
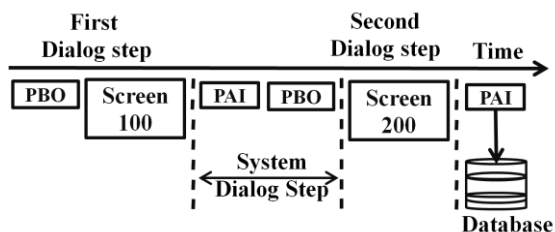

5. Customization

Customization and Configuration are parts of the ERP implementation process.Customization is an augmentation or modification of a software feature that requires custom coding for satisfying the specific requirements of Enterpriseneutral and industry-specific functions, which is delivered as standard. Customization controls the behavior of SAP applications by Implementing, Enhancing and Upgrading to a new release or system. Customization enables us to modify SAP standard functions.

5.1 Need of ABAP

The fourth-generation programming language developed in 1980s by SAP for the development of Customized Business Applications is Advanced Business Application Programming (ABAP or ABAP/4). ABAP is the programming interface of Application Server ABAP (AS ABAP) in SAP Net Weaver which also makes use of Object-Oriented Programming. It is used to prepare Reports, Smart forms that enable Enterprises to build mainframe business applications. It is also used to develop the runtime environment viz. SAP R/3 system. It helps to write Complex Program or Functional Module to transform data as per Business Requirements. Customization is needed for ERP in order to imply complete Flexibility between the Screens and Workflow Logics.

6. Employee Quarters Management System

The Employee Quarters Management System is the improvement in managing the Employee Master Data, Residential Quarters data in an effective manner. In traditional mode of the Quarters management system, checking the vacancy of Residential Quarters with respective of their post and their priority of location and allotment of Residential Quarters for the Employees and non – Employees of the Organization involve numerous steps and a lot of paperwork that requires more manpower. To implement a systematic andintegrated Quarters Management; there must be a central database where Allotment Authority in the Organization can find out all the information about any vacated Residential Quarters, such that a single database object eliminates the redundant storage of data. In order to maintain all these tedious tasks efficiently, we are adopting System Application Product (SAP) in HUMAN CAPITAL MANAGEMENT(HR-MODULE) to monitor all the operations in a single window. ERP streamlines all the business functionalities and gives the desired result in one click. This enables the Allotment Authority to maintain the highest possible performance in terms of Priority, Availability, Efficiency and Asset integrity for all types of Quarters. Based on designation post, Quarters are allotted under Priority analysis, with respective to that of preferred location and the Organization Norms.
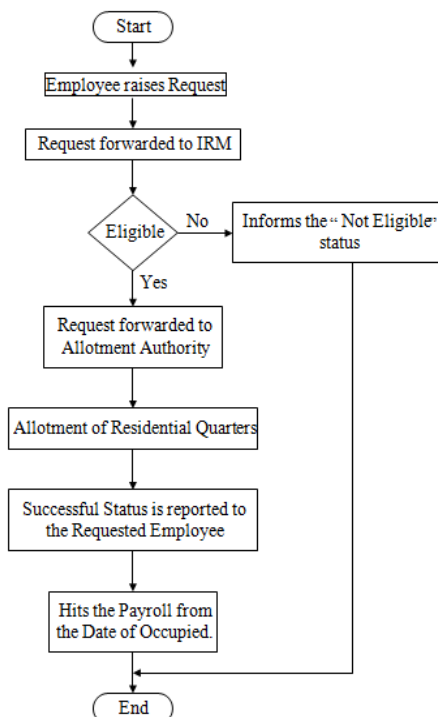
6.1 Allotment Process

The IRM (Immediate Reporting Manager) is responsible for the maintenance of the Employee Master Records and also to allot the request for the Residential Quarters. So,

Initially the Employee raises a request to IRM. The IRM checks all the details of the Employee for the Eligibility Criteria and if the person is eligible for the Residential quarters, the respective request is forwarded to the Allotment Authority. The Allotment Authority maintains the Quarters Master Data and captures relevant details such as types of Quarters, Occupancy Status, Allotment Status and Maintenance Details etc. So, the Allotment Authority checks the vacancy of the Residential Quarters with respect to their Designation. The Residential Quarters are sectioned into categories like Type A, B, C, D, E, F in which each category is designed and allocated for the specific designation post of the employees. In the Allotment process, the first priority is given to the highest posts and then to the next higher posts of the Organization. If requests are of same Posts, then Allotment Authority allots the Residential Quarters to Employees based on First Come First Serve (FCFS) Basis. ERP System tracks the status of vacancies for Quarters Allotment. Then, ERP System handles the Detailed Confirmation Report to the Requested Employee. A Confirmation letter will be sent to the IRM and the Allotment Authority once the employee occupied the Residential Quarters. Then the action will be taken to Payroll Section to deduct the House Rent Wages (HRA) from the Salary Details.

Figure 1: Employee fills the Application

Figure2: Application submitted successfully

Figure 3: IRM views the Request

Figure 4: IRM Views the Employee Application

Figure 5: Allotment Authority checks the vacancy

Figure 6: Allotment of Quarters

6.2 Withdrawal Process

If the employee who is allocated in the quarters is willing to resign the job or got suspended, the IRM informs to the Allotment Authority about the last working day of the employee. Once employee leaves the residential quarters, Allotment Authority free the residential quarters and communicates to the IRM, HR and Accounts section. Then, HR finalizes the full settlement report and submits to Accounts Section. Accounts department will deduct the rent wages from the total pay of the employee.

7. Conclusion

As a conclusion of this paper, it is observed that SAP offers competing benefits in the operational and managerial field of Information Technology(IT) and Organization [1]. Therefore, with the introduction of ERP Systems, we can implement a Customized solution for fulfilling the Organization demands since we can't capture Quarters Management System in SAP custom Environment.Hence the implementation of SAP HR module helps to provide unified process, builds operational efficiency, and minimizes the time complexity and the pressure of Personnel. While transactions helps in maintaining the Flow logic of the Screens, it overcomes the disadvantage of the legacy system that leads to inconsistency, redundancy, overlaps of data or data spread[4]. Hence this entire process is maintained in a simplified and procedural manner which reduces the entire communication between the departments.

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