HR Management System

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3/12/2019

1. Preface

The trend of automating payroll and workforce management processes began during the 1970s. Due to limited technology and mainframe computers, companies were still relying on manual entry to conduct employee evaluation and to digitize reporting.

The first enterprise resource planning (ERP) system that integrated human resources functions was SAP R/2 (later to be replaced by R/3 and S/4hana), introduced in 1979. This system gave users the possibility to combine corporate data in real time and regulate processes from a single mainframe environment. Many of today's popular HR systems still offer considerable ERP and payroll functionality.

The first completely HR-centred client-server system for the enterprise market was PeopleSoft, released in 1987 and later bought by Oracle in 2005. Hosted and updated by clients, PeopleSoft overtook the mainframe environment concept in popularity. Oracle has also developed multiple similar BPM systems to automate corporate operations.

Beginning in the late 1990s, HR vendors started offering cloud-hosted HR services to make this technology more accessible to small and remote teams. Instead of a client-server, companies began using online accounts on web-based portals to access their employees' performance. Mobile applications have also become more common.

1.1. Sage Abra

Sage HRMS, formally known as Sage Abra, is built for mid-size organizations which has core Human Resource functions such as talent management, work force management and learning management system in order to optimize employee lifecycle (HRMS, Sage HRMS, 2011).

This software is developed by HR professionals who have face challenges in Human resource working environment and had the experience of real time problem and solutions. Sage HRMS is built for organization having employee between 50 3000 employees (HRMS, 2012).

1.2. Fi-es HRMS

Fi-es HRMS is developed locally in Maldives, and is in use in Maldives and other countries. This system has attendance management, calculating leave, absent days, late coming etc. It also has payroll calculation features and recruitment features. System has reporting capabilities to generate monthly reports. Fi-es help the organization speeding up the decision making of the organization
(fi-es, 2012).

2. Introduction

A human resources management system **(HRMS)** or human resources information system **(HRIS)** is a form of (HR) software that combines a number of systems and processes to ensure the easy management of human resources, business processes and data. Human resources software is used by businesses to combine a number of necessary HR functions, such as storing employee data, managing payrolls, recruitment processes, benefits administration, and keeping track of attendance records.

Currently, human resource management systems tend to encompass:

1. Retaining staff
2. Hiring
3. On boarding
4. Administration
5. Managing payroll
6. HR planning
7. Recruiting/Learning management
8. Performance management and appraisals
9. Employee self-service
10. Scheduling and rota management
11. Absence management
12. Leave management
13. Reporting and analytics
14. Employee reassignment
15. Grievance handling by following precedents

The **payroll module** automates the pay process by gathering data on employee time and attendance, calculating various deductions and taxes, and generating periodic pay cheques and employee tax reports. Data is generally fed from the human resources and timekeeping modules to calculate automatic deposit and manual cheque writing capabilities. This module can encompass all employee-related transactions as well as integrate with existing financial management systems.

The **time and attendance module** gathers standardized time and work related efforts. The most advanced modules provide broad flexibility in data collection methods, lab or distribution capabilities and data analysis features. Cost analysis and efficiency metrics are the primary functions.

The **benefits administration module** provides a system for organizations to administer and track employee participation in benefits programs. These typically encompass insurance, compensation, profit sharing, and retirement.

The **HR management module** is a component covering many other HR aspects from application to retirement. The system records basic demographic and address data, selection, training and development, capabilities and skills management, compensation planning records and other related activities.

Online **recruiting** has become one of the primary methods employed by HR departments to garner potential candidates for available positions within an organization. Talent management systems, or recruitment modules,[2] offer an integrated hiring solution for HRMS which typically encompass:

- analysing personnel usage within an organization;
- identifying potential applicants;
- recruiting through company-facing listings;
- recruiting through online recruiting sites or publications that market to both recruiters and applicants;

- analytics within the hiring process (time to hire, source of hire, turnover);
- Compliance management to ensure job ads and candidate on boarding follows government regulations.

The **training module** provides a system for organizations to administer and track employee training and development efforts. The system, normally called a "learning management system" (LMS) if a standalone product, allows HR to track education, qualifications, and skills of the employees, as well as outlining what training courses, books, CDs, web-based learning or materials are available to develop which skills. Courses can then be offered in date specific sessions, with delegates and training resources being mapped and managed within the same system. Sophisticated LMSs allow managers to approve training, budgets, and calendars alongside performance management and appraisal metrics.

The **employee self-service module** allows employees to query HR related data and perform some HR transactions over the system. Employees may query their attendance record from the system without asking the information from HR personnel. The module also lets supervisors approve O.T. requests from their subordinates through the system without overloading the task on HR department.

The **staff training module** enables organizations the ability to enter, track and manage employee and staff training. Each type of activity can be recorded together with the additional data. The performance of each employee or staff member is then stored and can be accessed via the **Analytics** module.

Employee **re-assign** module is a recent additional functionality of HRMS. This module has the functions of transfer, promotion, pay revision, re-designation, deputation, confirmation, and pay mode change and letter form.

3. General Description

Login Function	It takes the user ID and password and compares them to the values in the database if both do not allow the user to access otherwise do not allow the user to access.
Time Arrangement Function	Calculate the number of working hours for employees and weekly and annual holidays by setting a fixed time by the HR employee or by the employee himself.
Interview Arrangement Function	Determine the date of job interviews with HR staff or company employees and inform the interviewer of the interview date and view the applicant information for the interviewer.
Paycheck Calculations Function	Calculate the salaries of employees according to working hours and rank of each employee and calculate taxes, deductions, incentives and bonuses.
Plan Arrangement Function	Develop a plan for situations or crises or to reach a specific goal by defining the objective of the plan and the steps to reach the goal and how to implement the plan and benefit from it and the cost of implementation and the resources necessary for it and send it to managers for evaluation.
Performance Function	Evaluate employees and take feedback for each employee to calculate the competence of each employee to help in making decisions for each employee in terms of promotion or give bonuses or set penalties.
Events/Meetings Arrangement Function	Conduct meetings and events and send invitations to people who are allowed to attend and set dates for meetings and events to correspond with each other and with the opening times.
Absence Management Function	Taking attendance and absence of employees on a daily basis through the methods provided by the company such as QR or fingerprint or face fingerprint and others and sending alerts in case of absence and sending staff cases to officials.

punishment Management Function	Determine the penalties according to the company's rules and send warnings to employees in cases of negligence or non-attendance at meetings or non-attendance at official working hours and calculate the number of warnings and the establishment of discounts and appropriate penalties.
Reporting and Analytics Function	Develop a daily, monthly and annual report on the status of the institution and work to report on the existence of problems in the company from human resources staff to managers and officials.
Employees Reassignment Function	Change the rank of employees from assignment or training or installed in the company and promotion or dismissal from work.
Training Management Function	Presenting the lists of applicants for training and ordering them according to the most efficient and presentation of the agreed educational curriculum and education plan and information on the trainees in detail and communication with the staff responsible for training.

4. User Requirements

➢ View all employees of the company with detailed information about each person

➢ Add new employees

➢ Add events and meetings with specific dates and notify people about them

➢ Calculate working hours

➢ Calculate attendance and leave

➢ Staff salary account

➢ Measure the performance and efficiency of each employee

➢ Report writing

➢ Promotion or dismissal of staff

➢ The status of sanctions and sanctions for employees

➢ Schedule interviews and select the right people

➢ Fast system performance

➢ Maintain the confidentiality of information for employees

➢ Full storage of all information and careful not to destroy it

➢ Back up databases

5. Functional Requirements

5.1. Login Function:-

Description: That HR employee (User) can login to system with his username   and password.
Requirements: Username and Password.
Source: User will enter it.
Pre-condition: Nothing
Post-condition: Username and Password have to be correct to enter.
Output: User will Login to the system.

5.2. **Time Arrangement Function:-**

Description: Calculate the number of working hours for employees.
Requirements: Start time and end time.
Source: From databases (by the methods used in the company to calculate the attendance and departure of employees).
Pre-condition: Nothing
Post-condition: Storing total employee working hours per day, week and month in databases.
Output: Total employee working hours per day, week and month.

5.3. Interview arrangement:-

Description: That HR employee (User) makes interview meetings with applicants and set meeting time.
Requirements: Applicant information and appropriate staff.
Source: HR employee (User) will enter full info.
Pre-condition: There should be appropriate staff to conduct the interview.
Post-condition: Store the job application in the databases
Output: Presentation date of the interview in the evaluation of the human resources officer and the officer in charge of the interview.

5.4. Paycheck calculations:-

Description: That HR employee calculates the employee's salary and their bonus.
Requirements: Hours of work and fees per hour.
Source: From databases (by the methods used in the company to calculate working hours of employees).
Pre-condition: Working hours were performed
Post-condition: Store the salary value and send it to the financial authorities.

Output: Show salary value**.**

5.5. plan arrangement:-

Description: That HR employee sets a plan about a business to achieve some goals for the company.
Requirements: How the plan will be managed (Time, profits, Materials, etc.).
Source: HR employee (User) will enter full info.
Pre-condition: Nothing.
Post-condition: Store the report in the databases.

Output: Show the report for managers**.**

5.6. Performance management:-

Description: That HR employee can make evaluation about performance of employees.
Requirements: Employees info.
Source: From databases.
Pre-condition: Nothing.
Post-condition: Store the values in the databases.

Output: Presentation of the evaluation to HR staff, managers and the employee himself.

5.7. Events/Meetings arrangement:-

Description: That HR employee arranges events and business meetings.
Requirements: Event and meeting time and it will be about what?
Source: HR employee (User) will enter full info.
Pre-condition: Nothing.
Post-condition: Store the values in the databases.

Output: View the event or meeting in the calendar of people allowed to attend.

5.8. Absence Management Function:-

Description: Calculate attendance and leave.
Requirements: Methods provided by the company to calculate attendance.
Source: System.
Pre-condition: Nothing.
Post-condition: Store a value indicating the presence of the employee in the databases.

Output: Nothing.

5.9. punishment management:-

Description: That HR employee and managers can punish an employee for committing unacceptable behavior.
Requirements: Employees info.
Source: HR employee (User) will enter full info about employees and stored in database.
Pre-condition: Nothing.
Post-condition: Store discounts and set an alarm for the employee.

Output: Nothing.

5.10. Reporting and Analytics Function:-

Description: That HR employee can make a report on the existence of problems in the company.
Requirements: Employees info.
Source: HR employee (User) will enter full info about employees and stored in database.
Pre-condition: Nothing.
Post-condition: Store the report.

Output: View the report to administrators.

5.11. Employees reassignment:-

Description: The employee can be promoted, dismissed from work or changed in the organization.
Requirements: Employees info.
Source: HR employee (User) will enter full info about employees and stored in database.
Pre-condition: Nothing.
Post-condition: Store the new employee status.

Output: View new employee status.

6. Non-Functional Requirements

- **Privacy:**

  Privacy for employee's data.

- **Security:**

  Employees not allowed updating information that update by admin.

- **Flexibility:**

  System shall be flexible to meet employee needs (making vacations, borrow money).

- **Integrity:**

  System shall store data accurately and without corruption.

- **Network Bandwidth:**

  System shall put unless you have proper bandwidth.

- **Response Time:**

  System has to be quickly and has a high quality of responding.

- **Execution Time:**

  System has to execute the output in a suitable time which means haven't to take a much time to execute the transaction.

- **Storage Requirements:**

  Storage has to be much big to contain all the data about employees.

- **Reliability:**

  The quality of being trustworthy or of performing consistently well.

- **Performance Requirements:**

  The performance of system has to be high and speedy because this will make responding to the orders fast and there will be not any defect.

7. Appendices

Definitions:

ERP: Enterprise Resource Planning System.
HRMS: Human Resources Management System.
HRIS: Human Resources Information System.
LMS: Learning Management System.

8. Stakeholders

8.1. Enterprise Managers.
8.2. Director of Human Resources.
8.3. Human Resources.
8.4. Employees.