Western Mindanao State University

College of Computer Studies

**Information Technology Department**



**Human Resource Management System**

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**THE ORGANIZATION**

* 1. **Introduction**

A **Human Resource Management System (HRMS)** is a form of **Human Resources (HR)** software that combines several systems and processes to ensure the easy management of human resources, business processes and data. Human resources software is used by businesses to combine several necessary HR functions, such as storing employee data, managing payroll, recruitment, benefits administration (total rewards), time and attendance, employee performance management, and tracking competency and training records.

**A Human Resources Management System** ensures everyday human resources processes are manageable and easy to access. The field merges human resources as a discipline and its basic HR activities and processes with the information technology field. This software category is analogous to how data processing systems evolved into the standardized routines and packages of enterprise resource planning (ERP) software.

Reference: <https://en.wikipedia.org/wiki/Human_resource_management_system>

**Human resources management** is a very important function in every organization. Without human resources management, companies would not be able to effectively recruit and retain employees, improve, and enhance the organization, and they wouldn’t be able to maintain a healthy, accepting workplace culture and environment. Human resources management is so important to organizations that many call this department the heart and soul of a business.

Human resources management is so important to organizations because there are many objectives of this department that can drastically improve or negatively affect the organization. One major objective of human resources management is to drive productivity by ensuring competent employees are hired and remain up to date with training initiatives. Another major objective of human resources management and why it’s so important to an organization is that it builds coordination between organizational departments.

Without proper human resources management at your organization, your departments will have a hard time working together which will cause your business to suffer. More important objectives of human resources management are ensuring employee satisfaction, staying up to date with societal and ethical models, and maintaining a healthy work culture, as well as a healthy work-life balance for employees.

Reference: <https://www.techfunnel.com/hr-tech/why-human-resources-management-is-important-for-every-organization/>

Herewith are the features of our very own Human Resource Management System:

|  |  |
| --- | --- |
| * Applicant Tracking | * Employee Database |
| * Onboarding | * Time and Attendance |
| * Recruiting Management | * Self – Service |
| * Payroll Management | * Performance Management |

* + 1. **Review of Related Studies**

The studies cited in this chapter talks about the different development related to the study of Human Resource Management System from the past and up to the present which serves as a guide in developing this system. Included in this chapter are some of the related studies of Human Resource Management System.

**HISTORY OF HUMAN RESOURCE MANAGEMENT**

Human resource management started when western capitalist view personnel management seemed not conducive, as when Information Age dominates the world of business. Personnel management has limited role which only pattern in Industrial Age, where people work more in mass production and the management does not invest much towards human asset. Human resource management is the new practices which obliterate traditional personnel management functions, shouldered broader responsibilities for the welfare of its people that make it as integral part of the strategic development of the organization. The history of human resource management in the country is short and not so detailed. It is a relatively new discipline in the Philippine history. In pre-Spanish and Spanish occupation, the "mayordomo system" of the foreign groups took on a master-servant type of relationship with no written codes used as guidelines. Although there was some commerce between Manila and Spain through Mexico, business organizations were very loose and management-labor relations and personnel management was not known and was unheard of. The relationship that existed was between master and domestic servant or laborer. The plight of the workers who were treated like laborers was lamented due to the absence of labor laws that regulated employment. At that time, the natives were generally illiterate. Thus, they were veritable preys to abuses. The labor conditions during the American period, though not forced and not as harsh as those in the previous foreign regime, were far from being fair and just. Although America gives importance to raised education, there is no labor laws were passed against oppressed women and child labor conditions. But America introduced “unionism” to anchor for protection of workers’ rights for the farmhands and industrial workers, aside from oppressive working conditions, suffered from lack of proper avenues for ventilating their grievances, exacerbated by their fear of losing their jobs. In World War II, the anemic union movement was smothered temporarily. It decimated big trade, business, and industry activities and also a suspension of the normal educational system. Frenzied efforts to rise from the war debris were exerted. However, after the rehabilitation work, attempts toward specialization in various areas were registered and the movement permeated into personnel management. Private and public organizations started to organize formally a department that addressed personnel needs and added to the already organized departments of finance, production, marketing, administration; such as the Department of Labor and Employment (DOLE), Government and Service Insurance System (GSIS), Social Security System (SSS), the People Management of the Philippines (PMAP), and other agencies which aimed to assist both management and labor sectors on employment, training, security, benefits and services. Although much knowledge about personnel or human resources management was imbibed by individuals and organizations, practice fell short due to “suppression” of rights when Martial Law Period (years when the late Philippine president Ferdinand Marcos exercise his dictatorial/authoritarian powers) took place causes severe economic and financial setbacks due to international events and exacerbated by national situation. The political atmosphere and economic situation were not conducive to operationalize knowledge and implement policies. However, the democracy was reinstituted; the exercise of freedom to participative law making process through legislation for management and labor has begun; many laws have been passed in protection for both sides of employer and employee to date; the Personnel Management Association of the Philippines (PMAP) has exerted and shown leadership in many years in the professionalization of human resource management through formal and informal training, and a giving-body award for most human resources program that excel every year. PMAP is an association founded in 1956 to professionalize human resources management. It pioneered also in promoting the profession of HR management in Asia with the holding of the first Asian Association of Personnel Management Conference in 1973. (Pena, 2015) In the education sector, schools on the tertiary level started to offer courses directly or indirectly treating concepts on labor, manpower, human relations industrial relations and other related topics. Through education, the development of human resourcing in the Philippines was emerging dramatically. With the purpose and need to keep pace with the demands of local and international business environment to become globally competitive, Commission on Higher Education (CHED) mandate Higher Education Institutions (HEIs) offering Bachelor of Science in Commerce (BSC) to adapt “Bachelor of Science in Business Administration” (BSBA) that also covered specialization on course program like Human Resource Development Management (HRDM). (CHED Memorandum Order No. 39, Series of 2006) Beforehand, human resourcing has already been practice prior in this mandate. For example, many practitioners like psychology graduate have slide to this field of work where most companies hired them merely to assess candidates’ behavior and personality. Not only psychologist has done contributions to human resourcing but also to those HR practitioners who earned their HR work relevant experience from their employers who somehow vested them the duties and responsibilities of a human resource. And yes, you read it right; there is no preferred background for you to become a legit human resource. So don’t be surprised if your HR has a primary course background on I.T., AB Journalism, BS Accountancy, or Political Science or any various educational backgrounds you know. It happens not by accident but by different factors: it may be by the appointing power of the employer due to urgency or your just got lucky because you complement with HR’s core competency based on your coursework or work experience. Indeed, you can be a human resource from nobody to somebody. As discussed above, the history of human resource management is a product of its various events and influenced by most of the capitalist from local and overseas. The economic, political, and educational environment influenced various programs and services for manpower welfare. Today, the status of human resource is continually grown, spread and strengthen as the world academe, government agencies and corporate world embrace the needs of human resourcing not only to provide the organization with sustained competitive advantage but also as important strategic partner in shaping the ideal human asset not only for collective organizational success but also in nations competitive economic development.

**SageHR**

SageHR is a growing Human Resource Management Software that is not just fast but enjoyable to use for employees and HR managers. It improves the employee engagement of any organization and is user-friendly. This solution helps companies to streamline attendance and performance management for customers and integrates features such as workforce management, time off policies, applicant tracking, employee life cycle management, self-service portal, compensation management, etc. Features that included in their database are:

* Applicant Tracking
* Benefits Management
* Compensation Management
* Employee Database
* Employee Lifecycle Management
* Onboarding
* Performance Management
* Recruiting Management
* Self Service Portal
* Time and Attendance Management
* Time Off Management

**Calamari**

Calamari is a cloud-based human resource software service, designed for all sizes of business. It has all the necessary function required by an HR and includes specific features such as benefits management, employee database, time off management, time and datasheet management, etc. With pricing of the solution made according to the size of the company, it comes with an adjustable and versatile range of services.

* Benefits Management
* Compensation Management
* Employee Database
* Time and Attendance Management
* Time Off Management

**Quick Base**

It helps businesses turn ideas to better work productivity making the user more productive with customized creation of business apps without any coding. Quick Base offers the best HR services in the competitive market with features such as organizational charts, time records, salary information, onboarding, talent recruitment, employee directory, etc. It is a cloud-based HR software providing secure, reliable, and flexible usability.

* Applicant Tracking
* Benefits Management
* Compensation Management
* Employee Database
* Employee Lifecycle Management
* Onboarding
* Performance Management
* Recruiting Management
* Time and Attendance Management
* Time Off Management

CONCEPTUAL DATA MODEL

Conceptual Data Model defines what the system contains. This model is typically created by Business stakeholders and Data Architects. The purpose is to organize, scope and define business concepts and rules. A Conceptual Data Model is an organized view of database concepts and their relationships. The purpose of creating a conceptual data model is to establish entities, their attributes, and relationships. In this data modeling level, there is hardly any detail available on the actual database structure. Business stakeholders and data architects typically create a conceptual data model.

**What is ER diagram?**

ER Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database. In other words, ER diagrams help to explain the logical structure of databases. ER diagrams are created based on three basic concepts: entities, attributes, and relationships.

ER Diagrams contain different symbols that use rectangles to represent entities, ovals to define attributes and diamond shapes to represent relationships.

At first look, an ER diagram looks very similar to the flowchart. However, ER Diagram includes many specialized symbols, and its meanings make this model unique. The purpose of ER Diagram is to represent the entity framework infrastructure.

2.1 Entity-Relationship Diagram (ERD)

**FEATURE: PAYROLL MANAGEMENT**

Diagram

Description automatically generated

***Figure 1: ERD of Payroll Management***

**FEATURE: RECRUITMENT MANAGEMENT**

**Diagram, schematic

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***Figure 2: ERD of Recruitment Management***

**FEATURE: EMPLOYEE DATABASE**

Diagram, schematic

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***Figure 3: ERD of Recruitment Management***

LOGICAL DATABASE DESIGN

**What is RDM Diagram?**

Relational Data Model was first prosed by Ted Codd of IBM in the 1970s. But its commercial implementations were observed in the 1980s. The relational data model is employed for storing and processing the data in the database.

The relational data model provides conceptual tools to design the database schema of the relational database. The relational model describes the data, relationship between that data, data sematic and constraints on the data in the relational database.

Relational data model expresses the database as a set of relations (table of values). Each relation has columns and rows which are formally called attributes and tuples respectively. Each tuple in relation is a real-world entity or relationship. The name of the relation and the name of attributes contribute to interpreting the sense of each tuple.

**What is Normalization (Functional dependencies and Final RDM)**

**Normalization** is a database design technique that reduces data redundancy and eliminates undesirable characteristics like Insertion, Update and Deletion Anomalies. Normalization rules divides larger tables into smaller tables and links them using relationships. The purpose of Normalization in SQL is to eliminate redundant (repetitive) data and ensure data is stored logically.

Normalization is important for many reasons, but chiefly because it allows databases to take up as little disk space as possible, resulting in increased performance. Normalization is also known as data normalization.

* 1. RDM (Diagram)

Diagram

Description automatically generated

***Figure 4: Relational Data Model of Payroll Management, one of the features of HRMS***

**Diagram

Description automatically generated with medium confidence**

***Figure 5: Relational Data Model of Recruitment Management, one of the features of HRMS***

***A screenshot of a computer

Description automatically generated with medium confidence***

***Figure 6: Relational Data Model of Employee Database Management, one of the features of HRMS***

* 1. Normalization (Functional Dependencies and Final RDM)

Graphical user interface

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Table

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PHYSICAL DATABASE DESIGN

* 1. Data Volume and Usage Analysis (Estimated Value)
  2. Fields

IMPLEMENTATION

* 1. Database Structure
  2. Software Functionality
  3. UI / UX Design
  4. SQL