

Assessment of the Human Resource Information System of Public Higher Education Institutions in Calabarzon: Bases for Strengthening Human Resource Delivery of Services

Aileen A. Ardina
Cavite State University
aileen.ardina@gmail.com

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ABSTRACT

This study focused on the discussion of the Human Resource Information System (HRIS) of the public higher education institutions (HEIs) in CALABARZON. It also attempted to answer the extent of implementation of information systems used by HR, beneficial of use of the HRIS of public HEIs in CALABARZON, effectiveness of the HRIS of the public HEIs, the relationship between the extent of implementation and beneficial use of HRIS, extent of implementation and effectiveness of HRIS; and beneficial of use and effectiveness of HRIS, challenges encountered by the public HEIs in CALABARZON in the utilization of HRIS, and

proposed enhancement on the implementation of HRIS of public HEIs in CALABARZON. Findings revealed comprehensive HRIS adoption and highlighted positive attributes and characteristics of HRIS. Challenges encountered by public HEIs in CALABARZON in HRIS implementation were also identified. Additionally, a matrix was crafted for the enhancement of the implementation of HRIS of public HEIs in CALABARZON to strengthen human resource delivery of services. In light of these findings, this study recommended that public HEIs in CALABARZON should actively promote the effective utilization of information systems, focus on the continuous improvement of HRIS implementation, proactively address challenges related to HRIS utilization, and consider the adoption of the suggested strategies to optimize human resource management practices.

Keywords: *Human Resource Information System (HRIS), Public Higher Education Institutions, CALABARZON, HR Delivery of Services, Strategic Human Resource Management*

INTRODUCTION

To efficiently collect and track personnel data, a system known as the Human Resources Information System (HRIS) is utilized. Most of the time, an HRIS incorporates all of the necessary capabilities for full human resource management (HRM). It is a system for learning and development, as well as performance management and other functions. The HRIS is simply a collection of human resources software. It can run on the company's technological infrastructure or, more commonly nowadays, on the cloud. This shows that the HR software is being used off-site, making upgrading it much easier.

To maintain proper status and recordkeeping for employment records, the university's employment record database and payroll processing application system, HR operations supervise and manage personnel activity. HR operations work with other departments and divisions throughout campus to guarantee the timely and correct processing of data pertaining to each academic and staff member's employment status. Human resource planning (HRP) and human resource development (HRD) are the two major components of strategic human resource management (SHRM). To align with the strategic objectives of the organization and respond to changes in the external environment, management must have a clear understanding of the organization's present and future HR needs. Students will get an understanding of the procedures involved in HR planning on this course. These procedures include analyzing the variables affecting labor supply and demand as well as the objectives, strategies, and policies of the organization to ascertain workforce needs. The ideas and rules guiding the creation, execution, and assessment of HR initiatives are covered by HRD (Alphacrucis University College, 2022).

According to McCarthy (2019), the HR function was the last to acquire such assistance due to its complexity and wealth of data from employee recruitment through termination, whereas other organizational functional units received IT budgeting and were automated using cutting-edge technology. Despite its delayed automation, human resources have been able to swiftly migrate from the dark, paper-based period to cutting-edge information technology. Technology has the potential to dramatically improve the information that HR has access to, allowing the division to raise the value of the company's human resources. Furthermore, by focusing on exploiting such technology to continuously improve the caliber of the workplace, HR can minimize attrition, better educate employees, and recruit the best applicants. However, if HRIS are not effectively deployed, the benefits may not be achieved or may be obtained only haphazardly in some areas of a firm, leaving the investment useless and questionable. A beneficial, long-term investment for a company is only possible if the HRIS successfully impacts all aspects of the work environment in an integrated and complete manner. As a result, this study evaluates the impact of HRIS on organizational effectiveness from the standpoint of HRIS users (Martin, 2022).

According to Tangthong and Agahi (2018), the relationship between a company's performance and human resource management is a critical aspect. Moreover, human resource management approaches have an influence on corporate efficiency. Even though there are several research publications on human resource management, the study of the link between the information system for human resource management and organizational productivity has certain limitations. The purpose of Khin's (2019) research is to demonstrate the effectiveness, time savings, and support for organizational decision-making capabilities of the human

resource management system. Managing employees' knowledge, experience, competency, and ability has become a crucial success aspect since the company demands flexibility, inventiveness, and market penetration. The study's findings suggest that training and development may influence how well people perform in their jobs. Now that technology has advanced, HRIS can offer online training webinars. The price of training will go down as a result. According to studies, HR practitioners boost the efficiency of HR planning with HRIS, saving time and money. Businesses should examine the strategic value and competitive advantage that HRIS may bring when growing their people resources. HRIS should be deployed and adapted in accordance with the needs of the firm because HR regulations differ from those of other organizations (Khin, 2019).

Based on the study of Athambawa (2020), it is reasonable to draw the conclusion that businesses may enhance their performance through increased employee productivity and happiness by comprehending and broadening the extent and depth of their use of HRIS. The HRIS data are more effective instruments for improving the effectiveness of businesses and their operations. As a procedure, HRIS aids in enhancing productivity while spending less money, which will help the firm gain a competitive edge. By doing so, recurrence in the task is reduced, information is shared quickly, problems are solved promptly, and more. By providing adequate information that enables the business to run effectively, it strives to improve employee engagement in the workplace.

As businesses and their staff take into account all of the ways that the new solution will improve their everyday lives and save them time, acquiring and adopting a new HRIS software solution can be thrilling. However, many institutions make the error of failing to adequately address the difficulties associated with HRIS deployment in favor of getting caught up in the potential benefits. Greater implementation success can be achieved by being aware of and able to handle some of the most significant implementation issues for HRIS.

With technological advancement and its demands, CALABARZON encounters challenges along with the growth and development of the region. In the CALABARZON Regional ICT Plan 2018-2022, one of the major challenges discussed is the insufficient facilities to house ICT-related industries. This involves the software solution companies wherein HRIS is indicated. Furthermore, there is also a need to strengthen academe-industry linkages which will then address the problem of job mismatch. In addition, the challenges brought by the development and growth of the region were discussed. Along with the problems of communication network and infrastructure, the human resources skills and competencies do not match the industry's requirements since there is a need for increased academic-industry collaboration to resolve the job-skills mismatch. Aside from this, having a lack of training for both the employees and managers as well as assessing the quality and accuracy of information could be a problem in implementing the use of HRIS since it is a new system that must be learned and adapted by all the employees of the institutions. These are the reasons for the common malfunctions and human errors that occur during data entry, which has a significant negative impact on HRIS effectiveness. Additionally, failing to comprehend the legal requirements for the data, process, and structure can subject institutions to fines and audits. Accordingly, this research focuses on the extent of implementation of HRIS in terms of recruitment and selection, learning and development, rewards and recognition, and performance management of public HEIs in

CALABARZON as well as the features of HRIS. Furthermore, this study aims to highlight how the utilization of HRIS helps public HEIs. Aside from this, this research also seeks to determine the challenges encountered by the public HEIs as well as the strategies that can be adopted by the HR officers to ensure that the use of HRIS supports the strategic direction of the organization. Lastly, it aims to discover the proposed enhancement of the HRIS of public HEIs in CALABARZON to strengthen human resource delivery of services.

This study aimed to examine the Human Resource Information System (HRIS) of public higher education institutions (HEIs) in CALABARZON. Specifically, it described the extent of HRIS implementation and its benefits across recruitment and selection, learning and development, rewards and recognition, and performance management. It also evaluated the effectiveness of HRIS in terms of efficiency, productivity, reliability, sustainability, accessibility, and acceptability. Furthermore, the study determined the relationships among HRIS implementation, benefits, and effectiveness, identified challenges encountered in its utilization, and proposed enhancements to strengthen human resource service delivery in public HEIs.

Theoretical Framework of the Study

The researcher used theoretical perspectives to examine the research study's objectives, which focus on the HR Information systems in HR operations. This framework covered various topics, including the information system used by HR, the feature of the HRIS of public HEIs in CALABARZON, and how the system affects organizational efficiency and productivity despite of the challenges they may encounter in utilizing HRIS.

Diffusion Innovation Model

The diffusion innovation model is frequently used by individuals to spread technological inventions within a social context. In accordance with this, Karshenas and Stoneman (1995) observed that this theory involves phases of diffusion, which are characteristics of innovations that impact the rate at which they are disseminated. In line with this, these stages include understanding the innovation, being influenced by key individuals, is dedicated to adopting the innovation, adopting the innovation, and confirming the choice to adopt the innovation. The five characteristics of innovation attempt to determine the degree to which the development performance and their key significance to the customers are expected benefits, operational coherence with organizational values, system simplicity, system trial, and the ability to monitor (Karshenas & Stoneman, 1995).

To be more explicit, Tung and Rieck's (2005) research identified the most important relevant aspects that need support. These factors portray the availability of resources essential for an effective adoption process. He highlighted that the user groups include trendsetters, initial users, late users, and slackers, with the total number of users at any particular period producing an S-shaped implementation arch (Karshenas & Stoneman, 1995). Those who set trends and are among the first to use a new piece of technology are the kind of people with a high probability of doing so.

According to Rip (1995), the trial ability of new technologies determines their adoption and operation. This is because the actual performance is typically more significant than disputes regarding the benefits and operating capabilities of the technology. Regarding HRMIS, compatibility is of the utmost importance because its implementation is influenced by network characteristics (Church & Gandal, 2004). The Trial ability provides the opportunity to test out a new piece of technology before committing to using it in a more permanent capacity. This is important for early adopters because they make decisions based on the information that is currently accessible, in contrast to laggards who hear about new technologies after they have already become widespread. However, Rogers (1995) and Tidd et al. (1997) noted that a significant portion of the conventional diffusion of new technologies model is founded on studies of how people make decisions on the acceptance of new technology. They also noted that a significant portion of the conventional diffusion of new technologies model is founded on studies of how people make decisions on the acceptance of new technology.

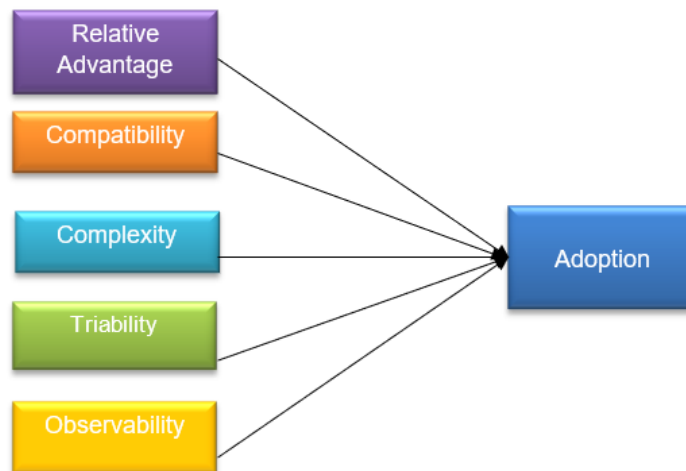


Figure 1. **Diffusion Innovation Model**

Technology Acceptance Model (TAM)

Fred D. Davis first presented the Technology Acceptance Model (TAM) in 1985 as a concept to assess and develop user acceptance in computer-based information systems. This model is an extension of the Theory of Reasoned Action (TRA) and is intended to describe computer usage behavior precisely. Alternative systems are represented by a set of "design feature" variables that are binary. This model assumes that a potential user's general attitude toward using a particular technology is a significant determinant of whether he will use it (Davis, 1986, pp. 24-25). In contrast, the new extensions of TAM, such as UAUT, are mostly disorganized and unintegrated acronyms (Bagozzi, 2007, p. 252).

TAM is a fascinating model that has tremendously impacted empirical research conducted over the decades. However, it appears to have reached a turning point. On the one hand, it is highly simplistic and omits vital variables and processes. Attitude toward usage is determined by two fundamental beliefs:

perceived utility and perceived usability. Perceived usability has a causal effect on perceived utility. Design characteristics directly impact the perceived utility and use of a product. As design characteristics reach the category of external variables in the Fishbein paradigm, it is thought that they do not directly influence attitude or behavior but rather influence these variables indirectly through perceived utility and perceived ease (Davis, 1986, pp. 24-25).

The TAM model allows for the inclusion of variables such as employee commitment and management commitment, which are then used to determine attitude toward technology. The perceived utility of the technology and one's own inability to make actual use of the technology are the variables in this equation, as shown in Figure 2 (Davis, 1986).

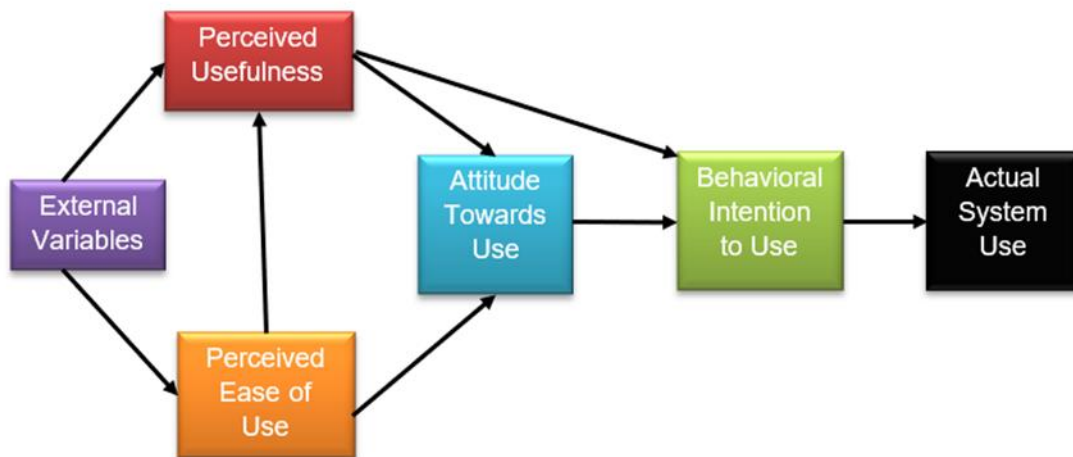


Figure 2. **Technology Acceptance Model (TAM)**

Information Systems Success Model

DeLone and McLean (1992) created the Information Systems Success Model, which examines six perspectives: system quality, data quality, user behavior, customer satisfaction, individual impact, and company impact. In their approach, DeLone and McLean (1992) state, "An IS was initially built, comprising numerous features deemed to indicate a high degree of performance." They further noted that "users and managers experience these features by using the system and are either satisfied or dissatisfied with the system or its information products, such as HRIS e-staffing, e-training, e-payroll, and e-performance management products, based on their expected performance." The utilization of the system and its components is crucial. HRIS has a cumulative effect on organizational performance. DeLone and McLean reestablished their model by combining all significant features—organizational and individual—into a single, advantageously generalized aspect.

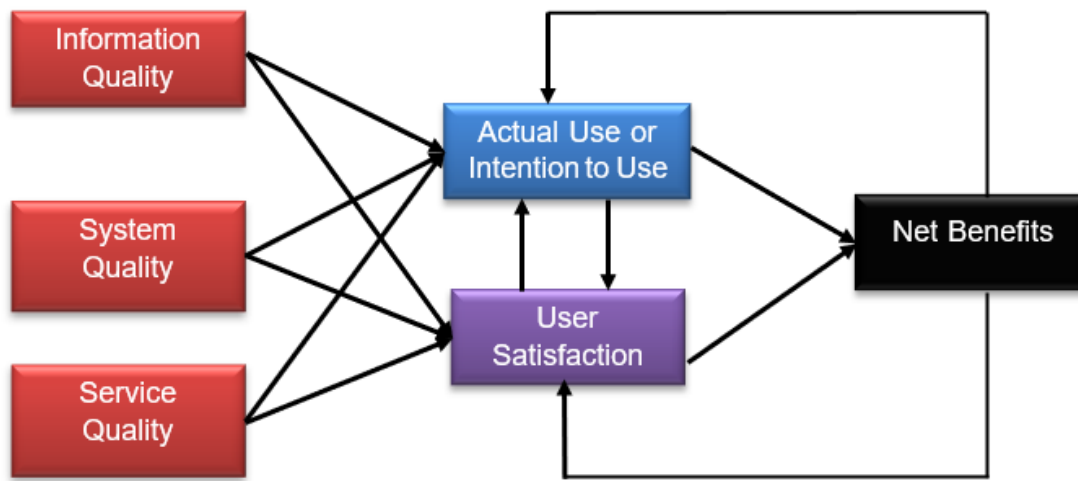


Figure 3. **Information Systems Success Model**

The researcher employed several theories, such as the Diffusion of Innovation Model, the Technology Acceptance Model (TAM), and the Information Systems Success Model to support the study's objective, highlighting how HRIS affects organizational efficiency and productivity in public HEIs in CALABARZON. The Diffusion of Innovation Model emphasizes how individuals make decisions about adopting new technology (HRIS), which restricts the model's application in researching HRIS implementation in CALABARZON's public HEIs. The TAM model allows for the acquisition of variables such as employee commitment and management commitment, which are then utilized to assess attitude toward technology (HRIS). Lastly, the Information Systems Success Model will be the basis for assessing the effectiveness and efficiency of the features of the HR information system in public HEIs in CALABARZON.

Conceptual Framework of the Study

Figure 4 depicts the conceptual framework of this study, focusing on achieving its research objectives using the Independent Variable – Dependent Variable (IV-DV) model to describe the relationship between causal and effect variables. The dependent variable in this study is the HRIS in terms of recruitment and selection, learning and development, rewards and recognition, and performance management of public HEIs in CALABARZON. HRIS facilitates this process by providing information to top management teams, guiding decision-making, and policy creation. As a decision support system, HRIS supports managers in planning and controlling HR functions, integrating new elements that streamline people management practices.

Furthermore, the researcher analyzed the influence of several independent variables on the HRIS of public HEIs in CALABARZON. Firstly, the extent of implementation of information systems used by HR in recruitment and selection, learning and development, rewards and recognition, and performance management has significantly impacted modern HRM practices. It has accelerated the transformation of

HR procedures and information management within organizations. Secondly, the beneficial use of HRIS in public HEIs plays a crucial role in enhancing these HR functions. Thirdly, the effectiveness of HRIS in terms of efficiency, productivity, reliability, sustainability, accessibility, and acceptability influences the dependent variable, which encompasses HR recruitment and selection, learning and development, rewards and recognition, and performance management in public HEIs in CALABARZON.

HRIS systems contribute to eliminating data duplication and reducing human error, thereby simplifying HR operations and enhancing productivity. Real-time information provided by HRIS allows HR professionals to collect and manage reliable data for report generation. The study also examines the significant relationships between the extent of implementation and beneficial use of HRIS, the extent of implementation and effectiveness of HRIS, and the beneficial use and effectiveness of HRIS.

Furthermore, the study addresses challenges encountered by public HEIs in CALABARZON in utilizing HRIS for recruitment and selection, learning and development, rewards and recognition, and performance management. Strategies that HR officers can adopt to ensure HRIS supports the strengthening of human resource service delivery within their organizations are also explored. Ultimately, the study aimed to propose enhancements to HRIS that would further strengthen human resource service delivery in public HEIs.

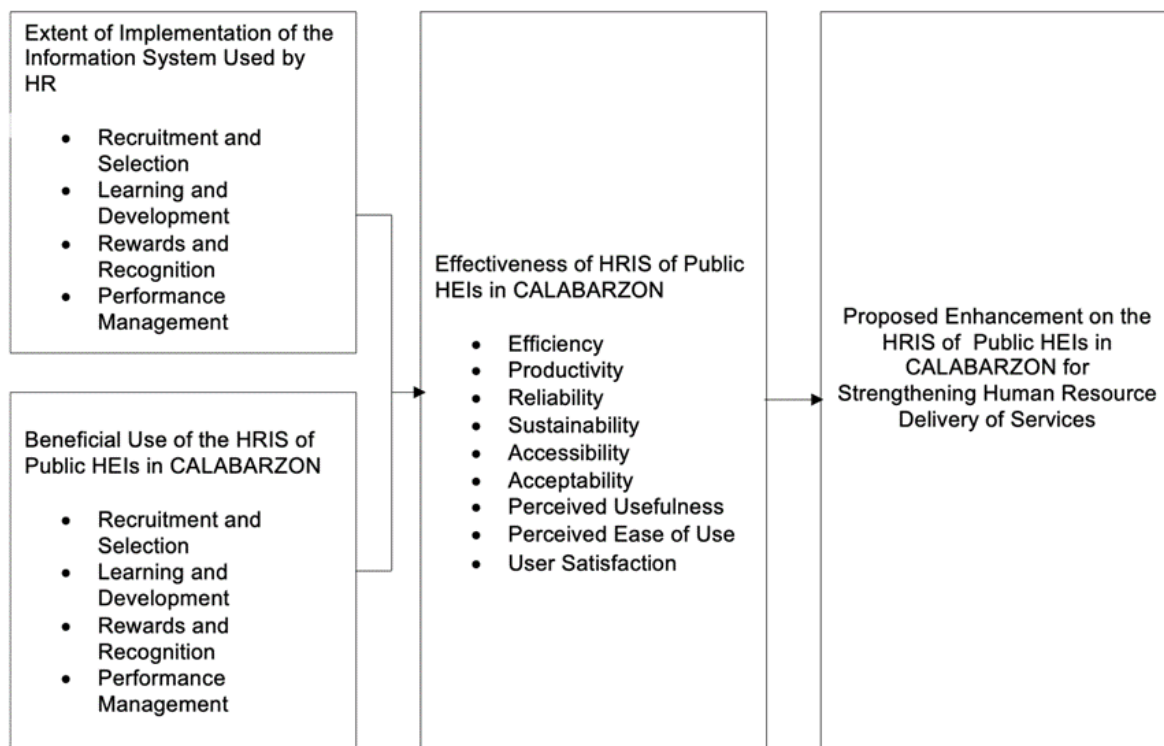


Figure 4. Research paradigm

LITERATURE REVIEW

Implementation of Information Systems Used by HR

Information technology has impacted nearly every element of our society in recent years, including organizational operations such as HRM practices. Due to technology usage, HRM has advanced from an administrative management role to a strategic partner of enterprises. Information systems have had a significant impact on HRM, altering how firms gather, store, use, and communicate information, thereby influencing human resources processes and practices (Silva & Lima, 2017).

Human resources information systems (HRIS) constitute a systematic process for gathering, storing, retrieving, and validating the HR-related data that enterprises require. According to Yasar and Marson (2022), HRIS are technology-based systems used to collect, store, alter, analyze, retrieve, and disseminate relevant HR information within a company.

The integration of HRM with IT through HRIS combines HRM and IT to provide managers with necessary information for making HR decisions. Perucci (2018) describes HRIS as solutions that enable the monitoring of each employee and their associated data, typically through databases or interconnected database systems.

Asembo (2018) argues that information systems have enhanced HRM efficiency by improving employee engagement, corporate communication, recruitment strategies, and HR manager skill levels. Human resource management departments must align human capital plans with appropriate technological advancements to quickly adapt to changing demands from individuals and businesses. This involves developing an HR organization focused on integrating people with business operations, planning, and growth strategies.

Recruitment and Selection

Businesses all across the world are keen to implement regulations that will increase their productivity and profitability. With the emergence of multiple business software solutions and technical breakthroughs, this is where HRIS systems in the Philippines comes in. No firm wants to be kept in the dark about how to best operate their operations. The management of human resources is one area in which businesses make significant investments (Coles, 2022).

As mentioned by Martins (2022), the well-defined software packages known as HRIS enable HR specialists to store and arrange massive amounts of data relevant to employee information. Every firm uses a different sort of HRIS to carry out the daily activities of managing staff.

The management can get a lot of assistance from operational HRIS. It gives the manager all the information needed to enable regular and repetitive decisions on human resources. Human resource data is collected and reported by numerous operational level human resource systems. These systems typically provide details on the organization's personnel, their positions, and governing laws. Additionally, it is how

human resource managers acquire the information needed to support repeated and routine HR decisions (Sachs, 2022).

Accordingly, one of the key components of the HR's operational HRIS is the employee information system. Organizations must keep track of a worker's records and information regarding all kinds of personal and professional information, including name, address, sex, citizenship, citizenship status, education, prior employment history, and much more (Behnke, 2022).

Furthermore, Reitsma (2022) stated that employee Information System is a tool that lets you manage all the employee information under one roof, including their personal and professional information, their employment contract, onboarding paperwork, appraisals history, offer letter, and so on. Both employees and HRs can access and edit the data and get an idea of who's who in the organization using the organization hierarchy present in the employee information system. It is primarily used for payroll processing, people management, and document management by the HR department.

As a result, HR departments have more time to strategically benefit the business. HR staff members spend a lot of time processing paperwork, interacting with other departments, managing payroll and appraisals, etc. without an employee information system. A system for tracking employee information can automate and coordinate a number of tasks, ultimately saving time and money (Caparas, 2022).

Learning and Development

A software program called a human resource information system (HRIS) was created to help human resources workers manage data. These systems are used by human resource workers to streamline workflow, boost productivity, and store and gather data. Many businesses provide HRIS packages to employers. HRIS products can be altered to meet the unique demands of the organization (Valier, 2022).

Additionally, HR experts are in charge of enhancing employees' knowledge, abilities, and skills through training and development. HRIS can assist employees in receiving training and development programs to improve performance. Before establishing or planning a training and development program, it is important to consider training technology, trainee characteristics in relation to their performances, and training design (Quaosar & Rahman, 2021).

Accordingly, as stated by Ghosh (2021), learning management systems (LMS) enable HRD to track personnel's education, skills, and other qualifications and specifies the proper training programs, books, CDs, or other learning resources to help them build the necessary abilities. HR managers may support training and scheduling, as well as performance management and appraisal measures, with the help of a complex LMS.

The use of computer programs and a complex web network for self-education is known as web-based training (WBT). The opportunity to improve training support applications is enormous given the quick development of web technology. A web-based HRIS program enables HR managers and staff self-run accessibility for two-way Internet communication (Anderson, 2022).

Additionally, tactical human resource information system greatly aids managers in decisions that emphasize resource allocation. These are under the HR domains and include employee remuneration schemes in addition to enrollment options, work or job analysis, decision options, employee training, and employee development (Daswani, Aparicio, & Scalia, 2022).

Accordingly, whether a business is a little or large one, the recruitment information system is crucial. Business companies need to put themselves ahead of their rivals in order to attract the proper people. In order to find the right talents, they must develop carefully thought-out enrollment schemes. The structure should be strong enough to address gaps, such as open job positions that need to be filled and the skillsets needed by applicants for these roles. Additionally, a recruitment management system can be quite helpful in determining the present business demand in order to increase output and income (Ali, 2017).

In addition, Symonds (2022) mentioned that there are systems for tracking pay and benefits. This particular data framework may support a number of strategic HR decisions, notably in relation to payment and benefit frameworks. The pay and benefit structure plays a crucial role in the association's overall effectiveness.

Since the HR manager's responsibility does not end with hiring the best candidates or filling open jobs, an employee training and development framework is also utilized. He ought to start a variety of initiatives to consistently raise staff caliber. The company organization can timely distribute personnel training and development programs with the aid of a strategic HRIS. Aiming for those who are both interested in and qualified to benefit from the training is essential (Gupta, 2021).

Rewards and Recognition

Payroll administration is aided and automated by HRIS systems. Payment orders are generated as start dates and other personnel changes are updated in the system. To calculate payment, this module uses information from other HRIS system features, such as time, attendance, and employee status (Peek, 2022).

Similar to this, an HRIS enables management to import and export pertinent people data, including data on employee time and attendance for use with payroll. Additionally, it monitors staff schedules and time worked to guarantee labor law compliance and offer payment information. Additionally, by measuring and keeping track of attendance, it aids in time optimization (Hartman, 2022).

The time and attendance components in several HRIS software programs can be integrated to track employee time information. This approach enables management to monitor the number of hours worked relative to the length of time each employee is scheduled to work for employees who work shifts. The system can also notify the manager if an employee is absent or late for work (Valier, 2022).

For shiftwork employees who clock in and out, this is essential since it collects data about their time and attendance. Workers used to keep track of their work time on a sheet of paper in the past. The manager would then manually enter the information into a timekeeping application. Payment orders were made based on this information and sent to every employee. Nowadays, employees commonly sign in with

a card that is synced with an HRIS or their fingerprints. This can be used to get precise arrival and departure times. Any problems about tardiness are recognized right away (Olic, 2022).

Organizations employ a work plan to deliver specific milestones over the work period. The methods the established HRIS gives to accomplish its operations can be used to regulate and streamline the way work is done with workers. Due to the established reputation, achieving an organization's efficacy can give the business a stronger position in the market for locating qualified employees. The majority of the tasks require handling stock control and logistics management, which are both extremely challenging areas of a business (Al Batashi & Dattana, 2019).

As stated by Reitsema (2022), together with features for recruitment and selection, employee referrals, attendance and timekeeping operations, performance reviews, and benefits, these systems include a centrally controlled depository that stores master employee information that is instantly accessible and includes identities, addresses, and social security numbers, and dependents. Employee access is also provided for personal information regarding benefits, among other things. These systems safely preserve the essential information that may be accessed for a wide range of HR tasks.

Performance Management

Jackson (2022) noted that, as the name implies, the performance management information system includes data on each employee's productivity and performance evaluation. When called upon to provide testimony about employee grievances, human resources will do so in this manner.

A performance management system can also be set up in several ways. A typical system might provide helpful tools for monitoring real output or productivity and asking inquiries about performance. It might also provide a dashboard where users can make reports. How useful performance management systems are in actual business processes is a significant problem. Employee assessments and reviews, which can be subjective to execute, are frequently linked to performance management (Wickham, 2022).

Beneficial Use of the HRIS

A company's policies, procedures, and human resources are managed by the HRIS. Its robust set of features takes care of the various and intricate aspects of HR processes. There are a number of "critical features" in every HRIS that cover additional crucial procedures and services. Most of them are merely promotional strategies. Therefore, selecting an HRIS must be done with care (Silva & Lima, 2017).

Recruitment and Selection

An efficient and well-managed HRIS can improve the working environment for employees. Employees may browse their benefit options, review and update their information, conveniently request time off and get permission, and discover more about the corporate culture through an easy-to-use employee portal. This decreases calls and visits to the HR department boosts employees' feelings of empowerment

and lessens their aggravation with long wait times. Additionally, it can be extremely helpful in ensuring that new hires have a stress-free onboarding experience (Perucci, 2018).

There are different processes in a multitasking setting like human resources that each need a specific solution. For instance, HR will want an applicant tracking system, as well as options for new hire orientation, payroll, benefits, training support, and more, when onboarding a new employee. Then, it's necessary to track scheduling and timekeeping, performance management, and other elements of success in the workplace. It is time for a new end-to-end HR platform if none of the existing systems are in sync with one another (Post, 2022).

Additionally, this program takes care of all the hiring requirements for the business. It keeps track of applicant data and resumes, enabling recruiters to connect job vacancies with qualified applicants from the applicant pool of the business, and aids in directing the recruiting process (Vulpen, 2022).

The success of a business rests on its ability to rapidly and effectively attract, hire, and retain the best individuals. Only developing enduring relationships with future and present employees can lead to successful recruitment. The perfect candidate tracking system will ease talent relationship management in addition to standard recruitment processes (Newsome, 2021).

To examine trends and patterns in recruiting, an automated recruitment process connects easily with the built-in reporting module. To eliminate hiring turmoil, it also effortlessly interfaces with internal websites, job portals, and employment service providers (Williams, 2020).

In addition, Lalwani (2021) stated that HRIS makes it possible to have an easy employee onboarding procedure that will prepare new workers for success straight away and guarantee that they get off to a good start. Employers may reduce the disruption caused by paperwork and shorten the employee onboarding lifecycle by using an automated onboarding procedure. Additionally, it lessens manual interventions and human errors, provides all new workers with a consistent onboarding experience, and minimizes training costs.

Learning and Development

Having an HR system enables a business to maintain employee data integration with payroll data, which may be highly useful for making pay adjustments, scheduling modifications, and maintaining employee hour records (Perucci, 2018).

Additionally, it has employee self-service, which many businesses consider to be a crucial component of HR systems. Employee self-service may give them the ability to see and update their personal data, request time off, connect with coworkers and HR specialists, and view their schedule data. Employees and supervisors can access self-service portals more conveniently and quickly thanks to the fact that they are frequently accessible via any mobile device (Jha, 2022).

Employees are among the most valuable resources in any firm, hence an HRIS must also feature talent management. However, recruiting, attracting and retaining, engaging, developing, and keeping

people is a challenging process of personnel management. Additionally, the cost of employee turnover is high. The firm will be able to better care for its personnel with the aid of an HRIS that features a unique talent management system (Ghosh, 2021).

Employees should be supported through every stage of their employment, including recruiting, training, development, and retention, with the help of an excellent talent management system. The best part is that it will enable companies to unify their personnel profiles across the company and integrate talent management initiatives with overall business goals (Komm, Pollner, Schaninger, & Sikka, 2021).

Additionally, a time and absence management system are necessary because manually managing staff timesheets, calendars, and attendance demands a significant amount of HR work. It's a major hassle to keep track of employee absences and leave requests while planning a schedule to handle the shifting demand. Additionally, it takes a lot of time and effort to export all attendance records to the payroll system (Reitsma, 2022).

With a wide range of capabilities including automated timesheet entry and submission, worker scheduling, vacation management, payroll and accounting connections, etc., an HRIS will address the issues related to time and leave management. Indicates that adding and holiday claims have had the potential to cause a lot of difficulties if not handled appropriately. Poorly executed time-off requests can have a negative impact on the culture of the company and lower employee satisfaction. Therefore, automating the logbook management and time off processes with an HRIS can reduce human error and avert potential catastrophes (Dixit, 2020).

Rewards and Recognition

It may be advantageous for a company to switch to integrating payroll with their HRIS if they have acquired an HRIS but have chosen to maintain an independent payroll system or outsource payroll. In keeping with this, information can be collected and transported in the system without having to enter it twice if a payroll system is linked to time and attendance monitoring, employee databases, and other data management. When modifications are made in one area of the system, several systems automatically update all the information that is affected. This reduces the likelihood of errors and eliminates a ton of effort, saving worker hours (Stern, 2021).

When using a disjointed payroll system, it can be difficult to pool pertinent data together to derive useful insights because organization data grows regularly. Since all of the data is stored in the HRIS, reports can use it and merge it with other information to generate statistics that can be applied to make enhancements. HRIS enables it to have better and quicker reporting in relation to the payroll integration as a result (Simon, 2017).

According to MacKinnon (2021), HRIS also aids in guaranteeing data accuracy and consistency for a corporation or organization. A payroll employee could suffer the effects of one mistake. The best option for maintaining data integrity is a coordinated system with continuous data flow. After entering the important data, it will automatically refresh and reflected in all locations, greatly decreasing errors.

Additionally, a fully integrated HRIS solution eliminates the need for hours-long data transfers between systems in order to create reports. Instead of having to sift through data from many systems, they can concurrently build thorough reports by extracting useful insights from the payroll and HR unified database and business intelligence tools (Daswani, Aparicio, & Scalia, 2022).

In addition, everyone is content when everything is simple to find. Self-service and single-sign-on enable employees to efficiently access their information, from compensation history to personal data. Additionally, any adjustments made by employees themselves are automatically reflected throughout the HRIS, ending the need for back-and-forth communications regarding address changes or pay statement requests (Lalwani, 2020).

Performance Management

HRIS can save the effort and time required for assembling data and reports, as well as assist HR professionals in adhering to requirements. By consistently delivering updated information on laws affecting the specific firm, HRIS helps alleviate the burden associated with having to stay on top of ever-changing regulations and laws. When rules or compliance requirements change, cloud based HRIS solutions frequently update compliance information automatically and may even be able to issue alerts. It may be necessary for HR experts and businesses to configure the system to enable alerts and updates, thus this is something to take into consideration when implementing HRIS (Rietsema, 2022).

Additionally, HRIS facilitates the completion, storage, and organization of documents. HRIS can be much more than what is typically thought of as a glorified computerized filing cabinet. Employers may make sure that all required forms are completed, structured, and saved for the right period of time by using HRIS throughout the onboarding process. It is simple to access and quick to print or transfer data that must be gathered into reports for audits or to deliver to the proper authority (Peterson, 2022).

Any outstanding documents can be completed on time by using notifications the system provides once the necessary information and authorized files are present in the HRIS. Following completion, the paperwork can be sent to the relevant company department and made instantly available for use in governmental investigations or other legal matters (Daswani, Aparicio, & Scalia, 2022).

In addition, HRIS aids in wage and hour legislation compliance, making it much simpler for businesses and HR professionals to monitor overtime, hours worked, break times, benefit eligibility, and other compliance-related issues when HRIS contains or is integrated with time and attendance tracking software. To relieve compliance concerns and prevent fines and legal problems, it might be able to set up HRIS to send alerts when workers are about to enter overtime or when they are due for a break (Kumar, 2022).

The monitoring of overtime, hours worked, break periods, benefit eligibility, and other compliance-related issues is made considerably easier for organizations and HR professionals when HRIS has or is integrated with time and attendance tracking software. It could be possible to use HRIS to send alerts when

employees are about to enter overtime or when they are due for a break in order to allay compliance concerns and avoid penalties and legal issues (Rietsema, 2022).

HRIS also makes sure that everyone in the company complies with the rules. Without an HRIS, the company could violate the law. Employment contracts that are already embedded into an HR system and that have been updated will guarantee that the employee's agreements are compliant with all applicable laws and that their pay and leave benefits are in line with national employment standards. By selecting a system with built-in industry awards, it can make sure that salary, bonuses, commissions, and benefits adhere to the rules for the most recent awards (Coutsoudis, 2021).

Human Resource Information System (HRIS)

Efficiency. A performance review keeps track of an employee's performance consistently and quantitatively. It enables the business to make sure that all of its divisions and personnel are effectively contributing to the accomplishment of its strategic objectives. Efficiency of the employee alignment with company objectives benefits successful organizations (Pernicek, 2021).

It allows line executives and HR teams to concentrate on more value-adding facets of the process, such as coaching, assisting, and training people, and save time on the manual management of performance reviews which is one of the major contributions of the HRIS in increasing the efficiency of the employees (Post, 2022).

A performance management module, however, would not only standardize employee performance reviews but also bring the team and personal goals into line with organizational objectives. Businesses can build a performance-oriented compensation structure, make their appraisal process bias-free, and link employee pay to performance (Olic, 2022).

HRIS also simplifies and automates procedures, giving workers the tools they need to act quickly and wisely. Without the chance of human error, employees can immediately access the information they need. By avoiding time-consuming tasks like data entry and sending emails to managers for permission, a corporation can become more productive (Daly, 2021).

Additionally, it is mentioned by Moussa and El Arbi (2020) that HRIS offers businesses a remarkable potential for improved worker development. Employers can track employee skill gaps using HRIS and offer specialized training to meet each employee's needs. HRIS also takes pride in how simple it is to track performance data and prior employment history. All of these elements will foster cooperative knowledge sharing among coworkers, which will not only result in better training but also improve business culture as a whole.

The HRIS system is a comprehensive tool that can streamline and automate the entire human resources process, from hiring to termination, which is perhaps its most critical feature. This indicates that employee interactions can be enhanced at every level by the HRIS software. They can utilize HRIS to monitor their employees' efficiency and progress in real-time and have access to critical data, such as their performance reviews or hours worked, right away on any device (Florentine, 2020).

Likewise, it's no secret that businesses struggle continually to maintain control over their efficiency, performance, and productivity. The HR department will be able to do that by investing in an HRIS. By eliminating the necessity for manual operations and spreadsheet administration, an HRIS will enable HR managers to give organizational strategies of their staff a higher priority (Yasar & Marson, 2022).

Productivity. Employees who feel linked to each other and aware of one another's responsibilities within the organization can work in an environment that is unified and cohesive thanks to the use of HRIS systems. This ground-breaking solution enables stakeholders in human resources, including staff members, managers, and executives, to work collaboratively on projects from a single location (Daly, 2021).

All of this is accomplished while maintaining appropriate authorization under the company's security regulations and having access to data such as employee evaluations or compensation information at any time of day. As a result, working together with coworkers and clients or customers generally becomes simpler (Williams, 2020).

Increasing employee productivity is an ongoing objective for the whole business. Very productive employees can boost a company's profits, while those who are less productive can damage it (Gupta, 2021).

Productivity levels have an impact on whether a business succeeds or fails in the marketplace. A corporation may edge over the competition by learning how to boost staff productivity. Even the most prosperous businesses can profit from higher productivity. Thus, this helps the employees to perform well and be promoted to a higher position in their current companies or institutions (Wickham, 2022).

The more proficient a person is, ever more efficient they can be, hence HRIS aids in skill development through training. Many organizations and businesses worry that investing in employee training will result in a waste of money and time if the employee departs (Vulpen, 2022).

However, the training not only helps the employees become more skilled, but it also motivates them to stick around. Employee development improves both their ability to perform their existing positions and prepares them for promotions. Employee engagement and productivity are both boosted by training and development because it makes workers feel appreciated (McCarthy, 2019).

In line with this, Mauro and Borges-Andrade (2020) mentioned that a significant advancement in the field of human resources is HRIS. The improvement in technology has a significant impact on the organization's overall effectiveness in addition to improving the quality of employee information. For instance, HRIS automates a lot of the administrative duties that, despite being important, reduce productivity when done manually.

Having the HRIS a part of the company will enable the HR department to become a strategic business partner, increasing the effectiveness of the entire organization. Applying the system to human resource management operations increases the likelihood of handling tasks and managing resources that call for correct and equitable distribution to give the business a balance in its productivity. The system assists in assigning and distributing easily accessible resources to the requirements of various organizational

divisions. The application has increased the productivity and efficiency of the TS team in providing services (Perucci, 2018).

The possibility of handling duties and managing resources that demand correct and equitable distribution to offer the business a balance in its productivity increases when the system is applied to human resource management operations. According to the needs of various organizational divisions, the system helps assign and distribute readily available resources. The application has improved the TS team's service delivery productivity and efficiency (Simon, 2017).

Reliability. HRIS can make it simple for management to provide employees more freedom while reducing risk. As employees no longer have to wait for management or HR experts to implement changes, empowerment can also assist to enhance productivity and reliability. HRIS can make it simple for management to provide employees more freedom while reducing risk (Sen, 2017).

When HRIS is utilized for hiring, job prospects might feel empowered right away. Employee applicants might be able to submit applications and check on their status without disrupting schedules or making awkward phone calls. This can allow managers see how employee prospects behave when given more authority, which can assist to ensure that only the proper people are picked for the job. It can also help employees feel empowered from the start (Kumar, 2022).

In addition, it provides workers accountability for the information that affects them. Only having control over one's own knowledge may instill confidence in employees. For employees who require these adjustments for a reason, waiting for managers or HR to make significant changes to the tax deduction, beneficiary, or personal information can be frustrating. Employees may feel as though they have more control over their work-life and routine if they have the option to examine timetables and request time off (Irwin, 2022).

The usage of HRIS frees up time and allows HR to concentrate on tasks that computers are unable to perform, such as team-building exercises, employee participation, work-life balance, and other employee benefit programs to boost employee engagement and motivation for the company. Employee engagement and corporate culture may both be enhanced by fully integrating an HRIS into a workforce organization (Prasad, 2020).

Similar to how HRIS saves time, it focuses attention on the most important items. It is frequently necessary for HR departments to run with a lean structure, especially in SMEs. The correct HR system can help automate the HR procedures and free up time so that they can return the emphasis to strategic HR. Furthermore, manual leave and timesheet approvals, paper onboarding forms, and review procedures are just a few of the basic operational operations that an HRIS would streamline in addition to eliminating their manual spreadsheets and an extensive list of paper-based administration. An HR system will provide them more time to concentrate on important tasks like the fundamental development and retention of their staff (Gautam, 2017).

Self-service by employees frequently leads to increased employee empowerment and work delegation that "flattens" the organizational structure. If HRIS are used appropriately, employee expectations are clear, workers are given responsibility for their development, and workplace collaboration and communication improve (Mathur, 2018).

Sustainability. Improvements to business processes, talent management procedures, workforce metrics, HR strategy, workforce management and planning, and competency management are the main areas of focus for HR practitioners. HR professionals place a high value on HR planning, which identifies distinct talent profiles and work schedules and enables an organization to have the appropriate people, in the right quantity, at the right time. It reflects the organization's interests and viewpoints as well as the goals of the applicants and collaborators (Boon, Hartog, & Lepak, 2019).

In order to give the business a general understanding of its resources and workforce planning, strategic HRIS supports labor negotiations and workforce planning. By doing so, the demands of the workforce and other stakeholders are met while also advancing the overall mission, strategy, and success. Additionally, it is a procedure that aids in identifying how present and future human resource management fits into an organization's overall strategic plan (Ghosh, 2020).

Accordingly, it is stated by Rose, Cichanski, Burr, and Momtazian (2021) that a specialized HRIS is created primarily for the management of human resource functions. It can be tailored to offer only specific applications that are pertinent to the firm, or it can be a complete package with all functionalities. Software for the human resource function has been developed in large quantities. All shapes and sizes of computers, including microcomputers, can use this software. Comprehensive human resource information systems software and limited-function packages that handle just one or a few human resource tasks are the two main categories of software created expressly for the human resource management function.

Employee documents, position, skill sets inventory files, affirmative action files, job design and analysis files, workplace health and safety files, and numerous other organizational development files are built in a coordinated way utilizing databases management systems operating systems so that application programs can produce reports from any or all of the files. The digitalization of HRIS had also resulted in an integrated database of human resource files. Thus, HRIS was developed to make it much easier and simpler for the entire human resources domain to operate. Today, almost every firm in the world has begun using HRIS and is reaping significant benefits from doing so (Davidescu, Apostu, Paul, & Casuneanu, 2020).

Additionally, Osborne and Hammoud (2017) mentioned that organizations engaged in long-term strategic planning, such as those intending to enter new markets, build factories in new locations, or launch new products, use information systems supporting workforce planning. Moreover, it is noted that it is also used by HR because it is necessary for businesses engaged in long-term strategic planning, including those planning to grow and expand, build factories or offices in new locations, or add new products, to have knowledge regarding the quantity and caliber of the workforce that is readily accessible in order to meet their objectives. This is accomplished by information systems that aid in workforce planning.

Banach (2022) also claims that these human resource information systems keep track of important employee data such identifiers for the Equal Employment Opportunity Commission, demographic data, and job titles. It can examine this data more quickly when working on recruitment tactics, career planning, and affirmative action initiatives if you store it in an electronic database. Reports can be swiftly conducted by HR personnel to find out information like how many staff were employed in the previous years

In addition, HR makes use of information systems that support labor negotiations. Given that it necessitates data acquired from many of the human resource information systems, this is used in negotiations with craft, maintenance, office, and industrial unions. The human resource team conducting the negotiations must be able to collect a wide range of ad hoc reports that evaluate the organization's and union's stance in light of the sector and the overall state of the economy. Additionally, it is crucial for the negotiating team to be able to get ad hoc reports in a timely manner because the team will encounter new issues and strategies as they move through the labor negotiations (Silva & Lima, 2017).

Furthermore, Coles (2022) mentioned that an integrated database that works with enlisting records, employee documentation, personnel positions, inventory records, work rules, workforce monitoring, and many more human asset records has been introduced by the automation of HRIS. They are designed in a way that makes it simple for apps to project accurate results from any area of human resource management. HRIS was developed with the intention of making the overall HR domain much easier to operate. Today, the majority of business groups around the world have started using HRIS and are reaping the benefits of doing so.

Accessibility. The human resource software known as the Human Resource Information System (HRIS) serves as a link between formation technology and personnel resources. Both large and small businesses utilize the program to handle a variety of tasks like managing payroll, finance, and human resources (Koc, 2022).

The usage of HRIS makes it easier to provide more resources than necessary for particular task and aids in managing and controlling the costs of human resources. With the aid of technology, it also helps HR managers make decisions more effectively. A review of the measurements and a study of organizational performance also aid decision-making and the identification of patterns. For instance, the results of the human resource unit's analysis of hiring costs and calculation of the overall turnover rate of a unit within the company can be utilized to build future plans for the organization and to make key business choices (Williams, 2020).

HR managers may now access spreadsheets and paper files thanks to an automated database that gathers, stores, and displays current and consistent information about an organization's personnel, policies, and procedures. Virtualization will be made possible by a centralized database that is easily integrated with other HR modules and offers exceptional accessibility to all users. All modules will be immediately affected by any update or alteration to the master database, sparing HR managers the time and labor-intensive task of manually synchronizing and duplicating every entry (Ziwewe, 2020).

Similarly, institutions no longer hesitate to implement mobile capabilities for a human resources information system (HRIS) because they are no longer a novel or unproven technology. Users of mobile HRIS can access corporate files even while they are not in the office. Over the past few years, there has been a steady rise in the use of mobile HR apps. This growth is anticipated to last forever until mobile HR becomes the standard across practically all industries. Since almost everyone owns a smartphone, choosing an HRIS with mobile functionality would seem like the best course of action (Rietsema, 2023).

Employees might have access to details on impending projects, upcoming training and development opportunities, and other crucial daily parts of their jobs if specific HRIS features and functions are employed. Employees can operate more independently by having access to this information without needing to consult with management and starting work right immediately rather than waiting for the back and forth. Employees may be able to choose when is the best time to work on training courses if learning management systems are employed, saving time and maybe increasing compliance (Carnevale & Hatak, 2020).

In order to save, access, update, classify, and analyze data quickly, businesses have started combining HRIS systems with other HR systems, including payroll, leave, travel and expenditure, time and attendance, career planning, and skills inventory. The ability of HRIS to give comprehensive information on nearly all HR systems is due to the integration of data with other systems. It is now possible for decision-makers to make quick decisions and better HR planning thanks to increased access to metrics, faster information processing, and more accurate information (Reen, 2017).

Data integrity will be improved and redundant information will be eliminated if all private employee data is stored in a consolidated cloud-based HRIS system. The human resources department will spend less time and effort manually matching and duplicating all records since any updates or modifications made to the master database will be promptly reflected across all modules (Simon, 2017).

Human resource analysis, the cornerstone of HR planning and the majority of business decisions, is made possible by HRIS systems. Organizations make numerous business decisions based on the skills of their staff and numerous decisions to maintain a skilled and happy workforce. The management of the organization can create efficient programs to raise employee morale and boost productivity by enhancing their HR resource (Sen, 2017).

In addition, Asembo (2018) stated that HRIS needs to feature workforce analytics, which actually offers insights into an organization's workforce through visually rich reporting modules. To get more from their human capital, organizations could use their employee retention data to find employee patterns, gather useful insights, and make defensible choices. Businesses can use it to accomplish a variety of tasks, including human cost accounting analysis and forecasting future talent requirements. Businesses may establish a collaborative environment that lives on action and develop an effortless connection between insights, activities, and results by using an HRIS product that includes pre-defined reports.

As a result, the usage of HRIS can be quite beneficial to HR operations. The data are accurate, updated in real-time, compliant, and can be studied as needed. They also include details about each

employee's tenure with the company. These elements support HR in making quicker and wiser decisions for the benefit of the workforce. HRIS implementation goes a little beyond routine tasks and aids in crisis planning for the organization (Paudel, 2022).

Acceptability. The functions of an HRIS and the problems they raise stimulate a particular interest in this field of technology. Indeed, one of the main benefits of concentrating on HRIS is that these tools expedite and significantly impact employee-related choices. They affect the information that is considered by making data more accessible. By accelerating the processing of administrative data, an HRIS enables human resource managers to focus their resources on other HR duties including supporting organizational change, serving as a strategic partner and keeping an eye on employees' well-being (Menant *et al.*, 2021).

As a result, HRIS changes how human resource managers and departments interact with employees and go about performing their jobs. The utilization of these technologies is not completely dependent on the employee's desire, which is another distinctive feature of HRIS. Additionally, they have a direct impact on a variety of factors that affect both the terms of an employee's employment and career growth. The modes of social interaction within the company, between employees, and in the interactions between workers and human resource managers are also altered by HRIS. Understanding employees' acceptability of HRIS in this situation is a complicated topic that involves both technological and individual aspects that are linked in an organizational and social setting (Vulpen, 2022).

In addition, performance evaluation data and productivity information data are included in performance management information systems. This system is regularly cited as supporting documentation in worker grievance cases. Acceptance of assessment material in a grievance hearing depends on careful documentation of employee performance and how it was measured and reported. Performance management systems can result in choices other than whether to hire, fire, promote, or transfer a worker (Wickham, 2022).

It might be important to modify the way information is delivered to ensure that everyone understands it because certain cultures are more hierarchical and formal than others. Furthermore, while some cultures are more individualistic than others, others place a significant emphasis on interpersonal interactions. This may affect how users interact with and utilize HRIS systems. To guarantee the successful installation and adoption of HRIS systems, it is critical to acknowledge these cultural differences and make appropriate accommodations (Villanueva, 2019).

In accordance with this, Kolatshi (2017) mentioned that acceptance is a lot more important aspect for companies who have finished implementing HRIS. Businesses that have successfully implemented HRIS must make sure that their systems are totally compliant in order to succeed. They should also make sure that employees can quickly access their HRIS information and that their HRIS processes are simple to utilize.

Information systems for human resources can be impacted by legal and regulatory challenges in a variety of ways. For instance, rules and regulations may govern what information HRIS must gather and track, how it must be protected, and how it can be utilized. In order to maintain compliance, HRIS systems

may also need to be updated when the law or how it is interpreted changes. And finally, because they have an impact on corporate culture and employee morale, legal and regulatory challenges may also have a secondary effect on HRIS. A system may need to be updated to meet with legal standards or staff may need extra training on how to use it as a result of changes to regulatory requirements (Daswani, Aparicio, & Scalia, 2022).

Challenges Encountered by the Public HEIs in CALABARZON in the Utilization of HRIS

It is even more important for the human resources manager to have access to real-time, employee data in today's fast-paced business environments, especially in larger-sized organizations maintaining many divisions and high volumes of employees, in order to develop a streamlined and efficient human resources system (Imm, 2021).

HRIS systems are information system technologies intended to enhance areas of payroll, manager/staff interrelations, strengthen storage and retrieval, and can also be utilized to link the external to the internal environment with the use of electronic data systems. Since the requirement for data is so essential to company success, several organizations turn to these systems. When implementing these systems and providing the organizational gains that human resource information systems may offer, there are numerous difficulties and factors to take into account (Johnson & Carlson, 2021).

Recruitment and selection. Changes in technology may cause concern and even resistance among employees, as with any change in the workplace. Employees who believe their jobs within the organization will be replaced by a machine or computer that can do the task faster or cheaper may regard technical changes, especially as threats. The human resources manager's job requires them to create plans to deal with this reluctance to change. Assuring employees of their value and purpose inside the company and assisting them in viewing technology as assistance rather than a detriment to their work are the first steps in doing this. Reminding staff of the advantages of mobile devices and apps in their personal lives could ease some of their anxiety (Bradley, 2022).

Prior to implementation, psychological factors such as technical utility (user-friendliness), socialization with colleagues, and degree of trust in the real HRIS technology should be taken into account. Employees frequently oppose change and are less willing to cooperate in providing data to aid in the development of new HRIS software when they feel threatened by its introduction. This would be particularly true in the present-day challenging economic environment when numerous domestic and international enterprises find it challenging to provide employees with job security within the framework of the current organizational culture (Yasar & Marson, 2022).

In the same way, staff members and other HR managers frequently oppose new innovations and changes in their workplace. Accordingly, the installation of HRIS makes it challenging to hire new personnel because the majority of them lack the knowledge and abilities necessary to operate and navigate HRIS and other new technologies that are required for institutions or organizations to operate effectively (Asembo, 2018).

In addition, because HRIS is utilized for manpower planning, it maintains data about organizational needs in terms of open positions. Furthermore, improper use of this new system could prevent HR managers from identifying openings, publicizing new positions that are necessary for the organization, or tracking employees' advancement as they work for the company or institution (Komm, Pollner, Schaninger, & Sikka, 2021).

Similarly, as stated by Perucci (2019), even if using HRIS could speed up the hiring process, there is still a chance that a candidate's capabilities will not be accurately mapped to the job role and organizational culture. As a result, firms are seeing increased attrition rates and shorter average employee retention.

Moreover, competition is also the most significant and dangerous aspect in HR, in addition to being the most significant component in business and client contacts. Small and medium-sized businesses face additional challenges since they must compete with well-known names and brands to attract top people. The problem extends beyond hiring and extends to employee retention and providing the right benefits, exposure, opportunities, and work environment. Therefore, having a strong employer brand is essential for recruiting top people to the company (Andriotis, 2017).

One of the main causes of unsuccessful HRIS installations is a lack of support from the executive and managerial levels. Organizations lack the funding, leadership, and permissions required to deploy, integrate, and maintain the system in the absence of senior management backing. People who are given the task of managing the HRIS project are frequently highly versed in HR or IT, but they cannot effectively lead a big change project unless they have great leadership and communication abilities. They must be able to prioritize tasks, communicate properly, come to difficult judgments, manage people well, and work in a political atmosphere. A solid and stable project management team led by key executives, department heads, managers, and frontline staff members who are committed to the change and can collaborate as a team is also essential for any large change program to be successful (Johan & Morshidi, 2019).

Additionally, poor communication can be the difference between the HRIS project's success and failure. It is critical that HRIS leaders create communication strategies to increase understanding and foster awareness throughout the development and implementation processes. According to experts, having a strategy lessens the possibility of obstruction by achieving the following goals, which will result in the success of the institution or organization through the use of HRIS (Khan, 2021).

When the HR function is incorporated into a single software system, such as a system that is integrated with the employee website, employees will have better access to information regarding key policy changes or benefit possibilities (among countless other business scenarios). This automated approach for managing human resources will make the human resources manager less aware of what is happening in the actual workplace, while it still has the potential to reduce some of the interpersonal components between the HR professional and the employee population. When employees are no longer dependent on face-to-face interventions with the HR manager, the HR manager may have to do employee interviews, observational studies into the current employee job environment, or any variety of studies in order to connect with employees on an interpersonal level (Niaz, 2017).

In order to introduce a new technology, it is important to take into account factors of positive company culture and socialization. Because of the simplicity and convenience offered by HRIS technologies, it is possible for the manager to become socially isolated from their responsibility for upholding connections with managers and employees (Sen, 2021).

Learning and Development. Specialized knowledge or abilities obtained via experience, study, or training constitute expertise. To run the HRIS system efficiently, information and communication technology (ICT) knowledge is crucial. In accordance with this, inadequate ICT competence, manning levels, and employers' slow pace of employee training and development for successful HRIS usage were all cited as major obstacles to using HRIS (Malak, 2022).

The idea that leaders have reached a point where they no longer need to learn anything new and, if they do, can do so through self-learning, is a widely held one. Leaders play a major role in determining an organization's performance and employee satisfaction. Lack of leadership development leads to conflicts and arguments between employers and employees, a toxic work environment, which ultimately harms employee morale and satisfaction and the organization's goals (Bradley, 2022).

It is crucial that a company develops a learning and development plan that covers every level of the organizational structure. Leaders should be given the same priority in training, mentoring, and succession planning as other employees do. Another typical HR issue is underfunding of lower-level employees' training and development. Some businesses struggle to locate the necessary resources. Some of your hardest-working employees may not have the time to attend a training session because they are on the front lines (Brassey, Christensen, & Van Dam, 2019).

According to Bradley (2022), there is a lack of skilled workers in numerous areas even though unemployment is at record high levels. Finding and retaining employees who are proficient in using new technology is one of the technical obstacles that human resource management must overcome. This has two implications for businesses: first, they must train their present staff to stay up with technological advancements, and second, they must inspire and support new hires to be the best users of emerging technology. To keep employees' skills current, human resources can also arrange for training sessions, conferences, and seminars.

It is important to recognize the benefits of teaching staff members and management how to use the new system. When employees and supervisors are unfamiliar with the system's design and features, even the most intuitive systems might appear imposing. Employees and managers should be involved as much as possible in the system's implementation and modification, and enough time should be allotted for them to become familiar with the new system (Irwin, 2022).

Employees that choose to keep up with technological advancements will benefit from the company's assistance and training programs, which will also make them feel like an important member of the team. The human resources manager can take on this task by determining the key areas of the company where training is required and by providing either top-notch on-site programs or by supporting staff training opportunities off-site (Meyer, 2022).

Johnston (2019) also points out that because of HR management systems do such an excellent job of highlighting employee accomplishments, certificates and degrees, managers could be persuaded to promote employees based on the factual information your system offers. This might deter managers from investing the time to get to know staff members personally as part of their assessment of what those individuals can provide their company. A computer can only offer them quantifiable factors which do not necessarily convey the whole story.

In fact, relying solely on computerized employee evaluations can result in impersonal performance reviews that do not account for the time and effort employees put into learning new work procedures or the value of their positive attitudes and collaborative work styles, which are essential components of a productive work environment (Martins, 2022).

Rewards and recognition. Many businesses are having trouble figuring out the best way to set up employee remuneration. Small firms must contend with corporations with significant payroll expenditures in addition to businesses of comparable size. The cost of benefits, training, taxes and other expenses must also be taken into account (Wooll, 2022).

Similarly, it becomes harder for organizations to keep up with the pay and benefits that big brands offer. Then, it becomes very challenging to recruit and retain employees. Organizational growth and performance are also threatened by the rising expenses of benefits, development, taxes, and other intellectual resource investment. It is difficult to stay up with the current advantages being supplied, in addition to the alluring wage packages, in order to continue to be a good competitor among sought-after employers (Holliday, 2021).

Organizations must provide other alluring perks in addition to compensation plans that adhere to industry norms. These cannot, however, come at the expense of the organization's expenditure on human capital increases. Offering variable, performance-based pay components to employees is one approach to guarantee a return on investment and control performance-linked compensation. Another effective motivator and draw to perform is a robust program of rewards and recognition. With rising medical costs, organizations have two main options: pass the costs along to their workers, which may make it harder to attract and keep talent, or pay for the expenses themselves (Lalwani, 2020).

Additionally, it is stated by Doyle (2022) that employees have the ability to select or deselect different perks depending on personal criteria, whether performance-related or not, under the flexible benefits arrangement, also referred to as the cafeteria plan. An HRIS software package provides employees with self-service benefit options in a virtual setting in this type of system, which would be a significant benefit to the HR manager. However, when establishing an HRIS system to handle flex benefits, the task of the HR manager may be significantly complicated by the fact that different employee demographics frequently switch benefits from master opportunities offering.

If the system is not self-service, the HR manager will have to manually enter a lot of information, which might take time away from more beneficial tasks like enhancing corporate culture or addressing employees' security concerns. These are practical difficulties to putting such a system into place because giving employees more flexibility increases the HR manager's job in a situation where employee access to performance-related data cannot be trusted or permitted (Silva & Lima, 2017).

Performance management. HR managers encounter difficulties managing personnel data and protecting the privacy of sensitive information. One of the challenges human resource managers face in this area is teaching employees how to secure data and avoid privacy breaches in order to keep business information secure. Key strategies for human resources managers to identify and address this difficulty include communicating with technology providers and staying current on the technological components of the business (Bradley, 2022).

Generally, an HRIS software implementation typically affects the organization's current workflow because the new system introduces some new HR practices and procedures that are widely accepted. Additionally, it's possible that when using a new system for the first time, employees won't feel comfortable. Because it affects the employees emotionally, this type of issue needs to be handled with extreme caution. It is important to allow the employees who may negatively affect the new system plenty of time to adapt (Martins, 2022).

Even while a business benefits from a variety and can be proud of it, managing this diversity in terms of age, gender, nationality, religion, etc. poses issues from an HR viewpoint for these firms. Accommodating and satisfying the needs of personnel of various ages, genders, countries, or ethnicities is a significant problem. Additionally, it is challenging to sustain employee engagement and develop efficient communication among workers from various backgrounds, which results in employee conflicts and deteriorating relations (Miller, 2018).

In this way, HRIS can raise awareness of these differences and help all employees become more sensitive to the cultures of those they deal with. Teamwork should be prioritized by the organization's principles and workplace culture, which should also encourage a respectful and understanding work environment. Employees from various cultures and backgrounds can work together more effectively through team-building exercises that unite the workforce behind a shared goal (Khin, 2019).

In addition to this, it can assist in establishing a set of organizational values or behavioral norms in the workplace. This aids each employee in understanding their job, conduct, and behavior within the firm. While following policies and procedures is crucial, a business also needs to foster a friendly and relaxed culture (Asembo, 2018).

Since HRIS includes software for entering and updating data, databases for electronic information storage, reporting, and analysis tools, the cost of installation and maintenance is significant. Additionally, necessary hardware and software must be bought and installed in order for the system to operate effectively. The government's inability to invest enough money to buy the necessary number of computers and accessories to fully utilize the HRIS is a significant problem in this case. In keeping with this, if there are not enough computers in each institution, system users will have to share the few that are available, which will reduce staff productivity because they cannot work simultaneously (Matimbawa & Masue, 2019).

The HRIS system is being implemented in the organization for the first time, and because it requires a certain level of ability from the employees to operate, this may induce worry and discomfort in the users. This results in a decline in output or service and raises employee unhappiness. Therefore, it is crucial for HR managers to give the user the required training (Perucci, 2018).

Employees always feel a strong emotional connection to the current system. They make an effort to take pleasure in the manual system's inadequate processes. As a result, individuals are constantly resistant to change, especially while learning a new skill. This reluctance causes the employees' enthusiasm and cooperation in putting the processes into place to weaken (Kumar, 2022).

Employee interference or a lack of cooperation in modeling would be the problems of adopting a new system in this situation, and this would be a feasible real-world business scenario in almost all industries where implementing change is a persistent problem. Therefore, it is important to take into account and address long-term consequences on organizational culture and labor relations in order to appeal to the sense of security of employees who are less resistant to changes like the installation of a new HRIS technology (Simon, 2017).

Thus, trends in human behavior should be taken into account when creating and deploying a new HRIS system in order to inform employees of the advantages of such systems and to signal that job security is still in place (Niaz, 2017).

METHODOLOGY

Research Design

The researcher utilized the descriptive and correlational research design since this research study involved data that examined using tables and statistical treatments to further evaluate the information acquired and to adequately describe the statement of the problem of this study. Furthermore, detailed information was provided on the characteristics of a population concerning a specific variable. The researcher also employed the descriptive-qualitative method where the data obtained through an in-depth interview.

Hence, these research methods were applied to know the extent of implementation of information systems used by HR as well as to determine the beneficial of use of HRIS of public HEIs in CALABARZON in terms of recruitment and selection, learning and development, rewards and recognition, and performance management. In addition, the research method was employed to discover how effective is the HRIS of the public HEIs in terms of efficiency, productivity, reliability, sustainability, accessibility, and acceptability. This helped to determine the challenges encountered by the public HEIs in CALABARZON in the utilization of HRIS.

The correlational design was used to measure the significant relationship between the extent of implementation and beneficial of use of HRIS, extent of implementation and effectiveness of HRIS, and the beneficial of use and effectiveness of HRIS.

Sources of Data

The data were obtained from the responses of the participants in the prepared questionnaire and interviews conducted.

Participants of the Study

The participants of this study were the employees of the public HEIs in Cavite, Laguna, Batangas, Rizal, and Quezon.

The following criteria were considered in the selection of the participants:

1. HR practitioners who are currently working in the HRDO;
2. HR staff/personnel with direct knowledge of the HRIS; and
3. users/faculty and employees who utilize HRIS.

Table 1 presents the distribution of participants from the public HEIs in CALABARZON.

Table1. Number of Participants from each Public HEI in CALABARZON

PUBLIC HEIs	NUMBER OF PARTICIPANTS	PERCENTAGE (%)
Cavite		
Cavite State University	12	10
City College of Tagaytay	2	2
Kolehiyo ng Lungsod ng Dasmariñas	6	5
Laguna		
Laguna State Polytechnic University	20	17
Pamantasan ng Cabuyao	3	3
Laguna University	4	3
Batangas		
Batangas State University	25	21
Rizal		
University of Rizal System	21	18
San Mateo Municipal College	5	4
Antipolo Institute of Technology	3	3
Quezon		
Southern Luzon State College	16	14
TOTAL	117	100

Sampling Technique

All the participants were selected using convenience sampling which is a method of selecting the participants wherein this allows the researcher to select the target participants that will give the information needed for the study, but the availability of the participants were considered.

Research Instrument

This study used both survey and interview questionnaires. The researcher formulated the questionnaire with the following parts: Part I and II consisted of questions and statements derived through a thorough reading of the related literature of this study; and the Part III, the ISO/IEC 25010 that served as basis for the evaluation as an international standard for software quality.

For the Part I, the items included the extent of implementation of information systems used by HR in terms of recruitment and selection, learning and development, rewards and recognition, and performance management. The scale for the measurement has corresponding verbal interpretations such as: 4 – Strongly Agree (Very Well Implemented); 3 – Agree (Well Implemented); 2 – Disagree (Fairly Implemented); and 1 – Strongly Disagree (Poorly Implemented). High scores mean that the participants express full implementation of the observed variables as to the organization where they belong.

Determining how beneficial is the use of HRIS of public HEIs in CALABARZON in terms of recruitment and selection, learning and development, rewards and recognition, and performance management is shown in Part II. The scale for the measurement has corresponding verbal interpretations such as: 4 – Strongly Agree (Highly Beneficial); 3 – Agree (Moderately Beneficial); 2 – Disagree (Slightly Beneficial); and 1 – Strongly Disagree (Not Beneficial At All). Higher scores obtained mean that the participants have a high beneficial level of the observed variables.

Lastly, in Part III, the included items have helped the researcher discover how effective is HRIS in terms of efficiency, productivity, reliability, sustainability, accessibility, and acceptability. The scale for the measurement has corresponding verbal interpretations such as: 4 – Strongly Agree (Very Satisfactory); 3 – Agree (Satisfactory); 2 – Disagree (Fairly Satisfactory); and 1 – Strongly Disagree (Poor). High scores mean that the participants have a very satisfactory level of the observed variables.

The instrument was validated with the help of experts in this field (see Appendix 2). Since the self-made survey checklist as well as the interview questions were made in alignment with the aims and objectives of the study, the researcher sought three (3) experts to validate the questions included in the research instrument. The validators' comments and suggestions were considered and applied in the process of creating the right instrument that is appropriate for the study's objectives and subjects.

Data Gathering Procedure

The researcher secured a permit from the presidents or heads of the public HEIs to conduct the study as well as a letter of intent to the selected respondents discussing the researcher's intention to have them as the participants of this study. Upon approval, the questionnaire were distributed and administered.

The researcher used an electronic survey material ensuring safeguards features to avoid tampering with data and a hundred percent of data were collected. The researcher produced a link address, leading to the converted research instrument. In addition to this, upon the request of some participants, a hardcopy of

the questionnaire was also distributed. Face-to-face interview was also conducted with the use of interview guide. The selection of participants in the interview was based on their availability.

After the completion of the interview and survey questionnaire, the researcher collected the obtained data and prepared it for statistical treatment and analysis.

Statistical Treatment of Data

The data gathered for the study were analyzed using different statistical treatments.

The following were employed in analyzing the data:

1. descriptive statistics such as frequency distribution, mean, and standard deviations were used in determining the extent of implementation and beneficial use of information system, determining how effective is the HRIS of public HEIs in CALABARZON and knowing how effective HRIS is among the public HEIs;
2. ranking and mean were used determining the challenges encountered by the public HEIs in CALABARZON in the utilization of HRIS;
3. Spearman rank correlation coefficient was used to determine the relationship between the extent of implementation and beneficial of use of HRIS, extent of implementation and effectiveness of HRIS and beneficial of use and effectiveness of HRIS; and
4. Four-point Likert Scale was used in the presentation and analysis of the data obtained from the answered survey questionnaires pertaining to the variables presented in the study.

Table 2. Four- Point Likert Scale for Interpreting the Extent of Implementation of the Information System Used by Human Resource

RATE	DEGREE LEVEL	OR	WEIGHTED MEAN	VERBAL INTERPRETATION
4	Strongly Agree		3.50 – 4.00	Very Well Implemented
3	Agree		2.50 – 3.49	Well Implemented
2	Disagree		1.50 – 2.49	Fairly Implemented
1	Strongly Disagree		1.00 – 1.49	Poorly Implemented

Table 3. Four- Point Likert Scale for Interpreting How Beneficial is the Use of HRIS of Public HEIs in CALABARZON

RATE	DEGREE LEVEL	OR	WEIGHTED MEAN	VERBAL INTERPRETATION
4	Strongly Agree		3.50 – 4.00	Highly Beneficial
3	Agree		2.50 – 3.49	Moderately Beneficial
2	Disagree		1.50 – 2.49	Slightly Beneficial
1	Strongly Disagree		1.00 – 1.49	Not Beneficial At All

Table 4. Four- Point Likert Scale for Interpreting How Effective is the HRIS of the Public HEIs in CALABARZON

RATE	DEGREE LEVEL	OR WEIGHTED MEAN	VERBAL INTERPRETATION
4	Strongly Agree	3.50 – 4.00	Very Satisfactory
3	Agree	2.50 – 3.49	Satisfactory
2	Disagree	1.50 – 2.49	Fairly Satisfactory
1	Strongly Disagree	1.00 – 1.49	Poor

Ethical Considerations

In conducting the study, the researcher sent a letter of intent to the selected participants of the study which states the purpose and objectives of the study and stating the intent of the researcher to conduct the study. The researcher should not be subjected to any harm and their integrity were prioritized. In addition, the researcher ensured that the information and data that the participant provided were used for the purpose of this study only. Under no circumstances would the personal information and identification of the participants be exposed outside of the research study. Most importantly, it would be kept confidential and anonymous.

RESULTS AND DISCUSSION

Extent of Implementation of the Information Systems used by Human Resource of Higher Education Institutions in CALABARZON

This section discusses the participant’s perception in the extent of implementation of the information systems used by HR of HEIs in CALABARZON in terms of recruitment and selection, learning and development, rewards and recognition, and performance management. The responses were evaluated using the Likert-scale type of questionnaire. Subsequently, mean and standard deviations were applied to determine their responses through relative frequency.

Recruitment and selection. Table 5 displays the perception of the participants regarding the extent of implementation of the information system used by HR of HEIs in CALABARZON in terms of recruitment and selection. The results show an overall mean score of 3.34, a standard deviation of 0.54, with a verbal interpretation of "well implemented." This suggests that participants believe the information systems employed by HR for recruitment and selection are efficient and successful in achieving their intended purposes. These systems are seen as crucial in facilitating HR tasks. Additionally, it shows that the information systems are extensively used in HR operations, meaning that HR practitioners heavily rely on these systems to manage various aspects of recruitment and selection.

In line with the results of Reitsma's (2022) study, it was revealed that the Employee Information System serves as a comprehensive tool for centralized management of employee data, encompassing personal and professional information, employment agreements, onboarding documentation, performance

appraisals, offer letters, and other pertinent details. This system grants both employees and HR professionals the ability to access and modify this data and offers a visual representation of the organizational hierarchy, aiding in identifying individuals within the organization. The primary functions of the Employee Information System, as elucidated, revolve around payroll processing, personnel administration, and document management within the HR department.

Table 5. Extent of Implementation of the Information System Used by Human Resource of Higher Education Institutions in CALABARZON in Terms of Recruitment and Selection

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. HR uses employee information systems to keep track of the worker's records including personal and professional information.	3.50	0.52	Very Well Implemented
2. HR uses employee information systems to keep track of candidate information and resumes, enabling recruiters to match job opportunities to qualified individuals from the company's application pool, and aids in the recruiting process.	3.38	0.52	Well Implemented
3. HR uses recruiting information systems to develop a proper plan for recruiting to fill vacant positions.	3.31	0.55	Well Implemented
4. HR employs performance management information systems to know the performance evaluation data and productivity information data of the employees.	3.29	0.53	Well Implemented
5. HR employs performance management information systems to assess the performance of the employees to know whether they will be hired, fired, promote, or transferred to another department.	3.32	0.55	Well Implemented
6. HR utilizes employee information systems with application tracking features, onboarding, employee information, compensation and benefits options, and time tracking.	3.31	0.53	Well Implemented
7. HR uses job analysis and design information systems to obtain information from the people inside and outside the institution.	3.28	0.57	Well Implemented
TOTAL	3.34	0.54	WELL IMPLEMENTED

Scale:

3.50 – 4.00 Very Well Implemented

- 2.50 – 3.49 *Well Implemented*
 1.50 – 2.49 *Fairly Implemented*
 1.00 – 1.49 *Poorly Implemented*

Learning and Development. Table 6 shows the extent of implementation of the information system used by HR in terms of learning and development. The results display an overall mean score of 3.37, a standard deviation of 0.55, with a verbal interpretation of "well implemented." This implies that participants believe this information systems are exceptionally effective in supporting HR's efforts related to employee learning and development. The systems are seen as powerful tools in facilitating training and skill enhancement. Additionally, it suggests that HR extensively and comprehensively utilizes these systems for various aspects of employee development, including training, skill enhancement, and performance management.

Consistent with this viewpoint, as explored by Quaosar and Rahman (2021) in their study, it is emphasized that Human Resource (HR) experts play a pivotal role in enhancing employees' knowledge, competencies, and skills via training and development initiatives. The study further underscores the pivotal role of HRIS in facilitating the delivery of training and development programs to enhance employee performance. It is underscored that, prior to the formulation or implementation of a training and development program, it is crucial to consider factors such as training technology, trainee attributes in relation to their performance, and the design of the training program.

Table 6. Extent of Implementation of the Information System Used by Human Resource of Higher Education Institution in CALABARZON in Terms of Learning and Development

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. HR uses a tactical human resource information system to aid managers in deciding regarding resource allocation.	3.32	0.54	Well Implemented
2. HR uses employee information systems and performance management information systems for tracking not only their personal information but also to know how they perform.	3.38	0.57	Well Implemented
3. HR uses employee learning and development systems to help the employees explore more opportunities to hone their knowledge and skills in order to provide good service and working skills on their current job.	3.37	0.55	Well Implemented
4. HR uses employee learning and development systems in providing training to the employees who are willing and capable.	3.44	0.53	Well Implemented

5. HR uses employee learning and development systems which permits employees to obtain information about forthcoming initiatives, chances for training and growth, and other critical everyday aspects of their jobs.	3.32	0.54	Well Implemented
6. HR uses employee learning and development systems that reduces the need for human intervention, eliminates inconsistencies in the onboarding process for new employees, and saves money on training.	3.35	0.56	Well Implemented
TOTAL	3.37	0.55	WELL IMPLEMENTED

Scale:

- 3.50 – 4.00 Very Well Implemented*
- 2.50 – 3.49 Well Implemented*
- 1.50 – 2.49 Fairly Implemented*
- 1.00 – 1.49 Poorly Implemented*

Rewards and Recognition. Table 7 displays the extent of implementation of the information system used by HR in terms of rewards and recognition. The results revealed an overall mean score of 3.39, a standard deviation of 0.53, with a verbal interpretation of "well implemented." This implies that participants had a positive perception of the information systems used by HR to manage rewards and recognition. HR was using technology effectively to support its rewards and recognition programs, which can lead to improved employee motivation, engagement, and satisfaction.

Consistent with the research conducted by Reitsema (2022), HRIS offers a comprehensive set of functionalities that encompass various functions in terms of rewards and recognition. These systems feature a centralized repository that securely stores essential employee data, including names, addresses, social security numbers, and dependent information, ensuring immediate access when needed. Additionally, employees are granted access to their personal benefit-related information, among other details. The primary purpose of these systems is to securely preserve vital information that can be utilized for various HR-related tasks.

Table 7. Extent of Implementation of the Information System Used by Human Resource of Higher Education Institutions in CALABARZON in Terms Rewards and Recognition

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. HR uses employee information systems for payroll processing, people management, and document management by the HR department.	3.44	0.52	Well Implemented
2. HR uses compensation and benefits information systems to aid in the decisions of HR for executing the compensation and benefits plan.	3.39	0.52	Well Implemented
3. HR uses compensation and benefits information systems to help define a logical development route and the tasks that need to be completed for an individual to grow or advance in their position.	3.38	0.57	Well Implemented
4. HR uses employee training and development systems that contributes to the improvement of employees' skills through training which help them to be recognized and obtain certain rewards for their hard work.	3.44	0.55	Well Implemented
5. HR uses employee training and development systems to find individuals who are qualified for promotions and locate vacant positions.	3.35	0.53	Well Implemented
6. HR uses compensation and benefits information systems that allows workers to explore their benefits, check and change their information, request time off, acquire approval, and learn more about the company and its values.	3.32	0.51	Well Implemented
TOTAL	3.39	0.53	WELL IMPLEMENTED

Scale:

- 3.50 – 4.00 Very Well Implemented*
- 2.50 – 3.49 Well Implemented*
- 1.50 – 2.49 Fairly Implemented*
- 1.00 – 1.49 Poorly Implemented*

Performance Management. Table 8 reveals the extent of implementation of the information system used by HR in terms of performance management. The results show an overall mean score of 3.33 and a standard deviation of 0.50, indicating that the participants believe the information system is well implemented in terms of performance management. This implies that participants were satisfied with the overall way HR was using technology to support performance management. This is positive news for the

organization, as it suggests that HR is effectively using technology to support its employees and the organization's overall performance goals.

The findings of this study support the insights presented by Jackson (2022), who highlighted that the Performance Management Information System encompasses data pertaining to the productivity and performance evaluations of each employee, particularly for the purpose of providing testimony in the context of employee grievances by the human resources department. Furthermore, the establishment of a performance management system can manifest in various configurations. A conventional system may furnish valuable tools for tracking real productivity and posing performance-related queries. It might also incorporate a user-friendly dashboard for generating reports. The practical utility of performance management systems within actual business processes emerges as a critical concern. Notably, the realm of employee assessments and reviews, which can be inherently subjective, is frequently intertwined with the practice of performance management (Wickham, 2022).

Table 8. Extent of Implementation of the Information System Used by Human Resource of Higher Education Institutions in CALABARZON in Terms of Performance Management

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. HR uses a specialized human resource information system for managing human resource functions.	3.38	0.52	Well Implemented
2. HR uses a comprehensive human information system that helps in coordinating employee files, job analysis, safety files, etc., to produce reports easily from any or all of the files.	3.39	0.52	Well Implemented
3. HR uses information systems that support labor negotiations for negotiating crafts, maintenance, office, and industrial unions.	3.32	0.51	Well Implemented
4. HR uses information systems that support labor negotiations for collecting ad hoc reports to evaluate the institutions and union's stance during the negotiation process.	3.33	0.51	Well Implemented
5. HR uses information systems that support labor negotiation to obtain ad hoc reports to prevent issues and resolve them immediately.	3.21	0.43	Well Implemented
TOTAL	3.33	0.50	WELL IMPLEMENTED

Scale:

3.50 – 4.00 Very Well Implemented

- 2.50 – 3.49 Well Implemented
- 1.50 – 2.49 Fairly Implemented
- 1.00 – 1.49 Poorly Implemented

Beneficial Use of the Human Resource Information System of Public HEIs in CALABARZON

This section revealed the participants' perception of how beneficial the use of the HRIS of public HEIs in CALABARZON is in terms of recruitment and selection, learning and development, rewards and recognition, and performance management. The responses were evaluated using a Likert-scale type of questionnaire. Subsequently, mean and standard deviations were applied to determine their responses through relative frequency.

Recruitment and Selection. Table 9 shows how beneficial the use of the HRIS of public HEIs in CALABARZON is in terms of recruitment and selection. The results revealed an overall mean score of 3.30, a standard deviation of 0.54, and a verbal interpretation of moderately beneficial. This indicates that the participants likely think that the system greatly contributes to optimizing the recruitment process, from advertising job openings to selecting and onboarding candidates. In addition, the system was viewed as a valuable tool for selecting the most qualified candidates for available positions. It may help ensure that the best candidates are matched to the right job opportunities, resulting in a more streamlined and efficient hiring process.

The outcomes of this study are in concordance with the research conducted by Vulpen (2022), who underscores the role of information systems in addressing the comprehensive hiring needs of businesses. These systems are responsible for meticulously managing applicant data and resumes, facilitating the matching of job vacancies with suitable candidates from the company's pool of applicants. Furthermore, they play a pivotal role in guiding and streamlining the recruitment process.

Table 9. Beneficial Use of the HRIS of Public HEIs in CALABARZON in Terms of Recruitment and Selection

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. It minimizes employees' frustration with excessive wait times and decreases the number of times they contact HR.	3.36	0.56	Moderately Beneficial
2. It solves the company's entire staffing problem by storing information about job seekers and their resumes, facilitating the matching of open positions with competent candidates from the company's applicant pool.	3.20	0.55	Moderately Beneficial

3. It paves the way for a quick onboarding strategy to help new hires hit the ground running and ensure a positive first impression.	3.37	0.57	Moderately Beneficial
4. It is utilized as a repository for employee data, providing up-to-date statistics on the organization's hiring trends and staff retention.	3.29	0.49	Moderately Beneficial
5. It is used to promote communication among employees and departments, resulting in a more productive workplace.	3.23	0.53	Moderately Beneficial
6. It improves data integrity, and all private data of the employees will be stored safely in a consolidated cloud-based HRIS system which makes it less hassle to review and select the applicants fitted for the needed position to be filled in.	3.31	0.53	Moderately Beneficial
7. It will lessen the time of the HR department in finding all the records manually for making an update or modifications.	3.32	0.52	Moderately Beneficial
TOTAL	3.30	0.54	MODERATELY BENEFICIAL

Scale:

- 3.50 – 4.00 *Highly Beneficial*
- 2.50 – 3.49 *Moderately Beneficial*
- 1.50 – 2.49 *Slightly Beneficial*
- 1.00 – 1.49 *Not Beneficial At All*

Learning and Development. Table 10 reveals how beneficial the use of the HRIS of public HEIs in CALABARZON is in terms of learning and development. The results show an overall mean score of 3.33, a standard deviation of 0.56, and a verbal interpretation of moderately beneficial. The participants perceived the systems as effective in various aspects of employee development, providing tools for skill enhancement, performance evaluation, strategic decision-making, and overall enhancement of the employee experience. This suggests that public HEIs in CALABARZON were using HRIS to improve their learning and development programs and to develop a more skilled and knowledgeable workforce.

It was highlighted in the study of Ghosh (2021) that employees were among the most valuable resources in any firm, hence an HRIS must also feature talent management. However, recruiting, attracting, retaining, engaging, developing, and keeping people is a challenging process of personnel management. Additionally, the cost of employee turnover is high. The firm will be able to better care for its personnel with the aid of an HRIS that features a unique talent management system.

Table 10. Beneficial Use of the HRIS of Public HEIs in CALABARZON in Terms of Learning and Development

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. It is used to offer organizations an exceptional opportunity for more excellent worker development.	3.33	0.56	Moderately Beneficial
2. It is used to assist in tracking and identifying skill gaps and providing customized training for each employee's needs.	3.24	0.55	Moderately Beneficial
3. It utilized to facilitate employee performance evaluation by knowing suitable training methods and utilizing the knowledge taught to employees in an accessible manner.	3.36	0.56	Moderately Beneficial
4. It is utilized to determine a fair progression path and the steps to take for personnel advancement/progression.	3.34	0.56	Moderately Beneficial
5. It is used to give enterprises the aid they need to increase efficiency, develop more effective personnel strategies, and make critical decisions that affect company success.	3.42	0.53	Moderately Beneficial
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STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
6. It is utilized to save time and allows HR to focus on things that computers can't, such as team building activities, team engagement, work-life balance, and other employee benefit programs designed to increase employee motivation and loyalty to the firm.	3.31	0.56	Moderately Beneficial
7. It helps to improve employee perception throughout the workforce and offers employees a well-rounded experience by providing them with their desired benefit packages and opportunities.	3.30	0.61	Moderately Beneficial
TOTAL	3.33	0.56	MODERATELY BENEFICIAL

Scale:

3.50 – 4.00 Highly Beneficial

- 2.50 – 3.49 Moderately Beneficial
- 1.50 – 2.49 Slightly Beneficial
- 1.00 – 1.49 Not Beneficial At All

Rewards and Recognition. Table 11, as shown on the next page, presents how beneficial the use of the HRIS of public HEIs in CALABARZON is in terms of rewards and recognition. The results revealed an overall mean score of 3.31, a standard deviation of 0.56, and a verbal interpretation of moderately beneficial. This implies that the participants were satisfy and agree that the information system simplifies various processes related to rewards and recognition. The findings of this study align with the insights presented by Stern (2021), who suggested that transitioning to the integration of various processes within their HRIS can be advantageous for a company. This integration facilitates the seamless collection and transfer of data within the system, eliminating the need for redundant data entry. This not only reduces the potential for errors but also streamlines processes, ultimately leading to substantial time savings for employees.

**Table 11. Beneficial Use of the HRIS of Public HEIs in CALABARZON
 in Terms of Rewards and Recognition**

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. It has payroll systems wherein making payment adjustments, modifying schedules, and maintaining employee hour records become easier.	3.33	0.56	Moderately Beneficial
2. It has employee self-service wherein it helps the employees to see their personal data, can make time in and time out, and can view their schedules without hassle.	3.27	0.57	Moderately Beneficial
3. It helps the employees to have access to their personal data, schedules, etc., using their mobile devices.	3.30	0.58	Moderately Beneficial
4. It lessens the hassle of managing the timesheets of the employees.	3.33	0.59	Moderately Beneficial
5. It includes automated timesheet entry wherein absences, holidays, and requests for leave can be processed immediately to adjust the payroll of the employees easily.	3.32	0.54	Moderately Beneficial
6. It gives management the ability to import and export relevant employee data, such as information on employee time and attendance for payroll purposes.	3.26	0.53	Moderately Beneficial
7. It keeps an eye on employee schedules and time spent to ensure compliance with labor laws and provide payment information.	3.32	0.57	Moderately Beneficial

TOTAL	3.31	0.56	MODERATELY BENEFICIAL
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Scale:

- 3.50 – 4.00 Highly Beneficial
- 2.50 – 3.49 Moderately Beneficial
- 1.50 – 2.49 Slightly Beneficial
- 1.00 – 1.49 Not Beneficial At All

Performance Management. Table 12 shows how beneficial the use of the HRIS of public HEIs in CALABARZON is in terms of performance management. The results show an overall mean score of 3.35, a standard deviation of 0.53, and a verbal interpretation of moderately beneficial. This suggests that the HRIS in public HEIs in CALABARZON satisfactorily monitors employee performance, streamlines processes for quick decision-making, supports worker development through customized training, and offers real-time progress analysis. It is a comprehensive solution that automates the entire HR process, improving data accessibility and accuracy, and providing valuable information about employee tenure. In essence, this HRIS enhances performance management, decision efficiency, and employee development while ensuring HR tasks are well-organized and data is readily available.

**Table 12. Beneficial Use of the HRIS of Public HEIs in CALABARZON
in Terms of Performance Management**

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. It tracks employee performance consistently and statistically and ensures that all divisions and individuals contribute to strategic goals.	3.39	0.54	Moderately Beneficial
2. It streamlines and automates processes, empowering staff to make quick, informed decisions.	3.35	0.56	Moderately Beneficial
3. It offers organizations an excellent opportunity to improve worker development, track employee skill gaps, and provide customized training to fit the needs of each employee.	3.38	0.55	Moderately Beneficial
4. It analyzes employees' progress in real-time and provides instant access to vital information on any device, such as performance reviews and hours spent.	3.32	0.55	Moderately Beneficial
5. It is an all-inclusive solution capable of optimizing and automating the entire human resources process, from hiring to termination, which is undoubtedly its most crucial feature.	3.35	0.53	Moderately Beneficial

6. It enables metrics to be more accessible, information to be processed more quickly, and the information is more accurate.	3.33	0.53	Moderately Beneficial
7. It contains information about each employee's length of service with the business.	3.32	0.49	Moderately Beneficial
TOTAL	3.35	0.53	MODERATELY BENEFICIAL

Scale:

- 3.50 – 4.00 *Highly Beneficial*
- 2.50 - 3.49 *Moderately Beneficial*
- 1.50 – 2.49 *Slightly Beneficial*
- 1.00 – 1.49 *Not Beneficial At All*

Effectiveness of Human Resource Information System of the Public HEIs

This section presents how effective the HRIS of the public HEIs is in terms of efficiency, productivity, reliability, sustainability, accessibility, and acceptability. The responses were evaluated using a Likert-scale type of questionnaire. Subsequently, mean and standard deviations were applied to determine their responses through relative frequency.

Efficiency. Table 13 reflects how effective the HRIS of the public HEIs is in terms of efficiency. The overall mean score of 3.37 and standard deviation of 0.53 indicate that the system users had a consistent level of satisfaction with the system performance. This reflects positively on the system design and implementation, as well as the user experience and expectations. The result was supported by the study of Al-Mamary *et al.* (2014), who investigated the impact of system quality on user satisfaction in enterprise resource planning (ERP) systems. They found that system quality dimensions, such as reliability, flexibility, response time, integration, and security, had a significant positive effect on user satisfaction. They also found that user satisfaction was influenced by user involvement, training, and management support.

Table 13. Effectiveness of Human Resource Information System of Public HEIs in Terms of Efficiency

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Time behavior (the response and processing time and throughput rates of a system, when performing its functions, meet requirements).	3.35	0.51	Satisfactory
2. Resource utilization (the amount and type of resources used by a system, when performing its functions, meet requirements).	3.33	0.53	Satisfactory

3. Capacity (the maximum limits of a system parameter meet requirements).	3.44	0.55	Satisfactory
TOTAL	3.37	0.53	SATISFACTORY

Scale:

- 3.50 – 4.00 Very Satisfactory
- 2.50 – 3.49 Satisfactory
- 1.50 – 2.49 Fairly Satisfactory
- 1.00 – 1.49 Poor

Productivity. Table 14 presents how effective is the HRIS of the public HEIs in terms of productivity. Overall, the data suggests that HRIS of public HEIs meets the users’ needs and expectations in terms of productivity, and that the users were satisfied with their interaction with the system gaining an overall mean score of 3.32 with standard deviation of 0.55 and interpreted as satisfactory.

The data also supports the findings of a previous study by Alshamari *et al.* (2017), who conducted a similar productivity evaluation of mobile banking applications and found high ratings for usability, especially for learnability and appropriateness recognizability. Therefore, the data can be used to validate the design and development of the system, and to identify areas for improvement or enhancement in future iterations.

Table 14. Effectiveness of Human Resource Information System of Public HEIs in terms of Productivity

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Appropriateness recognizability (users can recognize whether a system is appropriate for their needs).	3.35	0.50	Satisfactory
2. Learnability (the system can be used by specified users to achieve specified goals of learning to use the system with effectiveness, efficiency, freedom from risk and satisfaction in a specified context of use).	3.38	0.60	Satisfactory
3. Operability (system has attributes that make it easy to operate and control).	3.31	0.55	Satisfactory
4. User error protection (system protects users against making errors).	3.25	0.54	Satisfactory
5. User interface aesthetics (user interface enables pleasing and satisfying interaction for the user).	3.32	0.54	Satisfactory
TOTAL	3.32	0.55	SATISFACTORY

Scale:

- 3.50 – 4.00 Very Satisfactory
- 2.50 – 3.49 Satisfactory
- 1.50 – 2.49 Fairly Satisfactory

1.00 – 1.49 Poor

Reliability. Table 15 illustrates how effective is the HRIS of the public HEIs in terms of reliability. The overall result shows a satisfactory level of reliability, with a total mean of 3.29 and a total standard deviation of 0.51. This implies that the system or component performs its required functions consistently and accurately under stated conditions for a specified time period.

A related study that supports this result is by Al-Mamary *et al.* (2014), who found that reliability was one of the most important factors affecting the success of human resource information systems in organizations.

Table 15. Effectiveness of Human Resource Information System of Public HEIs in Terms of Reliability

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Maturity (the system or components meets needs for reliability under normal operation).	3.38	0.49	Satisfactory
2. Availability (the system or components is operational and accessible when required for use).	3.26	0.51	Satisfactory
3. Fault tolerance (the system or components operates as intended despite the presence of hardware or software faults).	3.32	0.50	Satisfactory
4. Recoverability (in the event of an interruption or a failure, a system can recover the data directly affected and re-establish the desired state of the system).	3.22	0.53	Satisfactory
TOTAL	3.29	0.51	SATISFACTORY

Scale:

- 3.50 – 4.00 *Very Satisfactory*
- 2.50 – 3.49 *Satisfactory*
- 1.50 – 2.49 *Fairly Satisfactory*
- 1.00 – 1.49 *Poor*

Sustainability. Table 16 shows how effective is the HRIS of the public HEIs in terms of sustainability. The table presents the mean, standard deviation, and verbal interpretation of five statements that measure the sustainability of the system. The statements were related to modularity, reusability, analyzability, modifiability and testability of the system.

To sum up, the participants had a satisfactory assessment of the HRIS of the public HEIs in terms of sustainability. The total mean score was 3.33 with a standard deviation of 0.55 implies that the system has a satisfactory degree of modularity, reusability, analyzability, modifiability and testability, which are

essential attributes for a sustainable system. A related study that supports this finding was by Amjad *et al.* (2021), who found that green human resource management practices have a positive effect on organizational sustainability through the mediating role of environmental and employee performance.

Table 16. Effectiveness of Human Resource Information System of Public HEIs in Terms of Sustainability

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Modularity (the system program is composed of discrete components such that a change to one component has minimal impact on other components).	3.32	0.57	Satisfactory
2. Reusability (can be used in more than one system or in building other assets).	3.30	0.53	Satisfactory
3. Analyzability (the degree of effectiveness and efficiency with which it is possible to assess the impact on a system of an intended change to one or more of its parts or to diagnose a product for deficiencies of failure or identify parts to be modified).	3.43	0.51	Satisfactory
4. Modifiability (system can be effectively and efficiently modified without introducing defects or degrading existing product quality).	3.32	0.57	Satisfactory
5. Testability (the degree of effectiveness and efficiency can be established for a system and test can be performed to determine whether those criteria have been met).	3.28	0.57	Satisfactory
TOTAL	3.33	0.55	SATISFACTORY

Scale:

- 3.50 – 4.00 *Very Satisfactory*
- 2.50 – 3.49 *Satisfactory*
- 1.50 – 2.49 *Fairly Satisfactory*
- 1.00 – 1.49 *Poor*

Accessibility. Table 17 presents the findings on how effective is the HRIS of public HEIs in terms of accessibility with a total mean score of 3.33 and a standard deviation of 0.52. Overall, the participants were satisfied with the HRIS of the public HEIs in terms of accessibility. They perceived that the system has a satisfactory level of confidentiality, integrity, accountability, authenticity, adaptability, installability, and replaceability. This implies that the system meets the standards and expectations of the users and stakeholders in terms of accessing and managing HR data.

A related study that supports this finding is by Alshibly (2011), who examined the impact of HR information systems on organizational performance. The study found that HRIS have a positive effect on organizational performance through improving HR functions such as recruitment, training, performance appraisal, and compensation. The study also found that HRIS enhanced the accessibility and quality of HR data, which in turn facilitates decision making and strategic planning.

**Table 17. Effectiveness of Human Resource Information System
of Public HEIs in Terms of Accessibility**

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Confidentiality (ensures that data are accessible only to those authorized to have access).	3.35	0.59	Satisfactory
2. Integrity (system prevents unauthorized access to, or modification of, computer program or data).	3.30	0.55	Satisfactory
3. Accountability (the actions of an entity can be traced uniquely to the entity).	3.35	0.50	Satisfactory
4. Authenticity (the identity of a subject or resource can be proved to be the one claimed).	3.41	0.53	Satisfactory
5. Adaptability (can effectively and efficiently be adapted for different or evolving hardware, software or other operational or usage environments).	3.30	0.48	Satisfactory
6. Instability (effectiveness and efficiency with which a system can be successfully installed and/or uninstalled in a specified environment).	3.34	0.51	Satisfactory
7. Replaceability (product can be replace another specified software product for the same purpose in the same environment).	3.29	0.49	Satisfactory
TOTAL	3.33	0.52	SATISFACTORY

Scale:

- 3.50 – 4.00 Very Satisfactory*
- 2.50 – 3.49 Satisfactory*
- 1.50 – 2.49 Fairly Satisfactory*
- 1.00 – 1.49 Poor*

Acceptability. Based on the result, Table 18 reveals the overall mean of 3.28 with a standard deviation of 0.47 which was interpreted as satisfactory, wherein the participants perceived that the system has satisfactory level of functional completeness, correctness, and appropriateness. This implies that the system meets the needs and expectations of the users and stakeholders in terms of providing quality HR services.

A related study that supports this finding was by Kavanagh *et al.* (2018), who examined the factors influencing user satisfaction with HR information systems in public sector organizations. The study found that user satisfaction with HR information systems was influenced by system quality, information quality, service quality, and user involvement. The study also found that user satisfaction with HR information systems positively affects organizational performance and employee outcomes.

Table 18. Effectiveness of Human Resource Information System of Public HEIs in terms of Acceptability

STATEMENT	MEAN	STANDARD DEVIATION	VERBAL INTERPRETATION
1. Functional completeness (set of functions covers all the specified tasks and user objectives).	3.27	0.48	Satisfactory
2. Functional correctness (provides the correct results with the needed degree of precision).	3.31	0.48	Satisfactory
3. Functional appropriateness (functions facilitate the accomplishment of specified tasks and objectives).	3.25	0.45	Satisfactory
TOTAL	3.28	0.47	SATISFACTORY

Scale:

- 3.50 – 4.00 *Very Satisfactory*
- 2.50 – 3.49 *Satisfactory*
- 1.50 – 2.49 *Fairly Satisfactory*
- 1.00 – 1.49 *Poor*

Relationships Among Variables

This section presents the significant relationship between the extent of implementation and beneficial use of human resource information system, extent of implementation and effectiveness of human resource information system and beneficial of use and effectiveness of Human resource information system. The Spearman rank of correlation coefficient at 5-percent level of significance was used to test the significant relationship.

Extent of Implementation and Beneficial of Use of HRIS

Recruitment and Selection. The results of the statistical analysis on the relationship between the extent of implementation and beneficial use of HRIS in terms of recruitment and selection are reflected in

Table 19. The p-values for the different factors were all greater than the significance level of 0.05, indicating that the null hypothesis is accepted. This implies that regardless of the extent of implementation within the organization, the beneficial use of HRIS in terms of recruitment and selection was not affected.

Table 19. Relationship Between Extent of Implementation and Beneficial Use of HRIS in Terms of Recruitment and Selection

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Reliability	-0.045	0.631	Accept H ₀
Sustainability	-0.049	0.603	Accept H ₀
Accessibility	-0.005	0.059	Accept H ₀
Acceptability	0.029	0.753	Accept H ₀
TOTAL	-0.095	0.308	ACCEPT H₀

Learning and development. Table 20 presents the relationship between the extent of implementation and beneficial use of HRIS in terms of learning and development. The results revealed that the overall p-value (0.009) was less than the significance level, indicating that the null hypothesis is rejected. This implies that there is a significant relationship between the extent of implementation and beneficial use of HRIS in terms of learning and development. Therefore, any changes in the extent of implementation in terms of learning and development will have an impact on the beneficial use of HRIS.

Table 20. Relationship Between Extent of Implementation and Beneficial Use of HRIS in Terms of Learning and Development

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Reliability	0.020	0.828	Accept H ₀
Sustainability	0.057	0.539	Accept H ₀
Accessibility	0.197	0.033	Reject H ₀
Acceptability	0.212	0.022	Reject H ₀
TOTAL	0.241	0.009	REJECT H₀

Rewards and Recognition. Table 21 presents the relationship between the extent of implementation and beneficial use of HRIS in terms of rewards and recognition. The p-values for the different factors – reliability (0.119), sustainability (0.606), accessibility (0.526), and acceptability (0.824) – were all greater than 0.05. Therefore, the null hypothesis is accepted. This indicates that there is no significant relationship between the extent of implementation and beneficial use of HRIS in terms of rewards and recognition. In

other words, regardless of the extent of implementation within an organization, the benefits derived from using HRIS for rewards and recognition were not affected.

Table 21. Relationship Between Extent of Implementation and Beneficial Use of HRIS in Terms of Reward and Recognition

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Reliability	0.145	0.119	Accept H ₀
Sustainability	-0.048	0.606	Accept H ₀
Accessibility	0.059	0.526	Accept H ₀
Acceptability	0.021	0.824	Accept H ₀
TOTAL	0.054	0.563	ACCEPT H₀

Performance Management. Results of statistical analysis on the relationship between the extent of implementation and beneficial of use of HRIS in terms of performance management was reflected on Table 22. The p-values for all factors were more 0.05 hence accepting the null hypothesis that there is no relationship between the extent of implementation and beneficial of use of HRIS in terms of performance management. The results revealed that when the extent of implementation of HRIS was implemented, the beneficial of use of HRIS will remain and will not be affected.

Table 22. Relationship Between Extent of Implementation and Beneficial Use of HRIS in Terms of Performance Management

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Reliability	0.093	0.317	Accept H ₀
Sustainability	0.056	0.551	Accept H ₀
Accessibility	0.151	0.103	Accept H ₀
Acceptability	0.056	0.551	Accept H ₀
TOTAL	0.113	0.225	ACCEPT H₀

The overall results of the relationship between extent of implementation and beneficial use of HRIS are reflected in Table 23. The p-value of 0.214 is greater than the significance level of 0.05, thus accepting the null hypothesis that there is no significant relationship between extent of implementation and beneficial use of HRIS. This result indicates that whatever changes occur in the extent of implementation within an organization, the beneficial use of HRIS will not be affected. Related studies support these findings, suggesting that specific job positions and employee tenure do not significantly impact the effectiveness of software implementation (Fernando *et al.* 2023).

Table 23. Summary of Relationship Between the Extent of Implementation and Use of HRIS

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Reliability	0.059	0.530	Accept H ₀
Sustainability	0.025	0.791	Accept H ₀
Accessibility	0.147	0.113	Accept H ₀
Acceptability	0.085	0.363	Accept H ₀
TOTAL	0.116	0.214	ACCEPT H₀

Extent of Implementation and Effectiveness of HRIS

Recruitment and selection. Table 24 presents the result of statistical test on the relationship between the extent of implementation and effectiveness of HRIS in terms of recruitment and selection. Results revealed that there is significant relationship between the extent of implementation and effectiveness of HRIS, thereby rejecting the null hypothesis. This implies that the scope of implementation has an impact on the effectiveness of HRIS that indicates that activities on the extent of implementation will affect the factors of effectiveness of HRIS.

Table 24. **Relationship between the extent of implementation and effectiveness of HRIS in terms of recruitment and selection**

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	0.080	0.393	Accept H ₀
Productivity	0.281	0.002	Reject H ₀
Reliability	0.361	0.000	Reject H ₀
Sustainability	0.395	0.000	Reject H ₀
Accessibility	0.386	0.000	Reject H ₀
Acceptability	0.010	0.915	Accept H ₀
TOTAL	0.433	0.000	REJECT H₀

Learning and development. Results of statistical test on the relationship between the extent of implementation and effectiveness of HRIS in terms of learning and development is reflected on Table 25. The overall p-value of 0.305 is higher than the level of significance, hence, the null hypothesis was rejected. It was noted that among the factors, only productivity had a positive relationship with extent of implementation. This explains that when extent of implementation in the organization changes, the productivity in terms of learning and development was affected.

Table 25. **Relationship between the extent of implementation and effectiveness of HRIS in terms of learning and development**

FACTORS	SPEARMAN RANK	P-VALUE	REMARKS
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	CORRELATION COEFFICIENT		
Efficiency	0.202	0.029	Accept H ₀
Productivity	0.236	0.010	Reject H ₀
Reliability	0.149	0.108	Accept H ₀
Sustainability	-0.020	0.831	Accept H ₀
Accessibility	0.025	0.785	Accept H ₀
Acceptability	0.064	0.495	Accept H ₀
TOTAL	0.096	0.305	ACCEPT H₀

Rewards and recognition. Table 26 shows the results on the relationship between the extent of implementation and effectiveness of HRIS in terms of rewards and recognition. The p-values for all the factors were all higher than 5 percent level of significance which indicates that the null hypothesis is accepted. This means that all factors have no relationship with the extent of implementation in terms of rewards and recognition and it will have no impact in any changes.

Table 26. Relationship between the extent of implementation and effectiveness of HRIS in terms of rewards and recognition

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	0.137	0.140	Accept H ₀
Productivity	0.056	0.548	Accept H ₀
Reliability	0.023	0.802	Accept H ₀
Sustainability	0.030	0.747	Accept H ₀
Accessibility	0.043	0.649	Accept H ₀
Acceptability	0.169	0.068	Accept H ₀
TOTAL	0.026	0.778	ACCEPT H₀

Performance management. Table 27 displays the results on the relationship between the extent of implementation and effectiveness of HRIS in terms of performance management. The overall p-value of 0.043 was less than the significance level which indicates that the null hypothesis is rejected. Rejection of null hypothesis implicates that there is a significant relationship between the extent of implementation and effectiveness of HRIS in terms of performance management. This explains further that the factors has a strong relationship with the extent of implementation. If extent of implementation are well implemented, there will impact on the effectiveness of HRIS.

Table 27. Relationship between the extent of implementation and effectiveness of HRIS in terms of performance management

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	0.050	0.593	Accept H ₀
Productivity	0.169	0.068	Accept H ₀
Reliability	0.180	0.052	Accept H ₀

Sustainability	0.006	0.951	Accept H ₀
Accessibility	0.149	0.110	Accept H ₀
Acceptability	0.156	0.093	Accept H ₀
TOTAL	0.188	0.043	REJECT H₀

In terms of overall results, the p-value of 0.024 shows that it was less than the significance level (0.05) which indicates that the null hypothesis was rejected. This means that there is a significant relationship between the extent of implementation and effectiveness of HRIS. In addition, the study revealed that the factors have influence in the extent of implementation. One important subject that surfaced in the literature was the connection between organizational efficiency, effectiveness and HRIS adoption. The implementation of HRIS can improve organizational efficiency through streamlined HR processes, decreased administrative burden, and improved decision-making capabilities, according to the findings of the systematic literature review and empirical analysis (Hendrickson, 2003; Marler & Fisher, 2013).

Table 28. Summary of relationship between extent of implementation and effectiveness of HRIS

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	0.150	0.107	Accept H ₀
Productivity	0.210	0.023	Reject H ₀
Reliability	0.197	0.033	Reject H ₀
Sustainability	0.075	0.421	Accept H ₀
Accessibility	0.176	0.057	Accept H ₀
Acceptability	0.107	0.252	Accept H ₀
TOTAL	0.208	0.024	REJECT H₀

Beneficial Use and Effectiveness of HRIS

Recruitment and Selection. Table 29 reflects the results on the relationship between the beneficial of use and effectiveness of HRIS. Results of the statistical analysis shows that the p-value (0.67) was more than 0.05 therefore there is a significant relationship between the beneficial of use and effectiveness of HRIS. This means that beneficial of use in terms of recruitment and selection has influence in the effectiveness of HRIS.

Table 29. Relationship between the beneficial use and effectiveness of HRIS in terms of recruitment and selection

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	-0.008	0.929	Accept H ₀
Productivity	-0.051	0.588	Accept H ₀
Reliability	-0.183	0.048	Reject H ₀
Sustainability	-0.198	0.033	Reject H ₀
Accessibility	-0.108	0.244	Accept H ₀

Acceptability	-0.048	0.604	Accept H ₀
TOTAL	-0.170	0.067	ACCEPT H₀

Learning and Development. Table 30 displays the results of the statistical analysis on the relationship between the beneficial of use and effectiveness of HRIS in terms of learning and development. Results revealed that among the factors of effectiveness of HRIS, only efficiency had a p-value of 0.030 which was less than the 5 percent level of significance. Thus, rejecting the null hypothesis. The p-value for other factors (productivity, reliability, sustainability, accessibility and acceptability) were more 0.05 hence accepting the null hypothesis. This revealed that only efficiency had the relationship with the beneficial of use.

Table 30. Relationship between the beneficial use and effectiveness of HRIS in terms of learning and development

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	-0.201	0.030	Reject H ₀
Productivity	-0.163	0.078	Accept H ₀
Reliability	0.088	0.347	Accept H ₀
Sustainability	0.078	0.406	Accept H ₀
Accessibility	0.113	0.224	Accept H ₀
Acceptability	0.041	0.662	Accept H ₀
TOTAL	0.087	0.349	ACCEPT H₀

Rewards and Recognition. Results of the statistical analysis on the relationship between the beneficial of use and effectiveness of HRIS in terms of rewards and recognition was display in Table 31. Results revealed that the p-value of 0.991 was more the significance level (0.05) which indicates that the null hypothesis was accepted. Acceptance of null hypothesis implicates that there is no significant relationship between the beneficial of use and effectiveness of HRIS in terms of rewards and recognition. Thus, whatever changes in the factors of the beneficial of use of HRIS has no impact in the factors of effectiveness of HRIS.

Table 31. Relationship between the beneficial use and effectiveness of HRIS in terms of rewards and recognition

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	-0.001	0.989	Accept H ₀
Productivity	-0.015	0.874	Accept H ₀
Reliability	0.004	0.970	Accept H ₀
Sustainability	-0.063	0.498	Accept H ₀
Accessibility	0.041	0.663	Accept H ₀
Acceptability	0.046	0.625	Accept H ₀

TOTAL	0.001	0.991	ACCEPT H₀
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Performance Management. Table 32 presents the relationship between the beneficial of use and effectiveness of HRIS in terms of performance management. In results, table shows that all factors has p-values of greater than the significance level of 0.05 which means accepting the null hypothesis that there is no significant relationship between the beneficial of use and effectiveness of HRIS in terms of performance management. This implies that whatever changes occur in the beneficial of use, the effectiveness of HRIS in terms performance management will not be affected.

Table 32. Relationship between the beneficial of use and effectiveness of HRIS in terms of performance management

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	-0.078	0.404	Accept H ₀
Productivity	0.079	0.397	Accept H ₀
Reliability	-0.050	0.590	Accept H ₀
Sustainability	-0.099	0.286	Accept H ₀
Accessibility	-0.004	0.964	Accept H ₀
Acceptability	0.018	0.851	Accept H ₀
TOTAL	-0.101	0.278	ACCEPT H₀

The overall results of the relationship between the beneficial of use and effectiveness of HRIS is shown in Table 33. All obtained p-values were more than the level of significance (0.05) thus accepting the null hypothesis. Results indicates that there is no significant relationship between the beneficial of use and effectiveness of HRIS. It explains that the factors between the beneficial of use and effectiveness of HRIS has no influence. Furthermore, in a study conducted by Quaosar (2018), it was mentioned that users of information systems allow them to do their tasks more effectively, thus it is safe to assume that it provides them an advantage.

Table 33. Summary of relationship between beneficial use and effectiveness of HRIS

FACTORS	SPEARMAN RANK CORRELATION COEFFICIENT	P-VALUE	REMARKS
Efficiency	-0.139	0.134	Accept H ₀
Productivity	-0.052	0.581	Accept H ₀
Reliability	-0.028	0.762	Accept H ₀
Sustainability	-0.072	0.441	Accept H ₀
Accessibility	0.033	0.726	Accept H ₀
Acceptability	0.009	0.923	Accept H ₀
TOTAL	-0.084	0.366	ACCEPT H₀

Challenges Encountered by the Public HEIs in CALABARZON in the Utilization of HRIS

This section identifies the challenges encountered by the public HEIs in CALABARZON in the utilization of HRIS. Responses of the participants were summarized. Mean and ranking were applied, and results were presented in Table 33.

As shown in Table 34, statement number two ranked first with a mean score of 3.41, indicating that the participants believed that the lack of funding, leadership, and permissions required to deploy, integrate, and maintain the system was challenging in adopting the HRIS. This suggests that HRIS may not be fully utilized if these concerns are not properly addressed. These findings were consistent with previous studies that have identified various barriers and difficulties in implementing HRIS in different contexts (Alshibly & Alkurdi, 2019; Hussain *et al.*, 2007).

Table 34. Challenges encountered by the public HEIs in CALABARZON in the utilization of HRIS

STATEMENTS	MEAN	RANK
1. The growth and changes in technology cause concern and even resistance among employees.	3.32	4
2. Organization lack of funding, leadership and permissions required to deploy, integrate and maintain the system.	3.41	1
3. Lack of leadership development leads to conflicts and arguments between employers and employees especially in adopting the information system.	3.38	2
4. HRIS contributes to the difficulties of managing personnel data and protecting their data privacy.	3.26	3
5. HRIS introduces new HR practices that must be adopted by the employees which can negatively affect their workflow.	3.30	5

Proposed Enhancement on the Implementation of HRIS of Public HEIs in CALABARZON

Integrating pertinent human data and enhancing information flow within an organization are the goals of an HRIS. Better performance outcomes and optimized management and control of personnel competencies are ensured by doing this. In addition, data-based, optimized HR management helps keep the company competitive.

This part presents the matrix of proposed enhancement on the implementation of HRIS of public HEIs in CALABARZON. The proposed activities or programs that can be done on the implementation of HRIS are presented based on the results of the study. The objectives of each activity are also illustrated to properly execute the specific actions that will bring closer in achieving its purpose. The target or involve person are also identified to know who will be included in the implementation of the proposed enhancement program. In addition, the proposed matrix will serve as a guide in identifying and executing the proposed enhancement in the implementation of HRIS in the public HEIs in CALABARZON to strengthen human resource delivery of services.

Matrix of Proposed Enhancement on the Implementation of HRIS of Public HEIs in CALABARZON

CATEGORY	FINDINGS	ACTIVITY	OBJECTIVE	PERSON INVOLVED
Extent of Implementation of the Information Systems Used by Human Resource				
Recruitment and Selection	Well Implemented	Organize a committee or Project Team Creation of HRIS Manual	To have a concern office/team who will be in-charge in the proper monitoring of HRIS concerns/activities To provide a better understanding of using the system To bring employee awareness of the functions and significance of the HRIS	Project Team/ Committee HR practitioner and user of HRIS
Learning and Development	Well Implemented			
Rewards and Recognition	Well Implemented			
Performance Management	Well Implemented			
Beneficial of Use of the HRIS of Public HEIs in CALABARZON				
Recruitment and Selection	Moderately Beneficial	Employee training and seminar	To increase the employee's awareness and understanding of the characteristics and significance of the system To boost employee's confidence in using the system	All Employees
Learning and Development	Moderately Beneficial			
Rewards and Recognition	Moderately Beneficial			
Performance Management	Moderately Beneficial			
Effectiveness of the HRIS of the Public HEIs				
Efficiency	Satisfactory	Appointment of maintenance personnel/ team	To make sure that the system will continues to run smoothly	Maintenance Team HR Personnel Unit Head of the Concern Department
Productivity	Satisfactory			
Reliability	Satisfactory			
Sustainability	Satisfactory			
Accessibility	Satisfactory			
Acceptability	Satisfactory			

		Conduct of monthly/quarterly assessment/review	To evaluate the effectiveness and status of the system To analyze feedback and define success criteria	
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Summary

This study was conducted to discuss the Human Resource Information System (HRIS) of the public HEIs in CALABARZON. Specifically, this study intends to answer the extent of implementation of the information systems used by HR, beneficial of use of the HRIS of public HEIs in CALABARZON, effectiveness of the HRIS of the public HEIs; the significant relationship between extent of implementation and beneficial of use of HRIS, significant relationship between the extent of implementation and effectiveness of HRIS, significant relationship of beneficial of use and effectiveness of HRIS, the challenges encountered by the public HEIs in CALABARZON in the utilization of HRIS, and proposed enhancement on the implementation of the HRIS of public HEIs in CALABARZON to further strengthen human resource delivery of services. The researcher utilized the descriptive and correlational research design.

Based on the findings, the extent of implementation of information systems used by HR for recruitment and selection, learning and development, rewards and recognition, and performance management all received a verbal interpretation of well implemented.

Beneficial of use of the HRIS of public HEIs in CALABARZON in terms of recruitment and selection, learning and development, rewards and recognition, and performance management were tested and the participants yielded a moderately beneficial level of assessment. Also, the participants collectively assessed the effectiveness of the HRIS of public HEIs as "satisfactory" in terms of efficiency, productivity, reliability, sustainability, accessibility, and acceptability. All the grand mean scores fall within the range of 3 to 4, specifically at 3.37, 3.32, 3.29, 3.33, 3.33, and 3.28, respectively.

Relationship between extent of implementation and beneficial of use of HRIS was more than the significance level of 0.05 thus accepting the null hypothesis that there is no significant relationship. Significant relationship between the extent of implementation and effectiveness of HRIS was recorded. Relationship of beneficial of use and effectiveness of HRIS was also tested and results indicates that there is no significant relationship.

The participants identified the challenges faced by public HEIs in CALABARZON in the utilization of HRIS and number in the ranking was statement number 2 which indicates that the participants believed that the lack of funding, leadership and permissions required to deploy, integrate and maintain the

system was challenging in adopting the HRIS. This means that HRIS may not be fully utilized if these concerns will not be addressed properly.

CONCLUSIONS

Based on the results of the study the following conclusions were reached:

1. The extent of implementation of information systems used by HR are well implemented therefore, employees in the organization believed that HRIS significantly enhances overall organizational efficiency.
2. Satisfaction in the beneficial of use of the HRIS can assist an organization achieves competitive advantage and this leads to overall organizational efficiency.
3. Participants satisfaction expressed a belief that the effectiveness of the HRIS of the public HEIs would result in a more strategic role, boost the organization's competitiveness, and open new opportunities to provide value to the organization.
4. In terms of relationship, the factors in the extent of implementation affects effectiveness of HRIS therefore, it was noted that any changes in the organization will have an influence on the effectiveness of HRIS.
5. It was disclosed that challenges encountered when using HRIS may influence some aspect of implementation and effectiveness.
6. The matrix was hereby crafted and recommended for enhancement of the implementation of HRIS to strengthen human resource delivery of services.

RECOMMENDATIONS

Based on the conclusions of the study, the following are the recommendations given:

1. public Higher Education Institutions (HEIs) in CALABARZON should focus on further enhancing the implementation of Human Resource Information Systems (HRIS) with a strong emphasis on the identified features and ensure that HRIS is optimized to streamline processes and improve data integrity, training, and overall HR functions;
2. institutions may consider to prioritize HRIS efficiency, productivity, reliability, sustainability, accessibility, and acceptability to ensure that these systems remain valuable assets for HR and the organization;
3. public HEIs should proactively address the challenges associated with HRIS utilization; measures should be taken to overcome issues and provide adequate training and support to mitigate these challenges;
4. HEIs may consider or adopt the crafted enhancement on the implementation of HRIS to strengthen human resource delivery of services, such as aligning HRIS with organizational goals, facilitating employee motivation and career growth;
5. future researchers should focus on examining how the information systems employed by the Human Resources (HR) department affect or have an impact on the employees within an

organization and this research could explore the various ways in which HRIS influence; employee behavior, performance, satisfaction, and other relevant aspects.

6. additional research in the same direction may be carried out to confirm the findings of the current study, with the aim of gaining a more profound understanding of the HRIS used by public HEIs; and
7. lastly, a similar study may be conducted to other HEIs in other region/province in the Philippines to explore the topic more broadly.

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