

Human Resource in The Digital Era

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Abstract

Today's human resources departments are increasingly acting as business partners, which calls for a closer alignment of HR and technology. In light of this, it's clear that the use of manual processes to carry out HR tasks like performance appraisal, remuneration, recruitment etc. can have a negative impact on the efficiency with which businesses operate. Human resource information systems (HRIS) have been implemented by several companies to help their HR divisions function more effectively. In light of HRIS's growing importance and Pakistan's education sector's rapid expansion, this study investigates the factors driving its adoption by universities, HRIS's effect on boosting university output, and the difficulties inherent to implementing the system. This study uses a qualitative methodology to investigate the perspectives of human resources (HR) professionals at three fully automated, one moderately automated, and three manually operated higher education institutions in Pakistan. It is clear from the study's findings that HRIS is widely regarded as a game-changer in terms of streamlining operations in the human resources departments of universities. Existing higher education institutions' positive attitudes and desires to adopt HRIS reflect the widespread belief that the system is essential.

Keywords: HR Departments, HR Experts, e-HRM, HRM, HRIS.

Introduction

A company can't function properly without proper Human Resource Management (HRM) (GISMA Business School: 2019). Human resources (HR) play an essential part not only in service-oriented industries like transportation, retail, healthcare and banking but also in the field of education, especially in higher education institutions (HEIs) Human resource management (HRM) in Pakistan's ever-expanding higher education sector has outgrown its reliance on manual processes and necessitated the implementation of HRIS. The widespread adoption of many forms of technological advancements has contributed to the rise in demand for HRIS. Put another way, the efficiency of businesses is directly related to the ways in which workers utilise emerging (Ahmer .Z: 2013). Human Resources Information Systems (HRIS) is a hardware and software suite designed to aid human resources departments in their day-to-day operations. Human resource information systems (HRIS) are an interdisciplinary field that combine Human Resource Management (HRM) and Information Technology (IT) (Dixit, 2017). There are numerous advantages for businesses as a result of the increased efficiency of their staff. Finding that participants and data will become the eventual outcome of advancement in strategic management systems, both in the education and industrial sectors, was the conclusion of a study analysing the impact of computer-based information systems on improving work quality in higher education institutions (Chauhan et al, 2011). Despite the fact that no definitive model has been produced to ascertain the importance of HRIS, researchers can draw motivation from previously established models in the literature. This study is based on the work of two theorists: David's (1989) Technology Acceptance Model (TAM) and Rogers' (1995) Diffusion of Innovation. HRIS adoption can be comprehended via the lens of TAM theory. This idea posits that the adoption of new technologies is closely tied to changes in individual behaviour (Naik & Reddy, 2017). Consequently, if employees at a firm see HRIS as easier to use than traditional HR methods, they will likely adopt it.

The Diffusion of Innovation theory describes the propagation of new ideas (Rogers, 1995). The expansion of new technologies and ideas across time, and why and how quickly, are also uncovered by this method (Kavanagh, Thite, & Johnson, 2012). There are difference factors that have significant impact on the rate at which the society adopts new technologies. HRM experts will adopt HRIS if they think that the

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technology has an advantage in terms of economic value, compatibility, usefulness, and the extent to which the system is compared to different practices which is obsolescence and trainability. It is the extent to which HR employees can observe the outcomes of HRIS before the implementation of HR practices. The objectives of this research are:

1. To analyze the impact of human resource information systems (HRIS) on academic institution productivity.
2. To learn why fewer schools than planned are using HRIS, and what can be done about it.
3. To determine how HR workers' output has shifted since HRIS deployment.
4. To inquire into the collegiate HR community's general HRIS usage experience
5. To learn what core HRIS features are typically needed for institutional use
6. To learn what factors influence HRIS adoption at universities.

Research Gap and Research Problem

Education in underdeveloped nations like Pakistan is hampered by antiquated HR procedures in today's digital age. Research on the importance and implementation of HRIS has been scant, especially in the context of Pakistan, despite the widespread shift in HR practises. According to (Ahmer, 2013), universities and colleges around the world are increasingly spending money on HRIS deployment to automate human resources processes like hiring, training, evaluating workers' performance, determining salaries, and so on. Despite the obvious advantages of HRIS, very little research has been conducted on its implementation at Pakistani universities. This report seeks to fill this void and open up new avenues of inquiry by extracting the present state of HRIS usage in Pakistan's higher education institutions. The fundamental goal of this study is to learn more about HR professionals' perspectives, examine how HRIS helps them, and establish whether or not HRIS improves or hinders the overall effectiveness of higher education institutions' operations and efficiency. Furthermore, this study will investigate the root causes of the obstacles that prevent universities from fully realizing the benefits of HRIS implementation and utilization.

Significance of the Study

This study will reveal whether or not human resources professionals at universities are happy with their present HRIS, which is important for calculating the full impact of HRIS on employee performance at those schools who are already utilising it. What this study also does is determine whether or not the quality of the system is good or ordinary. So the accuracy will be determined that either the performance of their employees after injecting heavy investment and implementing the HRIS Modules within the universities boost the employee performance and to differentiate from other universities that if they still need a room for betterment as to train themselves and to faculty for using it as to ease the flow of university operations through technology.

Literature Review

Significant economic and cultural shifts have emerged from the worldwide domination of information technology. Human resource management (HRM) techniques, in particular, have undergone radical change as a result of technological developments in the modern period. Most companies are switching from traditional HR management to more cutting-edge HR methods because they have been made aware of the critical importance of adapting to the rapidly changing nature of the digitalized labour market (Battista & Parry, 2019). The findings of a study conducted by Hussain, Wallace, and Cornelius (2007) show that HRIS is beneficial not only to large corporations but also to SMEs. This means that all sizes and types of organisations can benefit from HRIS because of its ability to increase productivity. Companies are increasingly using electronic platforms to conduct HR processes such as hiring, training, performance reviews, and salary administration because they recognise the need of meeting this (Strohmeier & Stefan, 2014). It is now imperative for businesses to employ HR software and other forms of IT to gain an advantage over their competitors. Human resources (HR) practises around the world have been changing rapidly, signaling an urgent need for HR to work with information technology (IT). Although computerised human resource management (HRM) has been adopted by many businesses, traditional HR methods of recruitment, compensation, and evaluation are still widely used (Edorgumus & Esan: 2011). Many businesses now use the Internet to handle HR tasks, thanks to the introduction of an intranet; others have altered their methods of operation by developing virtual teams and other technical innovations. However, according to recent research, integrating technology and human resources is crucial for performing HR duties effectively (Sharma & Shukla, 2013).

Stakeholders at Spanish public-sector universities were polled about the importance, benefits, and drawbacks of moving HR data to a centralised database and found to agree that doing so was essential. The

results showed that the main benefits of using a human Resource information system at a university were a faster reaction time, better communication, and easier access to data (Ramirez & Tejada, 2020).

Nonetheless, the primary drawbacks that were faced by Spanish public universities by implementing HRIS were seen as low funding and lack of Continuous support from the university's management. Nonetheless, the results showed that an efficient human resource information system at universities contributed to greater employee productivity (Selvaraj & Rengamani, 2018). HRIS helps HR departments make better strategic, tactical, and functional decisions, all of which contribute to better HR planning. In order to determine how HRIS impacts business operations in Bangladesh, researchers looked into its job performance, communication, performance evaluation, and reward packages. According to the findings, all five of the chosen HRIS functions contributed to greater operational efficiency, with the HR functions of recruiting and selection having the greatest influence.

The usage of HRIS will enable colleges to store an entire picture of its staff, including positive and negative qualities, according to a 2008 study on the role of HRIS in higher education institutions. This allows human resources to create tailored training and growth plans for each employee. As a result, colleges will be able to hire the best possible candidates for available positions, which will boost the institution's learning culture and cut down on the time and money wasted on training the incorrect people. After reviewing the data, the researchers came to the conclusion that universities and colleges will need a robust business solution in the future to accommodate their expanding student bodies (Rawat, 2008).

There is no denying the value of HRIS in the service industry, but the reality is that universities only use HRIS for data upkeep and processing. When it comes to human resources, the postsecondary education sector has not seen any notable shift away from the manual processes (Jaafar, Rezaeian, Tabarsa, Otarkhani, & Nezafati, 2017). Even after implementing HRIS, the most important HR functions—recruitment and training—showed little to no change. However, it is a fact that HRIS is one of the most promising technological innovations in HR, but its application is found to be limited in the education sector. It reflects that the system has not implemented properly by the education sector.

Among individuals or groups in Pakistan, a 2016 study found that titles and positions were more influential than gender in determining whether or not people were open to the implementation of HRIS inside their businesses. According to the study's findings, the majority of Pakistan's human resources experts are opposed to adopting HRIS, while those in the education sector understand how useful the system can be (Khan et al., 2016). Thus, in Pakistan, the education sector is more likely to implement HRIS than other sectors. The study found that organisations in Pakistan's private, public, and nonprofit sectors all experienced the same major challenge: junior staff's resistance to change. However, another study that aimed to identify the challenges of HRIS assessed the various obstacles and found that universities' top concern was a lack of acceptability by senior management (Bamel, et al., 2014).

According to a study on the advantages of HRIS for universities, retrieving and analysing staff data was the most pressing problem that institutions faced before using HRIS. In the past, human resources departments at universities struggled to carry out a variety of HR responsibilities. However, with the support of a complete information system, these tasks are now routinely carried out with ease. According to the study's findings, universities that adopted HRIS saw an improvement in employee relations with upper management as a result of the system's ability to help them create simple and accurate annual appraisal forms, monitor both voluntary and involuntary turnover, keep track of employees' birthdays and work histories, and so on. Universities are using HRIS to track faculty trainings and to determine which faculty members need to attend trainings, according to the study's findings on this topic. The universities also benefited from the simplicity of calculating employee salaries and benefits (Hooten, 2013).

Employees' job satisfaction and turnover were shown to be negatively affected by HRIS, according to a study that also found that abrupt installation of HRIS was perceived as a threat by workers. Employees reported that they are flexible to use HRIS if the system were implemented gradually and they were provided with significant training how to utilize it; this would improve their job performance and reduce their desire to leave their current position. Accordingly, HRIS has the potential to boost employee output when used correctly (Shahreki, 2019).

A study conducted in Kenya surveyed staff members in the Human Resources, Finance, and IT divisions at two different educational institutions in the country. According to the results of the research, the most significant barrier to successful HRIS adoption at universities is employee reluctance to adopt a digital solution. High HRIS system implementation and maintenance expenses and a lack of trained personnel to use the system presented further difficulties. The research found that while the potential advantages of HRIS outweigh the potential disadvantages, the productivity gains from implementing HRIS are conditional on the level of employee buy-in at each institution. Human factors, rather than flaws in the HRIS itself, account for much of the blame for the system's botched rollout in universities and colleges.

Lack of financial resources to fully implement the system; expensive deployment and maintenance expenses; insufficient application developer experience; and lack of support from upper management. Incongruity among the coordination of employee in higher education was also found which was indicating poor planning on the part of both the institution as a whole and individual department. (Kananu & Nyakego, 2016)

Theoretical Framework

There is no definitive model for assessing the value of HRIS, especially in higher education; nonetheless, scholars can learn from the models developed by previous generations of scholars (Article: GMJACKS Research Web). This study is predicated on two theoretical frameworks: the Theory of Technology Acceptance Model (TAM) proposed by David (1989) and the Theory of Diffusion of Innovation created by Rogers (1995). TAM theory can be utilised to comprehend how HRIS is being adopted. An important nexus exists between human action and the benefits of technological advancement, so says this hypothesis. Workers are more likely to embrace HRIS if they see it as an improvement over time-consuming, labor-intensive, and error-prone traditional methods of human resources management (David, 1989). How new ideas propagate is explored in "Diffusion of Innovation" by Rogers (1995). It also estimates how much such new technologies and ideas cost and identifies any more research that needs to be done for that purpose. There are five aspects of a society that have been theorised to influence the rate of technological advancement. Individuals will adopt an HRIS if they believe it offers them a relative advantage with the aspect of its compatibility, efficiency, convenience and economic value. The system is also aligned with the recent needs of the users; observability which is known as the extent to which people can experience the outcomes of HRIS before implementing to HR process for boosting the employee productivity; friability is known as the extent to which the system is flexible to utilize as compared to human made practices.

Research Methodology

All of the study's materials and procedures are described in great detail in the materials and methods section. Since it is imperative that a research paper be extremely well organised, each section of the paper's subject matter must be given in a sequential fashion. The order of procedures in the materials and methods sections should move from most significant to least. The Materials and Methods section is broken down into manageable chunks that are all labelled with descriptive headings and subheadings.

A qualitative method, interpretivism is used increasingly often in social science. Individuals, according to interpretivists, are nuanced, and rich, rather than socially programmed puppets. They argue that people have diverse perspectives on the world and respond to it in various ways. Therefore, according to interpretivism, scientific methods should not be used to investigate human conduct (Shakir, 2021).

Research Design

The guiding research philosophy in this investigation is interpretivism, and the methodology employed throughout consists of an inductive start and an exploratory finish. Using these two elements together, we inquired into the nature of the HRIS phenomenon and the meanings that HR professionals in universities and colleges attribute to their observations of employee productivity. Meaning linked with HRIS, as seen by HR experts, will be extracted using an inductive strategy.

Sampling and Population

Human resources experts with at least three years' experience working in higher education in Pakistan participated in this study. The respondents were chosen using a non-probabilistic purposive sampling method. The interviews will be open to any HR professional working at a university in Karachi, and data will be collected from individuals who volunteer to take part.

Data Collection Procedure

The researchers will use semi-structured interviews to gather information. Each respondent will be asked a series of questions, the sequence of which will change depending on the responses they provide. Some universities' responses will be asked more questions in order to learn more about the HRIS and modules in use at their institutions.

Validity and Reliability

In order to evaluate the instrument's face validity for the interview method, we sought the advice of a research specialist as well as an expert in the relevant field. Because they were HR professionals at

universities, which was the target audience for this study, all of the respondents fulfilled the standards, and their responses were regarded as the most reliable source.

Data Analysis

Qualitative analysis technique using Thematic Content Analysis procedure was used to analyzed the acquired data. Transcripts of primary data acquired through structured interviews carried out at universities were analysed in order to accomplish the purposes of the research and provide answers to the issues posed by the research. During the process of analysis, we transcribed interviews. After this the interview from questionnaires as the response was sorted to explore different usage of HRIS and its customization and to identify its usage in the collected data/ interview. This allowed for the organisation of data, and memoing was utilised to compile by HR professional to determine the significance of HRIS. We summarized the codes and themes as Table 1 taken from interviews and will make a thematic chart of HR Professionals working in Higher Education Institution is tabulated in Table 2 which was developed from the interview conducted as semi structured form the HR Professionals who were using and implementing HRIS in their Higher Education System.

Table 1
Codes and Themes Derived from Interviews of HR Professionals

| Codes | Sources | Themes |
|---|---------|---------------------------------|
| Year 2006 | 2 | HRIS adoption |
| Year 2008 | 1 | |
| Year 2018 | 1 | |
| Time and attendance | 7 | Current status of HR automation |
| Leave and short leave record | 4 | |
| Payroll | 3 | |
| Employee data | 4 | |
| Student portal | 6 | |
| Almost all functions except training | 3 | |
| Daily rosters | 2 | |
| Recruitment | 2 | |
| Yes, continuous upgrades required | 1 | |
| Yes, need to automate recruitment and training | 1 | |
| Yes, need to integrate stand-alone applications | 1 | |
| Yes | 2 | |
| No, most functions have already been automated | 1 | |
| No, we don't need automation | 1 | |
| Requirements of the regulatory bodies | 1 | Reasons for automation |
| Lack of coordination between campuses and departments | 3 | |
| Costs of labor and keeping data are high | 1 | |
| Manual data can be manipulated | 1 | |
| Manual HR practices waste time and energy | 3 | |
| Shortage of HR staff | 1 | |
| Minimizes manual paperwork | 4 | Motivators behind |
| Saves time and energy | 5 | |
| Reduces workload | 3 | |
| Improves integration and communication across the Institution | 2 | |
| Facilitates easy approvals | 1 | |
| Saves cost and space | 2 | |
| Reduces errors | 5 | |
| Allows easy access to data | 2 | |
| Increases accuracy and transparency of records | 1 | |
| Increases productivity and efficiency | 3 | |
| Reduces job burnout | 1 | |

| | | |
|-------------------------------------|---|----------------------------------|
| | | implementation of HRIS |
| Highly satisfied | 2 | User satisfaction |
| Satisfied | 1 | |
| Moderate | 1 | |
| Not satisfied | 1 | |
| Satisfied with manual system | 1 | |
| Yes | 4 | Streamlining of processes |
| Yes, it will once implemented | 2 | |
| No, it will not even if implemented | 1 | |
| Time and attendance | 7 | Utility of HRIS for HR functions |
| Payroll and compensation | 3 | |
| Recruitment | 2 | |
| Appraisals | 1 | |

Tab 2

Thematic Analysis Matrix of HR Professionals

| S# | Themes | University A | University B | University C | University D | University E | University F | University G |
|----|---------------------------------|----------------------------------|--|----------------------|--|---|----------------------|---|
| 1 | Technology Adoption | 2008 | 2006 | 2006 | 2018 | - | - | - |
| 2 | Software used | Education ERP and CMS | CMS | ERP | Oracle | FPSEV, LimeSurvey, ReadyCore,C B A, E- Tests, TMS, LMS | Excel | Oracle CMS (Examination, accounts and academics) |
| 3 | Current status of HR automation | All HR functions except training | Employee data, scheduling, attendance, leave | Almost all functions | Attendance, time management, scheduling, payroll | Attendance, employee data, student records, Time in and Time out, | Biometric attendance | Biometric attendance, student portal |

| | | | | | | | | |
|---|--|--|--|---|--|---|---------------------------------------|---------------------------------------|
| | | | applications, student portal | | (to some extent), student portal | employee surveys, student portal | | |
| 4 | Need for Automati on | Standards remain same, upgrades Required | Yes | No, all updated. | Yes, Recruitm entand training | Standalone apps are there, integration required | Yes | No |
| 5 | Reasons for Automati on | Updates as per requirement of regulatory bodies | Lack of coordinati on, high costs of labor and keeping data | Manual data can be manipulate d | Time saving | Paper work, Time and effort | Shortage of HR staff | - |
| 6 | Motivators behind implementat ion of HRIS | Mistakes, paperwork, no integration, no accessibility | Lack of efficiency & productivity, cost, job burnout | Paper work, errors in payroll, no transparenc y, long processes | Time, effort, space, errors | Paper work, approvals take time | Incorrect data entered manually | Inadequa te data, errors |
| 7 | Satisfaction with use of HRIS | Highly satisfied | Moderate | Highly satisfied | Satisfied, should move to full automation | Not Satisfied, HR should use the system developed for them | - | Satisfied with manual system |

| | | | | | | | | |
|----|--|--|--|--|---|---|--|---|
| 8 | Streamlining processes through HRIS | Definitely | Yes | Yes | Yes | Yes it will | It will if implemented | It won't even if implemented |
| 9 | Utility of HRIS for various HR functions | Attendance, Recruitment, Compensation, employee data, Appraisals | Attendance, leave records, employee records, student portal | Attendance, Recruitment, HR data, Appraisals, compensation | Leave records, HR data, attendance, payroll | None, stand-alone modules are there | - | - |
| 10 | Information Quality | Very good | Marvelous | Good | Good | Room for improvement | Will improve | For faculty it will improve, for management it won't (if implemented) |
| 11 | Benefits derived from HRIS | Salary trends, easy recruitment, tracking employees data, employee | Efficiency, productivity, reliability of data, employee satisfaction, cost effective | Quick information dissemination, quick approvals, cost effective | Transparency, efficiency, talent management | If used, Transparency, quick data retrieval, Accurate records, time | If used, decreased HR workload, tracking employees, easy | Accurate data, time saving but HR personnel will still be required |

| | | | | | | | | |
|----|------------------------------------|--|----------------------|----------------------------------|-----------------------------------|---|---------------------------------------|--|
| 12 | Improved efficiency | Yes | Yes | Yes | Yes | It will if integrated | - | Will not be perfect even if implemented |
| 13 | Actual versus expected use of HRIS | Equal | Equal | Equal | Not Equal | Not Equal, HR dept. does not use the module developed | - | - |
| 14 | Employee resistance | Yes in beginning management did. Faculty was fine | Little bit | No | No | They might in beginning | They will if software is implemented | They will |
| 15 | Familiarity with modules | Yes | Yes | Mostly | Yes | - | - | - |
| 16 | Training support provided | Coordinators are trained | Trainers are trained | Yes regularly | Yes, orientation session is given | - | - | - |
| 17 | Challenges associated with HRIS | Time consuming implementation, cost, employee Resistance | People acceptance | Privacy issues, maintenance cost | None | Training will take time | Costly implementation and maintenance | Top management is not willing to implement |
| 18 | Room for improvement in HRIS | Upgrades require | No, it is okay | Yes | Yes | Should go for complete automation | Should implement it | Should not implement |

| | | | | | | | | |
|----|----------------|--------------|---------|---------------------|---------|---|--|----|
| | | | | | | | | nt |
| 19 | System quality | Satisfactory | Average | Highly Satisfactory | Average | - | When implemented, should be free from errors | - |

HRIS being used by Higher Education Institutions

According to the findings of the study, there are seven universities in Pakistan which had been considered, three of which had fully automated HR operations by deploying the HRIS Module, one of which had partially automated HR processes, and two of which still used manual HR systems.

Motivators

All organisations that made use of HRIS maintained up-to-date records of attendance, leaves of absence, and employee information. The vast majority of these organisations had linked their time off tracking and payroll systems in one convenient place using an HRIS payroll module. However, it was discovered at University B that payroll and compensation were not incorporated into the system. Institutions of higher education that had adopted HRIS discovered, to their dismay, that the system was not well integrated with their existing training and development infrastructure. Some schools stated they had integrated all HR operations with HRIS, but upon further investigation, it was discovered that the training and development component was missing from their HRIS. As a result, the HRIS they were utilising was not able to identify employees' training needs based on their skills, experience, and job descriptions. Furthermore, it was found that 50% of them wanted even more HR automation. Most HR professionals, with the exception of the respondent from University C, thought that HRIS needed to have more modules integrated. This requirement was stated as follows by an expert from University A: The outcomes suggest that University A thinks that fully automated and integrated HR system is urgent need of the system. It can lead to better employee performance and also helps in updating policies and regulations as per the requirement.

When asked what prompted them to adopt an HRIS, the vast majority cited the frequency with which human error occurred during the manual processing of HR data using excel spreadsheets. Furthermore, respondents noted that manual HR methods took up a lot of the HR department's and the staff's time, space, and energy. In the days of manual HR processes, each department operated separately from the others. Because of this, there was a significant chasm in communications between different divisions, and upper management saw the need to close it by having a unified system designed to link all divisions and personnel.

When looking to boost an organization's overall performance and efficiency, it is crucial to ensure that data is integrated and that communication is flowing freely between all divisions. When asked about another issue with HR manual processes, the employee of University B's HR department provided this example:

“Job Burnout is the most significant element of manual HR operation. Employees of HR maintain records of the entire organization and possess a heavy workload because of stress and they feel pressurized.”

Consequently, the interviews revealed that the primary drivers behind the adoption of HRIS in Pakistani universities were the aforementioned issues of paperwork, the occurrence of costly errors due to the use of manual processes, employees burnout, insufficient efficiency, and poor lines of communication.

User Experience

The vast majority of human resources professionals who were polled about their satisfaction with HRIS reported being either somewhat or very content with its performance. Despite this, nobody complained about having to use HRIS. According to a human resources expert from University D:

“I am basically satisfied with the recent applications related to human resource because they have simple and basic work flow. There is need for complete automation in HR operations.”

This claim gave the impression that the university was only using HRIS for administrative purposes, or for only a subset of HR tasks, and that the users desired both full automation of HR and full integration of all

relevant modules into HRIS. Additionally, this claim suggested that the university was only using HRIS for administrative purposes.

In addition, respondents noted that HRIS considerably simplified the operations of the HR department. When asked what particular HR duties have been connected with the system, all of the respondents replied that attendance and leave data have been included. The Human Resources Information System (HRIS) was utilised to make the hiring process easier at both University A and University C. Every university that utilised HRIS has, with the exception of University B, also implemented the payroll component into their systems. In addition, we found that each and every school possessed a student portal of some kind, which was designed to facilitate better contact between teachers and students.

Change in Performance

When asked about how performance has changed since implementing HRIS, all respondents said that HRIS has played a beneficial impact in raising productivity and efficiency across the board. They also noticed an increase in the dissemination of information throughout the organisation after HRIS was put into place. Respondents felt that employees were more cognizant of their appraisals, assessments, leaves, attendance and other HR-Related information. because to the openness afforded by HRIS. When asked about the advantages of HRIS for universities, a student from University C provided the following answer:

“One of the main advantage of HRIS is that the system is cost-effective because the system has ability to save its cost. On the other hand if HRIS is not present, I may hire multiple employees for managing files and maintain employee data. However, HRIS has brought so much flexibility that we can manage data with only one click hence it is one of the major advantage of HRIS. Beside this, it is good not only for human resource department but for overall organization, specifically, the faculty employees because they do not want to experience hassle for approval.”

Human resources specialists at other colleges that had implemented HRIS agreed that these same cost savings, time savings, data dependability, staff productivity, and user happiness were the most important benefits of HRIS.

Mismatch of Use

HR specialists reported that teachers and officers made full use of HRIS, performing all intended tasks. A human resources representative from University B shared:

“The officers and faculty members use it for different functions. The staff who is not related to teaching, however, may not use it or we do not expect them to use because they are not related to technical things.”

Two of the four colleges reporting adopting HRIS said they had no pushback from staff while implementing the system, while the other two reported some initial reluctance. According to a representative from University A, faculty members had little trouble making the switch from manual processes to HRIS; however, some senior staff voiced resistance to employing technology. To which he elaborated:

“When we decided to integrate the system of biometric attendance, some senior employees show discomfort with the system. They were not willing to out thumb impressions for mark their daily attendance. Though, Vice Chancellor convinced them by telling the advantages of utilizing technology. The systems aid in monitoring the time out and time status of employees and other similar data. In 2008, we moved towards adopting technology, however, the attendance and time system was introduced back in 2013.”

The universities' HR departments were under the impression that all of their academics and staff were well-versed in using all of the HRIS's features. Trainings were either delivered to all personnel through orientation classes or through coordinators/coordinators of each department who might further train other faculty members and colleagues, as was discussed in the context of the importance of delivering trainings to users.

An HR representative from University D was asked about the difficulties in implementing HRIS, and she responded that there were none, because the school saw any difficulties as opportunities for improvement. The high cost of deployment and ongoing maintenance, as well as resistance from employees, were seen as major obstacles by the other three colleges utilising HRIS. For one expert at University C, the most significant problem with HRIS is the potential for a violation of privacy owing to the exposure of sensitive data contained within the system.

“Everyone is aware of everything after the integration of HRIS which is good because it makes sure transparency but on the other hand, it is also an issue because there is not any privacy in the term.”

Higher Education Institutions Not Using HRIS

Human resource professionals were found to be either very content or somewhat satisfied with their universities' current HRIS during a study aimed at establishing the overall significance of HRIS for institutions of higher learning that are currently employing it. The quality of the system was also rated as above average by these users. Although both University D and University B were content with their current HRIS, they emphasised that there was considerable space for development and the integration and addition of more HR modules.

Motivators

All three of the schools who were not currently utilising HRIS had a good outlook on it and were eager to start using it. However, they were already utilising biometric attendance systems to keep track of staffers' daily presence. While University E has computerized a number of standalone units to aid the operations of several departments, there was discovered to be lack of integration between modules.

User Experience

The majority of colleges and institutions that are not currently adopting HRIS have acknowledged that doing so will greatly benefit their human resources operations. Huge amounts of paperwork, error in manual operations, HR staff burnout, reduced efficiency, difficult data retrieval, and hampered communication were the main issues faced by HR professionals who did not use HRIS.

Change in Performance

When respondents were questioned about the benefits of HRIS for their organisations, the most common response was that it would help them keep better track of the information pertaining to their personnel because there would be fewer potential for human mistake. In addition, respondents mentioned that HRIS has the potential to significantly reduce the workload of HR personnel and make it much easier to access employee information and records. On the other hand, a specialist from University G attempted to downplay the benefits of HRIS by suggesting that it will not boost the efficiency of HR workers because HR staff will be required to pay for and administer the system on their own.

Mismatch of use

The staff members at universities that did not previously use HRIS have all claimed that they are reluctant to the idea of converting to an HRIS system since they are accustomed to doing things manually. This is because the universities did not previously utilise HRIS. They also considered the high costs associated with adopting HRIS and training staff to be significant barriers.

The interviews demonstrated that with the exception of University G, the administration at the other institutions that were not adopting HRIS were all in favour of technological improvements and understood the importance of automation. However, University G was the only institution to not implement HRIS.

Conclusion

Higher education institutions in Pakistan will struggle to function effectively without information systems in the face of increasing technological sophistication and fierce competition in the field of education. This research set out to investigate how widespread the adoption of HRIS is among Pakistan's universities, as well as the opportunities and threats that this adoption poses. The study's findings revealed that HRIS is only used in three out of 7 universities for basic HR functions like payroll, trainings, appraisals, recruitment, maintenance, and employee data. The other four universities were either using manual HR methods, using customised modules for each department, or using HRIS partially.

The qualitative analysis of the responses reflect that higher education commission in Pakistan must replace traditional practices of HR system by implementing latest technology for HR operations. The research conducted by Sharma & Shukla (2013) stated that some institutes that transform their methods does not

mean that traditional practices are completely replaced or obsolete but combination of those practices with latest HR technology can provide beneficial results for higher education organization.

Another finding of the current research reflects that one professional of university stated that the university's top management is not supportive because the university has bureaucratic culture and it is not supported by HRIS. However, the interviews are also conducted in two different universities with same culture but the opinion is different in these universities. As professional of these university stated that the top management is supportive and they are looking to switch towards the HRIS technology. Hence, the research finds out that the culture of the university do not have significant impact on the willingness of implementing technology. Finally, the research concludes that easy access to employee data, improved communication, balanced workload, enhanced productivity, and perspectives of HR professionals are major advantage of HR system. However, the current study also identifies the challenge faced by HR challenges which is comprised of resistance from employees towards change in HR system, maintenance cost, and regular update of the system.

Recommendation

The following recommendations are proposed Based on the findings of this research:

1. None of the schools that had implemented HRIS had listed training as one of its integrated applications. HR departments at universities should include training and development in their HRIS because it is so important. Additionally, HRIS should be incorporated with people management and succession planning. The approach can be put to use for succession planning and talent management by analysing an organization's employee pool and determining which candidates best fit open positions based on their ages, skills, and levels of experience.
2. *This study found that some smaller organisations, in addition to the larger ones, use HRIS for basic human resources tasks. Because of this, HR departments at smaller colleges should strive to adopt HRIS in order to better serve their staff. They can ease into the full-scale implementation of HRIS by using just a subset of the system initially.*
3. *Education institute that has rarely used HRIS for management purpose, including keeping track of employees' daily attendance or accumulated leave time, are not taking advantage of the system to its fullest potential.*

Areas for Future Research

1. Studies on the same topic can be made from the perception of faculty staff at higher education institutions in order to have a better understanding of their preferences about HR practise and the difficulties they face when utilising either manual or computerised HR systems.
2. In the initial phase of the research project, the researchers asked people currently working at a variety of educational institutions to participate in in-depth interviews so that they could collect data pertaining to HRIS. Despite the fact that it is qualitative in nature, this study has the potential to provide the groundwork for subsequent quantitative research.
3. All of the colleges and institutions that can be attended here are located in Pakistan, yet they are all run by private organisations. Additional research is required before conclusive findings can be formed regarding the worth of HRIS in comparison to that of the commercial sector of higher education.
4. However, in the current research major variations in the views and opinions of people of different cultural backgrounds, ages, and qualifications. Though, there are some research participants who have no basic background of IT might afraid of utilizing HRIS. Therefore, a future research on the importance of HRIS can be conducted based on the demographics of the research respondents,
5. Due to the fact that this study did not have access to universities located in other countries, it is possible to conduct additional research in the future with the goal of gaining participation from academic institutions located in other nations.

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