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Human Resource Information System (HRIS): Advantages, Barriers and Solutions: A Qualitative Study of Government Hospitals in Peshawar

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Abstract

This study examines the Human Resource Information System (HRIS), its advantages, barriers, and solution in the context of government hospital in Peshawar, KP, and Pakistan. In order to streamline human resource operations and activities, HRIS are accepted and used by organizations including hospitals. The adoption and usage of HRIS plays a vital role in accomplishing organizational goals. For accomplishing the research objectives of this study, data was collected from the four government hospitals in Peshawar that use the HRIS. Data was collected through face to face semi structured interviews from the twenty-seven staff members working in HRIS because they are directly involved in the implementations of the HRIS since its execution in 2015 after MTI reforms. Thematic analysis is used ascertain, analyze and report themes in the data. It was revealed that government hospitals have been using HRIS since 2015 onward and the software used for data processing is System Applications and Products (SAP). This cross sectional study used interpretive research philosophy, where qualitative (inductive) research approach is used. It was revealed that HRIS is very much beneficial for the government hospitals because the HRIS is the primary repository for personnel data in a single system, where a variety of personnel data is readily available. Record-keeping of personnel data in the HRIS is considered as the most reliable source of staff data. There are very few chances of employees' data loss. It was revealed that HRIS is very effective in terms of cost and time as it helps in minimizing cost and saving time that is normally consumed on manual system. An accurate record is maintained of hundreds of employees working in different shifts and electronic report is generated on monthly basis or any other report required by potential users along with projections. Furthermore, it was identified that the system can work more efficiently if HR sections get occupied by computer literate and English proficient individuals. The current study is limited to government hospitals of Peshawar, KP, however future studies can be conducted in the same area by taking private hospitals in Peshawar as well as across Pakistan or conducting a comparative study. In addition, this study facilitates the practitioners better understand HRIS adoption and assessing the existing barriers to the implementation of HRIS. The regulatory authorities of health sector must amend and issue the series of regulations and HR policies to effectively manage the human resources in public hospitals. This research study recommends that every hospital, regardless of size, must implement HRIS to manage their human resource activities as well as robust IT infrastructure so they can attract and choose the best candidates, train them properly, and provide better education with the optimum rewards.

Keywords: Human Resource Information System, Advantages, Barriers, Solution, Peshawar, Hospitals

Introduction

Human resource management (HRM) has been emerged as a key function of modern management since the twenty-first century. The focus of HRM evolved from only administering the human element to developing high-performance work systems (Hamlin and Serventi, 2018). Later, the idea of maximizing shareholder value strengthened the alignment between corporate strategy and HRM. Similarly, the use of information systems and technology in HRM procedures has undergone another dynamic transformation (Hagood and Friedman, 2012).

This combination of HRM, information systems, and technology led to the development of the human resource information system (HRIS). According to Tannenbaum (1990), an HRIS is a technology-based system used to collect, store, alter, analyze, retrieve, and distribute data related to an organization's human resources. Labor force planning, supply and demand forecasting, staffing, applicant qualifications, training and development information, wage forecasting, pay increases, labor/employee interactions, promotion-related information, and other HRM procedures are among those where HRIS is applied (Kovach and Cathcart, 1999). HRIS generally satisfies users' information needs and increases their effectiveness (Hannon et al., 1996).

Thite et al., (2017) also supported the potential of information systems to increase productivity and value creation through quick information processing, quick staff interactions, and alignment of corporate policies. HRIS has been considered as a key partner of an organization since it makes strategy development and decision making easier and faster by facilitating access to information about personnel (Ulrich, 1997b).

The usefulness and success of HRIS remained primarily in the hands of its end-users, despite the popular belief that it meets a variety of demands given that it is an inanimate and relational subject. The adoption of information systems and technologies by users has been widely studied in research on the technology driven model (Richter et al., 2018; Venkatesh et al., 2007). According to Troshani et al. (2019), the success or failure of the deployment of information systems and technologies depends on the characteristics of the users and how they interact with the systems. The benefits, barriers, and solution of HRIS implementation is an embarking topic in research in developed and developing economies. However, limited research has been conducted to examine the problems and its solutions, particularly in hospital settings. Therefore, the advantages, barriers, and solutions to HRIS were investigated in the current study of government hospital. Since there are few researches on this subject in developing economies, hence the current study will examine the benefits, barriers, and solution to HRIS in government hospitals in the Peshawar district of KP, Pakistan.

Literature Review

In today's unpredictable world, companies are grappling with a messy, uncertain landscape. Bosses at the top are wrestling with how to handle teams spread out over different countries, cultures, and political setups. Trying to manage HR stuff by hand in this chaos is a slog—slow and exhausting, like Beckers and Bsat pointed out back in 2020. But flip the script, and IT steps in as a handy tool, something managers can lean on to boost what the organization can do overall, especially when it comes to HRM, as Tansley and Newell argued in 2017.

Human Resource Management

Human Resource Management (HRM) is a procedure/technique/process used by organizations to achieve organizational goals by using their HR efficiently and effectively (Anthony et al., 1996).

The functions of HRM include recruitment, selection, training & development, personnel management, and appraisal (Ruel et al., 2013). The HR function was initiated nearly 100 years back when the first Human Resource (HR) department was set up in 1920 in the United States of America and since that time continuous progress and improvements have been witnessed in this field (Yasemin, 2011). However, significant improvement was witnessed after the industrial revolution (Anthony, Perrewe, and Kacmar, 1996). As a result, the basic and simple function of record keeping advanced into strategic partners. Moreover, the functions of HR are now more diversified and complex (Yasemin, 2011).

According to Ruel et al. (2007) E-HRM is the refined, improved, and more advanced form of HRM. In order to make decisions that will benefit the firm as a whole, HR executives need to incorporate information technology in their activities (Wilcox, 1997). Snell, Stueber, and Lepak (2020) documented that by utilizing information technology, HR can rise to the challenge of simultaneously being more strategic, adaptable, cost-effective, and customer-oriented. They argued that IT has the ability to simultaneously reduce administrative expenses, boost productivity, shorten reaction times, enhance decision-making, and improve customer service. The three primary factors that have prompted businesses to look for IT-driven HR solutions are the need for cost reduction, the need for greater quality services, and cultural transformation (Yeung & Brockbank, 1995).

Electronic Human Resource Management (E-HRM)

The adoption of electronic human resource management (e-HRM) has increased due to the ICT's rapid development over the past 30 years (Strohmeier, 2017). According to Cedar, (2015), the number of firms implementing HRIS and the breadth of applications inside those organizations are both steadily rising. These projections are now supported by a number of surveys conducted by academic research and consulting firms (Cedar, 2015).

According to Ruel et al. (2007), E-HRM is the combination of HRM and IT. It is the more advanced and improved form of traditional HRM that is based on technology to perform the HRM Practices. Strohmeier (2017) stated that the current advancement in the field of technology has brought revolutionary changes in the field of management too. The use of IT in the field of management has changed the whole paradigm of management. HRM is replaced by E-HRM and is refined into HRIS.

Human Resource Information system (HRIS)

Human Resource Information System (HRIS) is a systematic way to collect and maintain certain important data with some predefined departmental/organizational objective/s and goal/s (Ruel et al., 2007). Likewise, Nisha et al. (2014) defined HRIS as a systematic process to acquire, maintain, classify and authenticate data associated with human resources.

A HRIS is the collection of databases, computer applications, hardware, and software required to gather/record, store, manage, deliver, present, and alter data for human resources (Broderick and Boudreau, 1992). The same definition of HRIS is given by Tannenbaum (1990), who describes it as a tool for "acquiring, storing, manipulating, analyzing, retrieving, and disseminating information on an organization's human resources". Any system for "collecting, storing, preserving, retrieving, and verifying data related to human resources (Ovach and Cathcart, 1999). Other authors have documented that an HRIS is not only the computer hardware and software programs that make up the technical portion of the system, as is the case with any sophisticated organizational information system. Hendrickson (2018) defined an HRIS as a socio-technical (integrated) system with the aim of gathering, storing, and analyzing data pertaining to a company's human resources department (see figure 1).

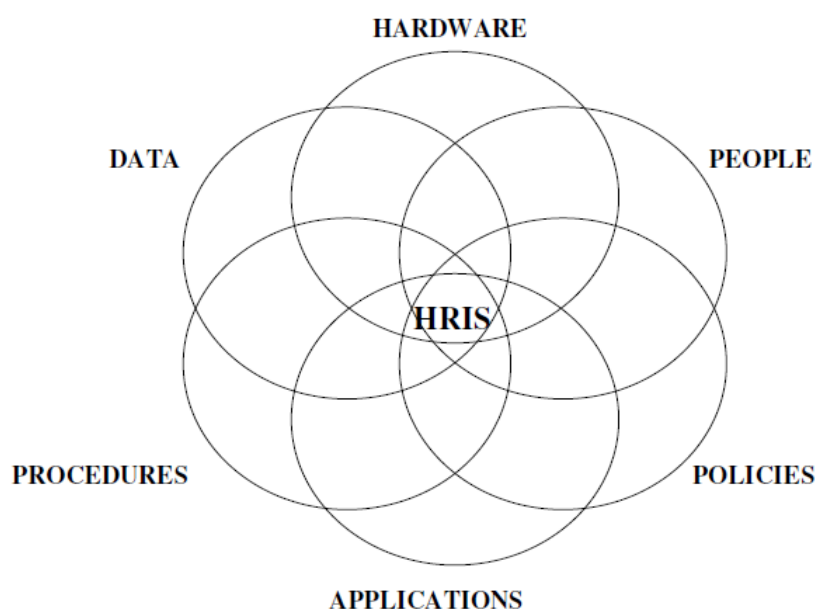


Figure 1. Components of HRIS

Scholars agree that an HRIS may be used for a variety of purposes. It can be as basic as simple spreadsheets, which make it simple to execute complicated computations, or as sophisticated as whole HRIS solutions. An HRIS is used by organizations to handle a range of problems and procedures related to the management of people. Technology may be applied in certain HR operations for a variety of reasons, including hiring and selection, performance review, pay and benefits, training and development, health and safety, employee relations and legal matters, retention, and work-life balance (Enshur, Nielson, & Grant-Vallone, 2020).

Martinsons (1994) made a distinction between "sophisticated" uses of technology in HR, such as recruitment and selection, training and development, and performance evaluation, and "unsophisticated" uses, like payroll and benefits administration. Instead, other authors emphasize the devolution taking place in some organizations where advanced HRIS has enabled managers and employees to access HR services directly via the Internet or Intranet, using self-service systems. Another advantage of HRIS is that it makes it possible to establish an IT-based workplace (Yasemin, 2011). Many of the issues facing HRM in the future, such as motivating and keeping people, fulfilling the expectations for a more strategic HR function, and handling the "human aspect" of technical development, may be met thanks to IT advancements (Ashbaugh & Miranda, 2020). The use of technology in human resources has grown significantly over the past ten years and is now an essential component of many personnel-related activities, including gathering job information, recruiting, choosing employees, providing training, and performance management (Chapman & Webster, 2013). In order to comprehend the potential of technology and firm strategy, HRM help technology innovation, while technological innovation itself may serve as a strategy to free up HR functions to devote more time to tasks that provide value. (Jackson & Harris, 2018). Vein, Broderick & Boudreau (1992), reported that IT may automate repetitive processes like payroll processing, benefits administration, and transactional activities, freeing up HR specialists to concentrate on more strategic issues like increasing productivity. Professionals can perform better because of increased usage of HRIS, which makes it easier for them to engage in internal consulting activities (Bussler & Davis, 2019).

According to a recent study, top HR professionals are increasingly using HRIS strategically, regardless of the size of the organization. This has led to the HR profession adding value for the business (Hussain et al., 2020). They contend that strategically utilizing HRIS raises HR professionals' perceived status inside their firms, while their senior non-HR executive counterparts disagree. HRIS success is now hindered by the fact that, despite the fact that it has already begun to transform the HR function, its effects are not yet entirely apparent. The biggest difficulties lie in aligning HR operations with the demands of the future e-business environment (Svoboda & Schröder, 2001) and in raising awareness of the explicit and subliminal advantages of having a functional HRIS.

Methods

Study participants

A total of 27 employees of the mentioned hospitals who were either the users of HRIS or involved in the implementation of the system were interviewed. Their detail is as under;

Table 1: List of Participants

Sr.	Interviewee	Number
1	HR Managers	4
2	HR Superintendents	4
3	HR Supervisors (Recruitment)	4
4	HR Supervisors (HRMIS)	4
5	HR Supervisors (Training & Development)	4
6	Assistant HR	7
	Total	27

Data collection methods

Semi-structured face-to-face interviews (one-on-one), field notes, and official hospital papers were used to collect the data from the participants. Beginning with the interviews in the selected hospital levels that were interviewed.

List of Government Hospitals in Peshawar, KP (Using HRIS)

- Lady Reading Hospital
- Khyber Teaching Hospital
- Hayat Abad Medical Complex
- Peshawar Institute Of Cardiology

Data Analysis

The analysis of the interview data is conducted in a manner that organizes it according to predefined themes. The interview questions were developed from the themes, which are the study's goals and research questions. For analysis of interview data, Thematic analysis is deployed and defined as the process of ascertaining, evaluating and reporting themes in the data, thematic analysis at a latent level analyze ideas and conceptualizations (Braun and Clarke, 2006).

Semi-structured face-to-face interviews, that lasted from 20 to 40 minutes, and were on the basis of questions from the interview protocol (see Appendix I). In addition, the questions were asked in English and Urdu languages. The answers of each and all interviewees were then translated into English Language. For each question, 27 separate sheets were maintained in order to thoroughly record the feedback of each interviewee. A total of 162 pages (6 questions * 27 interviewees)

interviews were obtained from questions through interviews and were organized and summarized properly in sheets and documented in the study.

Interview Analysis

After in-depth interview, it was revealed in the first question that what date your organization implemented the HRIS? “It was reported that government hospitals have been applying HRIS since 2015 and 2016”.

While answering the second question that how long you been working in HRIS? “Most of the interviewees reported that they have been working from the beginning on System Applications and Products in Data Processing (SAP) software used in government hospitals in Peshawar”. However few of the respondent indicated they have been rotated from other departments. In addition to this few of the interviewees revealed that they are recently hired in the hospitals from 2020 onwards.

Advantages of HRIS

In addition to this, when asked about the advantages of HRIS? “Yes, that is correct. An HRIS (Human Resource Information System) is a valuable tool for organizations of all sizes, including hospitals, to manage and maintain personnel-related information. As the primary repository for personnel data, an HRIS can help organizations to streamline their HR processes and improve the efficiency and accuracy of their HR initiatives. One of the key advantages of an HRIS is that it can provide a centralized location for all employee data, making it easier for HR staff to manage and maintain employee records. With an HRIS, personnel data such as contact details, job titles, job descriptions, salary and benefits information, and performance evaluations can be stored and accessed from a single location. This can help to reduce the likelihood of errors or omissions in employee records. In addition, an HRIS can also automate certain HR functions such as recruitment, onboarding, training, and performance management. This can help to save HR staff time and reduce the administrative burden associated with these tasks. By automating these processes, an HRIS can also help to ensure consistency in HR policies and procedures across an organization. Overall, the use of an HRIS can provide significant benefits to organizations, including hospitals, by improving the efficiency and accuracy of their HR initiatives and providing a centralized location for all personnel data. Subsequently, within a unified system, a diverse range of personnel data becomes easily accessible. In addition to this, it helps us in;

Record-keeping of personnel data, the HRIS is considered as the only reliable source of information. Furthermore, the data is stored for compliance in HRIS that helps in identification of staff member in case of fraud, misbehavior or theft. “Few of the respondents stated that HRIS has made the work very simple and convenient because it is very helpful in data repository and it has minimized the chances of frauds. One of the respondent reported that few of the embezzlement cases have been caught through HRIS”.

In addition to this, HRIS saves time that increase efficiency because keeping all the data in hard paper form that a big time, hence to find out the right document in the right folder and locating in the right sheet takes a lot of time. Due to HRIS, time has been saved. Any sort of data can be quickly traced, when required for reporting purposes. The HRIS has made the work accessible and accurate for us. HIRS made it very easy to get any sort of information pertaining to any employees on fingertip. Besides this keeping the data of employees in hard form and files were covering space and it was hard to maintain a proper record of all the documents related to employees. Hence, the data is stored in the system and back is taken on daily basis that have minimize the paper work and time that were consumed in filing system”.

In addition to the aforementioned benefits, It was reported by most of the respondents that HRIS keeps track of applicant data and resumes, allowing us to match job opportunities with qualified

applicants from the applicant pool who have applied for any advertised position in hospital that aids in directing the recruiting process. One respondent communicated that “HRIS maintains a record of application data and resumes of all the existing employees and potential candidates, allowing us to match employment openings with competent candidates from the applicant pool who have applied for any listed position in the hospital, assisting in the recruitment process. Furthermore, if the management finds any existing staff member fit for the position keeping in view their data, the entire information about the staff members can be obtained quickly and share with the management for further actions.

Furthermore, it was revealed that HRIS automates the payroll system of hospitals employees that combine with time and attendance data, and at the conclusion of each month, payments orders are generated. Furthermore, time and attendance data of hospital staff are gathered because Health and Administrative staff works in different shifts and hence they check in and check out by fingerprint or a card that is synced with an HRIS. This provides the precise arrival and departure times. Any issues with lateness are easily detected. One of the interviewees replied that “HRIS computerizes the salaries of hospital staff, which is combined with time and attendance data, and payment orders are issued at the end of each month accurately because the enter and exit timings of all staff are stored in the system properly and hence those who come late or leave early or remain absent, their salaries are deducted accordingly that brings transparency in day to day affairs”.

It was reported by most of the interviewees that HRIS helps in managing the performance of hospital staff that is rated and generated when required but normally it is done on annual basis to analyze entire staff. HRIS has significant contribution as it make HR demand and supply forecasting easier”. One of the respondent stated that “earlier the employees performance appraisal was made through favoritism, however after implementation of the HRIS, the performance of each employee remain crystal clear and up to great extent the nepotism has been reduced that had motivated employees to work hard.” In addition to this one respondent stated that “HRIS aids in the management of hospital staff performance, which is graded and created as needed, but is often done on an annual basis to assess the whole workforce. HRIS makes it simpler to estimate HR demand and supply, which is a big benefit”.

Barriers of HRIS

The next important question was asked from the interviewee that what are the barriers of HRIS (If any)? “It was reported by most of the respondents that although the HRIS is complete system that maintain the entire record of all staff members, however still it was revealed that the given below are few of the barriers that hinders in the successful application of the HRIS. However it contribute a significant role in accomplishment of hospital goal and in particular to HR department, however some of the hospital staff need adequate training. It is important that the entire hospital staff should be trained on the relevant modules that can facilitate them in using the software. One of the respondent stated that “those working on system must be properly train over the entire and particular menus that can facilitate them to work smoothly but there are few of the employees who are not trained properly in the relevant modules and mostly they are relatives or friends of top management or they do the personal chores of top management due to which they assign their own work to other colleagues that make the work difficult for them to perform all the tasks at once”.

Furthermore, few of the old staff members working in the HR department lacking the computer and English skill. It was reported by few respondents that “there are few of the staff members working in the HR department and assign the duty to work on HRIS but unfortunately they are not computer literate and they are very poor in English. Furthermore, they are a bit aged due to that their motivation to work on HRIS and learn computer and English language is equal to none that cause errors and mistakes in the system and mostly the department face a number of issues”.

It was stated by few of the respondents that sometimes due to technical issues, the software stop working that create problem. One of the interviewees stated that “due to system maintenance and workload and particular at the month end, the system remain down or get hang that cause delay in routine work”.

Solutions of HRIS Issues

The another significant question that was asked from the respondents of hospital HR staff that how the problems can be resolved or what you suggest to improve the HRIS in hospitals? Most of the respondents stated that in order to bring high efficiency, it is indispensable to properly train the entire staff that will facilitate successful operation of HRIS. Few of the interviewees elaborated that “for smoothly operation, it is more important to train all the relevant staff on the system because if they will not be properly trained in the specific modules then it will not be possible for them to work properly and the can not produce quality work”. To achieve high efficiency, it is critical to adequately teach the whole team who will be responsible for the efficient operation of the HRIS.

Most of the respondents stated that new staff members with computer and English language proficiency should be hired to replace the existing non professional and specially those who can not work properly on computer and whose English is weak. The top management need to take corrective actions against those who do not cooperate with the HR department. Nepotism should be eliminated because few of the top management relatives and friends do not work properly due to which the workload is distributed on rest of the employees”.

One of the responded stated that “few of the employees working in this section are not good in English and do not have any know how of computer and they belongs to the group of top management. Therefore it is very much important to replace them with those having computer expertise and English proficiency”.

Discussion and Conclusion

The fundamental objective of this study was to explore the advantages, barriers, and solutions of HRIS in the government hospitals of Peshawar, KP. The outcomes of current research provided an important addition to the field of HRIS and address the work of HRIS in government hospitals of Peshawar, KP, and Pakistan. The total four government hospitals located in Peshawar, Pakistan were deployed.

The outcomes of the study indicated that HRIS is very much beneficial for the government hospitals as the HRIS serves as the main storage platform for personnel data, this capability is realized. Then, in a single system, a variety of personnel data is readily available. Record-keeping of personnel data in the HRIS is considered as the most reliable source of information. There are very few chances of employees' data loss due to the fear of theft, fire or something like this.

HRIS has simplified and facilitated work by assisting in data repositories and reducing the likelihood of fraud. According to one respondent, few embezzlement incidents were discovered using HRIS. It was discovered that employees spent a significant amount of time keeping all staff members' data in hard form. Furthermore, there were numerous possibilities for missing items, as well as errors and fraud. The HRIS has made the work more accessible and accurate. HIRS made it incredibly simple to obtain any type of employee information at the tip of one's finger. Aside from that, keeping employee data in hard form and files was taking up space, and it was difficult to keep a proper record of all employee-related paperwork. As a result, the data is saved in the system and backed up on a daily basis, reducing the amount of paper labour and time spent on the filing system.

Furthermore, HRIS is highly effective in terms of cost and time as it helps in minimizing cost and saving time that is normally consumed on manual system. HRIS has lowered the cost of documentation because most data is stored in the system and does not need to be printed; previously, all documentation was done manually, which required a large number of funds; funds for paper, filing, closet, and space. This system has reduced the costs that were previously incurred. When using HRIS, maintaining all data on hard paper takes time, as does finding the correct document in the correct folder and locating in the relevant page. Time has been saved as a result of HRIS.

Data related to any employee can be obtained on fingertip. Although, there are hundreds of employees who work in different shifts on different days but due to HRIS, it is very easy to get the employees attendance record, raise or deduction in payroll on monthly basis within no time due to biometric system. When it comes to reporting, any type of data can be simply traced. When asked about the benefits of HRIS, the majority of respondents stated that it saves money because a lot of money was previously spent on paper work, but this system has reduced the cost. HRIS keeps a record of all existing workers' and potential applicants' application data and resumes, allowing us to match job openings with qualified prospects from the applicant pool who have applied for any advertised position in the hospital, assisting in the recruitment process.

In addition to this the performance of entire staff of hospital can be evaluated in a best way as and when required. Last but not the least, forecasting regarding employees can be done through HRIS. Additionally, if the management determines that any existing staff member is qualified for the position based on their data, the whole information about the staff members may be swiftly retrieved and shared with the management for further action. HRIS computerises hospital staff salaries, which are combined with time and attendance data, and payment orders are issued accurately at the end of each month because the enter and exit timings of all staff are properly stored in the system and thus those who come late, leave early, or remain absent, their salaries are deducted accordingly, bringing transparency to day-to-day affairs. Formerly, employees' performance was evaluated through favouritism; however, after the adoption of the HRIS, each employee's performance has remained crystal apparent, and nepotism has been minimized to a large level, which has pushed employees to work hard.

Although HRIS is a complete system with very few barriers; those working on the system are not properly trained over the entire and specific menus that create hurdles to work smoothly. Furthermore it was revealed that there are a few employees who are not properly trained in the relevant modules, and most of them are relatives or friends of top management, or they do top management's personal chores, as a result of which they assign their own work to other colleagues, making it difficult for them to perform all the tasks at once.

Furthermore, a few staff employees work in the HR department and are assigned the task of working on HRIS, but they are not computer literate and are quite weak in English. Furthermore, because they are a little older, their willingness to work on HRIS and learn computer and English language is equal to none, which causes errors and mistakes in the system and, as a result, the department faces a number of challenges. Due to system maintenance and workload, particularly near the end of the month, the system remains down or hangs, causing delays in normal tasks.

In order to resolve the aforementioned critical issues, the respondents reported that it is very important to train the relevant workers on the system for smooth operation because if they are not adequately trained in the required modules, they will not be able to operate correctly and will not be able to create quality work". To achieve high efficiency, it is necessary to fully train the entire staff that will be accountable for the HRIS's efficient functioning. Some of the personnel in the department are not fluent in English and have little computer knowledge, despite the fact that they

are part of the top management. As a result, it is critical to replace them with people who are computer savvy and fluent in English.

Future Research Recommendations

This study took place in government hospitals in Peshawar, KP, Pakistan, but there's room for others to dig deeper. Future researchers might want to toss private hospitals into the mix for a broader look. They could even reuse this data to stack the hospital scene up against other service industries in Pakistan—or peek at how it holds up in a developed or developing country—to spot shifts in the respondents' responses.

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