

A Quantitative Analysis of the Characteristics of Information Technology and the Effectiveness of Human Resources in Chosen Banks

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Abstract

This study intends to investigate how information technology affects the efficiency of human resources in particular banks. The study aims to recognize and comprehend the connections between various information technology characteristics and the efficiency of human resource management in the banking industry. Twenty-six items comprised a questionnaire that was created and given to the responders. The study's unit of analysis, 127 participants, was chosen using a non-probability sampling technique. Descriptive statistics, correlation analysis, and multivariate regression techniques were used to analyze the data gathered. The findings of the investigations showed that the availability, accuracy, reliability, appropriateness, comprehensiveness, timeliness of information processing, and speed of information, among other information technology characteristics, significantly impact the effectiveness of human resources in the chosen banks. The correlation coefficients, which varied from .341 to .989 and had a p-value of .000, showed that these variables were strongly positively related. With a Cronbach's Alpha value of .947, the items also showed excellent internal consistency. The research's findings also show how vital information adequacy is to the efficiency of human resource management in commercial banks, where it accounts for 98% of the observed variation. It demonstrates that the accuracy of information provided significantly influences the importance of human resources in the banking industry. Banks have seen improvements in employee performance management, better productivity, and positive organizational results due to innovations in HR operations made possible by IT. By empirically showing the beneficial relationship between information technology and the efficiency of human resource management in particular banks, this study adds to the body of knowledge already in existence. These results highlight the significance of utilizing the right IT tools to improve HR procedures and support organizational success in the banking industry.

Keywords: Human Resource, Information Technology, Selected Bank, Saudi Arabia.

1. Introduction

The successful integration of information technology (IT) and human resources (HR) has emerged as a vital driver of success for enterprises across various industries in today's dynamic and continuously expanding business landscape. But this integration is particularly significant in the banking industry, where banks depend more and more on technology to streamline operations, improve client experiences, and keep a competitive edge in an increasingly digital world. Because it is so fiercely competitive, the banking sector needs effective HR procedures to stay ahead. The most effective HR software is essential for optimizing HR procedures, guaranteeing compliance, and raising worker quality (Bajwa, 2023). For example, when banks employ software-based management systems, the HR division is more effectively interconnected with other bank branches, and the whole procedure for overseeing an enormous staff is streamlined, thus guaranteeing the bank's overall effectiveness advances dramatically.

Additionally, combining HR and IT can positively impact the organization's ability to manage its workforce, as well as lower costs, more efficient operations, higher productivity, and more (Rosencrance, 2014). By using HR technology to expand its culture, Metro Bank, for instance, has been able to experience 33% year-over-year growth since its establishment in 2010 (Avature, 2010). Handling HR and accounting requirements for the salary of employees can also be made simple, effective, and affordable by integrating payment system with HRMS, accounting, and banking solutions (Wang et al., 2021). A quality and qualified workforce can also be produced via good risk management in the banking industry, which is only achievable with the union of HR and IT. However, more than integrating IT systems alone are required to effectively use technology in banking operations. It necessitates a comprehensive approach that seamlessly blends HR and IT operations. The interaction between IT characteristics and HR effectiveness is essential to ensure successful technology adoption, implementation, and use within banks (Moussa & El Arbi, 2020).

The workforce's skills and competencies must advance as banks implement new IT systems and technology. HR practices and policies must align with IT strategies to promote a culture of continuous learning, skill development, and adaptation (Dey et al., 2023). Banks can use technology to spur innovation, raise staff productivity, and improve client relationships by successfully integrating IT and HR. Banks looking to maximize their investments in technology and get the most out of their human resources must comprehend the correlation between IT characteristics and HR effectiveness (Aman-Ullah et al., 2022). IT traits, including infrastructure quality, system functioning, data security, and IT governance, affect how effective HR practices are. For instance, an adequate IT infrastructure supports effective HR procedures, such as programs for learning and development, performance management, and talent acquisition. In order to increase trust and compliance, secure data management solutions guarantee the security and integrity of employee data (Jones, 2023; Ingrid, 2022).

Additionally, the alignment between IT and HR covers employee engagement and satisfaction. Technology may help organizations establish an appropriate work atmosphere and give workers the tools to do their responsibilities successfully by facilitating seamless communication, collaboration, and employee self-service (Zielinski, 2019; Nazef, 2022). Additionally, HR managers can make data-driven decisions on talent management and succession planning by

utilizing IT systems to access real-time employee data, examine workforce trends, and have access to employee data (Cho et al., 2023). This study investigates how particular IT traits affect the efficacy of HR procedures inside these firms. Understanding this connection can provide important information about how banks might use IT to improve HR operations and the organization's overall efficiency.

2. Literature Review

Information Technology

The digital age's primary driver behind altering how people, businesses, and society operate is information technology (IT). Utilizing computers, software, networks, and electronic devices is part of storing, processing, transmitting, and retrieving information (Castagna & Bigelow, 2021). The manner that businesses are run has changed as a result of IT. Businesses of all sizes, from sole proprietorships to global conglomerates, depend upon IT systems to improve efficiency, streamline processes, and gain a competitive edge (Perifanis & Kitsios, 2023; Cosker, 2023). ERP (Enterprise resource planning) systems integrate several operations, including finance, human resources, and supply chain management, to facilitate effective coordination and data-driven decision-making. CRM (customer relationship management) solutions let companies personalize customer interactions, boost satisfaction, and increase revenue. Additionally, e-commerce platforms have changed the retail sector by enabling customers to buy quickly and firms to access worldwide markets (Ramadan et al., 2023).

Information Technology has revolutionized the healthcare industry, enhancing patient outcomes and care. Healthcare practitioners can now securely access and share patient information thanks to the electronic health records (EHRs) that have replaced older paper-based systems (Tertulino et al., 2023). The ability for patients to get medical advice and treatment remotely, thanks to telemedicine and remote monitoring technologies, has revolutionized healthcare delivery. Additionally, to support medical research, medication discovery, and customized medicine, extensive healthcare databases are being analyzed using data, analytics and machine learning algorithms (Bhattamisra et al., 2023). Similar to how business has changed significantly due to IT, so has education. Learning management systems (LMS) have made it easier for students to learn online and participate in interactive learning activities (Bradley, 2021). Virtual reality simulations, online courses, and webinars all present fresh opportunities for learning and skill improvement. Interactive whiteboards and instructional applications are examples of educational technology tools that improve learning and teaching in the classroom.

The development of the internet and communication technology has completely transformed how individuals connect and communicate. Geographical obstacles have been eliminated through electronic mail, instant messaging, and social media platforms (Froment et al., 2017). Real-time interactions are made possible through video conferencing and collaboration solutions, which promote remote work and worldwide cooperation. Furthermore, the widespread use of mobile devices and applications has altered how people transmit information, enhancing accessibility and customizing communication (Swamy, 2020). Several new trends are shaping the future of information technology. These involve cybersecurity, the internet of things,

artificial intelligence, and blockchain technology. The connections between items and devices in the IoT allow for data exchange and automation (Bagwari et al., 2022). Among the businesses being transformed by artificial intelligence technologies like natural language processing and machine learning are the medicare and investment industries (Davenport & Kalakota, 2019). Blockchain technology offers transactional systems that are transparent and safe (Habib et al., 2022). It is necessary to handle cybersecurity risks like data breaches and ransomware attacks, which are becoming more common as technology develops to safeguard people and businesses.

Human Resource

The crucial task of managing and optimizing the potential of an organization's people, which are its most significant asset, is known as human resource management, or HR for short. In order to develop a healthy work environment, recruit and keep top talent, and match employee aspirations with company objectives, HR experts are essential (Ahmad et al., 2022). Among the various responsibilities that fall within the purview of human resources are hiring and choosing employees, the onboarding process, instruction and growth, performance management, wage and rewards, relationships with workers, and compliance with employment rules and regulations. In order to develop and put into effect policies and procedures that support the overall objectives and mission of the firm, HR professionals collaborate closely with leadership teams as strategic partners (Minbaeva & Navrbjerg, 2023).

One of HR's main goals is attracting and hiring qualified people who can contribute to the company's development. HR specialists work with recruiting managers to determine job requirements, create job descriptions, and implement recruitment techniques, including posting jobs, reviewing resumes, holding interviews, and eventually choosing the best candidates. America claims. The Bureau of Labor Statistics states that human resources managers are responsible for arranging, managing, and supervising the administrative functions of an organization. Typically, these roles necessitate a combination of educational qualifications and substantial work experience, with most positions requiring a bachelor's degree and certain functions necessitating a master's degree (U.S. Bureau of Labor Statistics, 2022). Previous research affirmed that effective talent acquisition is essential to ensure that the firm has a diverse and high-performing workforce. Excellent interpersonal, verbal, and writing communication, negotiation, and conflict resolution abilities are necessary for this position. HR experts assist new hires in integrating into the company by providing thorough onboarding procedures. For new hires to grasp their roles, responsibilities, and the organizational culture, these processes entail giving them tools, resources, and information they need (Pedraza-Rodriguez et al., 2023). HR departments also manage training and development projects to improve employee abilities and promote ongoing learning and progress.

In order to help employees, develop and match their efforts with corporate goals, performance management entails creating clear performance expectations, performing frequent performance reviews, and offering feedback to staff members (Tweedie et al., 2019). In order to address any performance-related concerns and put plans in place to increase productivity and employee engagement, HR experts frequently collaborate closely with managers (van Vulpen, 2023). It could include providing chances for training and growth, providing competitive compensation and benefits, and fostering a positive and conducive work atmosphere. HR is also in charge of

overseeing employee salary and benefits. It includes creating competitive salary structures, handling payroll, managing employee benefit plans, and ensuring that all applicable labor rules and regulations are followed. Organizations can recruit and keep outstanding people by providing competitive and equitable remuneration packages. Similarly, HR specialists mediate by resolving disputes, attending to complaints, and encouraging a positive work environment (Munduate et al., 2022). Additionally, they are essential to the organization's efforts to advance diversity, equity, and inclusion by ensuring everyone is treated with respect and fairness.

Relationship between IT and HR

Information technology (IT) and human resources (HR) have increasingly merged in the modern era across numerous businesses. The interaction between IT and HR in the banking sector has become significant due to fast digitization and technological improvements. The banking industry's HR function has undergone revolution thanks to information technology, which has streamlined hiring procedures and improved talent acquisition tactics. From hiring to employee retention and core process automation, HR digital transformation has improved HR offices' operations (Burak, 2021). HR departments handle job postings, keep track of applicant data, and automate candidate screening with IT tools and software. Through online job portals, social media sites, and applicant tracking systems, these technologies let HR executives quickly find and entice top talent. On a single platform, this HR and recruitment solution assists with the hiring, managing employee data, onboarding, and other tasks (Sen, 2020). Additionally, HR staff members can assess recruitment indicators using data analytics tools, which enhances decision-making and ensures a more data-driven approach. Leading banks reportedly altered their roles, talent pools, and investment objectives for technology in-depth in 2021, enabling a step change in their workforce (Mayer et al., 2021).

In the banking sector, IT has dramatically changed HR's role in staff management and training (Hizam et al., 2023). Employee performance management, employee assistance and coaching, and employee relation concerns are all essential tasks performed by HR specialists in banks (Srivastava, 2022). HR departments use IT solutions to automate and improve staff scheduling, time and attendance monitoring, and performance review processes. Centralized data storage made possible by integrated HR management systems makes retrieving employee information, history of training, and performance reviews simple. As a result of this connectivity, HR is better equipped to pinpoint skill gaps, create customized training programs, and support e-learning activities to improve staff capabilities and guarantee industry compliance. For instance, HR divisions can train their staff and enhance training outcomes using specialized e-learning courses (Hassan, 2022). Additionally, it is feasible to precisely establish the training pathways that must be taken to prepare each person by mapping out their skills. Companies can continuously detect gaps and provide the appropriate training by incorporating the gap analysis approach into training systems and procedures (Cross, 2022). The skills gap can be closed, and employees can be sure, they have the abilities needed to complete job requirements by investing in their personal development.

Information technology is essential for improving the employee experience and engagement in the banking industry. HR departments employ IT solutions to facilitate effective coordination and communication across geographically dispersed teams. It enables banks to provide

consumers with better services in a safe, dependable, and cost-effective manner (Sharma & Mittal, 2018). According to Sathiyavany and Shivany (2018), the Internet has become an effective medium for distributing banking goods and services. HR may promote community, information sharing, and employee recognition through intranet portals, corporate social networks, and digital communication platforms. Additionally, HR uses IT to provide employee self-service portals that let workers access and update personal information, sign up for benefits programs, and request for time off, giving them greater autonomy and leading to higher job satisfaction. Overall, IT has improved the efficiency, security, and accessibility of the banking industry.

Banking institutions can now use data analytics in decision-making processes thanks to the combination of IT and HR. By improving employee performance, HR analytics can influence decision-making in banks (Nagpal & Mishra, 2022). According to several studies, HR practices can help decision-makers to generate more informed decisions about human resources (Nagpal & Mishra, 2021). HR departments gather, organize, and analyze a substantial amount of data pertaining to employees using IT systems. Data-driven insights allow HR professionals to spot trends, anticipate workforce requirements, and create plans for luring, keeping, and developing employees. Additionally, senior management can make wise decisions on resource allocation, succession planning, and strategic workforce planning thanks to integrating HR data with larger organizational data sets. Interpreting technology-enabled systems for banking decision-making is crucial (Pillai et al., 2019). For instance, Deloitte's global HR benchmark is made to give banking executives helpful information that can be used to save costs and boost productivity (Deloitte, 2012).

Banks are more vulnerable to cyber threats and attacks as they adopt more sophisticated technologies to improve their business processes. In order to safeguard their systems, data, and clients from potential intrusions, banks must create robust cybersecurity safeguards and compliance frameworks (Jain, 2023; HackerEarth, 2018). HR (Human Resources) guarantees good cybersecurity in the banking sector. They ensure the bank has qualified staff members who can design and implement robust security measures. Through training and awareness programs, they make sure that staff is aware of the significance of adhering to security procedures, maintaining strong passwords, being watchful for phishing attempts, and other crucial security precautions (Warszona, 2023). HR helps the organization's culture of security awareness. HR also works with IT and other stakeholders to establish and disseminate cybersecurity policies and procedures (Duncan, 2022). HR supports internal audits, controls implementation, and documentation management for cybersecurity compliance. HR may organize the response actions in a cybersecurity incident or breach (Harford, 2022). They collaborate with IT and other departments to evaluate the impact, coordinate communication, and conduct investigations as needed.

Conceptual Framework

A conceptual framework outlines the anticipated relationships between variables in a research project. It aids researchers in their understanding of the variables that might affect the phenomenon they are studying. Researchers often review the available literature, which includes earlier investigations and pertinent theories, before developing a conceptual framework. They

can uncover research gaps, comprehend the present state of knowledge on the topic, and expand on prior work with the aid of this phase. SPSS (Statistical Package for the Social Sciences) is a well-liked statistical program for data analysis in research. The statement says that the dependent variable is the extent of human resource effectiveness. In other words, researchers are interested in comprehending, explaining, or forecasting the variable or outcome. The study will gauge the level of human resource effectiveness. The elements that are thought to impact the dependent variable are known as independent variables. The availability, accuracy, dependability, appropriateness, comprehensiveness, timeliness, and speed of the information are, in this case, the independent variables. In order to comprehend their possible effects on the level of human resource effectiveness, these variables will be assessed and examined. The recommendation is to measure the study's variables using the research model shown in Figure 1.

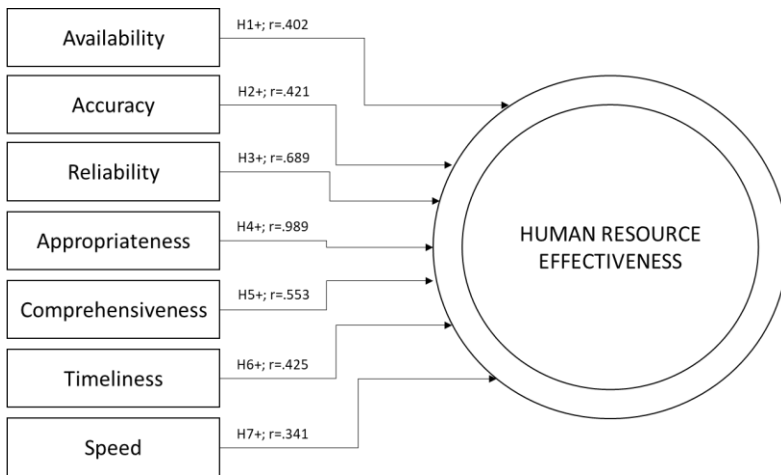


Figure 1. Conceptual Framework

3. Methods

Information was collected from a combination of primary and secondary sources. The initial data was obtained through the use of a structured questionnaires with the major players, including HR managers and banking industry employees, to solicit their views on evolution, acceptance, and advantages resulting from the implementation of information technology and its impact on HRM activities. The secondary data sources involve broad desk research through the library, various published and unpublished materials, and the internet.

Before deciding on the research population, the researcher surveyed the chosen banks in the Assir Region to ascertain the specific number of banks and employees. The researchers had to check multiple sources and compile their latest data because there is no single repository for this information. The researcher needed help locating resources about the chosen banks in Saudi

Arabia because there are few study areas, and the information on the individual banks' websites is only general knowledge.

The Saudi Arabian banking industry, which was the subject of this study, includes institutions including Saudi British Bank, Alahli Bank, Alfransi Bank, and Albilad Bank. The banks and respondents for this study were chosen using a non-probability sampling technique. The supervisor has gone over the questionnaire and had it evaluated by others for accreditation. There were 300 questionnaires distributed, and 127 of them were returned. The study's framework was built on the literature review and other research methods used in related studies. One signifies strongly disagree, and four represents strongly agree on a four-point Likert scale.

4. Results

Table 1. Demographic Profile

Profile	f	%
Sex		
Male	73	57.5
Female	54	42.5
Total	127	100
Age		
25 and below	24	18.9
25-34	62	48.8
35-44	1	0.8
45-54	26	20.5
55 and above	14	11.0
Total	127	100
Education		
Diploma	19	15.0
Bachelor	78	61.4
Master	15	11.8
PhD	14	11.0
Others	1	0.8
Total	127	100
Position		
Branch Manager	20	15.7
Relations Manager	69	54.3
Operations Manager	28	22.0
Sales Manager	8	6.3
Others	2	1.6
Total	127	100
Years of Experience		
Less than 1 year	23	18.1
2-5 years	40	31.5
6-10 years	33	26.0
10 years and above	31	24.4
Total	127	100

As indicated in Table 1, the offered demographic profile details the survey or research study participants in many categories, including sex, age, education, position, and years of experience. According to the findings, there were 73 male responders, or 57.5% of the total, and 48.8% were between the ages of 25 and 34. Men and women made up about the same amount of respondents.

It suggests that banks understand the importance of diversity and are working to build an inclusive workplace that recruits and keeps talent from both genders. Regarding education, 61.4% of respondents possessed a bachelor's degree, while 54.3% held the position of relations manager. The group with most experience, 40 respondents with 2 to 5 years of experience, comprised the majority (31.5%). It suggests that professionals in the banking industry have been exposed to a range of business methods, rules, and financial products during the past two to five years. They might have gained a thorough understanding of financial transactions, banking procedures, and client relations.

Table 2. Reliability and Validity Analysis

Variables	Cronbach's Alpha	No. of Items
Availability	.772	3
Accuracy	.828	3
Reliability	.709	3
Appropriateness	.817	3
Comprehensiveness	.710	3
Timeliness	.797	3
Speed	.841	2
All Instrument Items	.947	20

According to Table 2, the study expected the scale's dependability score to range from 0.709 to 0.841. A Cronbach alpha reliability coefficient was present for one dependent variable and seven independent variables. With a Cronbach's Alpha value of 0.947, comprising all elements, the entire instrument exhibits hugely high internal consistency. These findings demonstrate the validity of the scale or questionnaire employed in the study to measure the relevant variables. They are all more significant than 0.70, according to the table. The internal consistency and dependability of the variables used in this research can be regarded as excellent and reliable regarding research methodology (Louangrath, 2018). A step in the validation procedures was the initial questionnaire consultation. The experts thought the survey's content validity was sufficient. Thus, the researcher attested to the scale's reliability and validity.

Table 3. Bivariate Correlation Analysis

IT Characteristics – HR Effectiveness	p-r	Sig	VI	D
Availability	.402	.000	Significant	Reject H_0
Accuracy	.421	.000	Significant	Reject H_0
Reliability	.689	.000	Significant	Reject H_0
Appropriateness	.989	.000	Significant	Reject H_0
Comprehensiveness	.553	.000	Significant	Reject H_0
Timeliness	.425	.000	Significant	Reject H_0
Speed	.341	.000	Significant	Reject H_0

Decision Rule: if p value ≤ 0.05 , reject H_0

Table 3 shows the statistical relationship between information technology traits and human resource effectiveness. The findings suggest a substantial association between HR effectiveness and all IT attributes investigated in the study. All of the correlation coefficients have a p-value

of 0.000 and range from 0.341 to 0.989, show a strong positive relationship. As a result, the null hypothesis which contends that there is no connection between IT traits and HR effectiveness is disproved. It shows that the study's assessment of IT features significantly impacts the efficacy of HR practices and procedures.

There is indeed a connection between IT traits and HR efficiency. According to a prior study, the layout of technology innovations can be applied to human resources. For instance, human resources information systems assist in modernizing and expanding the HR function by removing the most cutting-edge technology tools and techniques (De Alwis et al., 2022). It is because the information system generates data that may be used as a decision-making base, lowers the uncertainty rate, and narrows the gap between forecasts and reality (Rajawat & Sharma, 2022). Organizational leaders use HR strategies as a road map to connect the emerging human resources with organizational needs to achieve the best possible organizational performance (Nafari & Rezaei, 2022). As a result, adopting HR technology and HRS can be seen as particular IT traits closely linked to HR effectiveness.

Table 4. Multiple Linear Regression Analysis

IV	SS	df	MS	F	Model Summary
Availability	13.978 72.337	3 123	4.659 .588	7.923	R=.402 R ² =.162 ARS=.142 SEE=.767
Accuracy	15.295 71.019	3 123	5.098 .577	8.830	R=.421 R ² =.177 ARS=.157 SEE=.760
Reliability	40.997 45.318	3 126	13.666 .368	37.091	R=.689 R ² =.475 ARS=.462 SEE=.607
Appropriateness	84.408 1.907	3 123	28.136 .016	1814.600	R=.989 R ² =.978 ARS=.977 SEE=.125
Comprehensiveness	26.392 59.923	3 123	8.797 .487	18.058	R=.553 R ² =.306 ARS=.289 SEE=.698
Timeliness	15.583 70.732	3 123	5.194 .575	9.033	R=.425 R ² =.181 ARS=.161 SEE=.758
Speed	10.054 76.261	2 124	5.027 .615	8.174	R=.341 R ² =.116 ARS=.102 SEE=.784

Legend: RS=R Square, ARS=Adjusted R Square, SEE=Standard Error of the Estimate

The outcomes of multiple linear regression analysis between variables are shown in Table 4. This study concludes that there is an important link between IV and DV after accepting seven hypotheses (H1 to H7). Availability ($R=0.402$; $R^2=0.162$), Accuracy ($R=0.421$; $R^2=0.177$), Reliability ($R=0.689$; $R^2=0.475$), Appropriateness ($R=0.989$; $R^2=0.978$), Comprehensiveness ($R=0.553$; $R^2=0.306$), Timeliness ($R=0.425$; $R^2=0.181$), and Speed ($R=0.341$; $R^2=0.116$) all have values that support this conclusion. According to this study's findings, information appropriateness (H4) had a higher correlation coefficient value, indicating that it significantly affects commercial banks' human resources performance. According to the regression analysis of appropriate information and human resource effectiveness, 98 percent ($R^2=0.978$) of the variation in information technology characteristics and human resource effectiveness is attributable to those characteristics, with the remaining 2 percent being due to unexplainable variability. An R-value of 0.989 shows a positive link between the suitability of the information and the efficiency of using human resources. The findings ($F=1814.600$; $P<0.01$) indicate that the link is highly significant and that our model is suitable. Overall, the findings point to a 0.01 significance correlation between IT traits and HR effectiveness.

Previous research showed that information technology can be effectively used for human resource management. According to Silva and Lima (2018), technology can enhance the information that HR has access to, facilitating HR operations and enhancing their speed and efficacy. Today, businesses utilize online job boards to discover top-notch candidates for positions. The process has witnessed enhancements due to increased awareness among individuals regarding online job openings. HR IT systems can be tailored to the organization to better capitalize on the differentiation that arises from what workers do and how they do it (Niaz, 2017). Utilizing technology to automate processes like data entry and analysis can lower the cost of HR activities. Information technology is the most significant way for human resource management to support the macro-strategy of strategic human resource management to save costs (Hassanzada & Rao, 2020).

Additionally, technology changes how HR departments interact with employees, keep track of employee information, and assess employee performance (Sherman, 2019). It is crucial to remember that technology should only be used appropriately and morally. Technology can enhance the advantages of HR practices, but if misused, it can also obstruct management of the company's human resources. It is crucial to utilize technology to optimize advantages and reduce drawbacks.

Table 5. Obstacles and Challenges Analysis

Obstacles & Challenges	M	VI
Lack of financial support	4.43	SA
Lack of experience and experts in the field of IT	4.15	A
Lack of appropriate software	4.13	A
The difficulty of changing the bank's philosophy where everyone uses to the paperwork	4.74	SA
Employees hesitation and fear from using technology	4.79	SA
OVERALL MEAN	4.45	SA

Legend: 1.00-1.80=Strongly Disagree (SD); 1.81-2.60=Disagree (D); 2.61-3.40=Neutral (N);

3.41-4.20=Agree (A); 4.21-5.00=Strongly Agree (SA)

The barriers and difficulties experienced in IT are listed in Table 5 and the accompanying ratings. Insufficient funding ($M = 4.43$, SA), a lack of expertise and experience in the field of information technology ($M = 4.15$, A), a lack of suitable software ($M = 4.13$, A), the challenge of changing the bank's philosophy, where everyone is used to paperwork ($M = 4.74$, SA), and employees' reluctance and fear of using technology ($M = 4.79$, SA) are the five specific challenges that were identified. The most robust consensus among the respondents in this study, with a mean score of 4.79, was that employees' reluctance and fear of using technology was a problem. Bank personnel may need to be more confident and confident in technology due to a lack of familiarity or expertise with using it. They may be used to manual or conventional techniques and need help to adopt new technological tools or systems. The respondents indicated strong agreement with these barriers. The respondents' responses had a reasonable degree of agreement (SA), as seen by the aggregate mean score of all barriers being 4.45.

5. Discussion

Hypothesis 1: The analysis of findings demonstrated that the bank's human resource department functions are efficient thanks to information technology, where necessary details about the job are readily available and reachable when required. HR technology streamlines a range of human resources responsibilities, such as automating employee payroll and compensation, talent acquisition and management, workforce analytics, performance evaluation, and benefits administration (Agarwal et al., 2023). Some new vendors maximize health insurance benefits by analyzing claim data, then customizing benefit packages for specific employees. With the help of technology, banks can enhance their internal procedures, key competencies, target markets, and overall organizational design. The organization's success may result from using human resource IT technologies to supplement management and increase effectiveness and efficiency (Kim et al., 2021). By utilizing various technological solutions, HR technology aids in maintaining a smooth hiring process. Better data management is also possible, aiding HR professionals in making wise judgments (Xiang et al., 2023). Whether via email, chat, or video conferencing, it will be simpler for HR departments to communicate with employees (Karl et al., 2022).

According to Hypothesis 2, the analysis of findings supports the bank's human resources department's effectiveness, with administrative procedures being more successful due to information technology. It also demonstrated that the available information is mistake-free due to human error, a crucial component of any information. By creating performance targets, offering coaching and feedback, and performing performance reviews, effective HR procedures in banks can assist in dealing with employee performance. As a result, productivity may increase, and businesses may succeed (Srivastava, 2022). Any organization must measure HR effectiveness, and depending on how each firm defines "HR effectiveness," there are many different measures to consider. Auditing HR compliance, determining whether HR services are being provided as effectively as they could, and gauging the effectiveness of HRM and its effects on employee satisfaction in the banking industry are some of the metrics that are most frequently

used to measure HR effectiveness (Kyprianou, 2022; Madanat & Khasawneh, 2018). HR effectiveness in the banking industry may be increased by reallocating HR responsibilities to line managers, who are given the freedom and authority to make decisions without waiting for HR's permission (Sujan et al., 2020).

According to hypothesis 3, the study's results show that the bank's human resource department runs efficiently and with reliable information, helping to complete work consistent with quality standards, solve problems, and make wise decisions. The HR department is essential in the banking industry because it ensures that the bank has qualified and motivated workers to support its operations and objectives (Ahmad et al., 2022). By creating performance targets, offering coaching and feedback, and performing performance reviews, effective HR practices in banks can assist in dealing with employee performance, which can increase productivity and promote corporate success (Awan et al., 2020). Assuring adherence to pertinent laws and regulations, such as those equitable employment, labor relations, and benefits, is another responsibility of HR. The HR division is responsible for locating talented workers and assigning them to the appropriate bank positions (Emeritus, 2023). It is the job of HR to make sure that qualified individuals are employed at the front desk because they serve as the face of the bank. The constantly evolving banking sector has led to numerous job openings and sector-wide expansion. The HR management team is responsible for assessing the organization's future requirements and continuously fine-tuning the hiring procedure (Malik et al., 2022).

Hypothesis 4: The use of HR analytics in the banking sector has dramatically increased during the last few years. Implementing efficient HR procedures can aid in managing employee performance, offering assistance and direction to workers, and handling problems relating to employee relations. The banking sector faces a highly aggressive growth mandate, and HR will foster development and innovation within the industry (Srivastava, 2022). The analysis of findings demonstrated that information is accessible in a format that is appropriate for needs and relevant to those needs, as well as that information has the potential to be predictive, which makes the human resource department's tasks in banks successful (Sujan et al., 2020). Predictive analytics may assist HR professionals in making data-based decisions crucial to a business's performance by identifying common causes and significant patterns. HR departments may keep their businesses ahead of the curve by effectively anticipating and planning for future needs (Messenbock et al., 2015).

Hypothesis 5, research by Moussa and El Arbi (2020) and Sujan et al. (2020), among others, suggests that the use of information technology has positively affected the human resource operations of banks, resulting in greater HR effectiveness. It has made it possible for HR managers to concentrate more on developing strategic policies and utilizing development effectively. Technology has also made it possible to provide thorough information that satisfies both staff and client needs, encouraging more remarkable inventiveness in the pursuit of professional objectives. In order to support the operations and goals of the bank, the bank needs to be staffed with skilled and motivated workers, which is where HR comes into play. Effective HR procedures can boost productivity, manage employee performance, and promote bank business success (Alqudah et al., 2022). The competitive human resource, which has elements of secrecy, analytical capacity, problem-solving ability, and technology, is the most significant

characteristic of banks (Pillai et al., 2019). In general, using information technology in human resource activities has boosted banks' efficiency and enabled better personnel management, increasing output and boosting company success.

Hypothesis 6: Timeliness of information is highly desirable since timely information tends to be more relevant to users' demands, whereas delayed information tends to be less so. By promptly processing and turning human resource data into information that can be distributed and shared when necessary, information technology has improved the efficiency of the bank's human resource department functions (Al-Alawi et al., 2022). Technology has altered HR by integrating hardware, software, and business processes needed to execute e-HR. The Nigerian banking sector, for instance, has seen significant revolution thanks to information technology, but efficient and effective human capital management is still needed (Adewoye & Obasan, 2012). Modern information technology considerably impacts human resource management, where information systems play a vital role. It is essential to employ competent human resources to combine technology with cognitive thinking skills (Alsaleh, 2020). An essential quality in these banks is the confidentiality of strategies.

Hypothesis 7: Based on the analysis of findings, the human resource departments of banks can perform their duties effectively because information technology gives quick access to information at a convenient time and short response times to information requests. A study claims that the use of IT in the banking industry, especially in HRM, has been empirically shown to be advantageous (Bhutto et al., 2023). It has also been discussed how vital information technology is to HRM. HR professionals are tasked with examining the opportunities presented by the social, economic, political, and legal contexts to reassess and improve ineffective HRM practices (Hamouche, 2021). The application of data analytics to HR activities has also been studied (Tembhekar, 2021). HR analysts use a range of data analysis models, business intelligence tools, and data warehousing approaches to obtain valuable data. Implementing a human resource information system (HRIS) in the banking industry results from the growth of information technology (IT).

6. Conclusion

According to the report, banks' use of information technology for human resource purposes has been successful and advantageous. Banks have been able to automate numerous HR procedures, improve data management, and increase overall efficiency and effectiveness by integrating HR technology, such as HRIS (Human Resource Information System) and analytics. Technology-based HR process automation has optimized operations and reduced manual labor requirements. Tasks, including employee onboarding, leave administration, payroll processing, and performance reviews, have probably been processed faster and more precisely due to this automation. HR divisions can now work more productively, saving time and money.

Another advantage of HR technology integration is improved data management. HR-related data may be better organized, stored, and analyzed thanks to information technology. It enables HR teams to track performance trends, quickly get employee information, and produce meaningful reports. These data-driven insights help managers and HR professionals make better

choices about hiring, developing employees, and managing performance. Technology in HR operations has also facilitated better employee performance management. Banks can develop performance measures, track employee advancement, and offer feedback and coaching through HRIS and analytics solutions. Identifying training and development needs may be made more accessible by these technologies, enabling HR departments to create focused programs that enhance employee skills and competencies. Banks can work to enhance staff performance by upgrading their performance management procedures, which can boost overall productivity and eventually lead to corporate success.

Furthermore, the availability of current and relevant information made possible by information technology has substantially increased the effectiveness of HR departments in banks. Technology allows HR professionals to generate reports, access real-time data, and evaluate data quickly. This quick access to information helps HR departments make data-driven choices and implement preventative measures. For instance, they can spot problems with employee engagement, contentment, or turnover and solve them, enabling them to act quickly. The banking industry has generally benefited from using information technology in HR tasks. It has enhanced HR practices by automating procedures, boosting data management, and promoting better decision-making. These improvements in HR operations have helped banks achieve effective organizational outcomes such as higher productivity, improved employee performance management, and more.

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