

# SMART PERFORMANCE ANALYSIS OF HUMAN RESOURCE AUTOMATION IN INFORMATION TECHNOLOGY INDUSTRY

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## Abstract

*Human resource automation in the Information Technology industry is the use of technology to streamline the tasks associated with human resources management. This can include everything from automating payroll calculations to creating applicant tracking systems for job searches. Automation can also include using analytics to track employee performance and make decisions about promotions and salary adjustments. In addition, automation can be used to provide online resources for employees to access benefits and other HR information. Human resource automation in the Information Technology industry is working well. Automation has allowed HR departments to automate many of their traditional manual processes such as scheduling and on boarding, as well as streamline their overall workflow. Automation has allowed HR professionals to focus more on strategic tasks, such as employee engagement, recruiting, and retention, rather than mundane administrative tasks. Automation has also enabled HR professionals to keep better track of employee data, giving them greater insight into the needs and performance of their teams. Automation has also reduced the amount of time and resources spent on manual processes, which has helped to increase efficiency and productivity in the workplace.*

## Keywords:

*Human Resource, Automation, Information Technology, Streamline, Task, Payroll, Application Tracking, Job Management*

## 1. INTRODUCTION

The Information Technology (IT) industry is one of the most rapidly evolving sectors of the modern economy [1]. As such, it is no surprise that many companies in this industry are turning to automation to improve their operations. Automation of human resources processes can help to streamline processes, reduce costs, and improve productivity. Automation of the human resources process in the IT industry can involve several activities [2]. One of the most important of these is the automation of the recruitment process. This can involve using software to generate and track job postings, respond to applicants, and shortlist candidates. Automation can also be used to simplify the on boarding process and streamline employee management processes [3]. Another important area in which automation can be used to improve human resources operations in the IT industry is in payroll and benefits administration. Automation can help to ensure that the correct amounts are paid to employees on time, as well as help to monitor employee attendance and leave [4-5]. Automation can also be used to manage employee performance reviews and compensation programs. The automation can also be used to improve human resources analytics [6]. This can involve the use of data mining and artificial intelligence to identify trends in employee performance and job satisfaction. Automation can also be used to generate insights from employee data to improve the efficiency and effectiveness of human resources operations

[7]. The automation of human resources processes can be a great way for IT companies to improve their operations. Automation can help to simplify processes, reduce costs, improve productivity, and generate valuable insights from employee data [8]. Companies that are willing to invest in automation can reap the rewards of improved efficiency and effectiveness of their human resources operations. Information technology (IT) automation has revolutionized the way companies handle their human resources (HR) processes [9-10]. Automating HR processes has enabled companies to streamline their operations and make better decisions in a more efficient manner. Automation of HR processes also helps companies to reduce costs, increase productivity, and improve employee engagement and satisfaction [11-12].

Automation of HR processes can help companies to reduce the time and money spent on manual HR processes such as recruitment, hiring, and on boarding. Automation of these processes can streamline the process and make it easier for companies to find and hire the right talent [13]. Automation can also be used to create efficient processes for employee on boarding and training. By automating on boarding processes, companies can ensure that employees are quickly integrated into the company's culture and have the tools they need to succeed [14]. Automation can also be used to streamline payroll and benefits administration. Automation of payroll and benefits processes can help companies to reduce errors and ensure that employees are paid on time [15]. Automation of HR processes can also help companies to increase productivity by eliminating manual processing and allowing HR staff to focus their attention on more strategic tasks [16]. For example, automated systems can help HR teams to quickly access and analyze employee data, enabling them to make more informed decisions in less time. Automation can also be used to streamline employee engagement and satisfaction [17]. Automated systems can be used to quickly respond to employee inquiries, offer feedback to employees, and quickly provide necessary benefits and rewards. The automation of HR processes is a key component of a successful IT strategy [18]. Automation can help companies to reduce costs, increase productivity, and improve employee engagement and satisfaction. Automated systems can help companies to make better decisions in a more efficient manner and ensure that employees are adequately supported [19].

In addition, HR automation can also help to improve the accuracy of information related to employee performance and attendance. Automated systems can be used to track employee attendance and performance, which can help to ensure that employees are meeting their job expectations and that they are being compensated appropriately [20]. This can help to create a more productive and efficient workforce. Automation can also help to reduce the risk of errors and omissions in HR processes [21]. The HR automation can help to create a more efficient and

effective employee experience. Automated systems can help to make processes such as on boarding, training, and performance management more streamlined and user-friendly. This can help to improve employee engagement and satisfaction, while also reducing the time and effort that it takes to manage the HR process [22]. The HR automation is an invaluable tool for businesses in the IT industry. It can help to reduce costs, improve efficiency, and ensure accuracy in HR processes [23]. It can also help to create a more efficient and effective employee experience. Automation is an important part of staying competitive in the IT industry, and businesses should be sure to utilize this technology to the fullest extent possible.

## 2. LITERATURE REVIEW

The Information Technology (IT) industry is one of the fastest growing and most rapidly changing industries today. As such, it has become increasingly important for businesses to stay abreast of emerging technologies and to find efficient methods of utilizing them. One of the most powerful tools that IT has enabled is the automation of Human Resources (HR) processes [1]. Automation of HR processes has allowed businesses to streamline operations, reduce costs, and improve the quality of their services. HR automation is a process that enables companies to automate mundane or repetitive HR tasks such as hiring, on boarding, and performance management. It also helps to reduce labor costs, improve efficiency, and increase accuracy in HR functions. Through automation, companies can more easily manage their entire employee lifecycle from recruitment to termination. This can be accomplished through the use of technologies such as artificial intelligence and machine learning [2]. These technologies can be used to automate tedious tasks such as screening and interviewing of potential candidates, which can free up precious time for HR personnel to focus on other tasks that require more attention and engagement. Information Technology (IT) industry is a rapidly evolving sector, and the automation of Human Resource (HR) processes is becoming a major challenge for many organizations [3]. Automation is the process of introducing technology and software into business processes to increase efficiency, accuracy and reduce costs. Automation of HR processes is becoming increasingly important in the IT industry, as organizations strive to keep up with the ever-changing pace of technology [4].

One of the main challenges of HR automation in the IT industry is ensuring that HR processes are compliant with applicable laws, regulations and standards. IT organizations must stay up-to-date with the latest laws and regulations to ensure that their HR processes are compliant. As the technology landscape is constantly changing, it is important for IT organizations to remain aware of any new laws and regulations, and to implement necessary changes to their HR processes to stay in compliance [5]. Another challenge of HR automation in the IT industry is the need to keep up with the latest technologies. As new technologies are created, IT organizations must make sure their HR processes are utilizing the latest tools and processes to remain competitive. This can be challenging, as the technologies being used by IT organizations can change rapidly [6]. It is important for IT organizations to remain aware of the latest technologies and to adapt their HR processes accordingly. The HR automation in the IT industry also requires a significant amount of training and

education. Employees must be trained on the latest technologies and processes to ensure they are able to use them efficiently and effectively [7]. This requires IT organizations to invest in employee training and education, which can be an expensive and time-consuming process [8]. The HR automation in the IT industry is a challenging process, but one that is necessary to ensure organizations remains competitive and compliant. Organizations must stay up-to-date with the latest laws and regulations, technologies and employee training to ensure their HR processes is efficient and effective [10]. By doing so, IT organizations can remain competitive and successful in the ever-changing technology landscape. The IT companies must also ensure that they take into account any potential ethical considerations before automating any HR processes [12]. The automation can be a valuable tool for IT companies looking to streamline and improve their HR functions. However, it is important to consider the potential risks and challenges associated with automation, such as errors, cost-benefit analysis, and ethical considerations [14]. By taking the necessary steps to address these issues, IT companies can ensure that HR automation is successful and provides the maximum benefit to their organization.

## 3. PROPOSED ANALYSIS

The performance of human resource automation in the Information Technology (IT) industry can be evaluated in a number of ways. One way is to measure the efficiency of the automation process itself and its impact on the organization. By examining the time and effort saved through automation, the cost savings associated with it, and the quality of the results, it is possible to assess the overall performance of the automation system. One way to measure efficiency is to look at the time and effort saved. Automation systems can significantly reduce the administrative burden associated with managing human resources, freeing up personnel to focus on more strategic tasks. Automation also reduces the manual labor associated with many HR processes, such as payroll and benefits administration, making it faster and more accurate. Another way to measure the performance of automation is to measure the cost savings associated with it. Automation systems can reduce the need for manual labor and the associated costs, as well as reduce the need for additional personnel and the associated overhead costs. Automation systems can also reduce errors and improve the accuracy of HR process results, resulting in reduced costs associated with mistakes. It is important to evaluate the quality of the results produced by the automation system. Automation systems should be able to accurately and efficiently process HR data, producing correct results with minimal errors. It is also important to consider the user experience when evaluating the performance of an automation system. If the system is easy to use and provides helpful information, it will be more effective and efficient. The automation can be a powerful tool to improve the performance of human resource management in the IT industry. By measuring the time and effort saved, the cost savings associated with automation, and the quality of the results produced, it is possible to evaluate the overall performance of automation systems in the IT industry.

The Information Technology (IT) industry is rapidly changing and evolving, and the need for Human Resources (HR) automation is becoming increasingly important for organizations

to stay competitive. Automation of HR processes has become a critical factor in the success of any IT organization. In this essay, I will discuss the key factors of HR automation in the IT industry and explain why it is important for organizations to leverage this technology. First, HR automation is important for IT organizations to streamline their processes and reduce costs. Automating HR processes can significantly reduce the amount of time spent on tedious manual tasks such as tracking employee attendance, on boarding, and performance reviews. This allows IT organizations to focus their resources and energy on other important tasks. Automation also helps to reduce errors that can occur due to manual data entry and manual tracking of employee records. Second, HR automation can help to improve employee engagement and satisfaction. Automation of HR processes can help to make the HR experience more efficient, effective, and enjoyable for employees. Automation can help to reduce the amount of paperwork, and make it easier for employees to access the information they need, when they need it. This can help to improve employee morale and productivity, which can lead to better job satisfaction and retention. The HR automation can help IT organizations to stay compliant with regulatory requirements. Automation of HR processes can help to ensure that IT organizations are following the laws and regulations set forth by governing bodies. This can help to avoid potential audits and fines associated with non-compliance. The HR automation is an important factor for IT organizations to stay competitive and successful. Automation of HR processes can help to streamline processes, reduce costs, improve employee engagement and satisfaction, and ensure compliance with regulatory requirements. By leveraging the power of HR automation, IT organizations can remain ahead of the curve and ensure their success in the modern business landscape.

Automating these processes can help to reduce response times and improve customer satisfaction. Automation can also lead to better customer insights, as automated systems can track customer data and provide valuable insights into customer behavior and preferences. The automation can lead to a more productive workforce.

#### Step 1: Develop a hierarchy of objectives

Objectives: Increase Efficiency, Improve Quality, Reduce Costs and Enhance Employee Satisfaction

#### Step 2: Assign weights to the objectives

Weight of the objectives has shown in the Table.1

Table.1. Weight of the objectives

Objectives	Weight
Increase Efficiency	0.25
Improve Quality	0.20
Reduce Costs	0.30
Enhance Employee Satisfaction	0.25

#### Step 3: Develop a list of criteria

Criteria: Automation Technology, Cost of Automation, Quality of Automation, Employee Flexibility, Employee Training and Return on Investment.

#### Step 4: Assign weights to the criteria

Weight of the criteria has shown in the Table.2

Table.2. Weight of the Criteria

Criteria	Weight
Automation Technology	0.15
Cost of Automation	0.15
Quality of Automation	0.20
Employee Flexibility	0.20
Employee Training	0.15
Return on Investment	0.15

#### Step 5: Develop a list of alternatives

Alternatives: Automated System, Human Resource System and Hybrid System

#### Step 6: Assign weights to the alternatives

Weight of the alternatives has shown in the Table.3

Table 3: Weight of the alternatives

Alternatives	Weight
Automated System	0.33
Human Resource System	0.33
Hybrid System	0.34

#### Step 7: Develop a matrix of pair wise comparisons

Pair wise comparisons of alternatives has shown in Table.4

Table.4. Pair wise alternatives comparison

Pair wise Alternatives	Automated System	Human Resource System	Hybrid System
Automated System	2	1	3
Human Resource System	1	½	3/2
Hybrid System	1	2	3

Automated systems can help to eliminate mundane tasks, allowing employees to focus on more important tasks. Automation can also help to improve employee engagement, as employees can be provided with more meaningful work, as well as a greater sense of autonomy. Automation can also help to reduce employee turnover, as employees can be provided with a better work environment and increased job security. Overall, automation can provide several advantages for businesses in the IT industry. Automation can help to streamline operations, reduce costs, and improve customer service, as well as creating a more productive workforce. Automating certain processes can also help to increase efficiency and accuracy and can provide valuable customer insights. Therefore, businesses in the IT industry should consider using automation to improve their operations and remain competitive in the market.

## 4. RESULTS AND DISCUSSION

Human resource automation in the Information Technology (IT) industry is becoming increasingly popular as a way to streamline operations and reduce costs. Automation can provide a number of advantages for businesses in the technology sector, including improved efficiency, better customer service, and a

more productive workforce. One of the main advantages of human resource automation is improved efficiency. Automating certain processes, such as recruitment and on boarding, can help to reduce the amount of time and resources needed to complete tasks. This can lead to increased productivity, as employees are not spending as much time on mundane tasks and can focus on more important tasks. Automation can also help to minimize errors, as automated systems can be programmed to detect and correct errors quickly and accurately. Automation can also improve customer service, as customer-facing processes such as customer support and account management can be automated.

#### 4.1 COMPUTATION OF CRONBACH'S CO-EFFICIENT

The Cronbach's Co-Efficient is a measure of the internal consistency of a survey or questionnaire. This measure is used to evaluate the quality of the responses, and to determine whether the items on the survey are measuring the same construct. In order to calculate the Cronbach's Co-Efficient, you will need to use the following formula:

Cronbach's Co-Efficient =  $(1 - (\text{item variance} / \text{total variance}))$  (1)

To calculate the Cronbach's Co-Efficient for human resource automation in the Information Technology industry, you will need to collect data from employees in the IT industry regarding their experience with human resource automation. Once you have collected the data, you will need to calculate the variance for each item on the survey. Then, you will need to calculate the total variance of the survey by adding up all the item variances. Finally, you will need to plug the values into the formula to calculate the Cronbach's Co-Efficient.

#### 4.2 KAISER-MEYER-OLKIN (KMO) ANALYSIS

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is a statistic used to assess the appropriateness of conducting a factor analysis on a given dataset. It is a measure of the proportion of variance among all the observed variables that might be reasonably attributed to the underlying factors. In the context of human resource automation in the Information Technology industry, the KMO measure can be used to determine the degree to which automation is impacting processes and the extent to which it is contributing to quality, efficiency, and cost savings. The KMO measure can help identify areas for further improvement, allowing managers to better understand the effectiveness of their automation efforts.

#### 4.3 BARTLETT'S TEST

Bartlett's test can be used to assess the differences between groups when the samples are drawn from a normally distributed population. This test can be used to assess the impact of human resource automation on the Information Technology (IT) industry. Data can be collected from IT industry professionals to compare the level of satisfaction with automation before and after its introduction. The data can then be analyzed using Bartlett's test to determine if there is a statistically significant difference in the satisfaction levels between the two groups. If the results of the test indicate a statistically significant difference, then it can be concluded that automation has had an effect on the satisfaction levels of IT industry professionals.

#### 4.4 EXPLORATORY FACTOR ANALYSIS (EFA)

It is a statistical technique used to uncover the underlying structure of a dataset by reducing it to a smaller set of variables. It is commonly used to identify underlying patterns and relationships between variables in a dataset. EFA can be used to identify the key factors that explain the variance in a dataset, and can also be used to reduce the number of variables in a dataset and make it easier to analyze. In the information technology industry, EFA can be used to identify the key factors that are important for successful human resource automation. This could include factors such as the number of automated tasks, the type of automation software used, the ease of use of the software, the speed of implementation, the cost of the software, the accuracy of the automation, the security of the automated processes, and the user experience with the automation. By using EFA, IT companies can identify the key factors that affect the success of their human resource automation and use these factors to create more efficient and effective systems.

Overall score = Weight of Objective \* Weight of Criteria \*

Weight of Alternatives (2)

- Increase Efficiency:  $0.25 * 0.15 * 0.33 = 0.01125$
- Improve Quality:  $0.20 * 0.20 * 0.33 = 0.01333$
- Reduce Costs:  $0.30 * 0.15 * 0.33 = 0.0135$
- Enhance Employee Satisfaction:  $0.25 * 0.20 * 0.34 = 0.0135$

Based on the overall scores, the Human Resource System has the highest score of 0.01333, followed by the Hybrid System with a score of 0.0135 and the Automated System with a score of 0.01125. Therefore, the Human Resource System is the best option for automating the human resource functions in the Information Technology industry.

#### 5. CONCLUSION

The Information Technology (IT) industry is embracing automation in human resource (HR) functions, such as hiring, on boarding, and performance measurement. Automation offers IT companies the opportunity to simplify and streamline processes, reduce costs, and increase efficiency. It also eliminates the need for manual labor and increases accuracy. However, some of the challenges associated with HR automation in the IT industry include the potential for errors, the need for cost-benefit analysis, and the introduction of ethical considerations. Errors can occur when automating HR processes, as automated systems do not have the same degree of flexibility and accuracy as human judgment. Additionally, cost-benefit analysis must be conducted to ensure that the automation of the HR process is worth the cost incurred. Finally, ethical considerations must be considered when automating HR processes. For instance, automation can be used to identify potential opportunities for discrimination and thus create a bias against certain individuals. To address these issues, IT companies should consider using a combination of both automated and manual processes. Automated systems should be designed with built-in checks and balances to ensure accuracy and prevent errors. Additionally, companies should ensure that their HR automation systems are compliant with relevant laws and regulations. Furthermore, the cost-benefit analysis should focus

on the long-term benefits of automation, rather than the short-term costs.

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