

## Model for effectiveness of HRM: Information Theory Review

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### INTRODUCTION

The management of human resources (HRM) is an essential component of the management of any organization. HRM has an impact on the efficiency and effectiveness of the operations of the firm. When workers make a commitment to give continued assistance, they contribute to the financial success of an organization. The bulk of this value is intangible and comes from things like problem-solving, departmental coordination, and utilizing one's judgment in unexpected settings. While some of this value is generated via the real process of enhancing the product that the firm offers, the majority of it is created through the actual process. Therefore, from a strategic point of view, maintaining a careful approach to the management of human resources is essential. as an illustration, human reserves "HRM has transformed from an administrative function into a strategic partner, sharing boardroom status with disciplines like accounting, marketing, and finance, from its original role as record-keeper and maintenance." Streamlining the activities of data collection, processing, and flow may be accomplished by businesses via the use of information technology in the form of a Business Information System (BIS), which in turn helps with decision-making. Additionally, with the assistance of BIS that is applied via information technology, businesses may be able to monitor strategic decisions and adapt to change.

When it comes to the Advance Planning System (APS) of an organization, human resources are among the most important components. This is particularly true in productive businesses such as factories, where human resources are handled alongside the availability of equipment and materials. It is extremely vital to learn what other people are doing to combine human resource management with information technology. This study discusses the connection between human resource management and information technology.

### REVIEW OF LITERATURE

The purpose of this part was to examine a number of different works of literature, both online and offline. A chronological chronology of previous research on information technology, human resource management, and artificial intelligence is described here. All of the following were employed in the process of researching the works of the writers who came before us: journal articles, books, reports, magazines, business newspapers, conference proceedings, websites, electronic sources, art, sound recordings, interviews, patents, case studies, DelNet platform, Google Scholar, and the J-Gate portal. For the purpose of performing this literature review on information technology, human resource management, and artificial intelligence, the seventh edition of the American Psychological Association was used as a reference style. The Mendeley reference management system was used to maintain the citations and reference list in an extremely thorough manner. The following is a list of some of the early research subjects that were investigated in the field of artificial intelligence and human resource management:

**Ahmed, (2018)** AI will bring about big changes to the workforce in the information technology industry. AI has made the process of selecting the most qualified individuals more simpler and more accurate. The artificial intelligence platform has proven beneficial to the business, but it has also posed a danger to human resources. In India, it is expected that by the year 2022, there would be a decline of between 7 and 10 percent. Customers have expressed their satisfaction with the increased productivity that has been brought about by artificial intelligence. The use of artificial intelligence has accelerated the rate at which work is completed. Based on the statistics, it is anticipated that the number of employees with low levels of skill would decline, employees with medium levels of competence will see a little increase, and employees with high levels of talent will experience a significant increase in the number of employment possibilities available to them. Consequently, artificial intelligence has a detrimental effect on job opportunities at lower levels.

**Khakurel et al., (2018)** A significant amount of money is now being made in artificial intelligence (AI), which has the potential to lessen the need for low-skilled labor. More

precisely, if artificial intelligence (AI) continues to advance, it has the ability to teach itself how to write code, which might have a detrimental effect on those who work in the field of information technology (IT). The use of artificial intelligence (AI) has the potential to influence how we deal with waste and pollution, as well as how we make use of power and other resources, which may have a negative effect on the concept of sustainability. In the case of people, artificial intelligence has the ability to alter the manner in which they do their employment, provide them with more agency via agents, and affect their social ties or feelings of isolation. In conclusion, artificial intelligence may play a supportive role on the social level by providing assistance to communities, managing social media, automating normal everyday jobs that are outsourced, and participating in digital storytelling. The findings of our study on sustainability indicate that artificial intelligence (AI) may have both positive and negative effects on all five dimensions. This is a peculiar finding, but it is also comprehensible given that AI is a tool and not a goal in and of itself. In order to build a future that is both sustainable and resilient, it is the obligation of the developers and other stakeholders to make ethical judgments based on values that are shared by a significant number of people. Artificial intelligence (AI) is only a tool, and just like any other tool, it may be used for either good or evil.

**Mallesha, (2019)** AI will bring about big changes to the workforce in the information technology industry. AI has made the process of selecting the most qualified individuals more simpler and more accurate. The artificial intelligence platform has proven beneficial to the business, but it has also posed a danger to human resources. In India, it is expected that by the year 2022, there would be a decline of between 7 and 10 percent. Customers have expressed their satisfaction with the increased productivity that has been brought about by artificial intelligence. The use of artificial intelligence has accelerated the rate at which work is completed. Based on the statistics, it is anticipated that the number of employees with low levels of skill would decline, employees with medium levels of competence will see a little increase, and employees with high levels of talent will experience a significant increase in the number of employment possibilities available to them. Consequently, artificial intelligence has a detrimental effect on job opportunities at lower levels.

**Kumari & Hemalatha, (2019)** Using case studies of information technology companies in Chennai, the study has developed and analyzed a variety of artificial intelligence technologies that are now being used in human resource management techniques. The purpose of this study was to investigate the perspectives of human resource professionals about the use of artificial intelligence in human resource management. According to the findings of the study, employees did not consider the artificial intelligence system to be a benefit, and they had a positive perception of AI technology in general. In order for human resources departments to function efficiently and achieve a competitive edge, the study indicates that artificial intelligence (AI) is an essential component. Additionally, a list of all the factors that are inhibiting human resource practices from using AI technologies has been developed as part of the research. At the end of the day, the results of the survey indicate that employees have a high level of confidence in artificial intelligence and believe that these technologies will soon significantly improve the HR workforce. The paper suggests that organizations should make the integration of artificial intelligence technology into human resource management (HRM) operations a continual priority. These operations include planning and decision-making, hiring, training and development, performance assessment, and management of work-life balance.

## INFORMATION TECHNOLOGY

There are many different sectors that are interrelated, including information technology (IT), computer systems, software, programming languages, data processing and storage, and more. IT is an abbreviation for information technology, which is a subset of ICT. IT projects are often referred to as "IT projects," and they include the process of commissioning and deploying an information technology system. An information system, a communications system, or a computer system (including all hardware, software, and peripheral equipment) that is used by a limited number of authorized users is some examples of what is referred to as an information technology system (IT system). Solutions based on information technology (IT) are required

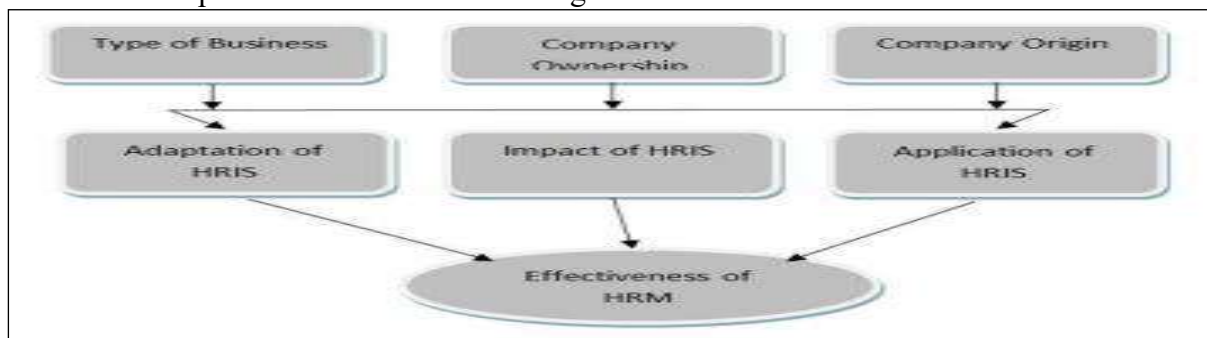
in a broad variety of industries in order to improve data management, strengthen communication networks, and expedite organizational operations. The effective implementation of information technology projects requires careful planning, seamless integration, and ongoing maintenance in order to ensure optimal functioning and consistency with business objectives.

In 1958, Harold J. Leavitt and Thomas L. Whisler published an article in the Harvard Business Review that laid the groundwork for the notion of information technology as it is understood today. In spite of the fact that humans have been storing, retrieving, modifying, and sharing information ever since the earliest writing systems were formed, the authors made the observation that "the new technology does not yet have a single established name." The term that we are going to use to refer to it is information technology (IT). Procedures for processing information, decision-making via the use of statistical and mathematical methods, and computer programs that simulate higher-order thinking are the three components that make up their comprehensive description. The term may also be used to describe other methods of information dissemination, such as television and telephones, despite the fact that it is most often used to refer to computers and computer networks. There are many aspects of an economy that are tied to information technology. Some of these aspects include computers, software, electronics, semiconductors, the internet, telecommunications equipment, and online commerce. It is possible to distinguish between the four phases of the history of information technology based on the storage and processing technologies that were utilized: pre-mechanical (from 3000 BC to 1450 AD), mechanical (from 1450 to 1840), electromechanical (from 1840 to 1940), and electronic (from 1940 to the present day).

## RESEARCH METHODOLOGY

Finding out how different parts of the business are responsible for integrating IT into HRM operations is the driving force behind this study. In order to boost human resource production, this study aims to deploy HRIS in Indian firms and observe its effects while also identifying several organizational characteristics. In light of current tendencies in the Indian market, this study aims to draw the interest of the relevant professions in this area and stimulate their interest in connected fields. Information technology's role in HRM, for instance, is only going to grow in importance in the corporate world.

Many various examples of integrating IT into HRM processes have emerged since the turn of the last decade. This study develops a new model for HRM efficiency by outlining the interrelationships of the factors that are being studied.



**Fig: Model for effectiveness of HRM**

## OBJECTIVES OF THE STUDY

1. To study on Impact Of Information Technology On Human Resource Management in order to improve data management, strengthen communication networks, and expedite organizational operations
2. To study on use of novel technology, the conventional organizational structure was replaced with a user-friendly operating system

## DATA ANALYSIS

### A PROFILE OF THE ANSWERS

Within the scope of this part, an attempt is made to communicate the conclusions of the demographic profile of the respondents. Personal characteristics relating to the respondents, such as their educational background, designation, and years of experience, are included in the

following parts. These sections also cover a range of organizational elements, such as the kind of sector, company ownership, origin, number of workers, and usage of HRIS. Additional organizational factors include the total number of workers.

### Business Sector Type

With the use of percentages and frequencies, information on the kind of business sector is collected, tallied, and displayed. The data shown above indicates that a sizeable proportion of respondents, namely 101, or 44.7 percent, come from the engineering, manufacturing, and construction business. Additionally, 71, or 31.4 percent, come from the information technology and information and communications technology sector. The banking and financial industry is represented by 21 (9.3%) of the respondents, while the logistics and transportation business is represented by 19 (8.4%) percent of the respondents. A total of nine replies, or four percent, come from industries other than education, while just five responses, or two and a half percent, come from the education sector.

**Table: Type Of Sector**

Type of sector	Distribution of Respondents	
	Frequency	Percentage
Banking/Finance	21	9.3
Education	5	2.2
Engineering/Production/Construction	101	44.7
IT/ITES	71	31.4
Logistics/Transportation	19	8.4
Others	9	4.0
Total	226	100%

### FITTING IT INTO HRM

In this part, the discoveries regarding the inclusion of information technology into human resource management in the form of human resource information systems (HRIS) are detailed. The results are presented in a way that takes into consideration the kind of business sector, the ownership of the company, and the origin of the company respectively.

### Initial Theory

An examination of the following hypothesis is carried out within the confines of this section. It is the H10 When it comes to the implementation of information technology in human resource management in the form of HRIS, the kind of business sector, the ownership of the firm, or the origin of the organization do not have a significant influence on the adoption of this technology. When it comes to the incorporation of information technology into the human resource management function, mean scores are determined by taking into account the kind of company, the ownership of the corporation, and the origin of the respondents. This action is taken in order to assess the hypothesis that was stated previously in the discussion. After a certain amount of time has elapsed, F values are computed in order to ascertain the regions in which there are mean variances among the companies. The following paragraphs will offer an explanation of the results, and the following tables will provide a summary of the findings that were obtained from the univariate analysis of variance (ANOVA).

### DISCUSSION OF RESULTS

#### Information technology adaptation in the form of HRIS

As a consequence of the significance of information technology in the area of human resource management, this part has led to the creation of an understanding of the adaptation of information technology. It is of the utmost importance to have a solid understanding of the dynamics of technology update and its application in the form of Human Resource Information Systems in HR, which can be described as a set of highly specific abilities. Having an all-encompassing comprehension is of the highest importance and should not be overlooked.

In the context of this part, the adaptation of HRIS is examined from the point of view of five distinct elements of consideration. Planning for human resources, selection and recruitment, training and development, payroll, and performance management are the components that



make up human resources, in that order for each component. The results that were collected will be discussed in further detail in the following sections.

### **LINKS BETWEEN THE STUDY VARIABLES**

The following paragraphs provided a comprehensive breakdown of the findings that were derived from the alternative hypothesis. The correlation, multiple regression analysis, and moderated regression analysis were the methods that were used to arrive at these conclusions. Concerning the connection between the implementation of information technology in human resource management (HRM) in the form of human resource information systems (HRIS) and the impact of HRIS, there have been results that are both positive and statistically significant. It has also been shown that there is a positive and significant association between the installation of human resource information systems (HRIS) and the efficiency of human resource management (HRM). This correlation has been discovered via research. There was a very high and considerable relationship between the two variables, which were referred to as "Effectiveness of HRM" and "Impact of HRIS." This was the conclusion that was reached about the situation. With a value of 39 percent for the R<sup>2</sup> coefficient, the implementation of information technology in the form of human resource information systems (HRIS) has predicted a greater percentage of variance in the efficiency of human resource management (HRM). According to the same line of reasoning, attitudes were responsible for forty percent of the change in the impact of HRIS, and socially responsible behavior was responsible for fifty-eight percent of the change in the effectiveness of human resource management.

### **CONCLUSION**

Significant improvements in productivity and efficiency have been achieved across a wide variety of organizational kinds as a direct consequence of the widespread use of information technology. The traditional method of human resource management (HRM), which was dependent on computers and information systems, has been replaced by an application that is based on information technology and is known as HR Information Systems. In the context of human resources, the human resource information system (HRIS) may be conceptualized as the point of convergence between information technology and human resources. While there are some companies that have only used human resource information systems (HRIS) in a few areas of human resource management (HRM), there are many others who have found success in using it extensively. It is possible that a number of reasons contributed to this constraint. The point of view of the personnel is an essential component that must be taken into consideration in this situation.

Identifying the advantages of human resource management (HRM), determining the degree to which human resource information systems (HRIS) are widely adopted, and identifying the organizational factors that have an impact on HRIS adaptation and application domains are the primary objectives of this research.

The primary idea upon which this research is based is that it is not adequate to simply examine HRIS projects in Indian organizations. In order to achieve success in human resource management, it is required to build and evaluate a model that can be used to implement human resource information systems (HRIS) in an efficient manner.

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