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Human Resource Information Systems using the Decision-Making Trial and Evaluation Laboratory DEMATEL Method

Kamra Komal Bhagwandas

SSt College of Arts and Commerce, Maharashtra, India. Email: komalkamra@sstcollege.edu.in

Abstract: Human Resource Information System (HRIS) is a software solution, It contains detailed employee information and Relating to Human Resources Policies and procedures Maintains, manages and processing. Human Resource Information Systems Human Resource Information System (HRIS) is Human Resource Management (HRM) Core Human Resources (Core HR) for the Group required to complete the processes of employee master data Centralized repository is the software that provides. In which the conclusion from the analysis Conducting testing and evaluation Laboratory (DEMATEL) complex structure the elements are cause-and-effect The chain is considered valid One of the best to identify. It is for factors that evaluate relationships the interdependence between and visual structural modeling Important in identification. Alternative: HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis. From the result it is seen that HRM Functions is got the first rank where as is the Technology is having the lowest rank.

Introduction

HRIS is human Resource Information System. HRIS is an organizational Collect employee data It is also a system used to save. In most cases, the HRIS is for end-to-end human resource management (HRM) required basis Includes activities. It includes recruitment, performance management, learning and development and Organization for many. What is an HRIS Also known as HRIS software? Different on different computers Indicates that the software is running so it's a bit confusing. However, this is not the case. HRIS is, in essence, an HR A software package. HRIS has become in the company's own technology infrastructure Can run or, currently Most commonly, cloud-based May be. This means HR software outside the company premises Running, updating a lot makes it easier. Our Digital HR When we discuss the certification program, Using HRIS makes many clear there are advantages. That's why all Enterprises of scale are also their people this tool supports operations are implemented. Centrally, the HRIS employee Holds information. In a system various employee data easily accessible. Various Types of HRIS systems and There are softwares. HRIS is for HR Since it covers all functions, all separate functions of the system are a part of These activities include.

Human resource information systems

All HR practices By information technology Human resource in affected state Information Systems (HRIS) and HRIS Management is a function within HR Unique, supportive functionality have Information Technologies HRIS has permeated the HR process In the definition of what is Some confusion has arisen. of a company To collect information related to human resources, Used to store and analyze As integrated systems HRIS can be defined briefly[1]. Purpose of any HRIS to provide information to its users. This information will be used Objectives vary, but often, linked by some common elements Save all separate data files HRIS is related to categorization Uses a database. of this as a result, the employee ID no You can access the desired information through And connect. related to Technology is in various places Allows installation of databases [2]. Human Resource Information Systems (HRIS) Employee of many big companies A large MIS within areas has become a secondary function. This article is from Centralized MIS HRIS as an independent entity Find growth and its current activity and Assesses the technology base, and and its future role in the company Considers, especially centralized MIS considers its relationship to performance[3]. Most Hong Kong industries use HRIS The biggest benefits of implementation Felt that, quick response and it Accessing the information brought, and The biggest hurdle is inadequate financial support No. Also, HRIS adopters and Disapproving and petty, Between medium and large companies, Some of the potential benefits and benefits of HRIS Statistics on barriers to implementation[4]. Human Resource Information Systems (HRIS) Application Human resource (HR) professional a Allows you to become a strategic player. Increasing functionality and affordability There was a statistically significant difference. In terms of price, HRIS comes in all sizes Widely used in companies. Despite this, the current Application, in different sizes Are there differences between companies? or typical of HRIS HR specialist Impact on professional standing Surprisingly little is known about[5]. Human Resource Information System (HRIS) is About human resources of an organization To receive, store, manipulate information, To analyze, retrieve and distribute It is a useful system Initially, support transaction processing Maintain management control over human resources Such system in management was used. Today, new information technology Improve decision making and competitiveness Also used to support. Thus, many In typical paper handling tasks Free from, Human Resource Specialist A service orientation with confidence Can

be creative and strategic Able to fully participate in decision making[6]. Human Resource Information System (HRIS) is Human Resources (HR) within an organization A designed to support functionality A software application. HRIS Employee, Applicant and others Stores data related to people, Thus HR professionals are accurate and To take timely decisions can As the competitive landscape changes, The HR function presents new challenges and opportunities HRIS to help meet Highly dependent[7]. In response to Memo 4, to acquire HRIS will greatly support the demand. For memo 5 Information required to respond, esp Recruitment of new Engineers and revision of training procedures can help with related decisions. In response to Memo 6 The information provided is from the HR department It helps to decide the future. This As you read the book, of various human resource information systems See information about skills[8]. An information to help decision makers The system is typically a decision support system (DSS). referred to as Within an organization to improve the decision making process A DSS can be a powerful tool The more possible the better the results leading to a competitive organization, therefore, Research objective in this article Human Resource Information Systems (HRIS) Human Helping resource managers determine whether[9]. Human resource databases of governments. HRIS Can support long-range planning. Labor Information and provision for planning and demand forecasts; Equivalent Employment, categories and applicant Personnel with information on qualifications; And Training program costs and trainer Development with information about work performance. HRIS salary increments, salary projections and about wage budgets Compensation plans can also be supported with information and contract negotiations and Regarding employee assistance requirements Labor/Employee Relations with Information. Human resource in every case Shareholders will need or support HR decisions Its purpose is to provide information[10]. Institute of Human Resource Information Systems On development (OD) implications of HRIs due to lack of knowledge Underutilization of skills may be due to Human Resources (HR) Information to improve performance Technology, HRIS and its of users about the implementation process Views will be carefully managed Until never fully succeeds. However, new HR information How users to the system Little or no in responding No work is done[11]. A global HRIS like this For planning, human resources and information Functions of Organizations MNC's Which parts of the current HRIS Need to improve, even in the present Performance of the organization in the future as well Preventable and territorial What can be done to coordinate to explore. Temporary operations In an integrated, global system Very effective. Universal HRIS is more complex in development To better understand the parts, our They will face the respondents Three most important HRIS issues We asked for identification[12]. HR functions and related Ranking of Information Systems Competitive advantages and improvements of necessary or possible parts Identify potential sources can be seen. Broderick and Boudreau Using the described structure, Competitive objectives for managers and IT helps correlate investments, Information created by Martinson at the same time Systems integration strategies A benchmarking study is often a Preceding major organizational change[13]. Human Resource Information System (HRIS) Subject to many studies examines its various aspects, But embraces innovation. Human resource management in an organization If a proper HRIS is not adopted, Cannot run smoothlv[14]. Human Resource Information System (HRIS) is information Development of Technology (IT) and Human Resource management (HRM) functions and To effectively manage applications About using attributes is an idea. Human Resources, Personnel About activities and organizational characteristics Collecting data required by organizations, For storage, maintenance and retrieval HRIS is considered as a systematic process[15]. Human Resource Information System(s) (HRIS) Implementation is successful, planned to justify investments or already In relation to the investments made Attempts to recover costs has emerged as a significant challenge for organizations. In the information technology (IT) literature, To explain implementation failures Several reasons have been given. Nevertheless, New resolutions for practical success Because traditional interpretations are needed Limited user interaction, poor planning[16]. Electronic Human Resource Systems A relatively recent move towards Organizations to individual employees To provide a customized interface has allowed For jobs on interfaces Ability to apply, job related Transferring benefits and internet Includes based training. However, between HRIS and e-HR There is a fundamental difference. HRIS is directed towards the HR department itself. End users are mainly HR Includes employees. With e-HR, End users are not HR employees, but for HR Outsiders: Employees and management. e-HR is an organization's all-in-one Opening up HRIS to employees We want to argue[17]. Human resource strategy and organization Realization of strategy. HRIS Implementation, employee job satisfaction and turnover intention Recognized relationships. of HRIS In an effort to broaden the scope, HRof measurements and analyses Selection, Application and Employment HRIS plays an important role in Also strategic of companies Contributes to progress[18]. Human resource planning is short term Allocation and human resources Adapted to current needs Overcome by managing. Indeed, between companies People wander more and more Wandering, often short Working on term contracts Or a better deal for them to another company when issued Go, Human Resources Strategy[19]. Human Resource Information Systems 2 x 2 experimental design and Develop Human Resource Information System In a company where he was employed Using data from 124 working subjects, The present study reveals that of principles relating to recognition capacity Main and interaction effects were examined [20]

Decision-Making Trial and Evaluation Laboratory (DEMATEL)

The DEMATEL method is a specific problem, pinup binding Work through problems and a hierarchical structure Contribute to identifying workable solutions Structural modelling techniques, for one reason Interrelationships between components of the organization Identifying dependencies and Basic concept of situational relations can affect and influence of elements Causal charting uses direction charts [21]. Built on the basic principle of DEMATEL, it executes Issues by visualization method Analyses and solves. Modelling this structure Approach adopts the form of a driven diagram, which is a causal effect for presenting values of influence between interrelated relationships and factors. By analysing the visual relationship of conditions between systemic Factors, all components A causal group and a The effect is divided into groups. It also provides researchers with Structure between system components Better understanding of the relationship and complexity for troubleshooting computer problems Can find ways [22]. The DEMATEL system is integrated Emergency management to-

gether Manage. In the manner proposed, it is not necessary to defuzzify obscure numbers before using the DEMATEL method. Therefore, this method is uncertain of evaluation Will truly reflect the character. Finally, to get the final results from different aspects Twice in each integrated PPA We use DEMATEL, which is ours [23]. Decision Testing and Assessment Laboratory (DEMATEL). The DEMATEL method is a powerful method gathering team knowledge to build a structured model and visualizing the causal relationship of subsystems. But crisp values The ambiguity of the real world Is adequate reflection [24]. DEMATEL explores the interdependence between equity The amount of investment factors and factors and ANP to assess their dependencies Integrates. This section is, first of all, DEMATEL Establishes network relationships through, secondly, for each factor ANP to increase weight compared to Uses. Third, systematic data collection process is provided [25]. The DEMATEL method effectively calculates the consequences between criteria, which efficiently separates the set of complicated elements right into a sender organization and a recipient institution and transforms it right technique to choosing a management gadget Between alternate configurations Explicit Priority Weights come from in addition, the ZOGP model allows companies to make full use of limited resources for planning to implement optimal management systems [26]. DEMATEL methods. This influence and causal Group barriers pro or Source for affected group barriers Can be considered due. Therefore, in order to effectively implement electronic waste management, barriers belonging to a causal or an influential group Should be considered on a priority basis. Therefore, decision makers need to determine obstacles The legal framework is strong Make sure there is controllable in order to minimize impact or influence barriers. Therefore, derived from ISM and DEMATEL methods The results are somewhat consistent. Integrated ISM DEMATEL Results for e-waste management constraints Determines not only the structure but also the structure the interactions between these barriers [27].DEMATEL studies, specific purpose for which DEMATEL is used. categories: Factors or Only relationships between criteria The first type of clarification; Second type is to identify third category is relations of criteria and analysis of impact levels by doing the scale determines the weight [28]. DEMATEL method. Accordingly, the preliminary drawback (cluster one) became about topics including the comparative weights of selection makers in the DEMATEL approach who did now not well bear in mind linking to the team decision making. Obviously, in a group decision-making hassle, regular decisionmakers can always trust their factor of view and count on it to be prevalent via other selection-makers. This way that very last evaluation guides must be close to their judgments, and if the very last assessment effects are near their critiques, the choice maker is willing to simply accept it; Otherwise, they may deny it. It is believed that a significant purpose for the aforementioned discrepancies lies in methods based on unstructured comparisons such as DEMATEL [29]. DEMATEL is widely accepted for analysing the overall relationship of factors and classifying factors into cause and effect types. Therefore, this article considers each source as a criterion in decision making. Based on DEMATEL, the significance and level of significance of each piece of evidence can to deal with a mixture DEMATEL method with the source theory for better conclusions. In this article, instead of the comparative criteria provided by the experts in DEMATEL [30], the corresponding propositions between the bodies of sources is changed. The DEMATEL technique used the as well as creating causal relationships between criteria for evaluating the Integrated Multiple Scale Decision Making (MCDM) Outreach Personnel Program. Integrates DEMATEL and a new cluster-weighted system in which DEMATEL system is a company The reason for the complexity between the criteria This is to visualize the structure of relationships It is also used to measure the influence of criteria. Buyukozkan and Ozturk can integrated ANP and DEMATEL an innovation in terms of technology Have developed an approach, which is for companies Helps determine important Six Sigma Projects and logistics specifically prioritize these projects Helps to identify in companies [31].

Analysis and Discussion

HRM Functions it is seen that Software Quality is showing the highest value for Technology is showing the lowest value. Software Quality it is seen that Technology is showing the highest value for Vendor Support is showing the lowest value. Vendor Support it is seen that HRM Functions is showing the highest value for Big Data Analysis is showing the lowest value. Technology it is seen that Vendor Support is showing the highest value for Software Quality is showing the lowest value. Big Data Analysis it is seen that Technology is showing the highest value for Vendor Support is showing the lowest value.

	HRM Func- tions	Software Quality	Vendor Support	Technology	Big Data Analysis	Sum
HRM Functions	0	2	4	2	3	11
Software Quality	4	0	2	1	2	9
Vendor Support	2	1	0	3	2	8
Technology	1	3	2	0	4	10
Big Data Analysis	2	2	1	2	0	7

TABLE 1. Humar	Resource	Information	Systems
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Table 1 shows that DEMATEL Decision making trail and Human Resource Information Systems is HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis using in table.

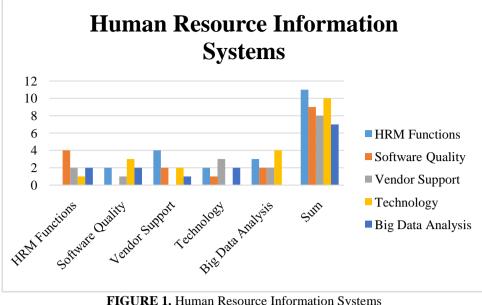


FIGURE 1. Human Resource Information Systems

Figure 1 shows that DEMATEL Decision making trail and evaluation laboratory in Human Resource Information Systems is HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis.

Normalization of direct relation matrix							
	HRM Func-	Software Qual-	Vendor Sup-	Technology	Big Data Anal-		
	tions	ity	port		ysis		
HRM Func-	0	0.181818182	0.36363636	0.181818182	0.272727273		
tions							
Software Quali-	0.363636364	0	0.18181818	0.090909091	0.181818182		
ty							
Vendor Sup-	0.181818182	0.090909091	0	0.272727273	0.181818182		
port							
Technology	0.090909091	0.272727273	0.18181818	0	0.363636364		
Big Data Anal-	0.181818182	0.181818182	0.09090909	0.181818182	0		
ysis							

TABLE 2. Normalization of direct relation matrix

Table 2 shows that the Normalizing of direct relation matrix in HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis the diagonal value of all the data set is zero.

	Calculate the total relation matrix							
	HRM Func- Software Vendor Sup- Technology Big Data							
	tions	Quality	port		Analysis			
HRM Func-	0	0.181818182	0.363636364	0.181818182	0.27272727			
tions								
Software	0.272727273	0	0.181818182	0.090909091	0.18181818			
Quality								
Vendor Sup-	0.181818182	0.090909091	0	0.272727273	0.18181818			
port								
Technology	0.090909091	0.272727273	0.181818182	0	0.18181818			
Big Data	0.181818182	0.181818182	0.090909091	0.181818182	0			
Analysis								

TABLE 3 Calculate the Total Relation Matrix

Table 3 Shows the Calculate the total relation matrix in Human Resource Information Systems is HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis is Calculate the Value.

T	TABLE 4. T= Y(I-Y)-1, I= Identity matrix							
	I							
	1	0	0	0	0			
	0	1	0	0	0			
	0	0	1	0	0			
	0	0	0	1	0			
	0	0	0	0	1			

Table 4 Shows the T= Y(I-Y)-1, I= Identity matrix in HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis is the common Value.

TABLE 5. Y Value							
	Y						
0	0.181818	0.363636	0.181818	0.272727			
0.272727	0	0.181818	0.090909	0.181818			
0.181818	0.090909	0	0.272727	0.181818			
0.090909	0.272727	0.181818	0	0.181818			
0.181818	0.181818	0.090909	0.181818	0			

Table 5 Shows the Y Value in Human Resource Information Systems is HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis is the Calculate the total relation matrix Value and Y Value is the same value.

TABLE 6. I-Y Value						
I-Y						
1 -0.18182 -0.36364 -0.18182 -0.27273						
-0.27273	1	-0.18182	-0.09091	-0.18182		
-0.18182	-0.09091	1	-0.27273	-0.18182		
-0.09091	-0.27273	-0.18182	1	-0.18182		
-0.18182	-0.18182	-0.09091	-0.18182	1		

Table 6 Shows the I-Y Value inHuman Resource Information Systems is HRM Functions, Software Quality, Vendor Support, Technology, Big Data Analysis table 4 T= Y(I-Y)-1, I= Identity matrix and table 5 Y Value Subtraction Value.

	TABLE 7. (I-Y)-1Value						
	(I-Y)-1						
1.610232	0.753533	0.945449	0.78095	0.890051			
0.706331	1.474562	0.692764	0.577162	0.691634			
0.613624	0.561334	1.513002	0.697287	0.671283			
0.555681	0.678067	0.65065	1.459864	0.658564			
0.57801	0.579423	0.553703	0.575749	1.468344			

Table 7 Shows the (I-Y)-1Value Human Resource Information Systems is HRM Functions, Software Quality, Vendor Support, Technology, Big Data AnalysisTable 6 shown the Minverse Value.

	Total Relation matrix (T)						
	0.610232	0.753533	0.945449	0.78095	0.890051	3.980215	
	0.706331	0.474562	0.692764	0.577162	0.691634	3.142453	
	0.613624	0.561334	0.513002	0.697287	0.671283	3.056529	
	0.555681	0.678067	0.65065	0.459864	0.658564	3.002826	
	0.57801	0.579423	0.553703	0.575749	0.468344	2.755229	
Ci	3.063878	3.046919	3.355568	3.091012	3.379876		

Table 8 shows the Total Relation Matrix (T) the direct relation matrix is multiplied with the inverse of the value that the direct relation matrix is subtracted from the identity matrix.

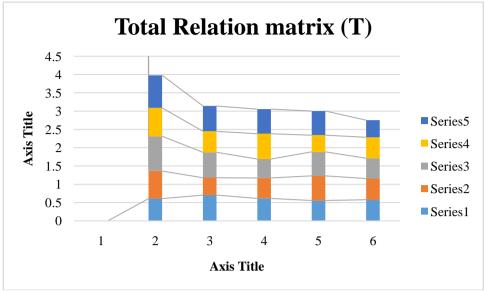


FIGURE 2. Total Relation matrix (T)

Figure 2. Shows the Total Relation Matrix (T) the direct relation matrix is multiplied with the inverse of the value that the direct relation matrix is subtracted from the identity matrix.

TABLE 9. Ri&Ci					
	Ri	Ci			
HRM Functions	3.980215	3.063878			
Software Quality	3.142453	3.046919			
Vendor Support	3.056529	3.355568			
Technology	3.002826	3.091012			
Big Data Analysis	2.755229	3.379876			

Table 9 shows the HRM Functions Ri= 3.980215, Ci=3.063878, Software Quality Ri= 3.142453, Ci=3.046919, Vendor Support Ri= 3.056529, Ci=3.355568, Technology 3.091012, Big Data Analysis Ri= 2.755229, Ci=3.379876.

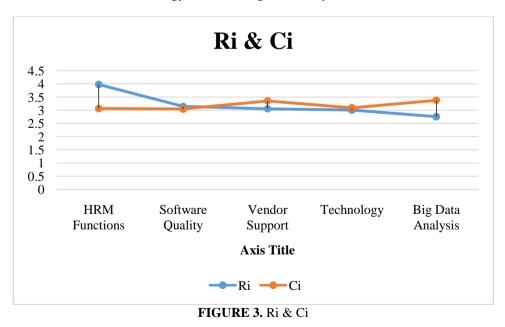


Table 9 shows the HRM Functions Ri= 3.980215, Ci=3.063878, Software Quality Ri= 3.142453, Ci=3.046919, Vendor Support Ri= 3.056529, Ci=3.355568, Technology 3.091012, Big Data Analysis Ri= 2.755229, Ci=3.379876.

TABLE 10. Calculation of Ri+Ci and Ri-Ci To Get The Cause And Effect						
	Ri+Ci	Ri-Ci	Rank	Identity		
HRM Functions	7.044093	0.916337	1	cause		
Software Quality	6.189373	0.095534	3	cause		
Vendor Support	6.412097	-0.29904	2	effect		
Technology	6.093838	-0.08819	5	effect		
Big Data Analy-	6.135105	-0.62465	4	effect		
sis						

Table 10 shows the Calculation of Ri+Ci and Ri-Ci to Get the Cause and Effect. the final result of this paper the HRM Functions is in 1st rank cause, Software Quality is in 3rd rank cause, Vendor Support is in 2nd rank effect, Technology is in 5th rank effect and Big Data Analysis is in 4th rank effect. The final result is done by using the DEMATEL method.

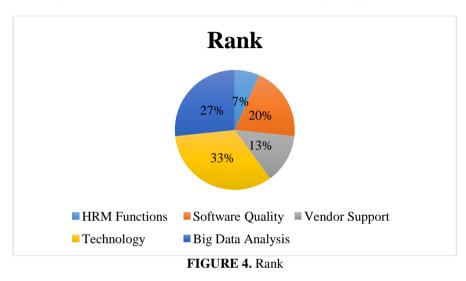


Figure 4. Rank The final result of this thesis is that HRM functions is ranked First, software quality is ranked Third as the cause, vendor support is the Second rank of effect, technology is the Fifth rank of effect and Big Data analytics is the Fourth rank of effect.

	T matrix					
0.610232	0.753533	0.945449	0.78095	0.890051		
0.706331	0.474562	0.692764	0.577162	0.691634		
0.613624	0.561334	0.513002	0.697287	0.671283		
0.555681	0.678067	0.65065	0.459864	0.658564		
0.57801	0.579423	0.553703	0.575749	0.468344		

TABLE 11.T matrix

Table 11 shows the T Matrix Value calculate the average of the matrix and its threshold value (alpha) Alpha = 0.637490107. If the T matrix value is greater than threshold value then bold it.

Conclusion

Human resource managers must manage a plethora of personnel activities associated with company employees: recruiting, training, promoting, demoting, and recordkeeping. Technology has made it easier and cheaper HR managers to gather and maintain an infinite amount of data about present and prospective employees. Dawes (1994) reports that today's information systems demand a level of technical sophistication and managerial skill far beyond what was required by the simple recording of standardized transactions in stand-alone files. An essential component in the success of managing this data is the Human Resource Information System (HRIS), a database of personal information about each employee. As a result, HRM Functions has got the first rank, where the Technology has got the lowest rank.

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