

Age Difference and Professionals' Perception towards Human Resource Information System

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The role of HR is becoming pivotal in the 21st century. As organizations face stiff market and other external pulls and pushes, the HR will become vital source for managing future challenges. HRIS is an information system that makes use of computers to monitor, control and influence the movement of human beings from the time they indicate their intention to join an organisation till the time they separate from it after joining. HRIS refers to the system of gathering, classifying, processing, recording and disseminating the information required for efficient and effective management of human resources in an organisation. It merges HRM as a discipline and in particular its basic HR activities and processes with the information technology field, whereas the programming of data processing systems evolved into standardized routines and packages of enterprise resource planning software. This research paper explores the factors of human resource information system and identifies the difference in perception of professionals belonging to different age groups towards HRIS.

Keywords: HRIS, Information, HR, HRIS

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INTRODUCTION

Human resources are very important asset for any organization and specifically for the Service Sector where employees can be referred as the combination of all 4M's of management, that is Man, Machinery, Material and Management. According to Shiri (2012), HRM is especially important in a knowledge-based economy, where ideas and expertise are greatly valued, and a creative and innovative workforce is necessary to meet the challenges of this new economy.

HRIS is an integrated system used to gather, store and analyze information regarding an organization's human resources' comprising of databases, computer applications, hardware and software necessary to collect, record, store, manage, deliver, present and manipulate data for human resources function. According to Gupta (2009). There are three major components of any Human Resource Information System, Input Function; Data Maintenance and Output function. HRIS correspondingly evolved into more sophisticated information expert systems featuring analytical tools to support decision-making in managing human capital (Ostermann, Staudinger and Staudinger, 2009)

HRIS provides information and guidelines for the operation of HR functions and can be one of the powerful levels of change for the HR Department in any organization, hence there has been a considerable increase in the number of organizations gathering, storing, and analyzing information regarding their HRs through the use of a software which is HRIS (human resource information system). HRIS allow HR function to become more efficient and to provide better information for decision making (Beadles *et al.*, 2005). It has helped to align the HR practices with the organizational strategy, identify improvement areas, and keep abreast with the current practices. The system is able to produce more effective and faster outcome than that can be done on papers. It allows an organization to assess and evaluate any gaps or potential risks and increase the commitment of HR professionals to continuous improvement. Many organizations have adopted HRIS to assist their daily human resources operations. HRIS must align and satisfy the needs of the organization and its users in order to be successful (Noor and Razali, 2011).

But, still there is a perception that the system is sometimes complicated and difficult to work. It is not adding value and the restricted way in which they are utilized is criticized (Tansley and Watson, 2000). According to Arora (2013), many activities and much effort by HR professionals are applied to obtain and update the database of all such information. Acquisition, storage and retrieval of information, is a significant challenge to the management. However, once the database is created, maintenance becomes a much easier task but it should always be taken into consideration that the data is secured and privacy of employees is safeguarded. Khanka (2005) stated that the problems of HRIS include mismatch between data provided by the HRIS and data required by the managers; cost; Absence of continuous up-dating of HRIS etc. Ball (2001) explained the dearth of research in HRIS in their work by quoting that the gigantic information system related literature including its implementation, use and impact clarifies that it is healthy researched area but its implementation with human resource is a deserted. This study was hence undertaken to explore the factors of HRIS and to study the effect of age on the use of HRIS.

LITERATURE REVIEW

An HRIS can perform a number of functions from the simple storage and communication of information, to more complex transactions. In HR planning process it is easier to follow workforce gaps, the quantity and quality of the labour force and to plan future workforce requirements with the help of HR knowledge systems (Dessler, 2005). HRIS can support long range planning with information for labour force planning and supply and demand forecast; staffing with information on equal employment, separations and applicant qualifications; and development with information on training programs, salary forecasts, pay budgets and labour/employee relations with information on contract negotiations and employee assistance needs (Shibly, 2011). Risk and security management is another crucial function which can be derived by HRIS by following private and highly sensitive individual data and multiplatform security aspects which are perhaps the most serious factors that need to be taken into consideration (Karakanian, 2000).

The benefits of HRIS are mainly directed towards the HR department itself (Ruël *et al.* 2004), but it can provide a number of benefits to the whole organization (Parry, 2009). Kenneth *et al.* (2002) discussed various administrative and strategic advantages of HRIS. Various administrative advantages underlined by the author includes employee self service, interactive voice response etc. the author also propounded that businesses can leverage from the administrative cost savings, as well as strategic advantage in the course of information gathering, processing, and sharing. It provides HR professionals with the time needed to direct their attention towards more business critical and strategic level tasks, such as leadership development and talent management, to play a more strategic role, through their ability to generate metrics which can be used to support strategic decision-making (Lawler and Mohrman, 2003), to assist the HR function in developing business strategy, and thus enhancing organization performance (Barney and Wright, 1998; Broderick and Boudreau, 1992; Gueutal, 2003; Lawler *et al.*, 2004; Lengnick-Hall and Moritz, 2003), increasing information processing efficiency (Brian *et al.*, 2001), acquire, store, manipulate, analyze, retrieve, and distribute pertinent information regarding an organization's human resources (Kavanagh *et al.*, 1990). In short, HRIS, increases the efficiency of HR function and has helped to contribute the potentials of HR Department towards the organization and by making the HRIS a part of the organization, the HR Department can transform itself to be a strategic business partner.

HRIS helps organizations in managing all HR information. It helps in recoding and analyzing professionals and organizational information and documents, such as employee handbooks, emergency evacuation and safety procedures (Beckers and Bsath, 2002). It helps organizations to keep an accurate, complete and updated database that can be retrieved from reports and manuals (Bittner and Spence, 2003), recruiting and selection (Chapman *et al.*, 2003), compensation and benefits (Dulebohn *et al.*, 2005), training and development (Teo *et al.*, 2001), performance management (McLeod *et al.*, 1995) as well as HR planning (Hannon *et al.*, 1996). An organization was considered efficient if it had technology and information system to support HR activities. Also, effectiveness of HRIS on work and development of HR departments and HR professionals were under discussion by many researchers (Tannenbaum, 1990; Broderick and

Boudreau, 1992; Kossek *et al.*, 1994; Haines and Petit, 1997; Van der Linden and Parker, 1998).

Venkataratnam and Shrivastava (1991) have stated the basic purpose of HRIS is to store information and data of each individual employee, to provide basis for decision making, planning, budgeting and implementing HR functions, to supply data to government. Some of the stated advantages of automating human resource are: increased data accuracy, increasing processing speed, creating more useful and sophisticated results, and increase in productivity (Ceriello, 1998). The outcomes that are generally stated in terms of management processes are: enhancement in executive decision making, employee training, technology usage, interdepartmental integration, and better reporting structures. In an ideal situation HRIS should aid in strategic integration, personnel development, communication and integration, records and compliance, human resources analysis, knowledge management, forecasting and planning, and moving forward towards the organisational vision (Mayfield *et al.*, 2003). However, in most of the cases, the strategic relevance is not understood or achieved (Tansley *et al.*, 2001; Watson, 2010).

Khera and Gulat (2012) identified 5 factors from 16 questions namely budgeting factors, employee management, Benefits and compensation, HR development factors and employee and labor relation from his study. According to Bhavsar (2011), a well developed HRIS offers the following advantages: reduction in the cost of stored data in human resource, higher speed of retrieval and processing of data, reduction in duplication of efforts leading to reduction in cost, availability of accurate and timely data about human resources, better analysis leading to more effective decision making, more meaningful career planning and counseling at all levels, improved quality of reports, better ability to respond to environmental changes and more transparency in the system etc.

HRIS success, also called HRIS effectiveness (Delone and McLean, 1992, 2003; Grover *et al.* (1996) among others, is understood as the degree to which the person developing, implementing or permanently improving HRIS believes that the stakeholder (in whose interest the

development, implementation and permanent improvement is being made) is better off (Seddon, 1997). IS success measures can be classified according to the following stakeholders, among others, HRIS-related decision makers, system developers, system implementers as well as system users (Seddon *et al.*, 1999; Urbach *et al.*, 2009). From a decision maker's perspective, successful HRIS may maximize the following aspects, among others (Seddon *et al.*, 2002): cost efficiency, service-to-the-business-related issues, business improvements as well as revenue-/profit-related issues. On the other hand, from a system developer's perspective, successful HRIS may be completed on time and under budget, may show a set of features consistent with the system specification, and may operate properly. With a view to system implementers, successful HRIS may be easy and fast to adjust to the (internal/external) customers' requirements (Dennis *et al.*, 2006). Finally, system users may find HRIS successful if they contribute to maximize, among others, their perceived level(s) of individual productivity, satisfaction or usefulness/ease of use while using these systems (Davis, 1989; Davis *et al.*, 1989; Delone and McLean, 1992, 2003).

RESEARCH METHODOLOGY

The Study: The study is exploratory in nature and undertaken to provide insight into, and an understanding of and the usage of HRIS. The study is mainly based upon primary data and is used to explore factors influencing perception of professionals towards usage of HRIS and to determine the effect of age on the identified factors of HRIS as perceived by professionals of the organizations.

The Sample: The sample of the study was constituted of 414 respondents working in different organizations, where HRIS was installed. Non Probability Convenience sampling method was used to select the respondents.

The Tools for Data Collection: Primary data of the study was collected through a self-structured questionnaire. The questionnaire was designed following a wide review of the literature on HRIS. The questionnaire had some general questions regarding the demographics of professional user and consisted of 19 close ended items based on five point Likert scale (Strongly Agree – 5 to Strongly Disagree – 1). The answered questionnaire was collected from the respondents after conveying the purpose of the study in the presence of the author(s).

The Tools for Data Analysis: The analysis of collected data was done using ANOVA by Statistical Package for Social Science (SPSS 15.0) and MS Excel 2007.

Normality of variables is the basic assumption for independent sample t-test. Non-normally distributed variables (highly skewed or kurtotic variables, or variables with substantial outliers) can distort relationships and significance tests. In the present study the skewness and kurtosis value of all the variables were found to be lying between ± 1 (Table 2). Thus this shows that the distribution of all the variables is normal.

A pilot study was undertaken on 140 respondents for determining factors of HRIS. Initially, item-total correlation was calculated for all 19 items to identify insignificant items not contributing towards perception of professionals regarding usage of HRIS. After first iteration, 1 item showed correlation values less than 0.196 (standard coefficient of correlation value for 100 or more respondents) and was thus found insignificant and was not considered for the analysis. Out of 19, Over-all reliability was evaluated for the scale by assessing the internal consistency of the remaining 18 items using Cronbach's Alpha. The instrument had a reliability of 0.83. Therefore all 18 items were accepted for the final scale and subjected to Principal Component Method of Factor Analysis using Varimax Rotation. As a result of factor analysis, 6 factors namely Effective Data Management (% of Var. = 30.987), Enhanced Information (% of Var. = 9.849), Effortless Information Navigation (% of Var. = 8.506), Improved Productivity (% of Var. = 7.351), Distinguished Training (% of Var. = 7.012) and Supportive Coordination (% of Var. = 5.806). The total percent of variance for factors was 69.511 and the Eigen values for each factor was more than one. The details of these factors tabularized with their item loads, Eigen values and percent of variances are shown in Table 1

HYPOTHESES

Factor I – Effective Data Management

H₀₁ – There is no significant difference in the perception of professionals belonging to different age groups on the factor Effective Data Management of HRIS.

Factor II – Enhanced Information

H₀₂ – There is no significant difference in the perception of professionals belonging to different age groups on the factor Enhanced Information of HRIS.

For Factor III – Effortless Information Navigation

H₀₃ – There is no significant difference in the perception of professionals belonging to different age groups on the factor Effortless Information Navigation of HRIS.

For Factor IV – Improved Productivity

H₀₄ – There is no significant difference in the perception of professionals belonging to different age groups on the factor Improved Productivity of HRIS.

For Factor V – Distinguished Training

H₀₅ – There is no significant difference in the perception of professionals belonging to different age groups on the factor Distinguished Training of HRIS.

For Factor VI – Supportive Coordination

H₀₆ – There is no significant difference in the perception of professionals belonging to different age groups on the factor Supportive Coordination of HRIS.

RESULTS AND DISCUSSIONS

Effective Data Management: Six items were involved in the factor which are - The system improves the data maintenance process, The system meet the desired expectations of the organization, System provide us the accurate and correct data, The system helps in eliminating the duplication of work, There is a provision for generating standard set of data and reports and Data Quality Audit was performed on a routine manner (Table 1). Besides, as shown in table 4, the p value is 0.023 which is lower than 0.05 therefore null hypothesis H₀₁ is rejected at 5% level of significance, which means there is a significant differences in perception of respondents belonging to different age groups. This is true since people belonging to different age groups have different perception regarding information technology and thereby the usage may be different at a great level. Hence, perception of users does vary regarding the Effective Data Management factor of HRIS. A detailed description of difference between the different age groups is shown using Tukey test (Table 5). The result shows that the difference is prominent

between the age groups 20-35 and 50-65 and 20-35 and 35-50 with respect to effective data management. However, no significant difference was observed between 35-50 and 50-65.

Enhanced Information: Three items were involved in the factor which include - The System improves the quality of information available, The system improves the ability to disseminate the information in the organization and There is a provision for generating standard set of data and reports (Table 1). As shown in Table 4, p value is more than 0.05 therefore null hypothesis H_{02} is rejected at 5% level of significance, which means there is no significant difference between the perception of professionals belonging to different age groups regarding the Enhanced Information factor of HRIS. This is true since information is generated by the same software but it may vary depending upon their designations.

Effortless Information Navigation: There are 3 items involved in the factor which are - Employee can access it directly to derive the desired information as per authority, The system shares information with other systems in the organization and system helped to reduce the time taken for tasks implementation (Table 1). As shown in Table 4, the p value is higher than 0.05 therefore null hypothesis H_{03} is not rejected at 5% level of significance, which means there is no significant difference between the perception of professionals of different age groups with respect to effortless information navigation. This seems to be true because navigation facilities remain the same for the complete system because it is designed by the same system designers and developers.

Improved Productivity: Three items were involved in the factor which include - The system promotes the organizational competitive advantage, The system affected the level of productivity in the organization and Updates are done on a routine basis to the system based on user feedback (Table 1). As shown in Table 4, p value is higher than 0.05 therefore null hypothesis H_{04} is not rejected at 5% level of significance, which means there is no significant difference between the perception of professionals belonging to different age groups with the Improved Productivity factor of HRIS. This seems to be true since productivity is improving at an organizational level and can be observed by all, regardless of the age.

Distinguished Training : Two items involved in the factor are - Training was provided for the usage of system and There was a manual or handbook for the system/policies (Table 1). As shown in Table 4, p value is less than 0.05 therefore null hypothesis H_{05} is not accepted at 5% level of significance, which means there is a significant difference between the perception of professional belonging to different age groups regarding the Distinguished Training factor of HRIS because the training would have implemented by different resource person with different content according to the requirement. A detailed description of difference between the different age groups is shown using Tukey test (Table 5). The result shows that the difference is prominent between the age groups 20-35 and 50-65 with respect to distinguished training.

Supportive Coordination: The only item involved in the factor was ‘The system increases coordination between HR department & top administrators’ (Table 1). It was found that there was no significant difference between the perception of professionals belonging to different age groups since the p value was more than 0.05. This seems to be true because coordination with other departments is not dependent on age group. In accordance with our study, Bal *et al.* (2012) also found that employees’ perceptions of HRIS does not show difference according to age

CONCLUSION, SUGGESTIONS AND LIMITATIONS

The research has identified six different factors of HRIS, so many software developers can consider this as a business idea. Since, the use of HRIS is the best choice for HR professionals to do their work and take strategic actions and decision making, Developers should take more initiative for improving the quality of HRIS by supporting them with better user interface and guidance, thereby providing services that may be perceived effective by professionals. Besides, the study can be a good choice for many organizations to improve and update their existing system where the processes can be streamlined easily. This paper has provided an effect of designation on the perception of HRIS. The study showed that there was no significant difference between the perception of professionals belonging to different age groups with respect to Enhanced Information, Supportive Coordination, Effortless Information Navigation and Improved Productivity while a significant difference was observed for the factors Effective Data Management and

Distinguished Training. However, as technology advances, the range of functions that an HRIS can undertake increases.

The study was limited to 414 respondents in total. The study could have become more effective if more respondent were approached. The research could have become better if more data could be collected from different places of world. Finally, the findings reported here are likely to be limited to the HRIS and may not be generalized to other systems. However, results of this study are providing a foundation for future studies on HRIS.

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ANNEXURES

Table 1: Results of Factor Analysis

Total Variance Explained									
No	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.578	30.987	30.987	5.578	30.987	30.987	2.867	15.93	15.93
2	1.773	9.849	40.836	1.773	9.849	40.836	2.319	12.885	28.814
3	1.531	8.506	49.342	1.531	8.506	49.342	2.174	12.079	40.893
4	1.323	7.351	56.694	1.323	7.351	56.694	1.882	10.453	51.346
5	1.262	7.012	63.705	1.262	7.012	63.705	1.85	10.279	61.625
6	1.045	5.806	69.511	1.045	5.806	69.511	1.42	7.886	69.511
7	0.865	4.804	74.315						
8	0.755	4.197	78.512						
9	0.717	3.983	82.495						
10	0.631	3.504	85.999						
11	0.514	2.855	88.854						
12	0.417	2.316	91.171						
13	0.405	2.248	93.419						
14	0.314	1.746	95.165						
15	0.309	1.718	96.883						
16	0.243	1.351	98.234						
17	0.182	1.011	99.245						
18	0.136	0.755	100						

Table 2 : Statistics

	Effective Data Management	Distinguished Training	Effortless Information Navigation	Improved Productivity	Enhanced Information	Supportive Coordination
N Valid	414	414	414	414	414	414
Missing	38	38	38	38	38	38
Skewness	-.924	-.759	-.692	-.510	-.769	-.838
Std. Error of Skewness	.120	.120	.120	.120	.120	.120
Kurtosis	.375	-.256	-.071	-.026	-.573	-.003
Std. Error of Kurtosis	.239	.239	.239	.239	.239	.239

Table 3: Descriptives

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	
						Lower Bound	Upper Bound		
Effective Data Management	20-35	126	3.66	0.71	0.06	3.54	3.79	1.67	
	35-50	145	3.85	0.59	0.05	3.76	3.95	1.67	
	50-65	143	3.88	0.7	0.06	3.76	3.99	1.67	
	Total		3.8	0.67	0.03	3.74	3.87	1.67	
Enhanced Information	20-35	126	3.69	0.76	0.07	3.55	3.82	2.13	
	35-50	145	3.87	0.77	0.06	3.74	4	2.13	
	50-65	143	3.86	0.71	0.06	3.74	3.97	2.13	
	Total	414	3.81	0.75	0.04	3.74	3.88	2.13	
Effortless Information Navigation	20-35	126	3.66	0.65	0.06	3.54	3.77	2	

	35-50	145	3.71	0.61	0.05	3.61	3.81	2
	50-65	143	3.8	0.62	0.05	3.7	3.91	2
	Total	414	3.73	0.63	0.03	3.67	3.79	2
Improved Productivity	20-35	126	3.67	0.74	0.07	3.53	3.8	1.8
	35-50	145	3.77	0.69	0.06	3.66	3.88	1.8
	50-65	143	3.68	0.65	0.05	3.57	3.79	1.8
	Total	414	3.71	0.69	0.03	3.64	3.77	1.8
Distinguished Training	20-35	126	3.6	0.8	0.07	3.46	3.74	2
	35-50	145	3.81	0.68	0.06	3.69	3.92	2
	50-65	143	3.86	0.76	0.06	3.73	3.98	2
	Total	414	3.76	0.75	0.04	3.69	3.83	2
Supportive Coordination	20-35	126	3.63	0.67	0.06	3.51	3.75	2.2
	35-50	145	3.79	0.57	0.05	3.7	3.88	2.2
	50-65	143	3.77	0.62	0.05	3.67	3.87	2.2
	Total	414	3.73	0.62	0.03	3.67	3.79	2.2

Table 4 : ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Effective Data Management	Between Groups	3.652	2	1.826	4.135	.017
	Within Groups	181.494	411	.442		
	Total	185.145	413			
Enhanced Information	Between Groups	2.725	2	1.362	2.436	.089
	Within Groups	229.856	411	.559		
	Total	232.581	413			
Effortless Information Navigation	Between Groups	1.459	2	.730	1.852	.158
	Within Groups	161.949	411	.394		
	Total	163.408	413			

ImprovedProductivity	Between Groups	.897	2	.449	.930	.395
	Within Groups	198.184	411	.482		
	Total	199.081	413			
Distinguished Training	Between Groups	4.880	2	2.440	4.378	.013
	Within Groups	229.061	411	.557		
	Total	233.941	413			
Supportive Coordination	Between Groups	1.896	2	.948	2.487	.084
	Within Groups	156.670	411	.381		
	Total	158.566	413			

Table 5 : Multiple Comparisons

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Tukey HSD							
Dependent Variable	(I) age	(J) age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Effective Data Management	20-35	35-50	-.191819*	.0809329	.048	-.382192	-.001446
		50-65	-.2144892*	.0811956	.023	-.405480	-.023498
	35-50	20-35	.1918190*	.0809329	.048	.001446	.382192
		50-65	-.0226702	.0783166	.955	-.206889	.161549
	50-65	20-35	.2144892*	.0811956	.023	.023498	.405480
		35-50	.0226702	.0783166	.955	-.161549	.206889
EnhancedInformation	20-35	35-50	-.182458	.091080	.113	-.39670	.03178
		50-65	-.169261	.091375	.154	-.38420	.04568
	35-50	20-35	.182458	.091080	.113	-.03178	.39670
		50-65	.013196	.088136	.988	-.19412	.22051
	50-65	20-35	.169261	.091375	.154	-.04568	.38420
		35-50	-.013196	.088136	.988	-.22051	.19412
EffortlessInformationNavigation	20-35	35-50	-.056917	.076451	.737	-.23675	.12291

		50-65	-.145584	.076699	.140	-.32600	.03483
	35-50	20-35	.056917	.076451	.737	-.12291	.23675
		50-65	-.088667	.073980	.455	-.26268	.08535
	50-65	20-35	.145584	.076699	.140	-.03483	.32600
		35-50	.088667	.073980	.455	-.08535	.26268
ImprovedProductivity	20-35	35-50	-.1045758	.0845724	.432	-.303510	.094358
		50-65	-.0146409	.0848470	.984	-.214221	.184939
	35-50	20-35	.1045758	.0845724	.432	-.094358	.303510
		50-65	.0899349	.0818385	.515	-.102568	.282438
	50-65	20-35	.0146409	.0848470	.984	-.184939	.214221
		35-50	-.0899349	.0818385	.515	-.282438	.102568
DistinguishedTraining	20-35	35-50	-.2076902	.0909222	.059	-.421560	.006180
		50-65	-.2562715*	.0912173	.014	-.470836	-.041707
	35-50	20-35	.2076902	.0909222	.059	-.006180	.421560
		50-65	-.0485813	.0879830	.845	-.255538	.158375
	50-65	20-35	.2562715*	.0912173	.014	.041707	.470836
		35-50	.0485813	.0879830	.845	-.158375	.255538
SupportiveCoordination	20-35	35-50	-.15613	.07519	.096	-.3330	.0207
		50-65	-.13546	.07544	.172	-.3129	.0420
	35-50	20-35	.15613	.07519	.096	-.0207	.3330
		50-65	.02068	.07276	.956	-.1505	.1918
	50-65	20-35	.13546	.07544	.172	-.0420	.3129
		35-50	-.02068	.07276	.956	-.1918	.1505
*. The mean difference is significant at the 0.05 level.							