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The Impact of HRIS and HPWS on Employee Performance: Surveyed from SMEs of Pakistan Manufacturing Firms

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ABSTRACT

This paper is on the growing importance of Human Resource Information System and High Performance Work System's perspective for small and medium-sized enterprises. The main focus of this research paper is to explore the different aspects and to analyze barriers which occur during the implementation of its practices. To present a comprehensive literature review of these practices in Pakistani SMEs, we did Qualitative descriptive survey research. Likert scale was used with open ended questions. We selected human resource managers and worker of HRM department. 250 questionnaires were distributed in 25 manufacturing firm's HR departments (10 questionnaires in each firm). 22 firms respond and 220 questionnaires were usable for our research. The results showed mix response that was unexpected. The findings indicate that HRIS and HPWS are influenced by several factors (HR process, information effects, appraisal programs, recruitments, flexible work designs, participative decision making etc. The basic signification of this paper is that SMEs, particularly in the developing domestic and collectively owned small firms, in Pakistan, may see positively the benefits of paying greater considerations and attention to HRIS and HPWS practices for gaining their future progress promisingly in employee satisfaction.

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Introduction

The present-day work place has been transformed by the assimilation of information technology into human resource department. Experts of human resource department are now investing and have been increasing ability to gain valuable information. Additionally, organizations are developing impressive methods to store and recover this information with efficiency. This is not only helpful to promote effectiveness of the business but also effective for improving management systems. Everyday new addition of information technology creates complexity and sometimes can be stressful for employees of any age group (Mujtaba, Afza et al. 2011) and can attract unprofessional attitudes, on the other hand it creates environment for good leadership skill's development (Sadia Cheema 2015). This Common Era is also considered as the knowledge era (Sadia Cheema 2015). These days industries are developing around new information, businesses are dependable on the knowledge of the workers as well as on effectiveness of knowledge management system. Currently, HRIS develops a deep factor for continuous progress and "software" element in industrial applications as it is the intangible effective of the knowledge element (Mujtaba 2007). The capability of human resource department is not only to attract the attention of right individuals towards the firm and recruiting them but also using the proper skills of workers more effectively is essential for probability and survival of business in the competitive environment. Human resource department became focal point for applications and practicing new policies and procedures. Therefore, human resource information system is considered as an essential element for every firm (Wyatt 2002). Firms are developing their

information technology system stronger and stronger to achieve their target more quickly. It is also helpful for firms to develop more strategic decisions. Human resource information system is very efficient mechanism which is used to integrate the functions of administration. Furthermore, targets are more achievable by the collection and efficient usage of information. To collect information data on individuals of the firms might include records of complete training, awards given, different projects participation, success level, education and skill level gained, duration and other expertise, etc. Additionally, this storage of information can assist in development of better strategies and help organization to stay pro-active. Moreover, the efficiency of HRIS in place can make it very accessible for HR department to progress rapidly (Dessler 2004).

"High performance work system" (HPWS) can be described as a set of independent but interlinked mechanisms of human resource department (HRD) that can conclude various functions such as selection of employees, large-scale of effective training and development (T&D) establishment of proper appraisal system on the basis of performance, competitive advantage, achieving flexibility towards job targets (Takeuchi, Lepak et al. 2007). Previous studies indicated that high performance work system increase the overall performance of the employee, therefore continuous improvement in employee's knowledge and other expertise (Delery and Shaw 2001). In addition, the results of these studies concluded better job satisfaction level from employees, enhancement of commitments and determinations towards their work, less rate of job turnover and high rate of production (Becker, Huselid et al. 1997).

Furthermore, high performance work system develops a strong element of motivation in employees to stay connected to their jobs (Arefin, Arif et al. 2015). However, this research focuses on the contribution of high performance work system and human resource information system; also perform detailed study on their different factors and to evaluate their impact on employee performance.

Literature Review

Human resource information system

Human resource information system history has a courteous origin. Even though there is empirical evidence that indicates before World War 2, Human resource expertise used to collect very basic information on their workers to form a small data base for the purpose to keep interaction on business level and to achieve the target. On initial stages, the very basic information regarding their staff were collected which usually included worker names, their home addresses and some work background of the employee were recorded on the note pads of 3x5 (Kavanagh, Gueutal et al. 1990). From 1945's to 1960's, different firms started to realize the importance of human resource and gradually started the official development of procedures for recruitment and in other various areas. Similarly, around same time period firms started to realize the significance of staff's attitude towards the well-being of the business. Furthermore, this time period didn't bought major evolution in human resource information system. Few researchers suggest that time period put a notion in motion to bought a significant changes from 1960's to 1970's (Kavanagh, Gueutal et al. 1990).

Moreover, in the following twenty years from 1960 to 1980 human resource department was assimilated in an organization and also into its mission. In addition, around the same time period, governments develop rules and regulations where employees were required for reporting basic information. The HR department has become essential consumer of expensive information technology systems of the present day, generally border lining various functions fields for this system. Furthermore, around the same time, human resource information system was computerized as well as its demands and necessities were growing day by day. They mostly kept their collection system elementary yet effective (Kavanagh, Gueutal et al. 1990).

According to few researchers, human resource information system is acknowledged as an organized process for gathering information, its storage, maintenance, resuming data which is required by the firms regarding their worker progress, human resource and other firm's features (Kovach, Hughes et al. 2002).

HRIS and its impacts

The purpose and application of Human resource information system depends on the operating style of different firms. Few firms use Human resource information system for the reduction of cost, some use it for improving communication system and few of them use it to modernize the human resource department (Parry 2007). Human resource information system does not only maintains the strategic planning which is beneficial for effective hiring and retraining strategies but also assimilate in bigger level of operating strategies. The information system of human resource department helps to build-up useful knowledge which can facilitate the administration for better management and decision-making. This system have various benefits, its usage can be simple or complex (E. 2010). With the appropriate administration of human resource department, the firms

perhaps are able to forecast effectively and execute computation which has positive impact on the overall firm performance. The computations can follow employee information such as payroll, expenses of operations, cost of recruitment, training and education effects, turnover follow-ups, time requirements for job decision-making, return on revenue and additions of other values, etc. It is also noticeable that majority of these computation doesn't assist in reducing the expense structure in human resource department (DeSanctis 1986). However, with the usage of accurate, detailed and recent database HRIS can help in the development of efficient strategies. Similarly, this system has been assisting human resource management to plan a better quality into the system by providing correct information. Especially, it provides assistance to high level of managerial documentations as well as to make appropriate short analysis for higher level of administration. It is essential for firms that they consider human resource department as an important part in order to provide continuous competitive edge in the business. This is a reason that human resource information system is considered to play a major role to have a positive impact on employee performance (Gallagher 1986). The application of human resource information system can be implemented at these three various stages, firstly, the outcome of information, secondly the computerization of bills and other transactions and last but not the least, transformation of the whole workplace of the human resource department. Therefore, it can involve in more strategic plan making and procedures which is more valuable towards performance of the firm as a whole (Hendrickson 2003). On the other hand, it is very complicated to determine the value added towards organization's profitability by human resource information system. Decisions which human resource expertise made on the bases of human resources information system also have an impact on employee performance. Therefore employees are more engaged, motivated and satisfied towards their work, all these variables are hard to compute (Kovach, Hughes et al. 2002). Previously few researchers concluded the same result that management progress is perhaps easy to calculate and determine qualities like number of decrease in job turnover, efficient progression by human resource department, whereas it is complicated to compute other variables of employee performance such as employee's motivation and morality towards the application of human resource information system (Sadiq, Ahmad Fareed Khan et al. 2013). Developing a defined linkage between firm's outcomes and human resource information system's performance has much more complexity than calculating performance of management with the assistance of human resource information system (Ngai and Wat 2006).

This literature consist of various previous researches which were conducted on human resource information system, but very little practicality were found in them, most of it was theory based (Ngai and Wat 2006). Additionally most of these researches were conducted on industry of developed countries. In the same context, few researchers conducted research on the application of human resource information system and its impacts on organizations of Hong Kong. The conclusion from the results showed that the major positive outcome by the implementation of human resource information system was the rapid response and accessibility of information, whereas the biggest hurdle was that it is not very supportive in finance areas (Sadiq, Ahmad Fareed Khan et al. 2013).

High performance work system and its impacts

The “human resource management” structure develops a set of human resource practices which promote employee’s work ability and keep them motivated towards their job. High performance work system is further defined by few researchers as a group of individuals working independently yet staying interlinked with other practices of Human resource department (HRD), which is also developed to enhance the employee performance (Datta, Guthrie et al. 2005). High performance work system has developed practices which have an impact on employee’s motivation level and capability (Arefin, Arif et al. 2015). Furthermore, high performance work system plays a very critical part to have a positive impact on employee performance, which leads to overall success of the business (Schuler and Jackson 1987, Becker and Gerhart 1996). Whereas there is always a topic for debate between experts on different human resource practices to decide which one of these should be the part of human resource systems and which practices are not proven very effective in the past. However, there is a mutual statement of many researchers that high performance work system practices can bring positive change in employee performance i.e. improved skills, motivation levels and adaptation to new opportunities (Appelbaum 2000, Wright and Boswell 2002).

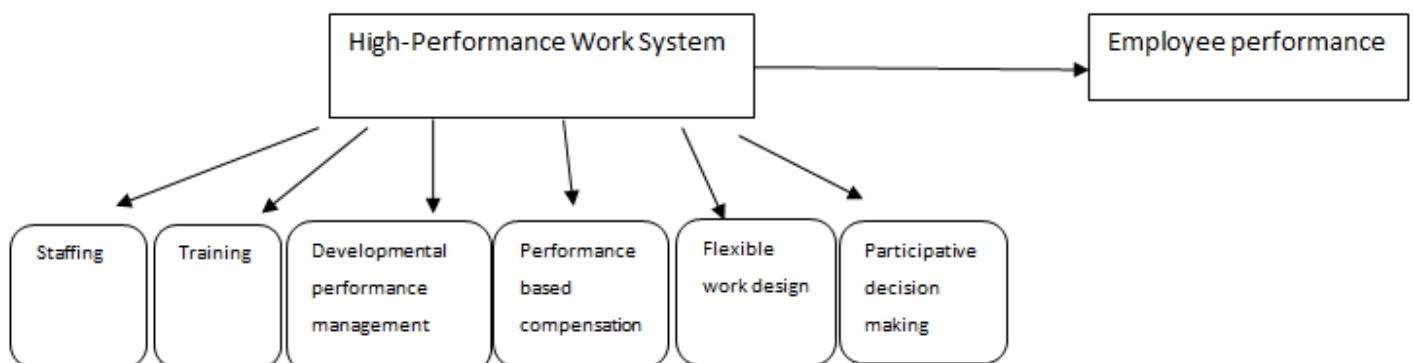
The recent research includes human resource practices which are composed of high performance work system; hence it includes functions like hiring, training, compensation system based on performance, proper appraisal system, flexibility in workplace and corporation from administration. It also helps promote proactive behavior which is a type of motivational, determinant and “prepare for change” kind of work attitude (Sadia Cheema 2015) Whereas proactive behavior is defined with variety of different definitions, yet researchers agreed on the common concept that it is promotes “change-focused” behavior and develop skills to solve errors in timely manners (Crant 2000, Grant and Ashford 2008). Employees with proactive behaviors are more possibly tend to gain new information and come up with new ideas to bring positive change in the workplace (Crant 2000). Furthermore, these employees work towards solving the problems and try to come up with effective strategies which don’t allow these problems to occur again (Parker, Williams et al. 2006). Some researchers also revealed that high performance work system has an impact on employee work behavior, employees tends to develop more self-determination and creativity. It helps to improve employee performance (Kehoe and Wright 2013,

Chang, Jia et al. 2014). As previously stated, adaption of high performance work system promotes work motivation in employees. It is also stated that employee tend to work harder to solve a problem. It takes initiatives towards changing the workplace hence brings more positivity which is sometimes not included in their work-tasks (Blau 1964). When employees realize that organization is putting effort in their betterment then employees also develop loyalty towards organization and feel obligated to increase the outcome in return, they also come forward to work voluntary to resolve current problems faced by organization (Arefin, Arif et al. 2015). Additionally, when employees get realization by the firm that they hold certain value to the organization, that their work is meaningful and important, there are very high chances that they work more effectively and develop loyalty towards their work and bring changes in the workplace for the better output of the firm. Self-determination towards job developed by the help of participative management promotes motivation in employees to give better results (Parker, Williams et al. 2006).

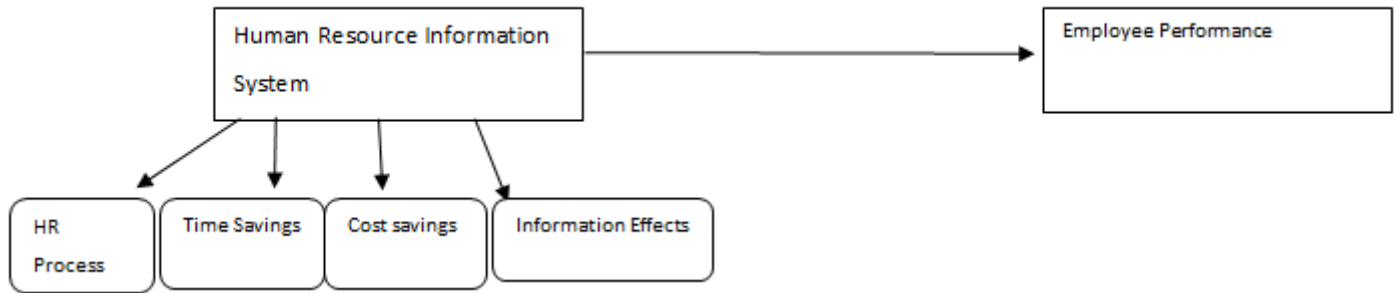
Methodology

There were used Qualitative research and specifically collected from manufacturing firms of Multan, Pakistan. The questionnaire was filled through different firms and collected information of firms through official website (Kovach, Hughes et al. 2002). The main purpose of this study was to assess the impact of HPWS and HRIS on Employee performance. We choose this manufacturing sector of small and medium enterprises because these industries are going through developments, making progress and advancements like any other countries in this new era of innovation and creativity. Five point Likert scale was used and open ended questions were included in this survey. We choose human resource managers and worker of HRM department. There were examined the impact of HPWS on employee performance and HRIS process, HR systems, techniques and on decision making strategies. There were given 250 questionnaires in 25 manufacturing firms HR departments (10 questionnaires in each firm). 22 firms respond and 220 questionnaires were usable for our research. The items of questionnaires were used from Beadles, Jones and Lowery 2005. To examine our hypothesis, two set of questionnaires was developed for HPWS and HRIS on individually employee performance.

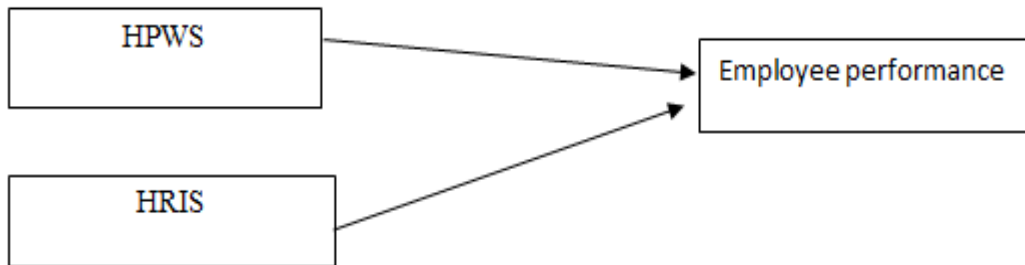
Framework Model 1



Model 2



Model 3



Then examined both impact on employee performance and found positive impact on it. The questionnaires were delivered through HR managers during their lunch time.

Table 1. HRIS impact on Employee Satisfaction

Items	Response %
Overall I am satisfied with our HRIS.	29
The employees of HR department appear to be satisfied with our HRIS.	50.3
Our HRIS has met our expectations.	50.2
Our HRIS could be better utilized.	98

There was used exploratory research that was descriptive mainly. The purpose was to examine the HPWS and HRIS impact on employee performance. All the items that were used in questionnaire are following respectively:

- The impact of HPWS on employee performance
- The impact of HRIS on employee performance
- The impact of HRIS on time savings
- The impact of HRIS on cost savings
- The impact of HRIS on information effects
- The impact of HRIS on decision making

There were measured the results with frequency tables to reported the percentage of all responses. The following results are the percentages of responses that are stated table items. There has explored the impact of HRIS on employee satisfaction in table 1. The responses showed that almost half were satisfied with HRIS and the same number of respondents said that the system was set according to their expectation. Almost one third employees were satisfied and majority of respondents were desired to do better their HRIS system. According to these surveys, that the response of employees was mixed but the majority reported that it can be better the human resource information system.

Table No 2. HR Process

Items	Response%
Our HRIS has improved the recruitment process.	73
Our HRIS has improved the training process.	52
Our HRIS has improved the data input process.	78
Our HRIS has improved the data maintenance process.	84.8
Our HRIS has helped with forecasting staffing needs.	85
Our HRIS has decreased paper work.	84.7

There were found at the HR process items responses that almost 85 % were agreed to improved process with maintenance process, forecasting staffing needs and decreased paper work. However, only 52% respond that there has improved the training process due to HRIS. Moreover, 78% respond that there has gained the data input process due to human resource information system.

Table No 3. Time savings

Items	Response %
Our HRIS has decreased the time spent on recruiting.	80
Our HRIS has decreased the time spent on training.	25.5
Our HRIS has decreased the time spent on making staff decisions.	80
Our HRIS has decreased the time spent on inputting data.	63.5
Our HRIS has decreased the time spent on communicating information within our institution.	48
Our HRIS has decreased the time spent on processing paper work.	80
Our HRIS has decreased the time spent on correcting errors.	63.5

Time saving is a vital standard through which there can be measured the efficiency of any information system. According to the 80% responses, due to the information system there has been seen a significant positive impact on recruitment, making staff decisions, on processing paper work but 63.5 answered to be decreased time spent on correcting errors and inputting data generally. Furthermore, almost 48% respond that there

has been seen to decreased the time spend of communicating information within their organizations. However just one fourth believed that due to human resource information system there has been slow down the process of training in the organization.

Table No 4. Cost savings

Items	Response %
Our HRIS has decreased cost per hire.	35.8
Our HRIS has decreased training expenses.	14
Our HRIS has decreased recruiting expenses.	35.8
Our HRIS has decreased data input expense.	63
Our HRIS has decreased the overall HR staff's salary expense.	35.8

The responses showed of cost saving regarding human resource information system, the output was very close to earlier studies, like beadles 2005. The surveyed showed 35.8% that due to human resource information system, it has decreased the cost per hire, recruiting expenses, and overall human resource staff's salary expense. However, 14% said that due to human resource information system there has decreased training expenses. Furthermore, 63% respond that there has decreased the data input expense due to human resource information system.

Table No 5. Information Effects

Items	Response
Our HRIS has improved our ability to disseminate information.	39.5
Our HRIS has provided increased levels of useful information.	79
The information generated from our HRIS is shared with top administrators.	88.5
The information generated from our HRIS is underutilized by top administrators.	49.5

The adequate storage and timely retrieval of information is a hallmark of an effective IS system. 75% of the respondents believed that HRIS indeed provided useful information, while a greater number (87.5%) of the respondents believed that the information received through HRIS added value. Whereas an identical percentage (87.5%) felt that generated information was being shared with the top management and only half (50%) believed that this information was actually being utilized by the administrator. These results indicate a lack of willingness to use the information as a strategic tool.

The acceptable storage and appropriate improvement of information is an indication of efficient information system. The 79% response showed that due to human resource information system there has improved the level of valuable information. However, 40% showed their response that their human resource information system has increased their skill and abilities to disseminate information. In addition, majority replied (89%) that due to human resource information system there has increased the value to share with top administrators and institution. The responses of half showed that due to human resource information system there has generated underutilized through top management.

Table No 6. HPWS

Items	Response%
The Selection emphasizes traits and abilities required for providing high quality of performance	52
The subsidiary continuously provides training programs	51.5
The Performance appraisals provide employees feedback for personal development	68.5
Employees receive monetary or nonmonetary rewards for great effort and good performance	68.5
The company considers employee off-work situations (family, school, etc.) when making schedules	51.5
Employees are often asked to participate in work-related decisions	51.5

All measures for High Performance Work Systems were used from (Lepak and Snell 2002, Sun, Aryee et al. 2007, CHUANG and Liao 2010). There were used 18 items but due to limited time not write all items here. These items have 6 practices for high performance work system: staffing, training, developmental performance management, performance based compensation, flexible work design, and the last is participative decision making.

There was response rate unexpected. Half of respondents showed their response that employees are included in participation or decision making in work. In addition, there were half of responses that were agreed of training programs provide continuously and the selection emphasizes traits and abilities required for providing high quality of performance. 68.5% respond that the performance appraisals provide workers feedback for personal development and get monetary or non-monetary rewards for great effort and good performance.

Table No 7. HPWS Impact on Employee Satisfaction

Items	Response %
There are training programs that enhance employees skills and efforts in my organization	61
I am satisfied with my organization's performance based compensation systems	60.5
I am satisfied with developmental performance appraisal systems in my organization.	51.6
I am satisfied with my organization's flexible work environment	52

Finally, there was surveyed of high performance work system impact on employee performance. Almost 61 % respond that there are training programs that improve worker skills and efforts in their organization and are satisfied with performance based compensation systems. While half respond that they are satisfied with flexible work environment and developmental performance appraisal systems in their organizations.

Conclusion

Survey result is mostly being engaged as a managerial tool rather than a strategic tool. The conclusion was found that HPWS and HRIS can play an increasing effectiveness and efficiency role in employee performance improvement. Lack of clarity and mixed responses were explored in this open-ended questions survey. The need is to improve the HRIS and HPWS in small medium enterprises because there had been seen an ambiguous situation in this study. Somewhere employee were found satisfied and with increased performance. The results support the past literature, that the benefits of HRIS are difficult to quantify, and cannot be identified in monetary level. Finally, there is a need of more research that should be done in other areas to see whether these results are similar in other industries.

Further Research: Strengths and Weaknesses

The future directions of this research are the following:

- We used both perceptions of HRIS and HPWS impact on employee performance from SMEs climate.
- Open-ended Questions were asked in the qualitative research survey.
- We used data of Small & Medium Enterprise Development Authority Ministry of Industries, Production & Special Initiatives Government of Pakistan.

Moreover, the present study has still some unknown areas, through which future researchers can explore and highlight more information in SMEs. We conducted our research through open ended survey questionnaire. But there was a chance to get more data and information through quantitative research. In essence, quantitative and qualitative researches will be more valuable and beneficial for researchers and would be indeed an interesting topic for future research. Finally, research could be carried out in other sectors like agriculture, poultry farming, food industries, textile industries etc.

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