

Barriers in Adopting Human Resource Information System (HRIS): An Empirical Study on Selected Bangladeshi Garments Factories

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Abstract

Garment industry can be considered as the sprinter of the economy in Bangladesh for its significant contribution to the economy. Demand for Bangladeshi garments products are increasing so are the competitions. The garment industry, to keep pace with the increasing competition, needs to adopt Information System (IS) in business functions that help ensure cost management effectively in the labor-intensive garments factory. However, very few garments factories have adopted IS in their operations. This paper tried to identify the factors inhibiting the adoption of HRIS in the garments industry of Bangladesh through a semi-structured questionnaire survey of 150 samples from 25 garment factories in Bangladesh. We have used Exploratory Factor Analysis (EFA) method to identify the factors impeding to adopt HRIS in garments sector of Bangladesh. From the study, we have identified three broad inhibiting factors termed as Financial, Management related, and Organizational; specifically, High investment, Costly maintenance, Long-term benefit, Organizational Structure, Culture of the Organization, Top management support, lack of experts and user, are found as major barriers in this regard. The findings may be useful to both the academicians to explore the factors in their respective countries and the HRIS practitioners in garment sector to emphasize on these areas so that organizations can ensure better HRIS implementation.

Keywords: HRIS, adoption, barriers, garments sector, garments factory, Readymade Garments (RMG), Bangladesh

1. Introduction

Organizations have the pressure to reduce operational cost and to be responsive to the demand of customers. It is more intense for production-oriented and labor-intensive organizations especially garment sector than others. (Beadles et al. 2005) Mentioned that the use of HRIS generates valuable outcomes for the firms since it helps to reduce cost and time as well as improves communication to perform HR related activities. In fact, in today's business world, Information System (IS) is considered as one of the most effective tools to achieve competitive advantage. In comparison with the traditional business environment, companies with the integrated information system are more competitive because integrated information systems enable companies to reduce cost and increase productivity which has a positive impact on the company's Return on Investment (ROI) and Growth. Nevertheless, due to the several barriers firms cannot implement the HRIS successfully or even if they implement, there is difficulty to achieve full-fledged benefit from HRIS. This paper aims at finding out those barriers in HRIS adoption in Bangladeshi garment sector and provide suggestions how the barriers can be overcome to make the successful HRIS adoption that will lead to higher HR performance.

2. Literature Review

Human Resource Information System (HRIS) is a method that utilizes the knowledge-based technology for the management of human resource functions and applications. It is a processed system comprising knowledge base or lay to rest connected database that tracks employees and their employment specific information (Gill & Johnson, 2010).

2.1 Historical Studies Conducted on HRIS

The literature on HRIS implementation suggests that organizations have challenges once they implement new technologies. One of the major obstacles to the implementation of HRIS is a high cost in maintenance (Beckers & Bsat, 2002). According to (Nagai et al. 2006 & Batoool et al. 2012), shortage of funds and the untrained employees are major types of barriers in this regard. Additionally, support from top level management is one of the largest impediments to implementation of HRIS (Kovach & Cathcart, 1999).

For most of the companies adoption of IS in operation is an innovative thing and Bal, Y.et.al (2012) mentioned that companies' values such as flexibility, freedom, cooperation, promote innovation; whereas values such as rigidity, control, sure thing, and stability hinder innovation to boost up. However, values of the companies are the reflection of top management's cognizance. The robust commitment of management, especially of a specific 'innovation champion' results in rapid adoption, whereas a scarcity of top management commitment inhibits adoption (Hendrickson & Anthony 2003; Chakraborty & Mansor, 2013). Companies' values are reflected in the company culture.

The culture of the organization continues to cite as a vital consideration in the success or failure of HRIS adoption (Krishna, and Bhaskar, 2011; Thite et. al., 2009). Most organizations misjudge the cultural impact of technology on their employees (Bal et al. 2012). It ought to provide an equal priority to addressing these changes with workers as they are providing training and implementing the HRIS, assessing the workers' talent and ensuring acceptance of technology and mentoring programs among employee's teams to assist stressed workers (Krishna & Bhaskar, 2011). Moreover, intra and interdepartmental politics, an absence of communication, short-term value analysis and a failure to incorporate key decision-makers result in HRIS adoption failure (Bal et al. 2012). Company culture is a shared practice and belief of the employees.

A survey conducted by Delorme & Arcand, (2010) found that the main barrier to managing HRIS embrace less qualified HRIS employees, challenges with time management, the necessity to figure with alternative departments, and therefore lack of IT support. Previous studies on IT adoption and implementation have also shown difficult technologies, like HRIS applications, perceived obstacles are relevant as a result of the adoption method tends to be challenging and expensive (Hong & Zhu, 2006). Security is another issue to contemplate the IT professionals. Human Resource Division deals with confidential information and corporations should be respectful in managing that information (Awazu & Desouza, 2003; Ball, 2001, Behera, 2016).

Table 1. Barriers to HRIS Implementation

| Barriers | Short Explanation | AUTHOR(S) |
|---|--|---|
| High Investment/Capital requirement | Requirement of launching, running and implementing the system | Nagai, et, al., 2006, Batoool et al. 2012 |
| Long Term Benefit | Absence of trend gaining long term benefit | Survey (Author), 2017 |
| High Maintenance Cost structure | One of the major cost incurred after the system is implemented | Beckers, Bsat, 2002, |
| Top Management Support | Whether the top level management agrees to implement the system. | Kovach, and Cathcart, 1999, Anil C. 2011, Chakraborty, A, Mansor, N. 2013 |
| Lack of Privacy and Security | Whether any risk involved regarding disclosure of private data to external parties? What types of data will be stored in the database? Who will access the data? | Awazu & Desouza, 2003; Ball, 2001, Behera, M. (2016) |
| Lack of Expert User (Top to Bottom Level) | Do the users of the system have the expertise to operate and use the system? | Nagai, et, al., 2006, Batoool et al. 2012, Rodriguez, 2003, Shiri, 2012, Delorme, M., & Arcand, M. (2010) |
| Organizational Structure | Whether the organizations are adaptive with the system. | Anil C. 2011 |
| Culture of the Organization | Culture indicates whether the people working within the organization are ready to accept the new system. | Bal, Y.et.al 2012 |
| Size of the Organization | Whether the size of the organizations is suitable to implement the system. | Survey (Author), 2017 |

Moreover, different technological and structural factors used by the employees which discourage technology adoptions were conjointly found; such as the value of technology, an absence of social control and technological skills, an absence of system integration, the shortage of a reliable supply of data for firms to develop knowledge-base in HRIS, and short of data and knowledge in act information regarding new systems (Rodriguez,

2003). Among these factors, one potential issue of HRIS management may be a lack of technical coaching and knowledge in data management (Shiri, 2012). Winning technology implementation is possible to occur, once structure resources (e.g. time, funding, and technical skills) are supported throughout the first stages of implementation (Anil C., 2011).

Decision-making approach also has an influence on the IS adoption. Centralization in decision-making plays an oversized role in Information System usage, and adoption opinions on the best degree of centralization take issue from study to review (Anil C. 2011). On the other hand, localized decision-making is the strongest facilitators of IS adoption, and IT usage in sophisticated organizations maintain strong collaboration (Wiblen, 2010).

2.2 Necessity of HRIS

The importance of HRIS in the business firm is beggar description. Organizations need to look for paths to manage their internal process efficiently. In HR platform, the process consists of many transactions which affect people and the benefits they get along with the ways of their organizations (Lengnick et al. 2003). For most of the organizations tracking HR activities by using HRIS seems to be efficient. From organizations' owner perspective, it is hard to make judgment and decision which system will be affordable and best suited for their business firms. There are several reasons behind the adoption of HRIS in the business firms (Lengnick et al. 2003). Firstly, HRIS manages information; such as current employees' position, job responsibilities, salary structure, whether they require training or not. In fact, about every job in an organization HRIS users can create reports about workforce to determine organizations' workforce requirement. Secondly, based on the number of workforce requirements, they can conclude easily and quickly about what kind of resources they have to meet the requirement (Panayotopoulou et. al. 2007). By using HRIS, they can identify employees who are skilled and well trained along with companies can reduce their cost of recruitment and use this money for future investment even in staff training and development propose (Lengnick et al. 2003). Thirdly, organizations have the opportunity to get the feedback directly and instantly from the employees of the firms to trace their expectation and how well they can be justified to make them competent (Panayotopoulou et al. 2007). Apart from these benefits derived from using HRIS, firms can ensure the cost reduction for storing data, higher speeds in data retrieving and data processing with accuracy. (Khanka S.S 2003).

2.3 HRIS Practice in Bangladeshi Garment Sector

The economy of Bangladesh mostly depends on agriculture. The Ready Made Garment (RMG) sector has emerged to be the biggest foreign currency earner. This industry has an exponential growth since the 1980 and contributes significantly to the GDP (Latifee, 2016). RMG sector of Bangladesh is the largest (approx. 82% of the total export) foreign exchange earning sector, which has about 900 buying houses and employs about 5 million workers (Akhter, Salahuddin, Iqbal, Malek, & Jahan, 2010)) in about 6,393 garments manufacturing factories (BGMEA, 2013; Ferber, 2009). The recruitment system of garment sector in Bangladesh is still traditional with some exceptions. Majority garment firms do not show their interest in shifting their HR function to HRIS. Thus, the current scenario of HRIS practices is far below the level. Garment firms are family owned and controlled by family members. Hence, HR tasks tend to be viewed as owner's desire. Consequently, firms which are trying to adopt HRIS, become fail due to the several factors especially investment areas and top management willingness and firms' size.

3. Research Design

Considering limited previous research on HRIS in both private and public firms an exploratory research approach has been undertaken (Griffin, 2010, Williams, 2010). The sample framework of this study was 150 participants from 25 garment firms in Bangladesh. Convenient sampling method has been used due to its cost effectiveness and wide applied applicability in information systems research (Azam et. Al., 2013). For analysis of data, we have used Exploratory Factors Analysis tool with Principal Axis Factoring (descriptive procedure) extraction method where varimax for rotation has been used because the focus is not to generalize the results beyond the sample. To collect data, structured questionnaire survey method has been followed. The first part of the questionnaire has been to collect demographics data and second part included different constructs using a 5- point Likert scale ranging from (1) "Strongly Disagree to (5) "Strongly Agree." We have distributed 180 surveys questionnaire with 156 returned filled, resulting in an 87% response rate. Among 156 returned filled, six have been found to be incomplete thus we left with 150 samples.

4. Findings

4.1 Demographic Information

From the demographic analysis (See Table 2), it can be seen that respondents were basically male dominated (82%). Half of the participants (50.66%) whose age between 30 to 40 years have master's degree (56%). About 15%

of the respondents have more than five years of employment experience, and 35.33% of the respondents have less than five years of employment experience in RMG. The scenario regarding the experience segment is not too vast because HRIS concept was developed in Bangladesh just 10-15 years ago.

Table 2. Demographics of the Respondents

| Descriptions | | Frequency | Percentage (%) |
|-------------------|-----------|-----------|----------------|
| Gender | Male | 123 | 82.00 |
| | Female | 27 | 18.00 |
| Age | <30 | 19 | 12.60 |
| | 30-40 | 76 | 50.67 |
| | 40-50 | 37 | 24.67 |
| | >50 | 18 | 12.00 |
| Education | Bachelors | 52 | 34.67 |
| | Masters | 84 | 56.00 |
| | Others | 14 | 9.33 |
| Experience | <5 | 53 | 35.33 |
| | 5—10 | 75 | 50.00 |
| | >10 | 22 | 14.66 |

4.2 Factor Analysis

The result of the factor analysis shows that Kaiser-Meyer-Olkin measure of sampling adequacy is 0.503 which is well above the recommended value of 0.5 suggested by Williams et al. (2010) and Bartlett's test of sphericity is significant ($\chi^2(36) = 261.789, p < 0.5$) (See Table 3).

Table 3. KMO and Bartlett's Test

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .503 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 261.789 |
| | df | 66 |
| | Sig. | .000 |

Factor analysis generated three factors with eigenvalue more than one along with item loading more than 0.30 (See Table 4). We considered nine items for the study and all of them were loaded and each factor contains three items which are more than recommended value by Williams et.al (2010). We named the first factor as a financial factor because its items related to high capital requirement, long-term benefit, and high maintenance cost structure. According to the analysis, financial related factor has internal reliability (Cronbach's Alpha > 0.722) and explains 31.86% of the variances. We termed the second factor as management related factors, which include top management support, lack of privacy and lack of expert users related to decision making from the top level management. This factor also has internal reliability (Cronbach's Alpha > 0.703) and explain 10.41% of the variances. The third factor is also internally reliable as it achieved the recommended Cronbach's Alpha of 0.700. Three factors together explain 49.66% of the variances.

Table 4. Factor Analysis Result

| Items | Factors | | | Communalities * |
|---|-----------------------|------------------------|--------------------------|-----------------|
| | Financial Related (1) | Management Related (2) | Organization Related (3) | |
| High Investment/Capital requirement | .873 | | | .587 |
| Long Term Benefit | .577 | | | .523 |
| High Maintenance Cost structure | .694 | | | .591 |
| Top Management Support | | .678 | | .634 |
| Lack of Privacy | | .545 | | .546 |
| Lack of Expert User (Top to Bottom Level) | | .729 | | .417 |
| Organizational Structure | | | .557 | .518 |
| Culture of the Organization | | | .625 | .322 |
| Size of the Organization | | | .514 | .429 |
| Eigenvalues (>1) | 3.302 | 1.878 | 1.311 | |
| Percentage of Variance | 31.86% | 10.41% | 7.39% | |
| >Cronbach's Alpha | .722 | .703 | .700 | |

Extraction Method: Principal Axis Factoring, Rotation Method: Varimax

The traditional way of HR operations has already become obsolete. The HR systems are shifting from traditional manual systems to HRIS or e-HRM with the help of Information Technology. This study reveals that there are three main factors responsible for unsuccessful HRIS implementation: financial related factors, management related factors, and organization related factors. Among these factors, financial related factors have a greater

power of explaining the variances followed by management related factors and organization related factors.

Interview with the professionals revealed that HRIS seems to be a very costly (comparing to the traditional systems) for the organizations especially for middle and small sized organizations to maintain. Our study also reveals that IS experts and users are dominated by the males who are young and educated that is a common scenario in the world irrespective of the industry. Our study is in line with previous findings of Batool et al. (2012) and Chakraborty, et.al. (2013); such as lack of expertise, time consumption, technical problems, lack of funds, organizational size and management commitment have a deterrent effect on adopting HRIS.

5. Conclusion and Implication

Garment companies across the world are trying to implement, upgrade, their business functions especially HR function primarily for achieving competitiveness and bringing operational efficiency. The Recent trend of engaging with Information Systems has contributed to two things: one is information processing, another is decision-making tool in HRM. The emergence of the HRIS field gave the HR function more credibility within the managerial hierarchy which compel the more sophisticated use of information. As garment industry experienced increased pressures that cause greater cost contains demands from top management, it leads towards greater automation in data management in HR function. However, due to management, organizational and financial factors, the RMG sector is not able to implement HRIS.

5.1 Managerial Implication

Managers may emphasize on these three factors while implementing HRIS. In the case of financial factors, the most stimulating issue is a high investment and high maintenance cost. If the firms do not get the financial support and unable to manage the long-term maintenance cost, it will be quite difficult to implement HRIS. The second crucial factor focuses on management perspective. Unless top level management shows a positive attitude towards HRIS benefits, successful implementation of HRIS remains aside. Along with top-level management support, it is a clear requirement to have expert users from the top-level to the bottom-level where privacy of data must be maintained. Moreover, organization structure, size, and culture also have a significant effect in this regard. For small sized factories, HRIS may not be helpful from economic context. Therefore, managers should consider first if the firm's size is justified to implement the HRIS which is user-friendly and flexible and capable of ensuring efficiency for the longer period.

5.2 Theoretical Implication

This study indicates that financial factors, managerial factors, and organization related factors together explain 49.66% of the variation in adoption of HRIS that clearly indicates that other factors are there to explain rest of the variations. Future researchers can do further research on this issue to find out other factors involved in implementing HRIS in garments industry both locally and globally.

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