

CONCEPTS AND CONSTRUCTS IN THE DOMAIN OF HRIS: A LITERATURE REVIEW

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Abstract : The definition of Human Resource Information System (HRIS) seems to have evolved with the advancement of technology. HRIS has increasingly transformed since its introduction in General Electric in the 1950s. HRIS is a system that is designed to support the planning, administration, decision making, and control of human resource management. HRIS is defined as a systematic procedure for collecting, storing, maintaining, retrieving, and validating data needed by an organization about its human resources, personnel activities, and organization unit characteristics. Modern HRIS includes comprehensive set of human resource functions in organizations which includes transaction processing, communication systems, decision support systems, and some elements of artificial intelligence. A number of researchers have traced the evolution of HRIS. An attempt is made in this Paper to present an elaborate literature currently available in the area of HRIS. It provides a multitude of definitions on HRIS and offers explanations of different concepts and constructs that are related to the domain of HRIS. It also explores several research studies carried out on the barriers and factors aiding successful adoption and use of HRIS.

Key Words: Human Resource Information System (HRIS); e-HRM; Adoption and Use of HRIS; Implementation Barriers; and Facilitating Factors.

Staying competitive in the current workplace requires, among other things, an adequate and efficient use of technology. Human Resource Information System (HRIS) is one of the several tools that helps organizations remain competitive by providing technology. This helps to acquire, store, generate, analyze, and disseminate timely and accurate employee information. HRIS is an intersection of human processes and technology through a HR software solution that allows electronic processing of HR processes and activities (Gupta, 2013). In similar lines, Anitha and Aruna (2013) state that HRIS provides a pool of information systems that integrate different HR processes for business excellence. In organizations that have adopted Information Technology, HRIS has invariably become an essential part of it as it helps organizations in carrying out their HRM functions efficiently. HRIS has now become an integral part of organization information management along with the development of computer and database network techniques (Jie, 2014). Research report published by Sage People (2017) found that though 83% of global HR leaders agree that all people decisions should be based on data and analytics, only 37% are actually using them. HRIS has not been implemented in Pakistani health sector owing to multitude of factors ranging from infrastructure, lack of expertise, low budget, and lack of maintenance (Kumar et. al. 2013).

The definition of Human Resource Information System (HRIS) seems to have evolved with the advancement of technology. HRIS has increasingly transformed since its introduction in General Electric in the 1950s (Shiri, 2012). DeSanctis (1986) contends that HRIS is a system that is designed to support the planning, administration, decision making, and control of Human Resource Management.

In similar lines, Kovach and Cathcart, Jr (1999) defined HRIS as a systematic procedure for collecting, storing, maintaining, retrieving, and validating data needed by an organization about its human resources, personnel activities, and organization unit characteristics. They believed that HRIS need not be complex or be computerized. Likewise, Hendrickson (2002) defined HRIS as “an integrated system used to gather, store and analyze information regarding an organizations’ human resource.” This definition also includes people, policies, processes, and procedures, along with the technical part of the system.

However, with the advancement in IT, the early conceptualization of HRIS has undergone some changes. While the earlier definition focused on the operational side of HR, latest definition of HRIS has focused on the strategic role of HRIS. Bedell (2003) put forward that modern HRIS has been designed to assist HR professionals in all areas of his/her job ranging from performing administrative tasks to making high level decisions governing the future direction of an organization. He defined HRIS system as a software application that stores employee, applicant, and other “people-related data” so that HR professionals can make accurate and timely decisions.

In similar lines, Shani and Tesone (2010) noted that by saving time on the operational issues of the employees, HRIS allows employees to focus on strategic planning and implementation. Iwu and Benedict (2013) stated that HRIS is part of organizations’ strategic philosophy. Modern HRIS includes comprehensive set of Human Resource functions in organizations which includes transaction processing, communication systems, decision support systems, and some elements of artificial intelligence (Weeks, 2013).

A number of researchers have traced the evolution of HRIS. For example, Johnson, Lukaszewski, and Stone (2016) reviewed the professional and academic development of HRIS to assess its progress. They examined the interplay between HR and IT through four areas of technology, namely, mainframe, client server, ERP, and web-based systems. It can be observed that with the transformation of HR function from administrative to function with strategic value, role of HRIS has widened (Bedell, 2003). Current organizations are using web based system or corporate intranet as top cost cutting strategy to utilize HRIS (Weeks, 2013). Thite, Kavanagh, and Johnson (2009) contend that HRIS has come due to focus of HR from transactional to

transformational activities. They argue that HRIS now includes applications in large scale integrated ERP architecture or web based applications.

- **e-HRM AND HRIS**

Electronic HRM or e-HRM reflects a philosophy for the delivery of HR; it uses information technology, particularly the web, as the central component of delivering efficient and effective HR services (Kavanagh, Thite, & Johnson, 2015). In similar lines, Strohmeier (2006) defined e-HRM as the planning, implementation and application of information technology for both networking and supporting at least two individuals and collective actors in their shared performing of HR functions. Thus, e-HRM improves service delivery by speeding up transaction processing, reducing information errors, and tracking and control of HR actions (Hall, & Moritz, as cited in Bondarouk, Ruel, & Heijden, 2009). Though they may look similar but they are different as organizations embracing e-HRM approach don't simply utilize technology in the support of human resources but instead see technology as enabling the HR function to be done differently by modifying "information flows, social interaction patterns, and communication processes" (Stone, & Lukaszewski, as cited in Kavanagh, Thite, & Johnson, 2015).

One the other hand, Kavanagh, Thite, and Johnson (2015) point out that HRIS comprises the technology and processes underlying this new way of conducting Human Resource Management.

- **BARRIERS FOR ADOPTION AND IMPLEMENTATION**

A number of researches on HRIS have focused on the barriers for adoption and implementation suggesting that these barriers or constraints are context specific. Rahman, Islam, and Qi (2017) found that high investment, costly maintenance, long term benefits, organizational culture, structure, top management support, lack of experts and users as some of the financial, management and organizational related barriers for adoption of HRIS in Bangladeshi garment industry. Rahman, Qi and Jinnah (2016) found that social influence lead to behavioral intention that eventually influenced the adoption of HRIS in Bangladeshi bank and finance sector. In a similar manner, management reluctance, employee privacy issues, organizational internal resistance, and conversion cost were some of the factors that influenced the implementation (Ferdous, Chowdhury, & Bhuiyan, 2015). In contrast, Al-Mobaideen, Allahawiah, and Basoni (2012) found that IT infrastructures significantly determined HRIS adoption in Jordan. Similarly, Altarawneh, and Al-Shqairat (2010) found that insufficient financial support, difficulty in changing organizational culture, and lack of commitment from top managers were the major HRIS implementation barriers.

Likewise, in a study of Kenyan Universities, lack of skilled staff, high set up and maintenance cost, and resistance to change were cited as some of the challenges to HRIS implementation (Kananu, & Nyakego, 2016). In similar light, Ferdous, Chowdhury, and Bhuiyan (2015) found management reluctance, employee privacy issues, organizational internal resistance, and conversion cost are some of the potential barriers that impedes implementation of HRIS in Bangladesh. David, Shukla and Gupta (2015) found inadequate knowledge, lack of expertise, lack of cooperation, network problem, and technical issues are barriers to HRIS implementation. In another educational context, it was found that lack of commitment of top management, inadequate knowledge and lack of expertise in IT, unavailability of suitable HRIS software, fear of changing the way people do things, difficulty in changing the organizational culture, insufficient financial support, and lack of commitment and involvement by employees were the barriers to HRIS usage (Bamel, Bamel, Sahay, & Thite, 2014). Now, most of the barriers as found in different researches can be classified as individual, organizational, environmental, and technological barriers.

- **FACTORS FOR SUCCESSFUL ADOPTION AND USE OF HRIS**

Despite the fact that adoption of HRIS is important for smooth functioning of organization, it has remained an under-researched phenomenon (Troshani, Jerram, & Gerrard, 2010). A number of factors in the individual, organizational, environmental, and technological aspects affect the successful adoption of HRIS. For example, Troshani, Jerram, and Hill (2011) found environmental context (regulations, successful adoptions), organizational context (technology competency, management commitment, organization size, and degree of centralization), and technology context (perceived benefit cost and organization fit) as some of the factors influencing the public-sector adoption of HRIS in Australia. Likewise, relative advantage, compatibility, complexity, visibility and trialability are some of the factors that determine the extent of use of HRIS (Kassim, Ramayah, & Kurnia, 2012).

Anitha and Aruna (2013) revealed that technological factors (making technology operational, potential benefits of technology, organization adoption capacity), organizational factors (degree of centralization, information technology infrastructure, financial resources, competitiveness), environmental factors (competitive capability, cost saving limited resources, external resources), and psychological resources (user perception and intention, user satisfaction) as some of the conditions for adoption of HRIS. In similar light, Chakraborty and Mansor (2013) found that organizational factors (top management support, HRIS expertise, degree of centralization), technological factors (organization technology infrastructure, IT, Human Resources, organization fit, adoption cost, complexity or user friendliness, efficiency), environmental factors (industry characteristics, governmental regulation, and supporting infrastructure) determine adoption of HRIS.

Haines and Petit (1997) found that individual characteristics (understanding of hardware, software and programming), organizational characteristics (size of organization and HR department), and nature of system are conditions for successful adoption of HRIS. All these researches point out the fact that whatever is the context of HRIS adoption and use, the facilitating conditions relate to factors relating to the individual, organization, technology and environment.

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