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Determinants of Human Resource Informatıon System Usage: Evıdence From Ceylon Electrıcıty Board (CEB), Srı Lanka

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Abstract: This study examines the determinants of HRIS usage in Sri Lanka with special reference to Ceylon Electrıcıty Board. Based on extant literature, five independent variables nemaly Perceived Ease of Use, Perceived Usefulness, IT Expertise, Subjective Norm, Top Management Support were identified. Survey questionnaires were distributed among randomly selected employees of Ceylon Electricity Board in Southern Province and 140 complete responses were gathered. Multiple Regression analysis was run to test the impat of five independent variables on the usage of HRIS in CEB . According to the research findings top management support is the most significant factor affecting usage of HRIS application. Moreover, it was also identified that perceived usefulness, IT expertise and subjective norms are significant drivers of HRIS usage. These findings may be beneficial to the employees, policy makers and public sector organizations to improve the level of HRIS usage although more research is needed to clearly specify the determinants of HRIS usage in Sri Lanka..

Keywords: *HRIS Usage, Perceived Ease of Use, Perceived Usefulness, IT Expertise, Subjective Norms, Top Management Support*

Introduction

Organizations have been forced in the competitive business environments to think promptly to innovate and excel for their existence (Tidd, & Bessant, 2018). The mode people communicate (Blau, & Hameiri, 2017), live, (Quamar, Schmeler, Collins, & Schein 2019),work (Cascio, & Montealegre, 2016) and also the way a business is conducted (Elia, Margherita, & Passiante, 2020) have been reshaped by the technology. Information systems have made a profound effect on procedures and performance of human resource management (HRM) (Galanaki, Lazazzara, & Parry, 2019). Human Resource information systems (HRIS) are implemented globally and locally to minimize the administrative burden for human resource (HR) managers and to deliver better services to firm's stakeholders (Bondarouk, Parry, & Furtmueller 2017). As the whole world is in globalized arena, HRIS systems make a robust support for sustenance of a well performing organization.

HRIS supports HR departments in making the HRM process faster, easier, cheaper, and more effective as well as benefits the organizationalsuccess (Ruel et al.

2004). If a HRIS is adopted in an organization accurately and more effectively all the above-mentioned benefits can be achieved (Bonarouk & Ruel, 2009). However, while implementing and adopting HRIS, almost every organization faces several challenges such as employee resistance to use, technological incompatability and incurring cot on installation and training employees (Kashive, 2011). At present most organizations use HRIS applications for their HR activities in achieving organization's requirements.

Almost all HR processes can be done by using HRIS on a daily basis which can benefit an organization in several ways (Ruel et al., 2004). For instance, as an implication of HRIS the automation of tasks and process reduce the use of resources (financial, material and human). Reduction of HR costs; less usage of paper as well as to assist managers in HR process are some of the examples of reduction of resource usages. According to Hendrickson (2003), HRIS benefits an organization in its HR processes by increasing the efficiency, effectiveness and provides self-service HR (i.e. computer-based training, online recruitment). In addition, HRIS produces data as a by- product and has confrontend web applications which can transfer some functions to employees/mangers which can be self-performed as a part of HR data management (Ruel, & Kaap, 2012). Thus, employees can enter and update data by themselves which results more accurate data and saves time and costs.

Numerous studies have discussed HRIS technology and identify the factors that influence the adoption of HRIS application (Ball, 2000; Teo, Lim, & Fedric 2007; Hussain, Wallace, & Cornelius, 2007). Quaosar (2017) found that organizational characteristics such as size of the organization and HRIS expertise influence on determining the extent of HRIS adoption. Yusof and Ramayah (2011) found that perceived ease of use, perceived usefulness, trust, HR roles, and attitudes were the key determinants of the successful HRIS usage. Moreover, Teo, Lim, & Fedric (2007) also came up with findings of departmental relative advantage, compatibility, top management support, size of the organization and HRIS expertise as important variables discriminating between adopters and non-adopters of HRIS.

As discussed above, numerous studies discussed the determinants of HRIS adoption. Further, most of studies have been done in developed countries to identify the factors that influence the adoption of HRIS systems, in recent years. The interest in HRIS has grown in developed countries and a certain number of HRIS researches have been undertaken by scholars in US and Europeon context (Bondarouk, Ruël, & Roeleveld, 2019). Since there are few studies have been done in developing context (De Alwis,. 2010), the researcher was motivated to explore this phenomenon in a developing country as the findings of the developed countries cannot be generalized to developing country like Sri Lanka. Considering the differences of economic, social, technological and cultural diemensions between developed and developing contexts (Ashraf, Thongpapanl, & Auh, 2014),

it is important to explore the determinants of HRIS adoption in Sri Lankan context. Sri Lanka is different from developed countries in terms of their culture in general and business culture in particular (Ranasinghe, 2018; Azmat, & Zutshi, 2012). Numerous studies discuss HRIS technology, consequences of HRIS, importance of best HR practices and determinants of HRIS usage in Sri Lanka (De Alwis, , Andrlic, , & Sostar, 2019, Wijethilaka, 2016; Sulochana and Sajeewanie, 2015; Mujeeb, 2012; Wickramarathna ,2011, De Alwis,. 2010, Aynul Sowmiya, 2017, Galhena, 2015). Most of the studies conducted in Sri Lanka too have described the determinants of HRIS usage in private sector organizations (Wickremasinghe, 2010, Wickramaratna, 2011, Perera, Thalgaspitiya, & Wijewardene, 2017) and a few researches were carried out in the public sector organizations (Mujeeb, 2013). Further, the findings of private sector cannot be applied to public sector due to differences prevailing in terms of attitudes, culture, technology, awareness changes among the employees in private sector and the public sector organizations (Campbell, McDonald, & Sethibe, 2010). Thus, the purpose of this study is to identify drivers influencing HRIS usage in public sector organizations.

Research Problem

Ceylon Electricity Board (CEB) is a single island wide institution which is responsible for generation of electricity and distribution of it island wide and commands the attention of the parliament and the general public. Sri Lankan economy will continue to maintain its growth momentum through new infrastructure set up to cater to the country's increasing electricity demand. The total number of consumers stood about 6 million by the end of the year 2018 (Management Information Report of CEB, 2018). CEB consists of around 20,000 employees in many categories such as executive officers, middle level technical officers, employees of other technical services, clerical and allied services etc (Management Information Report of CEB, 2018).

Although it is such an important institution, when particular information regarding its employees is required, it is not possible to get such information at one particular place and such information has to be collected from each division separately and final report has to be prepared by gathering all information. Different divisions maintain basic employee information in different formats according to their necessity, yet whenever information other than basic information is required it is necessary to refer the individual personnel files manually to collect such information. As a solution for this problem CEB took up the decision to change the manual system in to a computerized system. In year 2009, a Human Resources Information System was introduced which cost a huge amount of Package cost more than Rs. 15 million with the annual Hard ware and Software maintenance cost more than Rs.400 000. The annual renewal fee of the Oracle Database is Rs.2 million (Project Implementation Proposal of HRIS in CEB, 2009).

The tender was awarded to seller in October 2009 and according to the

project plan completion of the implementation should be over by December 2010. This HRIS package has 13 Modules namely, Employee Information Manager, Employee Life Cycle, Training & Development, Performance Evaluation, Absence Management, Transfers, Manpower planning, Confirmations, Disciplinary Management, Benefit Management, Promotions, Service Extensions, Pay Roll Management, which covers almost all HR activities at CEB. This package had been very successfully at a number of institutions including few large government institutions which are very similar to CEB.

HRIS which was developed for CEB and installed in each unit is in a state of underutilization. Eventhough there are thirteen modules in HRIS system, CEB only use two modules. These two modules are also not being used efficiently. However, most of employees still use the manual system to apply leave and evaluate performance appraisals manually. Therefore, it is vital to find the reason for not using HRIS system in CEB efficiently and effectively.

As shown in Table 1, the HRIS usage among employees of Ceylon Electricity Board in Southern Province is below to the expectaion of management. At present about 44% of employees use leave module of HRIS application and 23% of employees use Performance appraisal module in Southern Province. According to the table 2, growth rate of the HRIS usage among the employees in Southern Province is insignificant. Eventhough the HRIS application provides significant benefits to the employees, the usage of HRIS application is almost insignificant. Ceylon Electricity Board has allocated large budget towards introducing HRIS application to their employees. However, the level of HRIS usage still remains at a low level.

Table: No. of Users of HRIS in Ceylon Electricity Board - Southern Province

Year	No. of Employees	No. of users of HRIS		No. of users of HRIS as a percentage (%)	
		Leave Module	Performance Appraisal Module	Leave Module	Performance Appraisal Module
2015	1850	518	233	28	13
2016	1864	560	254	30	14
2017	1879	658	351	35	19
2018	1886	792	390	42	21
2019	1914	842	447	44	23

Source: Management Information Reports of Southern Province in CEB (2015-2019)

Table 1 : Growth Rate of HRIS Usage as a Percentage (%) in Ceylon Electricity Board - Southern Province

Year	Leave Module	Performance Appraisal Module
2016	2	1
2017	5	5
2018	7	2
2019	2	3

Source: Management Information Reports of Southern Province in CEB (2015-2019)

As evidenced in table 1 and 2, the huge amount of investment made for the implementation of HRIS system is -under-utilized. Further, underutilization of HRIS is unable to provide timely and diverse information to the management of the organization, based on which it is impossible to make strategic decisions related to human capital and achieve the target goals. HRIS supports the HR department in making the HRM process faster, easier, cheaper, and more effective as well as it benefits the organization to greater success (Ruel et al, 2004, Stromier 2007). As shown in the Table 1, if the HRIS system is not adopted by the employees in the organization accurately and more effectively all these benefits cannot be achieved perfectly. Thus, it is important to know drivers determine the HRIS usage particularly among the employees in Ceylon Electricity Board. A better understanding of these influential factors that are associated with adoption of HRIS applications might be extremely useful for top management. Thus, the research question addressed in the present study is *what factors drive towards using HRIS among employees of Ceylon Electricity Board in Southern Province.*

Litereture Review

Definitions of HRIS

Given that various authors have published articles related to HRIS and information technology, it is visible that there are interchangeable terms used to refer HRIS. For instance, Electronic Human Resource Management (e-hrm) (Bondarouk & Ruël, 2009), HR intranet, web-based HR (Ruël et al., 2004), computer based human resource management systems (Strohmeier, 2007), virtual HR (Lepak & Snell 1998), and HR portals (Marler, Fisher, & Ke, 2009).

Several authors have argued about internet or web-based channels as a requieremnt of the HRIS (Lengnick-Hall and Morritz, 2009). While some authors preferred to use the term e-HRM over HRIS, many authors agreed that a line cannot be drawn between IT-based information system for HR and internet-based HR applications as these two are basically do similar jobs (Ruel et al., 2012). Reviewing the extant litereature, Table 3 summarises the various definitions prposesd by several scholors. Considering the similarities and dissimilarities of these definitions, the present study postion the definition suggested by Stormeir

(2007) where HRIS is defined as the use of computer systems, interactive electronic media and telecommunications network to perform HR functions. This definition was selected as it covers the essential elements of the HRIS and many previous empirical studies followed this definition in operationalizing the HRIS (Heikkilä, 2013).

Table 3: Evolution of HRIS Definition

Reference	HRIS Definition
Kavanagh, & Thite (2009).	System used to acquire, store, manipulate, analyze, retrieve, and distribute information regarding an organization's human resources. An HRIS is not simply computer hardware and associated HR-related software. Although an HRIS includes hardware and software, it also includes people, forms, policies and procedures, and data.
Kovach et al., (2002)	Human Resource Information System (HRIS) is a concept concerning the utilization of Information Technology (IT) development and characteristics for effective managing of the Human Resource Management (HRM) functions and applications. HRIS is considered as a systematic procedure for collecting, storing, maintaining, and recovering data required by the organizations about their human resources, personnel activities and organizational characteristics
Hendrickson, (2003)	HRIS is defined as 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"
Ruel et al. (2004)	A way of implementing HR strategies, policies, and practices in organizations through a conscious and directed support and/or with the full use of web-technology-based channels.
Strohmeier, (2007)	HRIS refers to use of computer systems, interactive electronic media and telecommunications network to fulfill HR functions.
Nenwani & Raj (2013)	A web-based solution that takes advantage of the latest web application technology to deliver an online real-time human resource management solution.

HRIS Usage

System usage is a success criterion to measure the frequency of the use of HIRS and have two levels: User level and organization level (Burton-Jones and Straub 2006). Further, Burton-Jones and Straub (2006) contend that at users level, system usage is a criterion to observe daily operations of the functions and in relation to the behaviors of the users. At organization level, system usage is a success criterion to measure institutionalization and it considers consolidation of behaviors of the users and perspective of the management.

Ngai and Wat (2006) has stated that HRIS usage is decided by the HR strategy of an organization and further described a matching process between different strategies and different system usage. Ball (2000) revealed that the more the people employed in an organization, the more the likely the HR function is to hold information electronically both on individuals and the organization. Similarly, the more the people that the organization employed, the more likely it uses that HRIS in information analysis.

As described by Bondarouk,Parry, and Furtmueller, (2017) the three major groups that use HRIS include: HR professionals, managers in functional areas, and employees. While HR professionals rely on the HRIS in fulfilling job functions, managers rely on the HRIS's capabilities to provide superior data collection and analysis, especially for performance appraisal and performance management. Individual employees are the end users of many HRIS applications and complexities of job-related issues have augmented the awareness of HRIS functionality among employees.

Determinants / Drivers of HRIS Adoption

In order to identify the determinants of HRIS usage, an extensive literature review was carried covering both global and local (Sri Lankan) contextual studies. Literature review on derterminants of HRIS adoption evidenced that HRIS adoption is being discussed and looked over the span of so many decades until most recent years.

By reviewing previous literature, it was observed that there are some inconsistences among the studies with respect to theories applied, methodology used, analtical tools followed and key findigns. Based on the empirical findings and theories of IT adoption that are discussed in necxt section, following constructs were identified as drivers of the HRIS adoption for the present study: Perceived Ease of Use, Perceived Usefulness, IT Expertise, Subjective Norm, top Management Support.

Theories of Technology Adoption

Developing a research model supported by a strong theoretical underpinning is necessary to address the research question of the study—that is, what are the determintins of the HRIS adoption? Thus, in order to identify the most appropriate theory to develop a research model and formulate the hypotheses, this study reviewed the extant literature on organizational HRIS adoption. As HRIS is treated as technogical

innovation both IT adoption / acceptance and technological innovation adoption / diffusion literature reviewd.

Currently researches on / technology / IT / innovation adoption cover a lot of business fields and industries at both organizational and individual levels. A variety of theoretical frameworks have been applied such as The theory of reasoned action (TRA) (Fishbein & Ajzen, 1975), Theory of Planned Behaviour (TPB) (Ajzen, 1991), Social Cognitive Theory (Bandura, 1986), Technology Acceptance Model (TAM) (Davis, 1989), Perceived Characteristics of Innovations (Moore & Benbasat, 1991), Decomposed TPB (Taylor & Todd, 1995), and Unified Theory of Acceptance and Use of Technology (Venkatesh, Morris, Davis, & Davis, 2003). These theories suggest that individuals' perceptions (attitude and beliefs) regarding use of IT innovations affect their intention to use (behavioral intention), which in turn leads to actual usage (behavior). However these theories vary each other with respect to the key constructs included in the respective theories. As the constrcuts included in the theoris of TPB and TAM are appropriate to explain the HRIS adoption, the present study developed the research model shown in Figure 1 by integrating the two theories namely Theory of Planned Behaviour (TPB) and Technology Accepance Model.

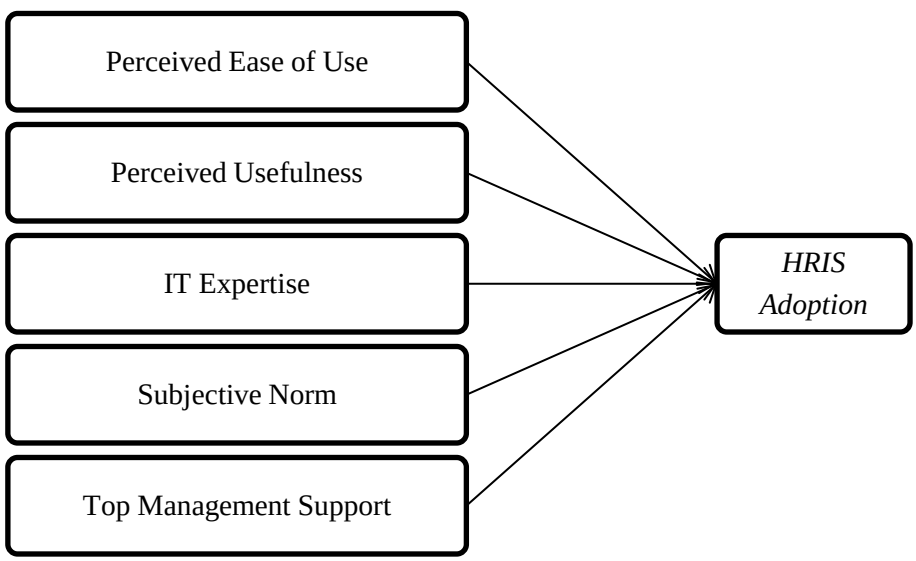

Figure 1: Research Model
Source: Authors, 2021

Hypotheses

Perceived Ease of Use

Perceived Ease of Use (PEOU) refers to the degree to which a person believes that using a particular system would be free from physical and mental effort (Davis, 1989). TAM suggests that when potential adopters perceive that easy of use of the innovation is high, they are more likely to adopt the innovation.

Prior to making innovation adoption decision, potential adopters strive to make a tradeoff between benefits of the innovation and complexities of using it (Premkumar & Potter, 1995). Due to the complexity of technology, greater uncertainty is created among potential adopters, particularly in making innovation adoption decisions (Lin, 2011). Since HRIS applications are combined with IT, there is a possibility of higher levels of uncertainty and complexity among potential adopters.

It is necessary to possess adequate knowledge and skills to use or operate IT-related innovations. Some such innovations require advanced knowledge and experience of IT to operate (Dunivan, 1991). In order to work effectively with some applications of HRIS employees should possess an understanding of IT. With some basic HRIS module such as attnednance and leave systems, employees are required to periodically generate, update, and retrieve their profiles (Grant & Newell, 2013). Moreover, with performance management modules, managers are supposed to generate and access performance data about employees (Grant & Newell, 2013). To deal with these tasks and responsibilities employees and managers need to be equipped with basic to advanced levels of knowledge and competencies of IT. Since some non-technical managers and employees have difficulties in understanding and using such IT-related HRIS innovations, they take a relatively long time to adopt such innovative systems.

When potential adopters believe that it is rather complicated to learn, use, and operate HRIS applications, this creates negative attitudes toward HRIS, resulting in discouraging its adoption (Normalini, Ramayah, & Kurnia, 2012). On the other hand, when employees perceive that HRIS is easy to understand, learn, and use, they form a positive attitude. These observations lead to the hypothesis 1.

H 1: Perceived ease of use is positively related to HRIS usage.

Perceived Usefulness

Perceived usefulness (PU) refers to the degree to which a person believes that using a particular system could enhance his or her job performance (Davis, 1989). This definition suggests that potential adopters of an innovation (HRIS) are involved in evaluating favorable and unfavorable consequences of the innovation (HRIS) against their use of traditional products or system (manual HRM system). TAM suggests that when an adopters' perception on usefulness of technology (HRIS) is higher, individuals are more likely to adopt (Davis, 1989).

Individuals intend to adopt innovations in order to overcome performance gaps and deficiencies, or to exploit new opportunities (Premkumar & Potter, 1995). As HRIS is considered an innovation, HRIS applications should be able to address the performance-related issues that experience by the employees when dealing with manual system. Since HRIS applications are related to IT, most of the positive and negative outcomes associated with IT adoption applicable to HRIS adoption.

More specifically, some HRIS module such as leave and performance appraisal enable organizations to enhance the effectiveness and efficiency of an HRM department through automating administrative tasks (Wen, 2013), reducing paperwork (Ruël et al., 2004), and simplifying work processes (Francis et al., 2014). Moreover, it facilitate to connect different parts of the organization (Strohmeier & Kabst, 2014); strengthen the collaboration and communication among HR personnel, line managers, and employees (Bissola & Imperatori, 2014; Ensher et al., 2002); and enhance remote access to HR information (Parry & Tyson, 2011).In general, HRIS adoption helps to reduce environmental, social, and economical waste. Environmental waste can be reduced through the minimized use of papers, files, and staples, while social waste is reduced by minimizing the process time involved in searching for documents and making decisions (Yusoff et al., 2015). As HRIS implementation has the ability to minimize the cost of preparing documents and minimizing wages for overtime work, organizations can also reduce economical waste (Yusoff et al., 2015).

On the contrary, several negative consequences of HRIS adoption have been identified. These include invading personal privacy (Wen, 2013); information overload; segmentation of HR roles (Hailey et al., 2005); distancing of the function from employees and managers; ethical consequences of reduction in face-to-face relationships between HR specialists, line managers, and employees (Francis et al., 2014); and resistance to change.

As HRIS adoption is associated with numerous positive outcomes with respect to individual employees, HR departments, and organizations as a whole, employees who hold positive impressions of e-HRM are more likely to have positive intentions to implement e-HRM systems with their organizations. On the other hand, empoyees with negative perception will not be willing to adopt HRIS. Based on this reasoning, the hypothesis 2 is proposed.

H 2: Perceived usefulness is positively related to HRIS usage.

IT Expertise

IT expertise is identified as employees' knowledge and technical competence regarding IT (Thong, 1999). IT expertise has received considerable attention in the technological innovation adoption literature, and previous studies have found that IT expertise is positively related to technological innovation adoption (Jeyaraj et al., 2006). When

technological innovation is matched with organizational skills and capabilities, individuals quickly embrace the innovation (Thong, 1999). In contrast, lack of required technological knowledge, skills, and capabilities discourage potential adopters from implementing new technology as they tend to postpone adoption decisions until they are able to acquire adequate prerequisites (Esen & Özbağ, 2014).

HR personnel, line managers, and employees are the three main end-users of HRIS applications (Ruël et al., 2004). Thus, they are required to possess at least basic IT knowledge and competencies to gain maximum potential from HRIS applications.

With HRIS, employees are asked to navigate information and update their personal profiles electronically (Ngai, Law, Chan, & Wat, 2008). In addition, they need to communicate electronically with internal and external parties (Hailey et al., 2005). Moreover, performance management module allow managers and employees to conduct performance appraisal electronically (Payne et al., 2009), while training module enable them to search for, register for, and undertake appropriate training programs (Panayotopoulou et al., 2007; Wen, 2013). There is no doubt that effective use of these applications enable employyes to require a certain level of IT expertise.

TPB suggests that when individuals perceive that there are internal or external barriers (perceive behavioral control) that discourage them from executing a target behavior, they are less likely to perform that behavior (HRIS adoption) (Ajzen, 1991). When it comes to HRIS adoption (target behavior), perceived assessment of individual resources, such as IT expertise of employees, can be considered one of the key elements of perceived behavioral control. This means that when organizations do not have the IT expertise required it can be regarded as perceived behavioral control that discourages the target behavior (actual HRIS adoption). Thus, the present study hypothesizes that if potential adopters perceive that they are equipped with a high level of IT expertise; they are more likely to adopt HRIS. In contrast, a low level of HRIS adoption is exhibited by potential adopters when they perceive that organizational IT expertise is not up to a standard level. This rationalization leads to the hypotheses 3.

H 3: IT Expertise is positively related to HRIS usage

Subjective Norm

Subjective norm" refers to the perceptions of people who are important to individuals think he or she should or should not perform a certain behavior (Venkatesh et al., 2003).TPB suggests that when important social reference groups attached to an individual's network encourage performing a certain behavior, individuals are more likely to form a positive behavioral intention and behave as expected (Ajzen, 1991). Perceptions of colleagues are an important source of IT and innovation adoption decisions in organizational settings (Taylor & Todd, 1995).

HR personnel (colleagues) employed in HR departments and employees

getting their services are the immediate beneficiaries or victimized group of HRIS implementation (Ruel *et al*, 2004). Thus, their perceptions and suggestions regarding HRIS adoption are of paramount importance. HRIS primarily enable HR personnel to gather, store, and analyze workforce data and to increase the flow of HR information (Grant & Newell, 2013). In addition, one of the objectives of HRIS adoption is automation and devolution of many routine administrative HR functions, that were traditionally accomplished by HR departments, to the hands of employees and line managers (Bondarouk et al., 2009). As a result HR personnel are free from administrative HR tasks, and can utilize the resulting spare time on a strategic level HRM activities that will affect profitability—for instance, staff development, talent management, targeted training programs, and change management (Ruël et al., 2004). In other words, their role in the organization will shift from administrator to business partner, where they can play an increasingly more meaningful and strategic part in the organization (Hussain et al., 2007). As these changes in their role lead to enhanced recognition of their position in the organization, it is likely that the majority of HR personnel would be willing to implement HRIS.

However, human behavior is not identical across individuals, as people are different in terms of their abilities, personality, perceptions, and work-related attitudes (Robbins, 2003). Therefore, it is common in an organizational setting for some employees to be unwilling to implement HRIS as they wish to maintain status-quo. As HRIS implementation gives rise to changes in the role of employees, their expected tasks, duties, and responsibilities will change in parallel (Grant & Newell, 2013). Under these circumstances, employees who are not capable of dealing with such roles may protest against HRIS implementation. Based on above rationalization, it can be claimed that when colleagues who are important to potential adopters believe that it is wise to implement HRIS it leads to positive intentions towards adopting HRIS vice versa. This rationalization leads to the hypothesis 4.

H 4: Subjective norm is positively related to HRIS usage.

Top Management Support

Top management support has been identified as a key organizational-level variable in both IT and innovation adoption literature (Jeyaraj et al., 2006). If top management is aware of the IT-related innovation and its benefits, they will be willing to implement it and encourage others to use it (Premkumar & Roberts, 1999). Premkumar and Potter (1995) contended that active involvement and support of top management establishes a powerful strategic vision and direction to organizational stakeholders, compared to providing passive support by means of highlighting certain signals about the importance of innovations. Such active involvement and support are characterized by creating a supportive climate and allocating adequate resources for innovation adoption (Teo et al., 2007).

Similarly, most of IT-related innovations, HRIS applications are expensive, and organizations have to wait for a considerable time to experience its benefits. However, if top management believes that HRIS adoption is essential to ensure the quality of HR service delivery and improve the efficiency and effectiveness of HR functions, there is a high possibility that they will take the necessary actions to establish a supportive culture that encourages its adoption. HRIS adoption changes the organizational structure, and the way people work, communicate, and interact within and across the organization (Lin, 2011), which means that a high degree of employee resistance could occur. Under these circumstances, to obtain the maximum benefits from HRIS implementation, top managers are responsible for designing and implementing appropriate change-management strategies before and after HRIS adoption. This demonstrates the importance of top management support throughout HRIS implementation projects.

TPB suggests that when individuals perceive several barriers (perceived behavioral control) they are less likely to perform the target behavior (Ajzen, 1991). In the context of HRIS adoption (target behavior), perceived top management support can be considered as one of the key elements of perceived behavioral control. This means that when organizations do not receive substantial top management support for implementing the HRIS, it can be regarded as perceived behavioral control that discourages the target behavior (actual HRIS adoption). Based on this, the present study claims that when potential adopters experience a high level of top management support they are more likely to adopt HRIS. On the other hand, a low level of HRIS adoption can be exhibited when potential adopters receive the low level of top management support with respect to HRIS adoption endeavors. Hence, hypotheses 5 is postulated.

H 5: Perceived Top management support is positively related to HRIS Usage.

Materials and Methods

The aim of this study is to identify the significant factors influencing on HRIS adoption among employees in CEB particularly deployed in southern province. The descriptive research design was used as the purpose of the present study is to describe the phenomenon of the antecedents of HRIS usage (Zikmund et al, 2010). The research question of the present study is to identify the key factors explaining the HRIS adoption behavior of the selected respondents of CEB. Thereby, the respondents of the survey research were the employees working in the CEB. Thus, the unit of analysis for the present study is "individual".

Most of the previous studies on antecedents of HRIS adoption have been conducted in the context of developed economy. Compared to the developed economy context relatively few studies were undertaken by the countries in the developing and emerging economies as they are lag far behind in adopting HRIS. Further it is challenging to generalize findings of the studies in the developed context

to the developing and emerging context as these contexts are vary in terms of the technological infrastructures, national and organizational culture, individual ICT awareness and expertise etc. Thus, with the purpose of filling this gap in the extant literature the present study is selected Sri Lanka as a research context. Further, the public sector is selected for the current study as no previous empirical studies were carried out in exploring HRIS adoption behavior pertaining to the public sector and it was assumed that relatively public sector is the most difficult segment to adopt new technology.

CEB was selected as it is a large scale public sector organization where at present there are more than 20,000 employees working in different categories. Further, in year 2009, CEB introduced the HRIS incurring extensive initial cost and annually they spend significant cost particularly for marinating of hardware and software. However, the usage of HRIS applications is in a state of underutilization. Southern province employees were focused as they are away from metropolitan area and HRIS usage rate of the employees in this region is reported relatively low rate.

The theoretical population of the study includes all employees of CEB in Sri Lanka. As it is challenging to reach the theoretical population the employees in southern province was taken into account as the study population. There are seven areas pertaining to the Southern Province, namely, Galle, Matara, Tangalle, Hambantota, Akuressa, Ambalangoda and Baddegma. 200 respondents were selected for the sample using simple random sampling while employee payroll system register was taken as the sampling frame. First, employee list of the aforementioned seven areas were taken from the payroll system. Secondly, members of the population were put in an order based on each area. Consequently, a starting point is selected at random, and every 10th member is selected to be in the sample.

Survey questionnaire tool was selected due to cost effectiveness, possibility of assuring anonymity of the respondent, absence of any interviewer bias, and ability to use standardized, structured and undisguised questions (Hair, Money, Samouel, & Page, 2007). The questionnaire was designed with several sections (Churchill, & Iacobucci, 2002) where the first section dealt with the demographic factors of the respondents, section two comprised of all the questions associated with independent variables (drivers of HRIS usage) and the third section of the questionnaire included questions pertain to the dependent variable of HRIS usage.

Two techniques were adopted in administering the survey questionnaire in this study: e-mailing and personal contacting. In first method hardcopy of the questionnaires were personally delivered to the respondents and collected them back. Follow-up telephone calls were given to the responding unit heads to increase the response rate. In the second method a web-based questionnaire was sent to the respondents though an email message as a web link. Two reminding e-mails were sent to increase the

response rate of the respondents. Ultimately 140 questionnaires were preceded to the data analysis.

Variables were operationalized based on the extant literature and used empirically validated scales with slight modification so as to compatible with the context. Both dependent and independent variables of the study were measured using five point likert scale where 1 = strongly disagree and 5 = strongly agree. Perceived Ease of Use was measured using the seven item scale developed by the Davis (1989) and sample of item include learning to operate the HRIS applications are easy for me, and I find it easy to get the HRIS applications to do what I want them to do. Six item scale developed by Davis (1989) and validated by Thiruselvi et al. (2013) employed to measure the perceived Usefulness construct. Sample item include using HRIS in my job enable me to accomplish tasks more quickly, and using HRIS applications would increase my productivity.

Eight item scales developed and empirically validated by Bian LInlin (2012) and Randi Hani (2014) deployed to measure the IT Expertise variables. Sample of items included in the scale were I know how information technology can be used to support HR functions and I am computer-literate.Subjective Norm was measure using the four item scale developed by Bian LInlin (2012) and sample of item included are people who are important to me think that I should use HRIS applications, and people who influence what I do think that I should use HRIS applications.

Four item scale developed by Bian LInlin (2012) to measure the level of top management support was used to operationalize the top management support for the present study. Following items were including in the scale: top management enthusiastically supports me to use HRIS, and top management has allocated adequate resources for encouraging use of HRIS.in order to measure the dependent variable that is HRIS usage self-developed eight item scale was used and sample if item include where I often use HRIS application to apply leave, I often use HRIS application to check my balance leave and I often use HRIS application to check my leave history.

Rsults

Demographic profile of the respondents was first analyzed and results are shown in Table 4. The sample consists of 83 percent (n = 116) executives while remaining 17 percent (n = 24) belongs to executive category. Majority of the respondents (49%) belongs to age category of 35 to 44 years. Least number of respondents (1%) is reported with 18 to 24 years age group. Almost half of the respondents (48%) possess the Advanced levels education qualification. Most importantly it reveals that more than half (54%) of the respondents having more than 7 years of experience with computer usage.

Table 4: Demographic Profile of the Sample

Variable	Operationalization	Frequency	Percentage (%)
Position	Executive	24	17%
	Non-Executive	116	83%
Age	18-24	1	1%
	25-34	31	22%
	35-44	68	49%
	45-54	30	21%
	55 Above	10	7%
Educational level	Advance Level	67	48%
	Bachelor's Degree	28	20%
	Master's Degree	18	13%
	Doctoral Degree	1	1%
	Others	26	19%
Experience of Computer Usage	<1 Year	3	2%
	1 - 3 Years	9	6%
	3 - 5 Years	21	15%
	5 - 7 years	32	23%
	> 7 Years	75	54%

Source: Survey Data (2019)

In order to establish the reliability of the data, the Cronbach Alpha values were tested and results shown in Table 5. All the variables met the threshold values of 0.6 confirming the reliability of the measures (Zikmund et al, 2003).

Table 5: Reliability of the Measures

Variables	Cronbach's Alpha	Number of Items
Perceived Ease of use	0.937	7
Perceived Usefulness	0.896	6
IT Expertise	0.807	8
Subjective Norm	0.876	4
Top Management Support	0.818	4

Source: Survey Data (2019)

Correlations among independent variable were tested using person correlation and results are shown in Table 6. As shown in correlation matrix in Table 6 linearity among variables was ensured and multi-colinearity among independent variables was not observed as all correlation reported less that 0.7 (Zikmund, 2010).

Table 6: Correlations, Means and Standard Deviations

Variables	Mean	Std. Deviation	1	2	3	4	5
1.Perceived Ease of use	3.318	0.647					
2.Perceived Usefulness	3.209	0.627	0.631				
3.IT Expertise	3.298	0.448	0.647	0.666			
4.Subjective Norm	3.267	0.594	0.666	0.615	0.667		
5.Top Management Support	3.239	0.640	0.590	0.536	0.599	0.686	

Source: Survey Data (2019)

Hypotheses Testing

Hypotheses testing are based on regression analysis using SPSS version 22. H1-H2 test the causal relationships demonstrated in TAM while H3-H5 tests the causal relationship exhibited in TPB. Table 7 provides the results of hypothesis testing with R2, standard coefficient, and significance. The Adjusted R Square value amounts to 0.707 (Table 7). Thus, the regression model explains 70% of the variance in the HRIS adoption among respondents with the five independent variables specified the research model. As indicated in the ANOVA table the regression model is statistically significant (F = 68.209, P= 0.000).

In sum, this study confirms the results of TPB while partially supporting the TAM. Supporting H2, perceived usefulness (PU) had significant effects on behavioral intention to use (β=.170 p = 0.041). IT expertise had a significant positive impact on HRIS adoption, supporting H3 (β=.162, p = 0.037). Subjective norm had a significant positive impact on HRIS adoption supporting H4 (β = 0.191, p = 0.034). Top management support was found to have a significant effect on HRIS Adoption, supporting H5 (β = .270, p = 0.001). Percived ease of use were not found to have a significant effect on user's HRIS Adoption, not supporting H1.

Table 7: Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Ease of use	.146	.085	.166	1.716	.089
Usefulness	.153	.076	.170	2.004	.041
IT Expertise	.193	.094	.162	2.053	.037
Subjective Norm	.180	.086	.191	2.089	.034
Top Management Support	.277	.079	.270	3.491	.001
Adjusted R2			0.707		
ANOVA			F = 68.209, P= 0.000		

Source: Analyzed Data, 2021

Discussion

The results indicated that HRIS adoption was largely influenced by perceived top management support, subjective norms and IT expertise. Top management support positively influenced on HRIS adoption. The relationship between top mangement support and HRIS adoption has been documented and the results confirmed the importance of the link between them. This findings indicate that when top managment create condusive environment by allocation adequate resources and other intitative such as training and awarnes workshops it leads to increase the degree of HRIS adoption among employees. This is consistnet with the findigs of the Teo et al (2007).

The findings also suggested that subjective norm has a significant positive effect on HRIS adoption. This implies that if employees feel that when others who infuence their decisions (coleagues, supervisors) recommending them to use they are confident in using HRIS. This also confirms the similar results of previous studies (Compeau and Higgins, 1995). Moreover consistnet with previous findings this study found that IT expertise has a signficant effect on HRIS adoption. This findings menas that when employees are confident on their level of IT expertise they are more likely to use HRIS. This attempt of adopting TPB into the investigation of employees HRIS adoption decision was successfully demonstrated in this study. The importance of subjective norm and percived behavioural control (IT expertise and topmanagemnt support) in predicting employees HRIS adoption behaviour confirms the validity of TPB model.

This study also found empircal support for the relationship between perceived usefullnes and HRIS adoption. This means that employees are willing to use HRIS as thay are aware of the usefullness of adopting HRIS. This confirms the similr resulrs of the previous studes (Teo et al, 2007, Normalini et al, 2012, Galhena, 2015). However we did not find statitically signficant relatioship for the ease of

use and HRIS adoption. This result is not consistent with theory propsed in TAM. This may imply that employeees' feelings about HRIS usefulness will not play a more influential factor than the other factors in determining HRIS adoption. The attmept of applying TAM to explain the HRIS adoption behavior is not suecefully exhibited in the recent study. Possible reasons for these inconsistent findings would be some contenxtual facotros such as the organizational culture of the CEB.

Implications

The present study has many important implications for HR practitioners and top managers in Ceylon Electricity Board. The findings of this study will help management to implement the required changes within their organizations for the purpose(s) of either to improve to the level of improvements of HRIS applications or to encourage employees to adopt the HRIS application. The study found that perceived usefulness as a significant driver in explaining HRIS Adoption behaviour of the employees. Thus, management should design appropriate interventions to make employees aware about the benefits of the HRIS. Further present study found that top management support is the most influential factor in determining employees HRIS adoption. This has clear implications for managers as it is their responsibility to create conducive atmosphere particularly to encourage employees to use HRIS.

The present study also found subjective norm of the employees is a significant driver in predicting HRIS adoption behaviour. The implication of this is apparent as it is necessary for managers to think about designing and implementing motivational program to stimulate employees' network including superiors and colleagues. Moreover, this study found that IT expertise significantly influence on HRIS Adoption. Thus, it emphasizes the importance of implementing adequate IT training workshops before and after implementing HRIS.

Limitation and Further Research

Although the findings of this study display an insight into the factors that influence the adoption of HRIS among employees in Ceylon Electricity Board, as known in many researches, there are limitations of research. The first limitation is the generalizability of the findings. The purpose of this study was to explore the factors influencing on HRIS Adoption. To achieve the objectives of this study respondent were selected from only one organization representing Sothern province. Hence it limits the generalizability of the findings.

The second limitation pertains to the research design. This study used a cross-sectional design, wherein data were collected at one point in time. As HRIS adoption decision is viewed as psychological related construct where longitudinal empirical studies are required to gain in-depth understanding in this phenomenon. Future studies with a longitudinal research design would greatly contribute to the literature.

The third limitation deals with the sample size of the present study. Due to time and financial constraints, the

sample was limited to 140 respondents. A larger sample would increase the statistical power and offer rigorous findings (Hair et al., 2010). Future studies with a larger sample size are therefore required. The fourth limitation is related to the data-collection tools. The present study used questionnaire survey to collect primary data about the phenomenon of interest. Alternative mechanisms, such as interviews would facilitate in-depth understanding of the HRIS adoption and its determinants. Thus, future studies that employ interviews and qualitative analysis of interview data would generate important insights about this phenomenon. The fifth limitation relates to the inclusion of independent variables in the research model. The study used only five factors based on TAM and TPB. Additional variables specified in other theories such as Unified Theory of Acceptance and Use of Technology (UTAUT), Diffusion of Innovation Theory might have impact on HRIS Adoption.

References

Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.

Ashraf, A. R., Thongpapanl, N., & Auh, S. (2014). The application of the technology acceptance model under different cultural contexts: The case of online shopping adoption. *Journal of International Marketing*, *22*(3), 68-93.

Aynul Sowmiya, B. (2017). The impact of internal environmental factors on the level of adoption of human resource information system: the case of manufacturing companies in Western province of Sri Lanka.

Azmat, F., & Zutshi, A. (2012). Influence of home-country culture and regulatory environment on corporate social responsibility perceptions: The case of Sri Lankan immigrant entrepreneurs. *Thunderbird International Business Review*, *54*(1), 15-27.

Ball, K. (2000). The Use of Human Resource Information Systems: A Survey. Personal Review, 30.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory: Prentice-Hall, Inc.

Bissola, R., & Imperatori, B. (2014). The unexpected side of relational e-HRM: Developing trust in the HR department. Employee Relations, 36(4), 376-397.

Blau, I., & Hameiri, M. (2017). Ubiquitous mobile educational data management by teachers, students and parents: Does technology change school-family communication and parental involvement?. Education and Information Technologies, 22(3), 1231-1247.

Bondarouk, T. V., & Ruël, H. J. (2009). Electronic Human Resource Management: challenges in the digital era. The International Journal of Human Resource Management, 20(3), 505-514.

Bondarouk, T., Parry, E., & Furtmueller, E. (2017). Electronic HRM: four decades of research on adoption and consequences. The International Journal of Human Resource Management, 28(1), 98-131.

Bondarouk, T., Ruël, H., & Roeleveld, B. (2019). Exploring Electronic HRM: Management Fashion or Fad?. The SAGE Handbook of Human Resource Management, 271.

Burton-Jones, A., & Straub Jr, D. W. (2006). Reconceptualising system usage: An approach and empirical test. Information systems research, 17(3), 228-246.

Campbell, J., McDonald, C., & Sethibe, T. (2010). Public and private sector IT governance: Identifying contextual differences. Australasian Journal of Information Systems, 16(2).

Cascio, W. F., & Montealegre, R. (2016). How technology is changing work and organizations. Annual Review of Organizational Psychology and Organizational Behavior, 3, 349-375.

Churchill, G. A., & Iacobucci, D. (2002). Marketing Research: Methodological Foundations (8th ed.): Harcoutrt Collage Publishers.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. . MIS quarterly,, 319-340.

De Alwis, A.C. (2010). The Impact of Electronic Human Resource Management on the Role of Human Resource Managers. E+ M Ekonomie a Management,(4), 47-60.

De Alwis, A. C., Andrlic, B., & Sostar, M. (2019). Internal environmental factors and the level of adoption of HRIS. Annals of DAAAM & Proceedings, 30.

Dunivan, L. (1991). Implementing a user-driven human-resource information-system. Journal of Systems Management, 42(10), 13-15.

Elia, G., Margherita, A., & Passiante, G. (2020). Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process. Technological Forecasting and Social Change, 150, 119791.

Ensher, E. A., Nielson, T. R., & Vallone, E. G. (2002). Tales from the hiring line: Effect of the internet and technology on HR processes. Organizational Dynamics, 31(3), 224-244.

Esen, M., & Özbağ, G. K. (2014). An Investigation of the Effects of Organizational Readiness on Technology Acceptance in e-HRM Applications. . International Journal of Human Resource Studies,, 4(1), 232-247.

Fishbein, M., & Ajzen, I. (1975). Belief, attitude, intention and behaviour: an introduction to theory and research: Addison-Weseley, Reading, MA.

Francis, H., Parkes, C., & Reddington, M. (2014). E-HR and international HRM: a critical perspective on the discursive framing of e-HR. . The International Journal of Human Resource Management,, 25(10), 1327-1350.

Galanaki, E., Lazazzara, A., & Parry, E. (2019). A cross-national analysis of e-HRM configurations: integrating the information technology and HRM perspectives. In Organizing for digital innovation (pp. 261-276). Springer, Cham.

Galhena, B. L. (2015). E-hrm adoption behaviour: diffusion of innovation theory (doi) perspective. In 8th Annual Conference of the EuroMed Academy of Business.

Grant, D., & Newell, S. (2013). Realizing the strategic potential of e-HRM. . Journal of Strategic Information Systems, , 3(22), 187-192.

Hailey, V. H., Farndale, E., & Truss, C. (2005). The HR department's role in organisational performance. . Human Resource Management Journal, , 15(3), 49-66.

Hair, J. J. F., Money, A. H., Samouel, P., & Page, M. (2007). Research methods for business: John Wiley.

Heikkilä, J.-P. (2013). *Perspectives on e-HRM in the multinational setting.* (Doctoral), University of VaasaFinland.

Hendrickson, A. R. (2003). Human resource information systems: Backbone technology of contemporary human resources. Journal of Labor Research, 24(3), 381.

Hussain, Z., Wallace, J., & Cornelius, N. E. (2007). The use and impact of human resource information systems on human resource management professionals. Information & Management, 44(1), 74-89.

Jeyaraj, A., Rottman, J. W., & Lacity, M. C. (2006). A review of the predictors, linkages, and biases in IT innovation adoption research. Journal of Information Technology, 21(1), 1-23.

Kashive, N. (2011). Managing today's workforce: Human Resource Information System (HRIS), its challenge and opportunities. International Journal of Research in Finance & Marketing, 1(6), 38-66.

Kavanagh, M. J., & Thite, M. (2009). Human resource information systems: Basics, applications, and future directions: Sage.

Kovach, K. A., Hughes, A. A., & Maggitti, P. G. (2002). Administrative and Strategic Advantages of HRIS.

Lepak, D. P., & Snell, S. A. (1998). Virtual HR: Strategic Human Resource Management in the 21st Century. *Huamn Resource Management Review, 8*(3), 215-234.

Lengnickf Hall, M., LengnickfHall, C., Andrade, L., & Drake, B. (2009). The evolution of the field, Human Resource Management Review. 19(2), 64-85.

Lin, L. H. (2011). Electronic human resource management and organizational innovation: the roles of information technology and virtual organizational structure. . The International Journal of Human Resource Management, 22(2), 235-257.

Marler, J. H., Fisher, S. L., & Ke, W. (2009). Employee Self-Service Technology Acceptance: A Comparison Of Pre-Implementation And Post-Implementation Relationships. *Personnel psychology,, 62*(2), 327-358.

Management Information Report, Ceylom Electronic Board, (2018)

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. Information Systems Research, 2(3), 192-222.

Mujeeb, L. (2012). Importance of best Human Resource Management Practices and the need for a Human Resource Information System (HRIS) for the Public Health Sector in Sri Lanka. Sri Lanka Journal of Bio-Medical Informatics.

Ngai, E. W. T., Law, C. C. H., Chan, S. C. H., & Wat, F. K. T. (2008). Importance of the internet to human resource practitioners in Hong Kong. Personnel Review, 37(1), 66-84.

Nenwani, P. J., & Raj, M. D. (2013). E-HRM Prospective in Present Scenario. International Journal of Advance Research in, 1(7), 422-428.

Normalini, K. M., Ramayah, T., & Kurnia, S. (2012). Antecedents and outcomes of human resource information system (HRIS) use. . *International Journal of Productivity and Performance Management, , 61*(6), 603-623

Panayotopoulou, L., Vakola, M., & Galanaki, E. (2007). E-HR adoption and the role of HRM: evidence from Greece. Personnel Review, 36(2), 277-294.

Parry, E., & Tyson, S. (2011). Desired goals and actual outcomes of e-HRM. Human Resource Management Journal, 21(3), 335-354.

Payne, S. C., Horner, M. T., Boswell, W. R., Schroeder, A. N., & Stine-Cheyne, K. J. (2009). Comparison of online and traditional performance appraisal systems. Journal of Managerial Psychology, 24(6), 526-544.

Perera, G. D. N., Thalgaspitiya, U. K., & Wijewardene, L. (2017). The Impact of Human Resource Information Systems on Human Resource Management Effectiveness: A Study in Selected Large Apparel Firms in the Western Province of Sri Lanka.

Premkumar, G., & Potter, M. (1995). Adoption of computer aided software engineering (CASE) technology: An innovation adoption perspective. Data Base Advances, 26(2), 105-124.

Premkumar, G., & Roberts, M. (1999). Adoption of new information technologies in rural small businesses. Omega, 27(4), 467-484.

Quamar, A. H., Schmeler, M. R., Collins, D. M., & Schein, R. M. (2019). Information communication technology-enabled instrumental activities of daily living: a paradigm shift in functional assessment. Disability and Rehabilitation: Assistive Technology, 1-8.

Quaosar, G. A. (2017). Determinants of the Adoption of Human Resources Information Systems in a Developing Country: An Empirical Study. The International Technology Management Review, 6(3).

Ranasinghe, R. (2018). Cultural and Heritage Tourism Development in Postwar Regions: Concerns for Sustainability from Northern Sri Lankan Capital Jaffna. Journal of Tourism and Recreation, 4(1), 1-18.

Robbins, S. P. (2003). Organizational behaviour (10 ed.): Prentice Hall, NJ.

Ruël, H., Bondarouk, T., & Looise, J. K. (2004). E-HRM: Innovation or irritation. An explorative empirical study in five large companies on web-based HRM. Management revue, 364-380.

Ruel, H., & Kaap, H. v. (2012). E-HRM usage and value creation: Does a facilitating context matter? Zeitschrift für Personalforschung (ZfP), 26(3), pp. 260-281.

Strohmeier, S. (2007). Research in e-HRM: Review and implications. Human Resource Management Review, 17(1), 19-37.

Strohmeier, S., & Kabst, R. (2014). Configurations of e-HRM–an empirical exploration. Employee Relations, 36(4), 333-353.

Sulochana, K., & Sajeewanie, T. (2015). The Impact of HRIS on HRM Effectiveness: A Study in Large Scale Group of Company in Sri Lanka. Human Resource Management Journal, 3(1).

Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. Information Systems Research, 6(2), 144-176

Teo, T. S., Lim, G. S., & Fedric, S. A. (2007). The adoption and diffusion of human resources information systems in Singapore. Asia Pacific Journal of Human Resources, 45(1), 44-62.

Tidd, J., & Bessant, J. R. (2018). Managing innovation: integrating technological, market and organizational change. John Wiley & Sons.

Thong, J. Y. (1999). An integrated model of information systems adoption in small businesses. Journal of management information systems, 15(4), 187-214.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3).

Wen, X. (2013). E-HRM in Chinese Organizations: Managing Human Resources with Information Technology in Digital Age. Paper presented at the Fifth International Conference in Computational and Information Sciences (ICCIS).

Wickramarathna, U. C. (2011). The Role of Human Resource Information Systems in Human Resource Planning in Private Sector Organisations in Sri Lanka.

Wickramasinghe, V. (2010). Employee perceptions towards web-based human resource management systems in Sri. The International Journal of Human Resource.

Wijethilaka, R. (2016). Factors Affecting the Extent of Adoption of Human Resource Information System (HRIS) in Banking Sector in Sri Lanka. 3rd International HRM Conference, 3(1).

Yusof, Y. M., & Ramayah, T. (2011). Factors Influencing Attitude towards Using Electronic HRM. 2nd International Conference on Business and Economic Research, (pp. 1510-1520).

Yusoff, Y. M., Ramayah, T., & Othman, N. Z. (2015). Why Examining Adoption Factors, HR Role and Attitude towards Using E-HRM is the Start-Off in Determining the Successfulness of Green HRM? Journal of Advanced Management Science, 3(4), 337-343.

Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2010). Business research methods (8th ed.): South Western, Cengage Learning.