THE CHALLENGES FACING PUBLIC ORGANIZATIONS TO IMPLEMENT HUMAN RESOURCES INFORMATION SYSTEMS: A CASE STUDY OF ALGERIA

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ABSTRACT

The purpose of this research is to identify the managerial purposes, benefits and challenges of HRIS implementation within public organizations to better understand how such technologies affect the capacity of the HR department to conduct effective and efficient work.

This research is part of a constructivist epistemological approach. To achieve the main goal of the study, data were collected primarily via a semi-directive interview conducted at one of the biggest public companies in Algeria in 2018. In addition to the questionnaire, some of the organization's documents were used in combination with observations that allowed the researcher to confirm some of the data collected from the questionnaire.

The management of the case study organization well understands the importance of HRISs. Thus, the management decided to implement the system. Although the implementation was successful, the management faced some problems, such as resistance to change from users in various divisions. Therefore, we can conclude that HRISs may contribute to enhancing the performance of HR departments and improving management processes. However, to ensure performance, the implementation must take place under the best possible conditions. Otherwise, the HRIS is no longer be an advantage but rather a significant cost.

This is one of the few studies investigating the role of HRIS implementation in improving the HR department and management processes within a public organization. Due to the very specific characteristics of such organizations, which vary with regard to flexibility, bureaucratic attitude, resistance to change, etc., implementing HRISs can be very challenging.

Key Words: Human Resource Information System (HRIS), Information System (IS), Knowledge Management, HRIS Implementation, Information Systems in Public Organizations.

INTRODUCTION

The term 'information system' has many definitions. However, in a general sense, the term information system (IS) refers to a system of people, data records and exercises that process the data and information in an organization (Paul, 2010).

Increased competition caused more challenges for organizations. Thus, organizations try to find innovative ways to creatively respond to these difficulties (Sweis, 2011). Therefore, organizations attempt to use more ICTs because of what they have to offer, which results in reshaping the activities of all the departments within these organizations, and HR department is not an exception (Likavčan L, 2017).

Increasingly, entities are utilizing Human Resource Management Information Systems (HRMIS) to help manage their workforce and meet their employer obligations (Karikari et al., 2015). The role of HR can be improved through the automation of existing administrative functions, thus enabling HR to contribute more at a strategic level (Gueutal, 2003).

Many researchers studied the adoption of HRIS in organizations, and investigated the challenges facing these organizations in order to adopt the system such as …However, because the management style differs in public companies than in private companies, managers may face different challenges to implement an HRIS. Additionally, organizations operating in developing countries are more likely to face more difficulties than organizations operating in developed countries. The purpose of this research is to identify the managerial challenges of HRIS implementation within public organizations in developing countries.

The paper is organized as follows: the first part is introduction, followed by a literature review (second section) to discuss RHIS and its implantation within different organizations, and discuss the previous studies about the challenges for implementing HRIS. The third section is about the methodology of the research, where all data collection methods and its importance are explained. The fourth section is the analysis of the collected data and explain the results. Finally, the conclusion which includes the answer to the main question of this research.

LITERATURE REVIEW

The Importance of ICT for Organizations

For professional workers within organizations, ICTs have transformed their work, with shorter product life cycles, the diminishment of pricing power, and the acceleration of global competition. Therefore, the pressure to effectively integrate good ICT is increasing every day (Davenport, 2005) to improve organizations' competitive capacity, to create new chances and opportunities for organizations (O'Brien & Marakas, 2011), and to overcome the problems and challenges resulting from the increased internal and external competition (Krylova et al., 2016).

In the early stages of the development of ICTs, organizations were primarily concerned with the technological design, maintenance and support of 'live' IT services (Winniford, 2009) (Bergvall-Kåreborn, 2013). Later, several researchers analysed how ICT can affect the environment in which companies operate by defining conditions and structures (Mohamed & Rickards, 1996), and how it can support decision makers by offering them opportunities to build new approaches to solving different problems and challenges in a more efficient way (Dutta & Weiss, 1997; Garcia & Calantone, 2002).

Since the world nowadays is transforming from industry to knowledge, organizations have realized that information is a very important asset, which has opened a new approach to knowledge management (Yang & Chen, 2007). Therefore, organizations have started thinking of how to better use knowledge in order to create skilled and qualified human resources (Shih & Tsai, 2016).

Knowledge management is considered the most essential competitive advantage and has the fundamental objective of providing knowledge for organizations on a permanent basis, which is practical and helps to accomplish the strategic and operational objectives of the organization (Almajali et al., 2016). It is proved that organizations sharing data with their supply chain partners have lower costs. For instance they have lower inventories, lower probabilities of stocks outs, and better delivery (Claassen et al., 2008); thus, organizations should integrate knowledge into their

strategies to respond to the various challenges facing them due to changes in the environment (Giampaoli Gil, 2009).

The Importance of HRISs for Organizations

The human resource is one of the most important elements helping to reach sustainability in organizations by achieving a sustainable competitive advantage through employees' skills, creativity, and innovation; thus, the investment in developing the human element is one of the most successful investments (Inkinen, 2016). Furthermore, the rate of change in HR practices is increasing very rapidly (G. Gueutal, 2015). Therefore, HRISs can play a strategic role in organizations (Associates, 2007).

Previous research has identified different HRIS benefits for organizations, including enhancements in strategic orientation, operational efficiency, and service delivery; the empowerment of managers and employees to undertake HR functions (Lepak & Snell, 1998); and the standardization of HR processes within or across organizations (Ruel et al., 2004).

HRISs have the potential to assist the HR function in developing business strategies through the generation of metrics that can be utilized to support strategic decision making (Lawler et al., 2004), reduce the costs associated with HR delivery, and reassess the need to retain internal HR capabilities (Lawler & Mohrman, 2003), thus enhancing organizational performance (Lawler et al., 2004).

HRISs automate and devolve routine administrative and compliance functions that were traditionally performed by HR departments (Barron et al., 2004)**.**

The Challenges of Implementing HRIS

Studies were done in order to investigate the challenges facing managers while adopting HRIS within companies; some of them were in developing countries and some others were in developed countries. However, most of them studied RHIS in private organizations. For instance Noutsa et al. (2019) investigated the factors influencing the adoption of HRIS in the Cameron for SMEs and found that the performance expectancy and internal social influence effect the adoption of HRIS, similarly the age and the education; according to the study young employees and the less educated ones tend to accept the adoption of such systems more than the others, therefore, we can conclude that organizations face resistance from old employees because the system is beyond their comprehension; also more educated employees resist the adoption of the system because it doesn't meet their expectations or simply the system is not good enough.

The same previous factors in addition to employee involvement and training support were found to be significantly affecting the adoption of HRIS according to (Quaosar, 2018) who studied the factors effecting the adoption of HRIS in Bangladesh. In this study, the researcher claimed that employee's involvement is significantly important in order to adopt HRIS successfully, however, if the level of trust and communication is low in the organization the involvement will be very low also. As for the training factor the researcher claims that the features of HRIS are not fully utilized, therefore, it is crucial to train the employees on how to use the system in order to take advantage of all its features.

Khan et al. (2017) investigated the challenges facing organizations in Pakistan to adopt HRIS and found that the lack of commitment of lower manager, the fear of employees of changing

the way they do thing and the fact that employees do not see the system as an advantage are the main reasons for nor implementing the system successfully.

Troshani et al. (2011) studied the adoption of HRIS in Australian public sector organizations in terms of benefits that could be driven from the use of the system, and challenges facing the pre-adoption and the post-adoption phases. According to the researchers, the ease of use of HRIS has a significant impact on its success. The cost of adoption is also significantly related to adoption intention and the success of HRIS; the cost in this case includes the cost of purchase in addition to the other various costs after the adoption such as the continues training of employees to use the system. Another factor that represents a challenge to organizations in order to adopt HRIS is the fit of the system in the organizations; which means that the organization ay chose a system that doesn't meet the requirements of the organization. Additionally, the skills of employees in the organization represent a huge challenge for a successful adoption of HRIS; the skills in this case include the technical skills (how to use the system) and communication skills (the decision of adopting HRIS is discussed in the top level only without including lower levels managers).

Some researchers tried to explain that this approach can be inherently challenging for a variety of reasons:

First, technical, knowledge-intensive undertakings, such projects, are highly interdependent, requiring the effective coordination of task inputs and outputs across members, including developers and clients, involved in an IS project (Maruping et al., 2014).

Second, the computerization of existing administrative functions may threaten the role of HR specialists as traditional HR work is both automated and distributed to line managers (Ngai & Wat, 2006). Additionally, the work involves complex systems with uncertain requirements, which can create psychological stress among individual developers (Windeler et al., 2017).

The third challenge that may hinder the ability of organizations to realize the potential of their HRIS arises from barriers associated with the acceptance of the new or upgraded HRIS among key end-users of the system (Dery et al., 2009).

Finally, organizations have variously experienced significant changes in structure, size, ownership and government. Such changes can result in a shift in senior management attention far from HRIS development to more immediately pressing issues (Dery et al., 2009).

Consequently, several scholars are in agreement that a human asset is a useful tool at the workplace. Human asset is actually the most important asset in the workplace. The Human Resource Information Management is a powerful sector at very workplaces, and the Saudi Ministries are not exceptions. Human Resource Information system (HRIS) is a part of the larger Human Resource Management (HRM). Several scholars agree that an organization is a position that tries to balance and maximize employee performances. Hence, from any strategic objectives of the organization, the HRM position is meant to ensure that things are running out smoothly all the time. The senior management and the HR department in an organization can all be linked using two methods, which can be defined as vertical and horizontal methods. The vertical method in an organization links the management and chain of authority in a top-down structure. Moreover, the top-down structure ensures that things are operated in a way that defines things from top to bottom as a matter of authority. This type of linkage also has several structural layouts. An organization's horizontal layout linkage has few structural layouts. Hence, there are many lateral layouts in a horizontal layout of an organization. The vertical layout linkage in an organization always has a

clear line of authority, just like the authoritative chain (Al-Khowaiter et al., 2015). Hence, the control span is very tight and ensure that no disrespectfulness is allowed. However, this type of linkage will often leave some individuals feeling less valued, especially if they are at the bottom of the structure.

On the other hand, the HRIS has a horizontal structure with the advantage of bringing in greater satisfaction to all employees due to the autonomy and freedom that they are allowed. However, decentralizing management, as in this structure, can lead to employees producing shoddy work, which can produce an "unstable ship." The different types of practices in HRM can be applied in different ways to result in a classic way of doing things that always meet the strategies. For example, strategic HRM assists in the management of an organization's human resources (Ibrahim et al., 2017). HR practices must always be in synchronism with the business strategies so as to enable an organization with the ability to lead in terms of production, profits, and outperforming competitors. The differentiation strategy can be supported by competitive strategies that result in competitive advantages. The HR practices that will always be placing an organization in its competitive industrial setup both inside and outside will result in a competitive advantage.

Additionally, HRIS is also responsible for determining the job descriptions at the workplaces. Many HRM refers to the HRIS to store their data and use the information to select employees accordingly. The organization of employees to job description determines their responsibilities in general, a Human Resource Manager determines and specifies the duties and responsibilities of an employee at a workplace. Job description usually refers to a list of general tasks and responsibilities as well as functions being applied by an individual in a specific position. Most of the time, a job description entails the individual that the person in the job is answerable to. A job specification is often a formal document that usually contains duties, knowledge, and skills required for a specific job filed (Likofata et al., 2017). The qualifications of the job are usually stated in the job specification. Moreover, a job description can contain information that is contained in a job specification. A mechanistic approach to job design is often based on the mechanical and repetitive movements in a job. The motivational approach to job design is usually based on the psychological handling of employees in order to get the best out of them. The psychology behind is based on the dimension of the job, which includes skills, identity, and significance of a task, feedback, and autonomy.

According to Ben Moussa & El Arbi (2020), innovation among Tunisian employees largely depends on HRIS. The HRIS offers the job description while boosting individual capabilities among employees. The role of HRIS in moderating the affective commitment at workplaces is significant. The mechanistic approach to job design has the advantage of reducing the training time, unlike the motivational approach, which results in the advantage of job satisfaction. The mechanistic approach to job design has the advantage of lowering job motivation and job satisfaction. The motivational approach can result in errors, mental pressures, and consume a lot of time in its implementation. Different scholars have come up with models that describe human resources in an organization and hence established the fact that human resources are the greatest and the most important asset to any company. The company's competitiveness is produced by human capital (Phahlane & Kekwaletswe, 2017). A workplace usually entails different human capital types, which are either prospector or defender. Hence, the different human capitals are never homogenous and defined uniquely for each of the strategies which the company is aiming

to compete through. The scholars have also established that the growth of the international environment has reached unprecedented and unpredictable heights. The work methods have had to change in Tunisian companies due to the post-revolution environment in the country. These changes are necessary for the survival and competitiveness of these companies. Hence, the call for an information system for reliable and consistent tracking of the company activities is necessary.

Consequently, a proper HRIS assists in the processes of referrals and data selection. The system ensures that employees are recruited much more efficiently. Referrals are data selection methods that forward the applicant to an appropriate agency for employment. It is advantageous in ensuring job specialization. Cognitive tests are conducted to establish the employees' ability to reason logically and rationally for a job and assist in allowing the appropriate individuals to work under the appropriate jobs. A physical ability test establishes the ability of an employee to perform a physical task so that to see no one is crippled in a task (Likofata et al., 2017). The selection method that employs the biographical data tests the attitudinal, statistical, and existential background to see whether the individual has a negative attitude or not. Work samples test the employee's skills, experience, and knowledge through listing them and categorizing them to get the best employees. Thus, the personality inventories used in the recruitment and selection of employees is a questionnaire that reveals the personality traits of all employees. An assessment center entails various evaluations that always entail job-related simulations to evaluate the behaviors of candidates, just like the honesty tests, which evaluates their ability, to tell the truth at all times (Ngwenya et al., 2019). A drug test is a medical test that checks whether an individual uses drugs, whereas an interview questions a person in a conversation to see their abilities.

Moreover, the HRIS is also used in performance management at workplaces. Performance management assists in saving time during management. Moreover, it assists in helping employees to understand their roles in a company and prevent the occurrence of problems. It operates in various systems such as; administrative, developmental, and strategical aspects. Strategic congruence refers to an integration of many goals to result in a mission that arches over. Performance management operates through validity to check whether an idea is logically sound to be implemented. There are also reliability, particularity, and acceptableness of process which determines whether performance management should be conducted or not. Comparative performance management compares and ranks the job performances of employees and aids in listing the employees in terms of best suited for specific tasks. Traits set evaluates the attributes of an employee and assists in ratings. The behavioral performance management assists in shaping the employee behaviors into the required attributes hence assisting in getting the best of the employee characters. The results approach to performance management eliminates the subjectivity of employees by measuring the results of employees. The approach of quality is based on customer satisfaction with the services being offered to them by the employees. Performance rater errors can often result from scoring, similarities, recency, annual against ongoing reviews, insufficient listening, and generalizations, whether positive and negative. Effective performance feedback has clear objectives, consumes less time, is economical, and initiates follow-ups.

Also, there are situations where the HRIS stipulates to the HRM the methods of compensation necessary for organizations. The equity theory measures the evenness distribution of resources relating to partners sharing them. The expectancy theory aims at the behavior of an individual since they are motivated to do so. The reinforcement theory aims at the changing of the behaviors of individuals using methods such as punishment among extinction and reinforcement

(Osei & Boateng, 2015). The three theories assist in getting the best performances out of employees and hence the performance management. Merit pay is a method of rewarding employees on the basis of their performances towards the profitability of a company. Sharing of profits and gains is used to reward employees only at times when there are profits realized. A stock ownership plan formerly termed as ESOP allows the employee to own some company interests. To allow them to share some profits when they are realized.

Nevertheless, HRIS assists in financial management in an organization. All businesses are interested in making profits through their activities. The indicators of successful growth are profits. Making profits enables businesses to retain the labor that they have. People are employed through profits. A business making will fail in its operations, hence, making it unsustainable. Losses make businesses cut down on various investments that include HR and systems. The human resource departments in businesses have to save money and improve efficiency. The human resources sector must also automate where possible in order to improve delivery and time efficiency. Hence, businesses must do strategic planning when conducting their operations.

Furthermore, various organizations, including hotels, need the HRIS to streamline their operations. Shyaa (2019) has used the applications of HRIS to the hotel industry to explain his points. The hotel industry is a major world business and has great competitiveness, especially in the hospitality sector. The HRIS focuses on offering services to customers. It is imperative to constantly improve customer services. The HRIS is very instrumental to the hotel industry while dealing with many customers and a wide range of services (Ben Moussa & El Arbi, 2020). On the other hand, the authors have realized that the tourism and hospitality industries will be affected in the future due to staff shortages. The employee data can be recorded and reported just as much as the customer data. This data will keep businesses running at all times and prevent shortages. Hence, there are prospective solutions to the problems in the said industry, especially in Iraq.

METHODOLOGY

The research method we have adopted is qualitative. This research is part of a constructivist epistemological approach. This approach was imposed by the nature of our problem, which is the evaluation of HRISs and their integration within a company.

The Organization Presentation

SONATRACH is the Algerian National Society for the Research, Production, Transport, Processing and Marketing of Hydrocarbons. It is a major player in terms of fulfilling domestic demand for energy in Algeria. The organization operates over 3400 km of crude oil pipelines in Algeria and produces over 30% of Algeria's GNP. As one of the largest energy companies in the world, with more than 120,000 workers, revenue of US$76 billion and concessions in many countries, including Libya, Mauritania, Peru, Yemen and Venezuela, SONATRACH is also a major world supplier.

This organizations has been chosen for this study because it is one of very few organizations interested in implementing HRIS, ICTs and to have innovative and creative work methods. In addition to their willingness to participate, cooperate in the research by providing all necessary information and data which was not the case for other organizations; many public organizations tend not to disclose any information about their strategies.

Data Collection

To achieve the main goal of the study, a semi-directive interview was used as the main tool to collect data. This tool is a qualitative technique that allows for the search for and acquisition of precise information on defined topics. In addition, some of the organization's documents were used in combination with observation that allowed the researcher to confirm some of the data collected from the interview.

The questions were developed according to the literature related to the study subject and consisted of four parts. The first part contained two questions (Questions 1 and 2) that measure the extent to which the organization's managers understand the importance of the HRIS and how it is going to contribute to the improvement of the management process. The second part also contained two questions (Questions 3 and 4) to determine how the choice of system was made and how the integration was accomplished. The third part contained three questions (Questions 5, 6 and 7) that measure the challenges faced during the implementation phase. The fourth part contained two questions (Questions 8 and 9) that analysed the indicators and standards used to evaluate the HRIS.

The interviews were conducted for approximately 45 minutes with 3 members of the HRIS implementation team and two users:

- The head of the HR department: Mr. Mustapha KHELIL on 04/22/2018. "**A1**" is the reference used for his answers in the data analysis section.

- A supervisor from the HR department: Mrs. Nassima BEY ZEKKOUB on 04/26/2018. "**A2**" is the reference used for her answers in the data analysis section.

- The administrator of the HRIS: Mr. Issam BOUSBIA on 04/25/2018. "**A3**" is the reference used for his answers in the data analysis section.

- Users of the HRIS: Mr. Mohamed AIT SAID and Mrs. Naziha ARBOUB on 05/03/2018. A4 is the reference used for their answers in the data analysis section.

RESULTS DISCUSSION

The Effect of Managerial and Communication Structure

Question #1: Which reasons drove your organization to use a HRIS?

Answers

- **A1**: "We noticed most often a lack of coordination between the different departments".
- **A2**: "there is no unified method; everyone works in his own way".
- **A3**: "There were structural constraints, difficulties in communication and data exchange; thus, it slows the achievement of our objectives ...".
- **A4**: "Unfortunately, the solutions used previously were no longer adapted to our needs".

Question #2: In your opinion, what are the contributions of the HRIS to the organization?

Answers

- **A1**: "This project allowed us to have an added value through providing solutions to the various malfunctions we had before".
- **A2**: "With this system, we have been able to minimize the time as well as the resources to allocate, which allowed us to meet the objectives set by our department".
- **A3**: "The most remarkable contribution is the reduction of the gap between the work and our objectives ".
- **A4**: "It made our job easier, and there was no more pressure on the work being done".

According to the answers obtained from question 1 and 2, it seems that the management well understands the importance of HRISs; this is due to the various problems they previously faced. In particular, there have been communication problems among employees and between the different departments within the firm. Communication is essential to all departments for the proper flow of information. The flow of information is critical to the success of an organization and helps serve the customers better. Hence, service delivery is made much more efficient as customers feel more satisfied. The same can be said of employees at the workplace where they get to interact with each other and bond more to work even better. Interpersonal relations are improved through communication. Hence, workplace harmony is significantly enhanced. This confirm the results found by (Quaosar, 2018) and (Troshani et al., 2011).

Additionally, using the HRIS enabled the company to solve most of these problems or at least reduce the dysfunction encountered while using traditional work methods. The work became more comfortable than before; the employees are facing less pressure, which helps the company reduce the time and resources needed. There is no unified method to solve communication problems. There is a great need to have alternative means for that. For example, (Shani & Tesone, 2010) agrees that there can be high technology applications in the Human Resource department of organizations. There is substantial incorporation of the technology in the industry, a factor that has led to significant improvements. The HRIS is now considered as internal e-commerce due to its extensive applications. Some other concerns and challenges arise due to these transitions, as well as enormous benefits. Several constraints prevent the full implementation of HRIS to businesses, especially at the managerial level. Hence, it is imperative to address the said constraints.

The Effect of Team Management

Question #3: How did you lead this project?

Answers

- **A1**: "I myself have been responsible for developing well-defined needs in collaboration with the training team and put in place the convenient technical conditions".
- **A2**: "We expressed our need for relevant ways to develop a very good specification that will meet our objectives".
- **A3**: "We provided training as well as support for our employees so they can handle the problems related to the HRIS".
- **A4**: "We helped the HR department express the proper needs according to our objectives".

Question # 4: How did you chose the integrator?

Answers

- **A1**: "We opted, in collaboration with the HR director, for internal development by a training a team specialized in the business.

According to the answers obtained from question 3 and 4, a multidisciplinary team was created with the objective of better identifying the organization's problems and better expressing its needs. This team was trained by the human resources department; this decision minimized the costs as well as the resources allocated to carry out the project in its different stages. A multidisciplinary team is always the best placed to address organizational concerns. There is a great importance of managerial commitment to the success and the implementation of HRIS. Shani and Tesone (2010) suggests that a HRIS will only succeed in an organization if the management is fully committed to the course. There are various suggestions to overcome the barriers that prevent the implementation of HRIS across all HR functions. Information access and use are essential to all organizations for the general purpose of accountability. Addressing the contemporary issues with the HR sector is critical to the industries implementing the HRIS. There is a tremendous potential contribution of HRIS to the future of the organization, as seen by the decision of our organization to achieve it. The multidisciplinary team is meant to ensure that all measures are thoroughly checked before implementing the system.

The Effect of Reliability in Projects' Delivering and Resistance to Change

Question #5: Have you implemented the HRIS in all divisions? Is it 100% operational? Have you done an assessment of this implementation?

Answers

- **A1:** "No, it is not yet implanting in all the divisions. For the assessment, we did not do it yet".
- **A2:** "No, there are two divisions left to implement, and for the evaluation, it is not yet realized".
- **A3:** "There are two structures that are scheduled for this month of May; at a maximum, it will be 100% operational in June 2018. The assessment it is not done yet; however, it is a future project".

- **A4:** "No assessment is yet made".

Question #6: What have been the malfunctions and challenges encountered while implementing the HRIS?

Answers

- **A1:** "We have encountered some anomalies related to the deadlines set by the management. Another problem is that we do not have the information in real time ".
- **A2:** "We spent a lot of effort in order to ensure the reliability of information, which created a delay in meeting the deadline set by our superiors".
- **A4:** "We always encounter a problem related to the homogeneity of information; the reason for that is the difficulty in communication and the lack of computerized means".

Question #7: Have you faced resistance to change during the implementation?

Answers

- **A1:** "At my level I have not been faced with such resistance".
- **A2:** "Yes, we have encountered real resistance to the change regarding the automatization of work".
- **A3:** "We faced resistance but not in all divisions; however, we were able to manage the situation".

According to the answers obtained from question 5, 6 and 7, the system is not yet 100% operational, however, the company faced many problems during the implementation phase. A very important problem was the lack of reliable and homogenous information, which caused a serious delay in delivering the project. The system is contemporary and uses an emerging technology, which means that not many people have used it. Hence, there are still unknowns in some sectors. However, all indications can be deemed as positive as there has not been any negative report about HRIS so far.

Nevertheless, another essential problem the company faced was resistance to change, which refers to any behaviour or attitude, indicating a refusal to support a particular project. Resistance to change can be triggered if individuals cannot understand the change. Individuals spend a lot of time, attention, and energy on releasing a project; if they do not understand it, they will not consider it a worthy project. Change is always hard, primarily when people are used to a particular way of doing things. Abrupt changes may disrupt workplace harmony and affect employee performances. Hence it is imperative to observe these factors of change and encourage incremental organizational reforms. Also, change is inevitable and will eventually happen when its time comes. This confirm the results found by (Noutsa et al., 2019).

However, a lack of understanding is not the only factor causing resistance to change; it can be triggered by other factors, such as individual factors, which represent an individual's culture, values, and beliefs that he or she is not yet ready to give up. Sometimes resistance to change is due to the person who embodies and initiates the change project; the resistor becomes involved in the

opposition because of his or her emotions towards the person representing the change; therefore, the resistor is not resistant to the change project itself but to the person initiating the project. This result is mainly due to the poor communication between the manager and the employees. The interpersonal skills of the manager may influence their relationships with the employees.

Consequently, the very structure of the organization itself can also be a source of resistance to change. Thus, a bureaucratic organizational structure generates more strength than a flexible structure, especially if the project is related to ICT. All individuals must share data on the same platform; this can cause resistance because employees feel they are being controlled. Employees who feel that the new changes will affect their performance may become problematic to the implementation of the technology at the workplace. Such employees need to be treated with extreme care to ensure their full commitment and acceptance of the changes.

Question #8: Have you set standards in order to assess the HRIS?

Answers

- **A1**: "My colleagues and I have set standards for the management that define how we can achieve better performance".
- **A2**: "Yes, the standards are respect for the deadline, information reliability, and real time information".
- **A3**: "Yes, we prepared a dashboard where we defined standards like deadlines, the reliability of information and the minimization of errors in comparison to the old approach".

Question #9: Are you aware of the Delone and McLean Model of information system assessment?

Answers

- **A1:** "No, I do not know this evaluation model".
- **A2:** "No, I have never heard of it".
- **A3:** "I have no idea".

According to questions 8 and 9, the company implemented standards to evaluate the system, however, they did not know which system they have to use. To assess the HRIS project, the human resources department put in place some indicators to allow for good follow-up of the progress as well as to evaluate the project in relation to its objectives. The indicators set by the organization were the reliability of the information, respect for the deadline and the homogeneity of the information. Since, the management team did not know which information system evaluation model to should use; we proposed the Delone and McLean model (Delone & McLean, 1992) based on the organizational needs and assessment indicators. The result was as follows:

After having studied and evaluated the impact of the new HRIS system on HR department performance in SONATRACH, we were able to propose improvements for the organization to increase effectiveness and efficiency:

The adoption of a power-sharing strategy to reduce the gap between managers and employees can lead to reduced resistance to change (Figure 1).
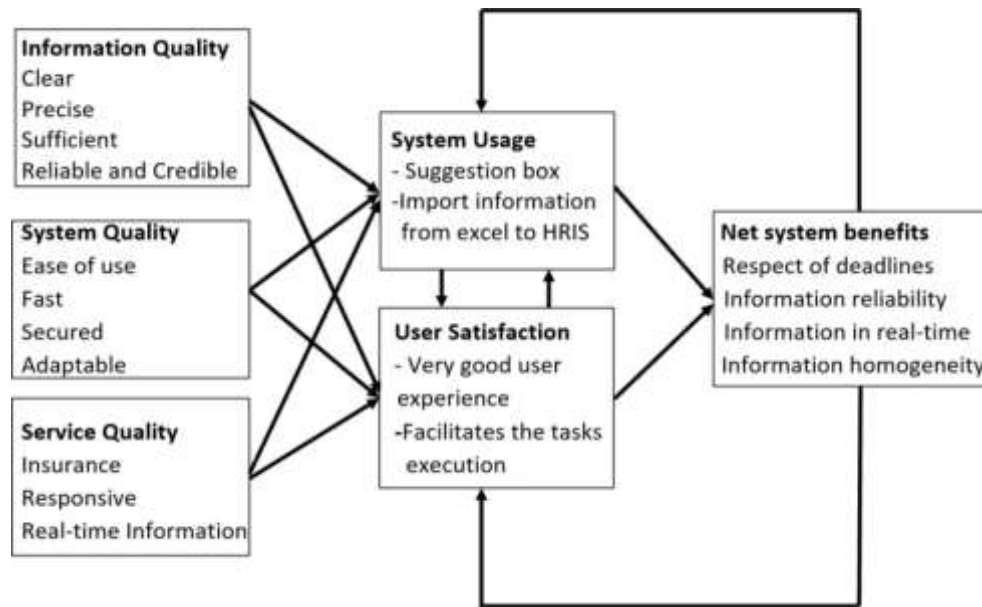
FIGURE 1
THE DELONE AND MCLEAN MODEL BASED ON SONATRACH NEEDS. SOURCE:
AUTHORS OWN STUDY

CONSCLUSION

Information systems provide managers with access to information about their direct reports and the ability to conduct analyses to increase managerial effectiveness. As with the HRIS, information and HR tools are available at all times and can be delivered to the manager as the information is needed.

Many information systems, including HRIS, support and summarize all the information the manager lacks in real time, delivering surveys to appropriate parties and summarizing data across departments, teams and individuals.

In addition to these advantages provided by the HRIS, the current economic context and the technological ecosystem require that organizations rethink their processes. Thus, the management of SONATRACH decided to implement the HRIS to better manage its activities and ensure better quality service. However, the implementation team faced some challenges: resistance to change from some users and some technical problems that caused a delay in meeting the deadline set by the management.

The results obtained from the case study affirmed that public organizations face many challenges in order to adopt HRIS. The most important challenge is the lack of communication between the different levels of management which is not different from private organizations. Another challenge was the technical problems that delayed the project. Additionally, the resistance of employees to the new system was also a challenge toward a successful adoption of HRIS in the organization; this is also similar to private organizations.

We can conduct from this study that challenges in public organizations are very similar to those in private organizations; however, the study has some limits such as the company of study

is very capable financially and may not represent all public organizations. Therefore, more studies should be done by taking bigger samples.

It should be mentioned that the HRIS can be a real lever of performance within an organization; however, to ensure performance, the implementation must take place under the best possible conditions. Otherwise, the HRIS would no longer be an advantage but rather a significant cost.

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