

Adoption of Cloud Human Resource Information System in Egyptian Hotels: An Experimental Design Research

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Abstract

The main purpose of this research is to examine whether the hotel staff impressions hold towards cloud Human Resource Information System (HRIS) importance and adoption are varied according to the hotel category. An experimental 2x2 full factorial design was performed with data collected from 80 hotel employees. Participants were purposively selected through the online web pages of LinkedIn and Facebook.

Findings of this experiment showed an overall lack of cloud HRIS adoption in the 3-star hotels than 5-star hotels in Egypt and most of cloud HRIS activities are still used in a very limited extent. In addition, the perception of the degree of importance varies significantly between the hotel types. The main implication of this study within the Egyptian hotel sector is that to be more innovative and competitive, the hotel corporations will need to invest significantly in smart innovation within their HR departments to benefit from the strategic and operational advantages of cloud HRIS. This study is considered one of the few studies that operationalised the concept of cloud HRIS in the Egyptian hotel industry; it highlighted the cloud HRIS key affecting factors based on the Technology Organization Environment (TOE) model and HR activities in hotel.

Keywords: Cloud HRIS, Experimental Design, Egyptian hotel industry

Introduction

Many organizations are struggling to find out the best managerial solution to better manage their resources. It was reported that the human resources is one of the most important capital in any setting in general and in the hotel industry in particular (Fouladi and Jafari, 2017). Limited research attempts have focused on how institutions can more efficiently manage their human resource asset (Johnson et al., 2016). Johnson and Diman (2017) recently highlighted the term of Human Resource Information Systems (HRIS) as a critical success factor for any larger organizations contributed with streamlining HR operations and improving productivity, efficiency and performance.

Optimistically, it was widely well-known that the principal segment of any development is also related to the use of technology applications in managing employees and developing functions that have a vital role in providing continuous and high quality service to the customer. One of the very dominant and vibrant fields nowadays in the Egyptian economy is the hotel industry. According to Whitelaw et al. (2009), hotel business is the only pushing aid to any prosperity and advancement in any country..

Technology is now considering a serious source of competitive advantage in the hotel industry, particularly in the areas of description, promotion, distribution, amalgamation, organization, and delivery of hospitality products. The use of technology innovation is witnessed more than ever before as a major prerequisite in forming strategic alliances, developing innovative distribution tools, and communicating with customers and partners while satisfying customer demand. Customers and partners alike tend to place greater importance on organizations which apply technology to a greater extent than their competitors. Much more attention should be paid to technology innovations because of the continuous changing environment, especially around hotels which are forced to confront and deal more effectively with hustle and heavy competition in one hand, and increasing customer expectations in the other hand (Ham et al., 2005).

otels nowadays have been forced to adopt technology as a way of dealing with rapid changes in the competition, environment and customer expectations in order to achieve a competitive advantage. The hotel sector has usually been criticised for the scanty incorporation of technology in smaller and independent businesses (Yen and Tang, 2015).

Many research attempts that the technology investment has been found to contribute to increased company productivity and performance (Ham et al., 2005; Pérez-Aróstegui et al., 2015). Although hotels have been reported as a labour intensive sector, more recent studies show that considerable progress has been made in terms of HRIS and its impact (Fouladi and Jafari, 2017; Jooss and Burbach, 2017).

Like any technology innovations in hotels, HRIS has been pointed out many achievements, such as cost reductions, improved customer satisfaction, increased market share, greater operating efficiency, improved customer services and the achievement of competitive advantages and improved performance. The use of technologies does not necessarily eliminate jobs, but helps to make them more flexible (Velázquez et al., 2015). Despite these advantages, hotels often do not receive the expected benefits of investment in HRIS. One of the main reasons may be the risk of extreme investment, so the optimum level of HRIS in any hotel should be determined against the customer needs (Johnson and Diman, 2017).

CLinking any technology innovations with HRM is recently described with different synonyms such as : cloud HRIS (Johnson and Diman, 2017); digital HRM (Jooss and Burbach, 2017); E-HRM (Spitzer, 2014); web-based HRM and smart HRM (Strohmeier, 2012).

THRIS concept refers to an information system which used to obtain, store, manipulate, analyse, recover and distribute human resources data in any organization to help their managers in supporting the HR functions. On contrast, traditional HRM may use some combination of paper-based forms, Excel sheets, and using simple Access databases to manage their HR data (Kavanagh and Johnson, 2018).

According to Kavanagh and Johnson (2018) the modern technological developments in cloud computing are changing the situation for small companies. Cloud computing differs than the traditional on premise solutions which the later depends on large capital investments, complex implementations, and expensive hardware and software requirements. Instead of designing and installing software for each company, cloud sellers offer standardized, non-customizable system that all organizations can configure to their HR precise needs. The HR software is then accessed and delivered over the cloud (Johnson et al., 2016). Nowadays, HRIS retailers are continuing to look for new markets to sell their products, and ways to better meet the needs of all customers (Johnson and Diman, 2017).

Despite the growing interest in HRM research in hotels, empirical research on cloud computing , HR functions and roles, and HRIS has been limited in the Egyptian hotels and, hence more research is called for. More research can, not only show the level of cloud HRIS adoption, its importance but also identify obstacles and suggest ways to overcome it.

Recently, Jooss and Burbach (2017) evaluated the degree of cloud HRIS using 10 semi-structured interviews with key personnel at both corporate and property level HR in two largest Irish hotel companies. They significantly found an overall lack of technological innovations and most of the principal HR functions are digitalised to a very limited extent (such as job postings via web pages). However, existing knowledge on the effects of hotel type on cloud HRIS adoption is still scarce, and our purpose is to extend this body of literature in two ways. First, the present study aims to experimentally test the effect the hotel type has on cloud HRIS adoption

perceptions. Second, and most importantly, to examine potential explanations for the presence or absence of such an effect.

Literature Review

First, we will argue that individuals can base their impressions and evaluations on an expectancy-disconfirmation process (Oliver, 1997) where evaluations will differ due to differing expectations between various organizations. When expectations about cloud HRIS adoption are less than its current performance or usage, a positive disconfirmation will happen. When the adoption of cloud HRIS underperforms the person's original expectations, the disconfirmation is negative, which is posited to decrease post-purchase or post-adoption satisfaction.

AMany discussions have been reported about cloud computing. While some consider it is a disruptive trend representing the next phase in the evolution of the Internet, others consider it is hype, as it uses previous established computing tools. From a user viewpoint, cloud computing provides a way for acquiring computing services without any need for deep understanding of the underlying technology being used (Aleem and Ryan, 2012). From an organizational viewpoint, cloud computing delivers services for customer and business needs in a simple way, providing absolute scale and distinguished service quality to foster rapid innovation and decision making (Rai et al., 2013).

The historical background of the term HRIS was extensively used in the late 1990s when e-commerce was sweeping the business world. HRIS initiated from payroll systems in the decade of 1960s when the first automated employee data was used (Mayfield et al., 2003).

HRIS term was used interchangeably with virtual HRM, HR intranet, smart HRM , E-HRM, digital HRM web-based HR, computer-based human resource management systems (CHRIS), and HR portals (Yusoff et al., 2010; Spitzer, 2014; Jooss and Burbach, 2017).

Cloud computing is one of the emerging technologies list followed by mobiles, social media, and workforce analytics (Roberts, 2011). Roberts(2011) referred to an example of all four working together which is recruitment. For example, a company needs to hire a new sales manager, consequently they will offer a new phone and tablet to sweeten the contract, advertise on social media, analyse job applicant's data to highlight positive trends in identifying potential and then pay the lucky applicant through software as a service (SAAS). Many companies may be reluctant to adopt all the previous four technologies at once, but advantages can include the ability to offer HRM solutions universally, improved communication with staff and significantly, enabling the enhancement of their staff engagement.

Cloud HRIS could be defined as the administrative support of the HR role in organizations by using Internet technology. Cloud HRIS is considered a way of implementing HR functions, policies, and strategies in organizations through a conscious and directed support and/or with the full use of web-technology-based channels (Spitzer, 2014; Wang et al., 2016).

Heiser (2009) defined cloud computing as a computing style, where extremely accessible IT-enabled capabilities are provided as a service to customers using software technologies. Cloud computing involves sharing or storing specific information on remote servers owned or operated by others, while accessing through the internet or any other connections. Cloud computing services exist in various forms. For example (data storage sites like Dropbox, video websites, tax preparation sites, personal health record websites, staff planning and scheduling sites and many more. The whole contents of a user's storage device may be stored with a single cloud provider or with multiple cloud sources. When someone or any other body shares information in the cloud, privacy or confidentiality problems arise (Rashmi et al., 2013).

Cloud computing involves four deployment models: private; public; community; hybrid. It also has three delivery models used within a particular deployment model such as: Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). These models are characterised by its on demand self-service, wide network access, resource sharing, measured service and speedy elasticity (Mell and Grance, 2011).

SaaS model is the best-recognized type of cloud computing in which applications are managed and hosted via the service provider. It needs a subscription fees to be accessed through the internet browser. It basically deals with a license offered to customers for using as a service on demand. Many applications are considered good examples of SaaS (such as CRM application and the Salesforce.com) (Mell and Grance, 2011).

A Technology application in HR has dramatically expanded and is remaining to change HRM functions and roles. HRIS is now used for management purposes as well as strategic and business decision-making purposes (Obeidat, 2012). Sadri and Chatterjee (2003) highlighted some advantages if the HRIS function was computerized in the cloud since a quick decision making was able to occur in the HR development, planning, and administration because data became much easier to store, retrieve, update, categorise, and analyse. HRIS could also strengthen the company performance (Johnson and Stone, 2016).

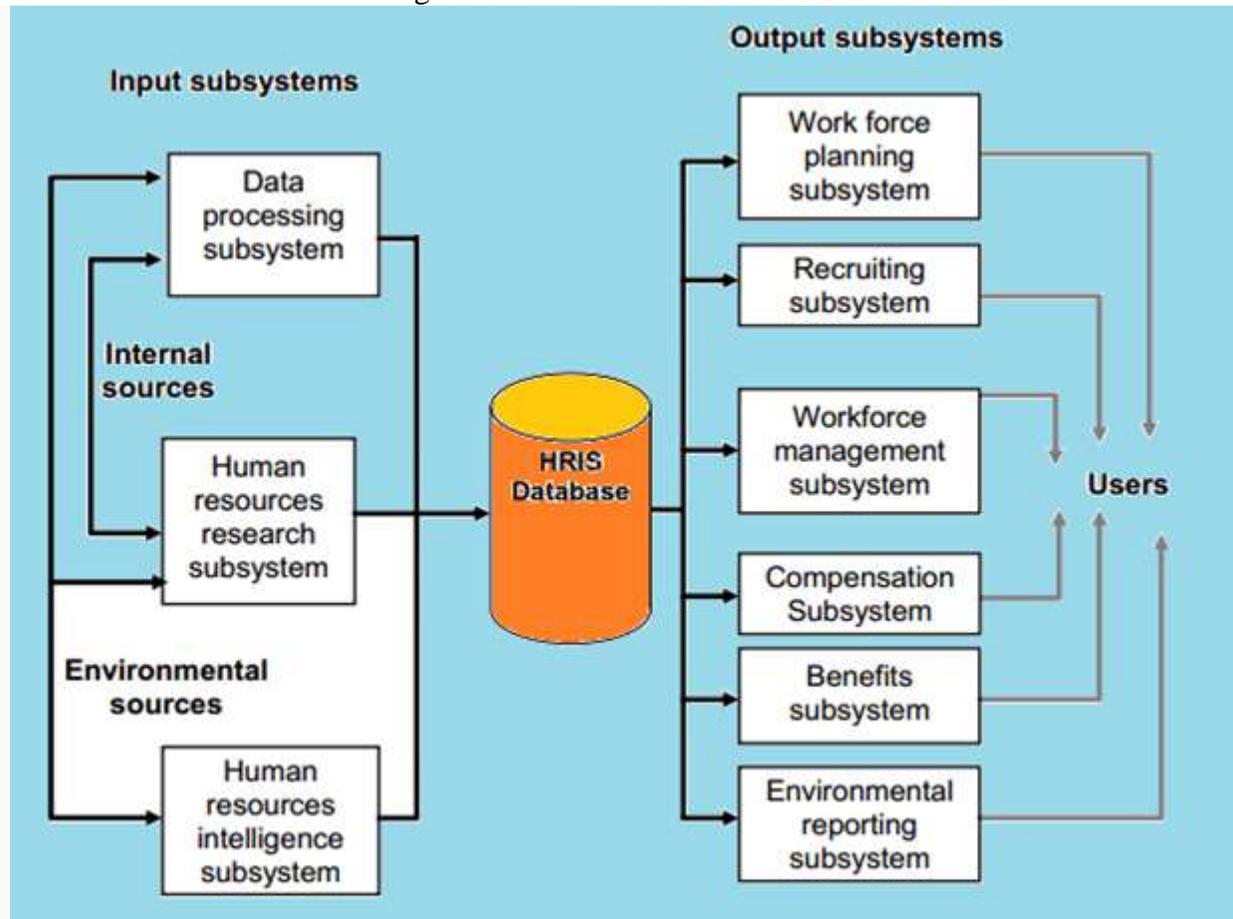
With the aim of increasing HRM effectiveness, majority of hotel organizations are becoming gradually reliant on HRIS application to track any information related to their employees (e.g. employee's qualifications, demographics, recruitment, professional development, performance appraisals, payroll, retention, and attrition). When available an access to metrics, HRIS can improve administrative efficiency through faster information processing, improved employee communications, greater information accuracy, lower HR costs and overall HR productivity improvements (Ball, 2001; Hendrickson, 2003; Dorel and Martinovic, 2011). Furthermore, many enterprises adopt HRIS to support both their HR management and their business management (Ngai and Wat, 2006).

Moving from a labour -intensive HRM to technology-intensive HRM is the core of HRIS. For that reason HRIS is different than any other application (e.g. administrative applications, talent management applications, workforce management applications, service delivery applications, workforce analysis, decision making or support applications)(Mayfield et al., 2003; Hussain et al., 2007).

HRIS involves many functions of corporate communication, recruitment and selection, training, employee opinion survey, compensation, payroll services and employee certification and staff related information and demographics (Ball, 2001; Obeidat, 2012) . Cloud HRIS includes functions of transaction processing systems, communication systems, decision support systems, and some elements of artificial intelligence. The initial step in the design of an HRIS is to identify the requirements of the system (Kavanagh and Johnson, 2018).

Cloud HRIS have been intended to achieve most of the routine HR functions and processes (Figure 1) to keep required HR knowledge in databases (McLeod and DesAnctis, 1995).

Figure1: Resource flow HRIS model



Source: (McLeod and DesAncis, 1995)

Cloud HRIS eases job placement positions by containing all the data concerning to the job description, training requirements, compensation, rewards and employee performance (Rashmi et al., 2013). Many scholars highlighted the potential benefits of Cloud HRIS implementation. A well developed and refined Cloud HRIS could reduce overall employees' costs and help to simplify the way customers, managers and staff access and use HRIS everywhere. Cloud HRIS provides management with strategic data recruitment, retention strategies and to merge HRIS data into large-scale corporate strategy (Aleem and Ryan, 2012; Rader, 2012; Truong and Dustdar, 2012; Ross and Blumenstein, 2013; Dai et al., 2015; Kumar et al., 2017). However, cloud HRIS adoption in hotels is still scarce and needed as recommended by Low et al. (2011) and Jooss and Burbach (2017).

Cloud HRIS can be implemented to be used by everyone and it should not be a burden or a loss to anyone. There are three steps for effective Cloud HRIS implementation. First, constitute the HRIS for the company's process and policies so as to consider it in payroll, pay increases and training purposes. Second, interface the data with other systems and convert the company's old data into the new system. It is recommended to roll out the system to a small test group first to get feedback on how training should go. Other way to link the HRIS with existing systems is to develop staff groups to do different HRIS tasks, such as ERP, payroll. Third, preparing for the system, including budgeting time and money needed for adoption, training, and communications.

Adequate time, energy and money are considered challenges in implementing cloud HRIS (Lal and Bharadwaj, 2016; Kumar et al., 2017).

Cloud HRIS is implemented at different levels which include staff information publishing, automation of transaction and transforming the whole work of HR department. These processes add value to organization and increase profit as reported by Wang et al. (2016).

According to Ross and Blumenstein (2013) the Cloud HRIS as an innovative system have three main functions which include the Input, data maintenance or data process, and output. In the input function, all the HR information is compiled into the system. The data maintenance function updates and complements new data to the database. The output function presents and delivers information to whom it may concern (McLeod and DesAnctis, 1995; Dorel and Martinovic, 2011).

The current innovation could include an extensive use of fast-evolving digital technologies, such as the cloud HRIS with diagnostic tools in which employees are already actively engaging with smart technologies and applications. Ensuring well cloud HRIS in any organization depends on management consensus, updating the HRIS, providing a unified multichannel existence, and using proper data to build strong HR decisions (Jooss and Burbach, 2017). To summarize, the hotel industry witnesses little attempts of cloud HRIS adoption. Jooss and Burbach (2017) were the first to consider this application in the Irish hotels. Spitzer (2014) found few hotels engage in using the best practices of cloud HRIS. Spitzer also found only two large hotel chains (Marriott and Starwood) implement some features of cloud HRIS to attract and recruit talents to the industry. However, little has been done in the Egyptian hotels.

These previous demonstrations guided the researchers to test the following hypotheses:

H1: There are significant differences between respondents on the current situation towards cloud HR software adoption.

H2: There are significant differences between respondents on the importance of cloud HR software adoption.

Methodology

Since the aim is to test how the perceived importance of cloud HRIS adoption is influenced by hotel type (star categorization). To facilitate this, it was carried out an experimental 2 (Three- star hotel vs. Five –star hotel) x 2 (In-house HRIS vs. Cloud HRIS) between subjects factorial design. Factorial design experiments were recommended by Fong et al. (2016) who encouraged hospitality researchers to conduct more experiments to enrich the body of causal research. Experimental design is well-recognized method aimed to test the causal relationships, because it could control the effects of irrelevant factors to a level far below those that use other research methods such as interviews and observations. Experimental design was commonly used to examine social science theories. However, the use of experimental design in hospitality field remains a niche (Malhotra et al. 1996; Lynn and Lynn, 2003).

The experiment was performed through 80 hotel employees. Participants were purposely recruited using the most recognised social media web pages (LinkedIn and Facebook) to participate in the experiment, of which 57 percent were males. Mean of their ages was 26 years. Work experience mean was 9 years. Most of them holding a key position in hotel management (90 % HR managers and assistants and 10 % other hotel executives). Experiment subjects (participants) were randomly assigned to the four experimental conditions (leaving 25% in each cell : 3 star hotel participants, 5 star hotel participants, those who used cloud HRIS in 3 star hotel

category and those who used cloud HRIS in 5 star hotel category), and were exposed to the following phases:

In the first phase, participants were given a brief introduction about the research questions:

Q1: What is the current situation towards cloud HR software adoption in hotels?

Q2: Do staff impressions towards the importance of cloud HR software adoption influence by hotel type?

During the second phase, the hotel star categorization was considered, as half of the participants were previously or still work in a hotel using cloud HRIS in their daily activities and then asking them to record their perceived importance. The other half were previously or still work in a hotel using in house HRIS. The participants then completed a questionnaire measuring the dependent variables, followed by some demographic questions like age, job position, experience and gender. The used measures for the dependent variables (perceived cloud HRIS importance and adoption) were five point Likert-type scales anchored “strongly agree” (5) and “strongly disagree” (1) that were previously developed from related literature and based on the Technology Organization Environment (TOE) model as shown in Table 1.

The TOE model of Tornatzky et al. (1990) was used as the process by which an organization’s adoption of information system is influenced by three factors of technological, organizational and environmental contexts. The technological factors include the new software cost, complexity, compatibility, and the relative importance of the software over current operations. The organizational factors include top management support, the technology expertise of the current employees and the business size. The environmental factors include competitiveness, vertical organizational linkages and external support (Premkumar and Roberts, 1999; Jain and Premkumar, 2010). The main reasons behind selecting TOE model are: first, it is more specifically made for technology adoption at an organizational level; second, it provides the opportunity to examine many affecting factors specially the environment on the adoption level; third, it has been shown to predict the adoption of many different technologies by hotels in Egypt including HRIS; At last, it is sufficiently wide to be adjusted to a wide range of contexts (Johnson and Diman, 2017).

Table 1: Questionnaire items measurement

Construct	No. of scale items	Validated by	Scale dimension	An example of the survey items
Technology	3	(Kuan and Chau, 2001)	Perceived benefits	Cloud HR software will allow my staff to make more effective HR decisions.
	5	(Johnson and Diman, 2017)	Improved HR data	Cloud HR software reduces the number of errors in my staff data.
	3	(Slyke et al., 2010)	Compatibility	Using cloud HR software to manage my human resource function is compatible with how my hotel does things.
Organization	4	(Premkumar and Roberts, 1999; Jain and Premkumar, 2010)	Top management support	Top management strongly supports the adoption of cloud-based software.

	3	(Premkumar and Roberts, 1999; Jain & Premkumar, 2010)	Staff IT skills	Our staff have the technical skills necessary to use cloud HR software.
	2	(Johnson and Diman, 2017)	Adoption costs	Adopting cloud HR software is very expensive.
	2	(Johnson and Diman, 2017)	Anticipated hotel growth	Our hotel's growth should exceed that of competitors in our industry.
Environment	4	(Johnson and Diman, 2017)	HR compliance support	Cloud HR software helps my hotel to meet the requirements of growing governmental reporting regulations.
	4	(Premkumar and Roberts, 1999; Jain and Premkumar, 2010)	Vendor support	Software vendors provide technical and implementation expertise that help me to implement new cloud HR software.
	3	(Johnson and Diman, 2017)	Access to capital	My hotel has sufficient access to capital to invest in new HR technology.
Cloud HRIS adoption	13	(Johnson and Diman, 2017)	Adoption	This factor was measured by a self-report sum of the HR functions where cloud HR software was either the current software used or would be used in the next year. HR functions were: staff planning, employee self-service, manager self-service, HR-orientated help desk, tracking, scheduling, budgeting, talent acquisition, performance, rewards, benefits, compensation, and retirement.

After finishing the questionnaire, the experiment subjects were finally dismissed and getting thanks for their involvement. To test the hypothesized effects, the MANOVA test was conducted with cloud HRIS adoption and cloud HRIS importance as dependent variables. Hotel type and HRIS type were selected fixed factors.

Results and Discussions

Before turning to the empirical results, a brief explanation of expectations is warranted. First, if the cloud HRIS adoption of 5 star hotel is rated more positive than in the 3-star hotel, this should imply that participants base their judgment on a expectancy-disconfirmation logic, where the lower expectations for the 3 star hotel leads to a positive disconfirmation and thus higher score than the 5-star hotel for which a negative or no disconfirmation is achieved. If, however, cloud HRIS adoption evaluations are subject to negativity bias, then the 3-star hotel should receive a lower quality rating than the 5-star hotel.

The results from this experimental study hold some interesting implications. First, it seems that the hotel staff perceptions towards cloud HRIS importance were greater in the 5-star hotels context than in 3-star. Table 2 highlighted that the mean scores of 5-star hotel participants towards the perceived importance of cloud HRIS adoption is 4.60 which is more than 3.12 of the 3-star hotel mean score.

Table 2: Means and Standard Deviations for dependent variables sorted by experimental factors

Dependent variable	3-star hotel		5-star hotel	
	Mean	SD	Mean	SD
Perceived importance of cloud HRIS adoption	3.12	1.89	4.60	2.10
Cloud HRIS adoption	3.26	2.44	4.56	2.21
Dependent variable	OIn House HRIS		Cloud HRIS	
	Mean	SD	Mean	SD
Perceived importance of cloud HRIS adoption	4.50	2.13	4.52	1.61
Cloud HRIS adoption	3.12	2.33	4.74	2.30

Table 3 highlighted the current status of HRIS adoption in the selected hotels. We first investigated how these hotels were currently utilizing HRIS to support the HR different tasks and functions. Some interesting highlights of the current and planned adoption of software are that the 3-star hotels are still lagging in implementing HRIS. For example, more than half of the hotels surveyed (50%) had no type of technology to support HR tasks and functions of staff planning, compensation, performance management, and staff scheduling. In other functions though, 3-star hotels appear to be embracing cloud-based HRIS. Specifically, cloud-based HRIS was the most chosen approach for staff and managerial self-service, tracking and benefits functions. Finally, 3- star hotels are more heavily outsourcing staff benefits, compensation, and retirement processes. Thus, it appears that 3-star hotels are looking at technology, especially cloud-based technology, to support simple transactional processes, whereas they either outsource or manually handle more complex and strategic functions such as staff planning and budgeting. These results were coincided with Johnson and Diman(2017) who concluded that small businesses are still lagging in using and implementing any form of HRIS. In contrast, the 5-star hotels showed that the highest mean (M=3) was assigned to some HR functions such as: staff self-service, scheduling, budgeting and talent acquisition. Surprisingly the lowest mean value was assigned to rewards. This was logic as the system could not reward individuals beyond managers and supervisors evaluations as reported by Buick (2003).

Table 3: HRIS adoption according to hotel category

Hotel Category		3-Star hotel			5-Star hotel		
HR Functions		Not using	In-House	Cloud (SAAS)	Not using	In-House	Cloud (SAAS)
1	Staff planning	3.6	1	0.125	0.5	1	2
2	Employee self-service	1.0	0.7	2.25	0.6	0.6	3
3	Manager self-service	1.3	0.3	2	0.4	0.3	2.5
4	HR-orientated help desk	3.1	0.5	0.5	0.5	0.6	1.5
5	Tracking	0.6	1	1.75	0.6	1	2
6	Scheduling	2.7	1	0.1	0.4	1	3
7	Budgeting	1.8	0.7	0.5	0	1	3
8	Talent acquisition	2.5	0.9	1	0	1	3
9	Performance	2.8	0.8	0.65	0	1	2
10	Rewards	0.5	1	0.5	0	1	1
11	Benefits	1.3	1	1.5	0	1	2
12	Compensation	1.0	1	1	1	1	1.5
13	Retirement	1.1	0.2	1	0.3	1	1.2

Note: The mean was calculated from the sum report percentages (e.g. 100%=5)

It was performed the correlations analysis before running the MANOVA test as highlighted in Table 4. All the research variables reported high correlation scores and an accepted significance.

Table 4: Correlations between the research variables

	1	2	3	4
HRIS adoption	1			
Importance_Technology	0.62**	1		
Importance_Organizational	0.59*	0.39*	1	
Importance_Environmental	0.58**	0.50**	0.64*	1
Hotel type	0.7*	0.4**	0.52*	0.70*

The results of the MANOVA (Table 5) showed a significant main effect of hotel type on both perceived importance of cloud HRIS adoption ($F=5.32$, p value =0.020) and cloud HRIS adoption ($F=2.90$, p value =0.098), with the perceived importance and adoption receiving highest scores when the adoption was intended in 3-star hotel rather than 5-star hotel. However, the effect on cloud HRIS adoption is not significant at (0.10 significant level). While the result is not significant, we are encouraged that the direction of the coefficient is in the hypothesized direction. Hence, the first main affects lead us in the direction of a positive expectancy-disconfirmation explanation.

However, an alternative explanation could be that the 5-star hotel is in fact prone to be affected by a negativity bias. One might say that the cloud HRIS adoption of 3-star hotel is at an expected level (no disconfirmation), and might perceived less positive than cloud HRIS adoption of 5-star hotel, and therefore subject to a negativity bias that deflate the impressions score. However, if this was the case, then the cloud HRIS adoption of 5-star hotel score should not be significantly affected by increasing the adoption evaluation scores. Based on Finkenauer et al.,(2007) argument that bad stereotypes are more resistant to disconfirmation than good ones, and thereby the possibility of positive disconfirmation, should prove less efficient if a negativity bias was present. However, this is not the case in this research data, where cloud HRIS adoption and importance received higher scores in the 5-star hotels compared to the 3- star hotels. The analysis returned F values equal to 5.63 (p value =0.010) for perceived cloud HRIS importance and 4.69 (p value = 0.001) for cloud HRIS adoption. Finally, we did not find any significant interaction effects in our data ($F=0.12$ and p value = 0.747 for importance, $F=0.00$ and p value =0.997 for adoption). To control for potential differences between males and females staff in the sample, we also included gender as a factor in our test. No significant results were returned for this variable.

Table 5: MANOVA test of the main and interaction effects

	Importance of cloud HRIS adoption	Cloud HRIS adoption
Main effects (F value **=significant)		
Hotel type	5.32**	2.90*
HRIS type	5.63**	4.69*
Interaction effects		
Hotel type× HRIS type	0.12	0.00

Conclusion

Cloud HRIS is a software or online solution for the HR related data to serve companies in many functions of attendance, pay raises, HR history, pay ratings, performance development plans,

training, disciplinary action, special staff biographies, management and employees advancement plans, staff identification, applicant tracking, interviewing, selection and rewards.

As the hotel industry witnesses little attempts of cloud HRIS adoption, the aim of this experimental study was to test the hotel type effect on cloud HRIS application as well as to test how the perceived importance of cloud HRIS adoption is influenced by hotel type. This experiment argued that hotel employees can base their impressions and evaluations on an expectancy-disconfirmation process as reported by Oliver (1997) where evaluations vary due to different expectations between various organizations. When expectations about cloud HRIS adoption are less than its current performance or usage, a positive disconfirmation will happen. The research hypotheses were accepted based on the F-values in Table 5 as it was found significant variations among the hotel types towards the importance of cloud HRIS and HRIS adoption.

The findings of this study showed that the hotel staff perceptions towards cloud HRIS importance were greater in the 5-star hotels context than in 3-star. Furthermore, the results of the current and planned adoption of cloud HRIS are that the 3-star hotels are still lagging in implementing HRIS. For example, more than half of the hotels surveyed had no type of technology to support HR daily functions of staff planning, compensation, performance management, and staff scheduling. In other functions though, 3-star hotels appear to be embracing cloud-based HRIS. Specifically, cloud-based HRIS was the most chosen approach for staff and managerial self-service, tracking and benefits functions. Finally, 3-star hotels are more heavily outsourcing staff benefits, compensation, and retirement processes. Thus, it appears that 3-star hotels are looking at technology, especially cloud-based technology, to support simple transactional processes, whereas they either outsource or manually handle more complex and strategic functions such as employee planning and HR budgeting.

The key limitation of this study is the small sample size with a focus on the hotel industry in Egypt, and thus, a study replication on a different service sector or country would help in validating the results and add further to the body of literature in the concept of cloud HRIS. Future research might consider the effect of the three TOE factors (technology, organization and environment) on the cloud HRIS adoption in hotels or in any other service sector.

At a practical level, this research will assist the participating hotels to continuously evaluating their level of cloud HRIS application and to identify potential areas for future investment. In order to succeed and get competitive advantage, the Egyptian hotels will need to invest significantly in HRIS innovation.

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