A Qualitative Evidences of User Satisfaction on Government Employee Management Systems

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Abstract

Human resource management (HRM) activities were always carried out manually and paper intensive using the traditional method system. Presently, HRM are facing challenges that includes competitive work environment, allocating growing demands, provide service quality, growing workforce, globalisation of economy and more. With the availability of information communication and technology (ICT), HRM has transformed into an inevitable power of technology that transform HRM into Electronic Human Resource Management (E-HRM) system. Brunei Darussalam without exception is also practicing E-HRM in the Government sector called Government Employee Management System (GEMS). This paper investigates the user satisfaction of E-HRM on Brunei Darussalam Government Employee Management System (GEMS) by investigating the current status of GEMS in Brunei Darussalam, based on the Government employees experience. The user satisfaction was studied through seven elements, the implementation of E-HRM, training, user-friendliness, infrastructure, data security, technical support and user support. Qualitative interviews were conducted on Human Resource (HR) officers from the four departments of public organization and one representative from the Infotech division, which is the division that implement and maintain GEMS. Findings revealed that the GEMS do not give satisfactory system. The employees are only satisfied with the data security and technical support. While they are not satisfied on the other elements (training, user-friendliness, infrastructure) causing it to be lacking in user support that leads to unsatisfactory system. This paper has developed a theoretical framework as a recommendation to integrate relevant elements, together with the influence of age, gender and years of service that impact the user satisfaction.

1 Introduction

The computer has undeniably affected every aspect of our lives, especially in the advent of information technology, together with communication technology (ICT). According to Akinyede & Daramolad (2013), the computer has remained one of the most powerful tools that has served as an aid to decision making in recent years, mostly because of its efficiency in terms of speed, accuracy, reliability, mass processing, cost and security, among others. It has inspired many advancements in today's workplace in different sectors and fields; human resource management is no exception. Human resource management (HRM) activities were always carried out manually and paper intensive using the traditional method system. Presently, with the availability of ICT, HRM has transformed into a sophisticated Electronic Human Resource Management (E-HRM) system.

HRM comprises all management practices and decisions, that affect the employees. In today's world, HRM are facing challenges that includes competitive work environment, to allocate growing demands, provide service quality, growing workforce, globalisation of economy and many more. To facilitate, HRM is moving to an inevitable power of technology that transform HRM into E-HRM. E-HRM, has a lot to offer and contains features representing the functions of a typical HRM department, that claimed to be effective by saving time and effort to increase productivity. Brunei Darussalam without exception is also practicing EHRM in the Government sector called Government Employee Management System (GEMS).

As part of moving the Government sector closer towards a modern, interactive, excellent and integrated civil service of the 21st century, the GEMS was implemented by the Brunei Government in the year 2008 (Prime Minister's Office, 2008). GEMS is an E-HRM system manage by Infotech Division of Public Service Department that has been used by all of the employees working with the Brunei Government. It has been used to monitor daily work attendance, submit or edit personal information. It also allows human resource managers to manage leave applications, benefits entitlement, car and house loan applications, allowances, performance appraisals, trainings and promotions (Brunei Prime Minister's Office, 2009).

Implementing technology is costly. However, it is unavoidable, as it has become an integral part of our everyday life. Technology continues to advance and many scholars stress the advantages of it. Technology has been of great use in HRM. Because HR handles countless work related to employees. Therefore, to provide quality processes, HR would need technology to be systematic. Hence, the implementation of E-HRM. Referring back to the statement of technology being costly, in Brunei Darussalam, the Government had invested more than 10 million Brunei dollars to GEMS. With the large amount being invested by the Government, it is important for all employees to fully utilise the system. However, to fully utilise the system, it is vital to achieve user satisfaction; the inability to satisfy the employees hence the users, would create a challenge in trying to maintain user engagement with the system. Therefore, this paper focuses on the current issues of GEMS and analysed the improvements that needed to be made to increase the usage of the system and to provide a better service for the employees.

2 Literature Review

Human Resource Management (HRM) was previously known as "Personnel Management" (Mahapatro, 2010). The main function of HRM is to utilise human capital to to identify, select, train and develop manpower to achieve organisational goals (Mahfod et al., 2017). Paauwe & Boon (2009) stated that HRM is responsible for managing payroll, employee attendance,

employees' working hours, performance appraisal, training and development to improve the knowledge, skills, abilities and more.

According to Snell et al (2001) HRM should be more strategic, cost efficient and flexible. Findikli and Bayarecelik (2015) believe that HRM should continuously update themselves and adapt to an evolving technology system, which will aid HRM processes. Moving into the 21st century, HRM is transitioning towards the E-HRM system; a web-based human resource management system (Strohmeier & Kabst, 2014).

From the support and intervention of ICT, HRM has been innovated to E-HRM; to transform HR functions paperless and become resource efficient (Davoudi & Fartash, 2012). ICT is believed to increase administrative and strategic functions of the HR department (Maheshwari and Vohra, 2015).

E-HRM is the devolution of HR functions and allows communication between the employees, management and managers, which is commonly accessed via intranet using web-based technologies (Ruel et al., 2007). It can transmit digitised information from one computer to another computer, which includes text, sound and visual images (Shilpa and Gopal, 2011). With the availability of E-HRM, HR functions have been transformed paperless, resource efficient and more flexible (Mago, 2016).

There are a large number of researches focusing on impact of ICT that represent in various of measures and settings. According to Ibrahim & Yusoff (2013) there are variety of factors that had been recognised to have influence on the end-user satisfaction. As mentioned by Ma and Ye (2015, p.74) many studies on the adoption of technology proved that user satisfaction is a vital driver of ICT success. Additionally, employees contribute to the impact of the success of the implementation of ICT. Based on employees experience on the technical support, infrastructure, data security and user-friendliness have significant relationship with user satisfaction (Qteishat and Alshibly, 2014).
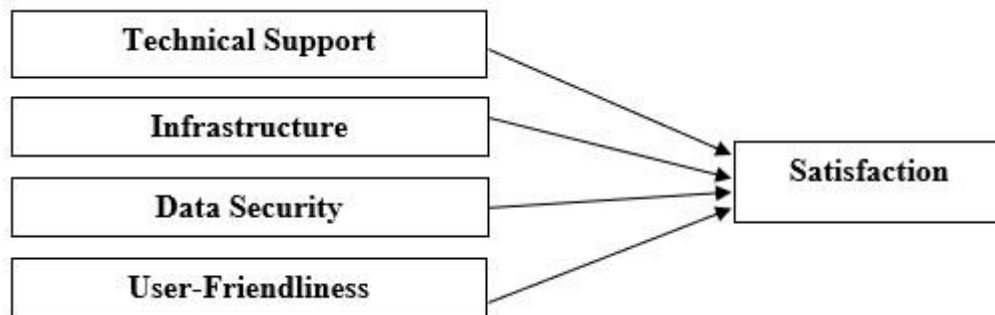

Figure 2.2: Qteishat and Alshibly (2014) Satisfaction Model

2.1 Technical support

Ghavifekr and Rosdy (2015) stated that when implementing technology in a working environment, it is important to have technical support to provide assistance when there is a problem with the system or to have any enquiries. The ability to provide satisfactory technical support by assisting employees with the help needed will lead to user satisfaction (Bondarouk and Brewster, 2016). Moreover, Ma and Ye (2015, p.74) agreed technical support will provide employees to operate E-HRM successfully in an organisation.

2.2 Infrastructure

According to Kaur and Kaur (2015) one of the objectives of E-HRM is to allow quicker response to employees related services. E-HRM infrastructure would allow the system to run faster, which consists of hardware, software and internet for it to function (Office of Government Commerce, 2002). Focusing on the infrastructure is necessary, as there is a positive connection between infrastructure and user satisfaction; if there is a breakdown or slow infrastructure it can disrupt the system from user being able to use it.

2.3 Data security

E-HRM stores large amount of private data, that can be sensitive for outside sources from entering or gaining the data, one of the problems would be identity theft. Kaur (2013) believe that the objective of E-HRM is to offer personal data security and privacy. Therefore, it is critical to have a strong security protection when implementing E-HRM to guard employees' information (Torres and Arias, 2009). As declared by Lippert and Swierez (2005, p.341) any security breaches will directly affect the employee, which cause employees to distrust and have limit interaction with the system.

2.4 User-friendliness

One of the main reasons why E-HRM was introduced was because to be able to provide an adequate and simple method to process HRM. User-friendliness is closely connected to greater adoption success and user satisfaction (Bandarouk, 2016). A non-friendly system would increase the amount of HR task than reducing it. Furthermore, a non-user-friendly system not only increase the amount of HR work, but also it would be challenging and timeconsuming for the employees to familiarise to the system.

3 Research Methodology

Qualitative research has been conducted with the aim developing an extensive understanding of how people perceive their experience. Therefore, the qualitative method was conducted on a small sample, such as open-ended interviews, to gain in-depth answers in order to better understand GEMS, as well as understanding their behaviour towards GEMS. In addition, interviewing respective officials was also employed to gain information on their projected recommendations, background of GEMS usage and issues that they have faced throughout the implementation of GEMS. By doing the interview, the researcher was able to achieve indepth information on each of the respondent's experience with GEMS. According to Qu and Dumay (2011), interviews in research aimed to cover factual and meaning level, which would allow people to convey to others a situation from their own perspective and in their own words. Although many researchers have claimed that interviews were time consuming, however for this research, the interview method was suitable for the purpose of high degree of validity as the researcher only required four interviews with the HR Department Division at the four Government departments that have used GEMS for since first was implemented and also one representative from the Infotech Division. Thematic analysis was used to analyse the data that was gathered from the interviews. This type of data analysis was useful as it helped to analyse and compare the meanings and relationships of words and concepts, by categorising repetitive

respondents' statements. Furthermore, this data analysis method also helped to reduce, simplify and allowed researchers to structure qualitative data, in order to achieve research objectives.

4   Findings and Discussion

4.1 Interview – Human Resource officer

To attain the validity, four HR officers from departments under the Prime Minister's Office were interviewed. This section provides a narrative of themes emerged from the analysis of data. The themes were grouped into three main section: current status, issues and improvement.

Current status	Issues	Improvement
Functions The E -HRM functions that often use in GEMS	**Traditional method** Users still uses HR traditional method	**Users** Users mindset need to change
Internet connection Improved internet con- nection	**User interface** GEMS do not have a user-friendly interface	**Training** GEMS is lacking in training
Helpdesk Handling internal or ex- ternal queries		

Figure 4.1 Key findings

4.1.1 Current Status

Current status refers to GEMS status that is occurring currently. The two current status that were repetitively mentioned were functions and internet connection. This is beneficial for researcher, because to explore the current status of GEMS is aim and one of the objectives of this research

⬜ Functions

E-HRM comes with specific functions; operational focuses on basic activities such as employee service, keeping records, recording employee's biodata; relational emphasis on HR and the internal or external activities such as recruitment, training, performance appraisal; and transformational is more into achieving mission and vison of the organizational (Strohmeier and Kabst, 2009). For E-HRM to function effectively it is important to fully utilized the function of E-HRM types that contribute user effectiveness. According to the interviews, three HR officers shared similar statement.

> *"GEMS is definitely useful, employees are able to record their information of themselves such as applying leave, key in attendance, update information when receiving a reward or certificate of courses they had attended".* (Respondent 2)
> *"There are a lot of features on GEMS, it also speeds up work processes, especially*

entering record data of staff such as updating the up to date biodata, address or qualifications". (Respondent 3)

However, when they were asked what functions are often use on GEMS by the officers and staff member, four of the interviewees answered the same statement which were attendance, applying exit leave county and leave. Even when they aware that there are other functions available to make use of.

"Well as a whole, GEMS is primarily for attendance, exit country leave and applying for leave". (Respondent 1)

"Normally to key in attendance, key in employee portfolio… but seldom, extracting information of attendance, apply leave also seldom because of paper application. Basically, just to key in attendance". (Respondent 3)

"Usually certain section in this department uses certain features, for HR is updating record service for finance division they need GEMS for increment. Other officers and employee mainly attendance, exit leave country and leave". (Respondent 4)

⬜ Internet Connections

Internet is the main enabler of E-HRM. Without internet connectivity work processes will not function. Therefore, E-HRM are highly dependent on this technology for it to process. In the case of GEMS HR officers mentioned that at the beginning of the implementation of GEMS one of the main problems was that they could not access the system, this was due to slow internet connectivity or unstable connection, but today it had been improved as the hardware and software had been upgraded.

"For GEMS to function it needs electricity, internet connection, so when this system is down it is not reliable but now internet connection is stable. But if there's problem with it at the end we still need to use traditional method". (Respondent 1)

"Previously the problem was the internet connection, but it is stable now. But people still have the mindset that the network is still lagging". (Respondent 2)

"From time to time internet connectivity is slow so we are unable to access GEMS, hence, no connectivity no data recorded. But starting 2016 the connectivity is better. But we still mainly use biometric or log book". (Respondent 3)

From these statements we can see that, the Infotech division seems to do everything to guarantee consistent internet connectivity. However, from the statement above two of the HR mentioned that if there is a problem with the connectivity, they will refer back to the traditional HR method which is paper. Therefore, researcher managed to ask the four HR officers, whether they still use traditional method which can be seen as an issue for user satisfaction, because the main purpose of E-HRM is to innovate HR into one system that is to be resource efficient.

⬜ Helpdesk

The purpose of GEMS helpdesk is to provide centralised information and support management service to handle internal or external queries. Previously, GEMS helpdesk can only be reached through telephone lines, which were difficult to reached. Currently, the Infotech division had applied other methods via email or WhatsApp mobile messenger as an improvement for the GEMS helpdesk service.

> *"Before if there is a problem, we have to call which were usually hard to reach, but now if there is a problem we just need to email or WhatsApp massage by sending a picture of the problem and we will have an instant reply, so the technical support is now good".* (Respondent 2)

4.1.2 Issues

The issues refer to the problems that the HR believe to be the reason why users are not satisfied with GEMS. This is because of two matters which are cause by the active use of traditional method and non-friendly user interface. This section would answer the second research question which is, what are the issues that GEMS users and HR faced when using GEMS and what improvement needed to be made in GEMS.

⬜ Traditional method

E-HRM is an innovative method to resolve HR process, to manage employees from various types of manual system mainly using manpower into a simplified one integrated system. Based on the interview below all the departments still use GEMS and traditional method.
Causing it to be a two-way process instead of one simplified process.

> *"Our department currently use both, both in sense that, when we are applying for leave, we have to fill in a form, but at the same time we need to key in at GEMS, it is a two-way process and it is a hassle".* (Respondent 1)

The reason why the departments still insisting of using both methods is because from time to time they are unable to access GEMS and fear due to unstable system some data might be missing in the system Therefore, they will need two types of storing as a backup plan. Another reason why they need traditional method is because although all the Ministries in Brunei Darussalam is under the Government control, however one Ministry are unable to access the data from another Ministry in GEMS. Therefore, the only way to access the data is to print out which according to respondent 2 "it is thick, it cannot be back-to-back". With the traditional method they are able to show specific requested physical data without having to print all the data stored in GEMS.

> *"At times we are unable to access GEMS, so if there is a need for emergency or more detail information, we will need to refer to the record service. So, it is like a backup plan if there is a problem. Since it is a system, we fear information suddenly might gone, therefore we need to have a backup.* (Respondent 2)

Previously, researcher had mentioned that E-HRM is a one integrated system. However, as seen above the traditional method is still actively being use, for example for attendance the traditional HR method still being us are log-book, paper and biometric (fingerprint). *We use GEMS but we also use the log-book, paper and biometric just for attendance. We do not need a lot of system just to key in attendance, I think they need to simplify this, by using one system. But GEMS need a system, you need electricity, internet connectivity, so when this system is down it's not that fully reliable* (Respondent 1)

> *Some other departments they use three biometric, GEMS and log book just for attendance.* (Respondent 3)

Due to this, respondent 3 further explain in their department some users do not want to use GEMS attendance, as users wants to use what they already have, which is biometric system.

 User interface

A user-friendly E-HRM layout affect the way users' function with the system and affect the outcome of user satisfaction. A complicated layout can cause users to be dissatisfied. Based on the interview both respondent 1 and respondent 4 stated that GEMS is not user-friendly. *"GEMS it is not really attractive, sorry to say it is not user friendly, there are a lot of buttons and icons that you need to fill in. They need to improve the interface to simplify, and to attract people to use gems".* (Respondent 1) *"If it is for myself it is fine, it is convenient for those who are computer literate. But those who are senior, they need more guidance because some are computer illiterate. Moreover, the layout is not user friendly, so it is important if they can make it convenient for all ages".* (Respondent 4)

4.1.3 Improvement

Improvements focus on the enhancements mentioned by the HR officers. The two improvements that needs to improve are the users themselves and the training of the users. This section describes the issues that GEMS users and HR faced when using GEMS and what improvement needed to be made in GEMS.

 Users

The focus of this research is the users, because without users E-HRM would not have existed. During the interview, researcher had observed that one of the improvements that should be made to achieve user satisfaction, is from the user themselves, which is to change their mindset.

> *"Usually the problem is our staff member, they tend to forget and always at the last minute. Our struggle is to cultivate and maintain frequent usage of our people, to fully use GEMS. Because previously when GEMS was first introduced, just to key in attendance can take up more than 10 minutes, but now it is less than 10 seconds. Employees here still have that mindset of the problems occur before. Before it was the network but now people's mindset".* (Respondent 2)

> *"If there is no support from the employee themselves the system is not useful, because the data is being updated by HR so they need to work together with the employee. If the data is not updated and when the data is needed, it will not be accurate so eventually the system is useless".* (Respondent 3) *"Previously, Some of our staff members seldom use computer, suddenly they have to use it, so they are hesitant and lazy to use it".* (Respondent 4)

 Exposure and training

After reading and re-reading the interviews, researcher had concluded that the users are lacking of exposure and training of GEMS. Referring to the interviews, it is important for Infotech division to give training, re-training and improve on the marketing strategy (exposure). Respondent 4 stated that, the Infotech division need to expose to all employees rather than giving one main focal person a task to expose to all employees, at the same time, the HR officer further stated that all the change management team, application team, technical team should be there when giving training to all the users, to explain the updates, explain causes of GEMS problems and what issues had been resolved.

> *"The change management team, should explain the functions, the importance and advantages of GEMS to all the users and should not depend on one main focal person. At the same time application team and technical team should also be there during the training".* (Respondent 3)

Respondent 3 further explain that, if all the users are involved in the training, the users are able to voice out their opinion, because depending on one representative from their department to

spread the knowledge would not be beneficial. All users should understand what are the benefits of GEMS towards the users.

> *"Employees can voice out their opinion, because we cannot depend on one focal person to spread the knowledge of GEMS in the department. The Infotech Unit will need to explain this to all by themselves. So the mindset of the people need to change, what advantage brings for them, for example employee portfolio in the system it stated in GEMS their qualification is O'level, in fact they have a degree, so if they want to get promoted they will be rejected, as their information is not up to date, because HR they have many things to do not just to take care of one employee, so the employee will need to update themselves and inform the HR on the update they had made".* (Respondent 3)

Meanwhile, respondent 1 compare GEMS with another Information System use amongst the Ministries in Brunei Darussalam called Tafis. The HR officer mentioned that GEMS exposure is not widely spread as much a Tafis. Tafis is constantly evolving because training is done in yearly basis and would inform all users when there is a new and improvement being made, where they prove support and guides to all employees. Therefore, training and exposure is important to attain user satisfaction.

> *"Involvement of in particularly from the infotech department to expose GEMS is not that strong enough. It is a bit of a hassle, because if you were to compare GEMS to Tafis…Tafis is constantly evolving. They provide training on yearly basis because if they want to introduce different or new and improve system, Tafis would be very proactive in informing the users, on how to use it on a daily basis and also provide clear support guides.*

4.2 Interview - Infotech Division

GEMS is being managed by the Infotech Division under the Public Service Department. At this department the employees are the ones that give training, maintain, upgrade and collect data of GEMS usage, in other words the Infotech Division are the GEMS centre. The purpose of the interview was to gather information of the current status of GEMS from the unit that are managing the users. This section aimed to gather information on the current status of GEMS from a non-user perspective from the Infotech Division, on the main purpose of GEMS being implemented, the advantages, training, E-HRM functions, traditional method, problems, internet connection and other method to access GEMS.

4.2.1 Main purpose of GEMS

> *"To help modernize the management and administration functions, human resources, as well as, human resource data. This is to avoid any manual procedures, for example the simplest would be attendance, previously it was using paper, now it is readily available on GEMS so all employees do not have to use paper".* (Infotech Division)

4.2.2 Advantages of GEMS

> *"Firstly, is to prepare reliable human resource data, that is trustworthy and safe. Secondly, to simplify user to access information and user friendly. Meaning like myself I can access my own information, Thirdly, to effectively prepare shared HR data for all ministries and departments. What this means is that for example our department is under Prime Minister's Office, which is our headquarter. For example, they want our data on how many officers or staff*

in our department that are male, so we can filter out from GEMS, but we would need the technical team to gather this data".
(Infotech Division)

4.2.3 Training

"Training are normally run for three days. Previously, there were 4 trainers, but they are now transferred to different departments, therefore we are lacking on trainers. For attendance and apply leave, it is simple to use, we do not have to give training for this. For those who are computer illiterate, it was hard for them at first, it takes time for them to use. For myself, I was lost at the beginning, because from my honest comment, it is not user-friendly. Because the layout is messy, as GEMS was bought 'off the shelf'. Meaning whatever it is that is all that we can use. If we were to make any changes in the layout, extra spending needed to be made. But after months of using it, I am able to adapt GEMS. Those who are computer illiterate can be solve by the encouragement from the head of department of the certain department".
(Infotech Division)

4.2.4 E-HRM functions

"The attendance, leave and appraisal have been actively used since the beginning. At the beginning, the actual plan was to provide many other services on the system, but is not being used This is probably because they still use paper and they have other systems. For example, for recruitment at SPA they have their own recruitment system called PSC". (Infotech Division)

4.2.5 Traditional method

"Paper is still use. This is because to cross check and if the system is slow the paper can be use as a back-up. While for appraisal, we only use the backdated ones, because last year we use the new appraisal KPI therefore we are still waiting for JPM to approve for the new layout to synchronize with the new appraisal. Any changes made we will use UAT (User Acceptance Test) as a pilot study before being distributed to the other users, the UAT participants are us in this department". (Infotech Division)

4.2.6 Problems

"Due to the lack in the number of staff, the data is not updated. For example in a department there are 300 people but only one staff handling in recording the data in GEMS, so the ratio between the total number of people and that one staff is a large gap, at the end the staff does not want to do that job, because there are other jobs to focus on. Therefore, users need to actively update their data themselves". (Infotech Division)

4.2.7 Internet connection

"Now users can use a GEMS mobile application or go to GEMS website using external connection such as e-speed, DST or progresif to apply leave, update their information and other functions. However, for attendance, users can only access using internal link, that is why the manual method is still being use. As a backup, when a problems occurs with the internet connection, but so far ever since the upgrade of software and hardware, internet connection problem seldom occurs". (Infotech Division)

4.2.8 Alternative method to access GEMS

"GEMS can be accessed using home computer. But users will not be able to access attendance at home, it can only access using internal link inside Government office which is called the One Government Network. Other method is using iGEMS which is a mobile application, this is only to apply leave and exit leave country"

(Infotech Division)

5   Discussions

This section discusses the findings with reference initial framework used for the research, based on the Qtesihat and Alshibly's (2014) satisfaction model. It was identified in the literature that a number of key issues were addressed in order to successfully implement E-HRM to achieve user satisfaction. However, from the interview findings, with the literature's insights, it showed that there were gaps within the satisfaction model. The model focused on four factors to achieve satisfaction, which were technical support, infrastructure, data-security and user-friendliness. However, it is suggested that there were other elements that needed to be included in the new extended conceptual framework discussed as below.

   Qteishat and Alshibly's satisfaction model as discussed in previous section was mainly focused on the satisfaction towards ICT technology in general. However, after analysing the findings, three areas extended from initial framework were uncovered that is suitable and could contribute as recommendation to a better understanding, specifically for E-HRM user satisfaction of GEMS. The three areas are the implementation of E-HRM, training and user support.
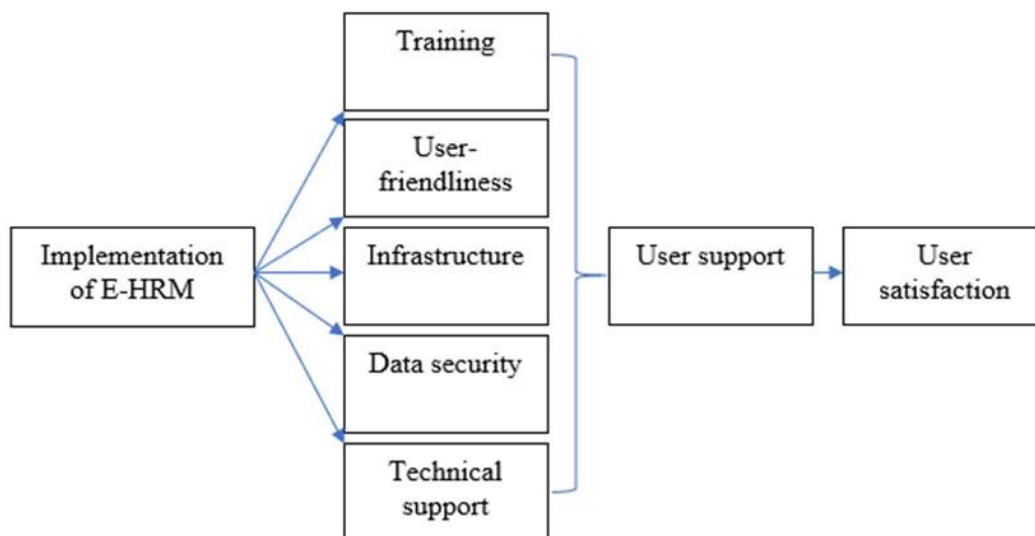

Figure 5.1:   Conceptual framework of E-HRM - GEMS

5.1 The implementation of E-HRM

Implementation is the transition period, in the case of E-HRM, it is the transition of HRM. Klein and Knight (2005) stated that, the usage of the targeted user of innovative technology should be increasingly consistent, skilful and committed. These targeted users were those expected to support, use and adapt to the new HRM settings (Bondarouk et al., 2009). Therefore, to successfully reach the users to adapt to the system, it was important to gain information on the importance of E-HRM, specifically on GEMS for this research. Refer to findings, it is claimed that GEMS is important because it brings more advantages as it speed up the application process instantaneous. According to the representative GEMS provide

reliable and trustworthy system, that is easy to access information and can be shared throughout the Government sectors. Hence, these are the reasons why GEMS was implemented.

To successfully implement E-HRM, knowledge of the different types of E-HRM functions is vital, as it offers the HR departments guidance on which type should be implemented, based on the benefits that will be gained from the outcome linked to the type of E-HRM function implemented. Despite GEMS having extensive features, users have not made use of the other features. E-HRM is most effective when all the functions of the E-HRM are fully utilised. However, GEMS users only mainly utilised GEMS for three purposes: attendance, apply leave and apply exit country leave.

5.2 Training

Training is one of the most important components in the implementation of E-HRM. Providing sufficient training for users would provide a positive influence towards achieving favourable outcomes of user satisfaction. According to Parry and Tyson (2011), "Organisations that fail to do so, report that systems do not provide the desired efficiency savings as users frequently have to contact HR to obtain support". In other words, users have no awareness of the features of E-HRM and face difficulties operating the system, therefore, users would not take advantage of the full functionality and would depend on HR. From the statement from interviews, it was stated that training was not given to all employees, but only to one selected person to spread the knowledge to their other colleagues. Furthermore, it was stated that training was being run for three days, however, basic features were not offered during training.

GEMS trainings is argued to be insufficient in comparison to training provided for another Information System used in Brunei called Tafis, as claimed by the interviewee where Tafis trainings have been constantly given on a yearly basis and whenever improvements were made within the Tafis system. However, the reason why the training has not been run efficiently was due to the small number of trainers available to assist with the training, as what had been mentioned by the Infotech division representative.

5.3 User-friendly

User-friendly was reported to greatly influence user satisfaction. According to Priya and Munivenkatappa (2017), user-friendliness was closely linked because without a user-friendly interface system it would be challenging and time-consuming for the users to adapt to the new system during or after training is provided. A non-user-friendly E-HRM would increase the amount of HR tasks, rather than reducing it. The interview findings demonstrate GEMS is complicated and difficult to use. This shows that the users were dissatisfied and provides assertion that GEMS was not user-friendly.

5.4 Infrastructure – Internet Connection

Technological infrastructure is a necessary function of E-HRM (Nivlouei, 2014). Infrastructure refers to hardware, software, internet and website interface necessary for ICT to function (Office of Government Commerce, 2002). Venkatesh et al. (2003) stated that E-HRM infrastructure existed to support the system, and supported both the HR and IT departments, in order to provide assistance to the users with a highly responsive and available system. According to Poisat and Mey (2017), there is a positive relationship between infrastructure and user satisfaction.

In the findings, majority of the interviews that GEMS' unstable internet connection made it difficult to access the system. However, it was argued based on the interview, the internet connection has been improved, as the hardware and software had been upgraded. In fact, it was specified that the internet connection was no longer a problem, as it was the 'mindset' of the users that needed to be changed. This is because previously, the only way to access GEMS was through the intranet called OGN that always has connectivity internet problem that contribute to negative perceptions. Nevertheless, the problem was solved with the introduction to access to GEMS using personal computers or mobile phones through the GEMS website or GEMS mobile application called iGEMS.

5.5 Data security

It is critical to maintain high levels of security to protect user information with any E-HRM implementation. Any security breaches affect users significantly, as it can erode the users' trust and limit interactions with the E-HRM system as described by Lippert and Swierez (2005, p.342). According to the Infotech division, they have never encountered any security breaches, all the data was kept securely in two backup systems, one at EGNC (E-Government National Centre) and another one at the Ministry of Finance, the security measures have been protected by EGNC.

5.6 Technical support

Technical support refers to a service which offer technology users help, through the incorporation of technology in the working environment. A good technical support will assist users with the help required, and the ability to achieve this will lead to user satisfaction with EHRM (Bondarouk et al., 2017). Refer to the interview findings, previously the technical support was a problem as support could only be obtained through the telephone. However, this was rectified through the introduction of other methods such as through e-mail and the mobile messaging application called *WhatsApp. Thus*, this contributes towards the employees' satisfaction towards the GEMS technical support.

5.7 User support

User support has been considered a great influence towards determining whether E-HRM is a success or not. When users engage with an E-HRM system, users will be able to observe their satisfaction of the system; the support of the users positively influenced their satisfaction (Bondarouk and Brewster, 2016). According to the interview, one of the problems that they have faced with GEMS was the user support as without user support, GEMS becomes impractical.

It was mentioned that the reason why user support was not strong enough, was because they still had the mindset that the internet connection was still a problem. As a matter of fact, the internet connection was no longer the problem as the hardware and software had been upgraded. Furthermore, a number of users previously hardly or never used the computer, however, due to the implementation of GEMS they were obligated to use the computer without skills.

It was found that the reason why this become an issue because the users and departments were still actively using the traditional method. The main purpose why E-HRM was formed was to fasten workflow through one integrated system rather than using many types of traditional manual systems. The respondents claimed that the reason why they had to use both GEMS and the traditional method was because, the traditional method acted as their back-up system and would act as a support if there were any problems with GEMS. This shows that, the departments

were satisfied with GEMS but still had doubts on the stability of the system. Some departments were using more than one HRM system. The main purpose to why EHRM was formed was to fasten workflow through one integrated system, rather than using many types of traditional manual systems. However, the departments were not only using GEMS but also used two other methods which were the logbook and biometric systems. Therefore, to achieve user satisfaction, the departments would need to opt for one HRM system.

Furthermore, it was also claimed that without user support, GEMS would not be useful due to low usage and inaccurate data. The Government had spent 10 million just to implement GEMS at the beginning, however, it was such a waste as user support seemed to be lacking due to the users' preference towards traditional practices. Perry and Tyson (2011) pointed out that many previous studies mentioned that managers had difficulties in encouraging users to make use of E-HRM, because traditional methods were still actively used. Therefore, it is important to gain user support through motivation and changing their mindsets, with regards to adopting GEMS and less usage of the traditional system. The representative from the Infotech division stated that they were aware of this situation, and in order to solve this situation, they have been trying to create an awareness where GEMS could bring difficulties to the users if they did not make use of GEMS. Such difficulties will be apparent during new position applications, in-service training applications and so forth.

5.8 User satisfaction

The main aim of this research was to investigate the user satisfaction by looking at the current status of GEMS in Brunei Darussalam. Referring to the previous chapters, based on the conceptual framework, utilisation of the implemented E-HRM functions, sufficient training, creation of a user-friendly interface, strong infrastructure system, secure data security, good support from the technical support and attain user support, were the key elements to determine user satisfaction.

By looking at the discussion, it can be seen that the users were only satisfied with the data security and technical support. Other than that, users were not satisfied with the GEMS functions, due to the lack of training, non-friendly interface and user support. As for the GEMS infrastructure system, users claimed that it was weak. However, based on the interview, the infrastructure was mentioned to have been improved and it was the users' mindset that needed to be motivated, which led to a lack in user support.

6 Conclusion

From the results of the findings and discussion, the employees were not fully satisfied with GEMS, even with ten years of experience with it. In order to successfully implement E-HRM and achieve user satisfaction, it was identified that there were a few key elements that needed to be addressed based on the Qtesihat and Alshibly satisfaction model, which were technical support, infrastructure, data security and user-friendliness. However, it was found that there was a gap within the framework. Therefore, an extended conceptual framework was developed to include training and user support to address user satisfaction of E-HRM. Traditional HR methods were still being actively used, together with GEMS. Furthermore, the insufficient training and non-user-friendly interface has also led towards users favouring traditional methods. Additionally, this lack of training has also created a negative mindset towards GEMS, amongst employees. Therefore, to improve GEMS usage, it would be wise to discourage the traditional methods from being used in the departments.

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