

Development of Human Resource Information System: The Managerial Implications

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Abstract

Human Resource Information System (FBM-HRIS) was developed to manage information of human resource training, conferences, workshops and any activities through Internet. FBM-HRIS aims to provide paperless up to 90% and to provide low cost and reliable automation of the existing systems. FBM-HRIS also provides excellent security data at every level of user-system interaction and also provides robust and reliable storage and backup facilities. Using action research technique, several categories of user participated in this study to get their feedbacks regarding service quality of submitting and managing human resource activity application before and after FBM-HRIS development. The e-survey was constructed and distributed to all selected participants. The results found that FBM-HRIS has several modules which provide many benefits to the faculty such as the ability to support tracking day-to-day human resource activities (staff training information, conferences activities etc.), improving faculty strategic planning in an organized and systematic way, and among others.

Keywords: Information System, Integrated Information System, Higher Education, Automation System, Database Management System, Human Resource.

Introduction

The rapid growth of Internet of Thing (IOT) technologies in Malaysia, has compelled many industries in every sector to connect with Industrial Revolution 4.0 (IR 4.0) blue print, that Malaysian government has proposed, that all industries should embrace IR 4.0 for better future (Jay, 2018). This process implies that every organization has become actively involved in integrating ICT in their work environment. Thus, FBM has also taken this challenge to innovate web-based information system through Faculty of Business and Management Integrated System (FBMIS) project development. The aims of this project were to develop green integrated system technology and to assist faculty in storing, retrieving and performing data analytics anytime and anywhere on real-time.

FBMIS has ability to overcome most of the problems occurring in the faculty manual system by computerizing the existing system. It will help users of the system to finish their work in the least amount of time and efforts. The computerized systems have many gains and efforts, which the manual system cannot give, in any type of situations (Namik et al., 2019). It is necessary for the faculty to keep track of its day-to-day activities and records of staff training, student activities, strategic planning and among others that keep the faculty running smoothly and successfully. Keeping track of all the activities and their records on paper is very cumbersome and error prone (Pinho, Franco & Mendes, 2018). Pinho et al. (2018) also stated that the manual system is very inefficient and time-consuming process. Moreover, executing analytical tasks by management user was also not easy on a manual system. Based on these, the FBMIS was developed and designed to support the managerial process in the faculty.

One of the information systems in FBMIS was Human Resource Information System or FBM-HRIS. This new system was developed to manage information of staff training, conferences, workshop, seminar and any activities regarding human resource in FBM. The new system will help to maintain pertinent data for FBM and perform analytical tasks required by the user of the system. The analytical result will help the user to strategize faculty future planning. As part of record management, FBMIS aims to provide paperless up to 90%. It also aims at providing low cost and reliable automation of the existing systems. The system also provides excellent security data at every level of user-system interaction and also provides robust and reliable storage and backup facilities.

Before the new system developed, the Ishikawa @ Fishbone diagram was used to identify the possible causes associated with a particular problem of manual process in handling human resource activities in the faculty (Dobruskin, 2016). The diagram is useful in analyzing actual conditions for the purpose of product/service quality improvement, more efficient resources and reduced costs involved (Nathan & Kaplan, 2017). The Fishbone diagram (Figure 1) shows all the possible causes that lead to ineffective application of manual process used previously by FBM before the new system was introduced. The main causes include money, manpower, material and methods. The first cause is money. Previously, when using the manual process, it incurs higher cost in purchasing the material such as paper, stationery to process the application that results in excess budget. The second cause is manpower. Manual process required numbers of staff to process the application. This staff also had redundant administration task to be completed within the same time. In addition, the staff is also incompetent to handle the application process due to shortage of human power in the department. The third cause is method. During the manual process, it will take longer processing time due to all the processes were done manually. The drawback of this manual process leads to poor monitoring system and bureaucracy will occur. The last cause is material. There are lots of papers and stationeries used to complete the application process when it is done manually. This will lead to waste of papers usage. Therefore, this study was constructed based on the following research objective:

- a) To determine the managerial implications of the development of FBM-HRIS at FBM.

INEFFECTIVE APPLICATION OF USING MANUAL SYSTEM

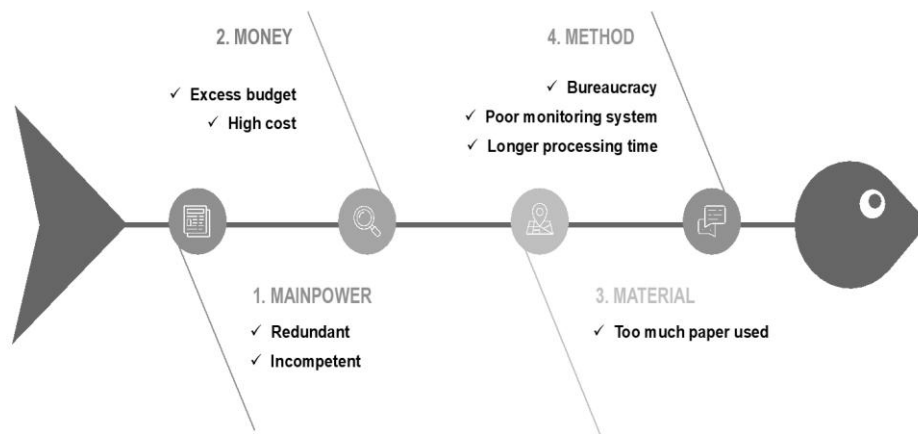


Figure 1: Fishbone Diagram

Literature Review

Data management is an important aspect in each organization, especially when we are now in IR 4.0 era. This is including higher education which also requires a good data management system in order to function properly since accurate information is crucial for the faculty management to keep track all the human resource activities especially when this involves operational cost (Pinho et al., 2018). One of the solutions to do this was using database management system (DBMS).

Database Management System (DBMS)

DBMS is a software designed to assist in maintaining and utilizing huge amount of data that is usually describing the activities of one or more related organizations (Ramakrishnan & Gehrke, 2002). Likewise, the DBMS is also known as a software that supports management of large collections of data and it is used to make the preceding tasks easier (Januzaj, Ajdari & Selimi, 2015). It also provides efficient data access, data independence, data integrity, security, quick application development, support for concurrent access, and recovery from system failures (Januzaj et al., 2015). For example, a university database might cover various information about the staff, students, class timetables, faculty, courses, and classrooms. By storing data in a DBMS, rather than as a collection of operating system files, the company can use the DBMS's features to manage the data in a robust and more efficient manner (Pinho et al., 2018). In addition, William and Bette (2007) mentioned that a database management system manipulates the raw data into a more useful sets so that the whole of the information contained in the database takes on meaning in a specific context.

On the other hand, Namik et al. (2019) stated that the DBMS is an application system that is designed to allow the definition, creation, querying, updating and administration of one or more databases. Basically, a computer will implement technique for operating the DBMS which includes source database as well as target database. Then, the DBMS will replicate the

data changes of the source database to the target database effectively. The overall design of a database is called database schema and a database has several schemas such as physical schema, logical schema, and sub schema. The logical schema is by far the most important, in terms of its effect on application programs, since programmers construct applications by using the logical schema (Silberschatz, Korth, & Sudarshan, 2009).

Furthermore, Subhashish and Arun (1992) stated that the main objective of database management systems is to minimize or solve any problem by providing a robust data store that can be both defined and used in a conceptual manner and independent of its physical storage. However, the successful facilitation of all of the phases depends on the how people's managing a database system in their organization in effective ways.

There are many benefits of DBMS towards the organization. According to Ramakrishnan and Gehrke (2002) among the benefits are data independence, data integrity, data administration, data security and reduction of the application development time. The application programs should be as independent as possible from details of data representation and storage. The DBMS can provide an abstract view of the data to insulate application code from such details. Other than that, the efficient data access. This software utilizes various techniques to store and retrieve data efficiently. This feature is especially important if the data is stored on external storage devices. Moreover, DBMS provides data integrity as well as data security. If data is always accessed through the DBMS, the DBMS can enforce integrity constraints on the data. Additionally, it also provides data administration and reduce application development time. It can be done when several users sharing the data, centralizing the administration of data can offer significant improvements. Using a DBMS provides the user with data independence, efficient data access, automatic data integrity, and security (Ramakrishnan & Gehrke, 2002).

Ramakrishnan and Gehrke (2002) have also mentioned storing data in a DBMS versus storing it in operating system files has many advantages. A database management system manipulates raw data into useful sets so that the whole of the information contained in the database takes on meaning in a specific context. Other than that, according to William and Bette (2007), database management system provides various advantages such as it provides the ease of entry and update of the data, the ability to access information in a variety of ways, and the ability to report characteristics of various data sets. The key to a successful database management system depends on how well it can organize the data to fit their end-user's needs and wants. Among the advantages is the location of the DBMS within the software chain that provides data independence.

Previously, in the early implementations of DBMS, data processing has been done using methods they had used with conventional files. Therefore, all data were not integrated in efficient manner and redundant of data existed. With a DBMS, data can be stored in one main location and easily accessed by many different systems and various departments; there is no unplanned redundancy. Moreover, a software mask within the database management system provides data integrity to organization. Economies of scale can be achieved by installing a database management system at a central site where it can be supported by a group of highly trained personnel. Thus, it has been shown that the DBMS supports many important functions related with data processing in the organization.

Web-Based Management System

Web-based information system is an information system (IS) that uses Internet web technology to deliver information and services, to users or other information systems or applications (Jaafar et al., 2017). The introduction of web-based system helps organization to speed up the manual process. There are differences between web-based information systems and traditional corporate information systems. For example, with wide spread use of Internet, access to web-based information systems as well as information has been significantly enhanced. For organization to become more productive, information system helps to organize all information in the organization according to specific categories. To keep the business competitive, it should keep up with the rise of technologies. Information system is only helpful for decisions and the decisions themselves and it should create a competitive advantage (Wibisono, Sofianti & Wibowo, 2016).

As mentioned by Rafael and Carlos (2012), IS helps the manager to incorporate series of information technologies (IT) to manage their organization efficiently and effectively. In addition, the design of any information system needs a strategic planning technique as a base, which is the key factor of progress for any organization (Sarhan, Atroshi & Ahmed, 2016). This statement is also supported by Vaman and Nawzat (2017) who argued that Management Information System (MIS) helps managers to take the decision making, and also to monitor the current state of the organization. Therefore, web-based information system is becoming necessary tools to smoothen the process in organization activities and at the same time it helps to increase efficiency and effectiveness of the organization (Bansal & Chawla, 2016).

The highlights of using web-based information system showed many improvements towards the company performance (Vaman & Nawzat, 2017). Information and communication technology has become a very important requirement in many fields, especially for the purposes of analysis and decision-making to a problem, because it is the ease in obtaining information that becomes the main thing that continues to be developed (Indah, 2016). Not only to increase organization performance, web-based information system can also collaborate between suppliers, organization and also customer (Sarhan et al., 2016). Using technology to manage and improve processes, both within a company and externally with suppliers and customers is the ultimate goal (Bourgeois, 2014). Thus, with the integration between few parties involved in web-based management system, process has become more reliable and hence, can speed up the process.

In addition, web-based management system can also reduce time spent in completing the whole process compared to manual process. Senchenko, Zhukovskiy, Gritsenko, Gritsenko and Kovaleva (2016) mentioned introduction to web-based information to organization use that has risen from lack of automated process of collection and handling of documents along with issues connected with organization of interaction of interdepartmental information. This leads to a prolonged consideration of government support application with numerous mistakes on both sides, the applicant's - when preparing the document - and the expert's one. When handling it, there have been a great number of rejections, often for formal reasons. Not only reduce time spent to complete the whole process, web-based management system can also reduce error and mistake in manual processes (Senchenko et al., 2016). This is also supported by other literature that web-based management system will help to manage data effectively in cloud storage (Wibisono, Sofianti & Wibowo, 2016). Data error will lead to delay

in completion process and also inaccuracy in decision making. Thus, developing web-based management system is one of the solutions.

System Development Methodology

System development methodology provides the guidelines on how this project will be carried out accordingly and to ensure the system development project can be successfully implemented as per-user requirements. This study employed agile development methodology namely, FBMS-Project Life Cycle (FPLC) (Figure 2) to ensure the success of web-based system development in the faculty.

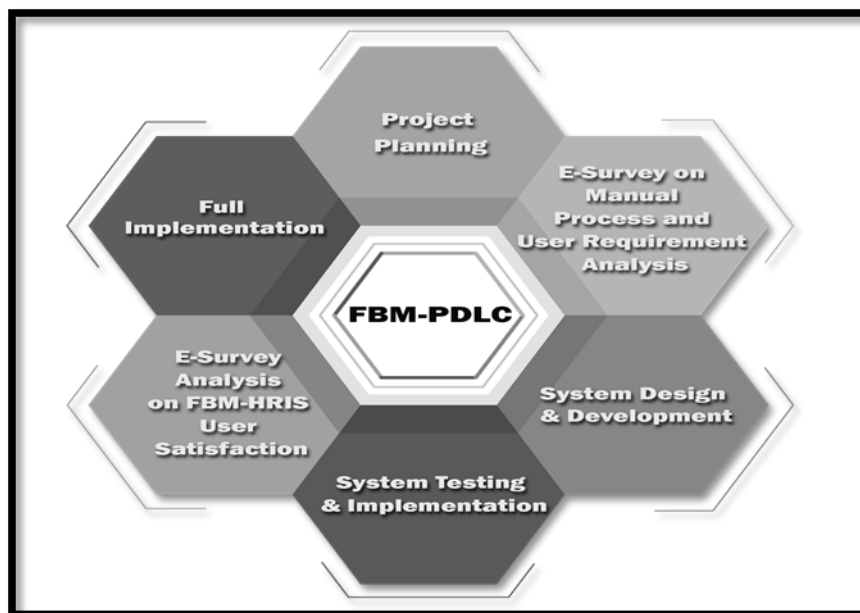


Figure 2: FBMS-Project Life Cycle (FPLC)

In the project-planning phase, previous literatures were reviewed with the aim to identify the research problem regarding service quality, especially in Higher Education contexts. Based on the research problems, the research objectives and research questions were developed. Apart from that, the researcher started to plan a research design and develop a proposed research framework. In doing so, the service quality factors that contribute to employees' satisfaction towards the application submission and approval process were explored and identified through a review of the literature.

In the next phase of FPLC, the researchers have developed an e-survey to get feedback regarding the process from faculty members. The interviews were also done with three participants who possess experience in managing the human resource activity applications at FBM, UiTM Puncak Alam Campus. In this case, the participants were the officers from Human Resource Division such as Assistant Registrar and Human Resource Clerk. The interview questions were constructed to get a feedback from the participants regarding the process of managing human resource activities in FBM. The interview data were analysed to determine the managerial implications such as manpower hour's reduction and financial implications before and after the implementation of FBM-HRIS. Moreover, this stage also helps to identify user's requirement of FBM-HRIS. The user's requirements were analysed using a Unified

Modelling Languages (UML) technique and it can help the System Developer to design and develop the new system.

In the design and development phase, the interview results of the user's requirements led to the development of the FBM-HRIS. The details of the FBM-HRIS functionalities and its structures are described by using UML through which the use case view and logical view of the system is developed.

Then, in the system testing and implementation phase, FBM-HRIS was tested by selected users, who are the administrators from Human Resource Division and selected staff in the faculty. The objective of the system testing was to ensure the success of FBM-HRIS functionalities and whether the new system has met the user's requirements. Additionally, this also helps to determine whether the proposed system is effective to improve the conventional process of managing human resource activity applications at FBM.

In the next cycle phase, the questionnaire items regarding user's satisfaction towards e-service quality of FBM-HRIS were developed. The questionnaire was distributed using e-survey method to get feedback from FBM-HRIS users regarding their satisfaction on FBM-HRIS e-service quality that has been implemented in the faculty. This will help the System Developer to improve the new system before full implementation begins.

Results

The results of this study were discussed in two parts for answering the following research question:

- a) What are the managerial implications of FBM-HRIS development to the Faculty of Business and Management?

To discuss the FBM-HRIS development process, the FBMIS developer was interviewed to get a clear picture on how FBM-HRIS was developed and how the new system works. Meanwhile, online survey was conducted by getting the feedback from FBM staff, who are also FBM-HRIS users. Using the purposive sampling technique, 21 staff responded to the e-survey regarding service quality of manual process of submitting and handling human resource activity application in FBM. However, only 14 staff responded to the e-survey question regarding service quality of new process using FBM-HRIS. The technique was applied as the main aim was to get feedback from FBM staff who have the experience in submitting application for attending training, conference, workshop, seminar and among others, manually and their experience using FBM-HRIS online application. Thus, their perception of the subject matter is important. The e-survey data was analysed using Excel to determine the average level of user's satisfaction on each service quality criteria before and after FBM-HRIS implementation.

On top of that, this study also interviewed two administrative staff, who handle human resource activities in the faculty regarding their feedback on administrative part. This will help researcher to identify the financial and manpower implication of manual process and new system process using FBM-HRIS.

FBM-HRIS Development

FBM-HRIS requirements were prepared according to the users' needs, in relation to the service quality factors that influenced user's satisfactions towards FBM-HRIS implementation. These requirements were determined based on the system analysis on the user's requirements as shown in Table 1.

Table 1

FBM HRIS User's Requirements

No	Role	Requirements
1	FBM Staff (Academician and Administration)	<ul style="list-style-type: none"> • The staff must have a staff ID to login into the system. • Insert an application information for approval process (Training/Conference/Workshop etc.). • Submit an application through FBM-HRIS. • View an application status. • View/print an e-approval letter. • Upload an application's report/certificate of attendance or any related with the application that already approved by PPSM panel. • View and response to any activity handle by the faculty.
2	Head of Learning Department (HoD)	<ul style="list-style-type: none"> • Review staff applications. • Endorse staff applications. • Search staff activity applications by department and an activity application category. • Check staff applications status.
3	FBM Human Resource Management Panel (Dean and Deputy Deans – PPSM Panel)	<ul style="list-style-type: none"> • Review staff applications and budget request for the intended applications such as attending conferences. • Approve staff applications and total budget given to each application. • Search staff activity applications by department and by an application category. • View a total budget allocated/used for the human resource activities in a particular year and by a department.
4	Human Resource Administrative Staff (Assistant Registrar and Clerk)	<ul style="list-style-type: none"> • Print the activity report according to PPSM meeting needs. • Insert/Update FBM staff information. • Checking either activity report already submitted or any related documents at each application (if any). • Setting a date for scholarly discourse for each application regarding conference, workshop, seminar and training attending.

No	Role	Requirements
		<ul style="list-style-type: none"> View budget that has already been spent by the faculty regarding human resource activities according to the faculty canister. Do any analytical task queried by PPSM panel.

Based on Table 1, FBM-HRIS has four (4) main users with different requirements. These requirements were analysed using a Unified Modeling Languages (UML) technique and it can help the System Developer to design and develop each module in FBM-HRIS such as login module, administrator module and user module. These modules were developed using php coding language. FBM-HRIS data was stored in phpMyAdmin database management system.

Class Diagram

Class diagram presents the structures that comprise the skeleton of FBM-HRIS that is modeled. The class diagram acts as a data dictionary that describes all the possible data structures and relationships that control the input and output of the data system. The UML class diagram is used to describe the classes involved in realizing the functionalities of FBM-HRIS, as shown in Figure 3.

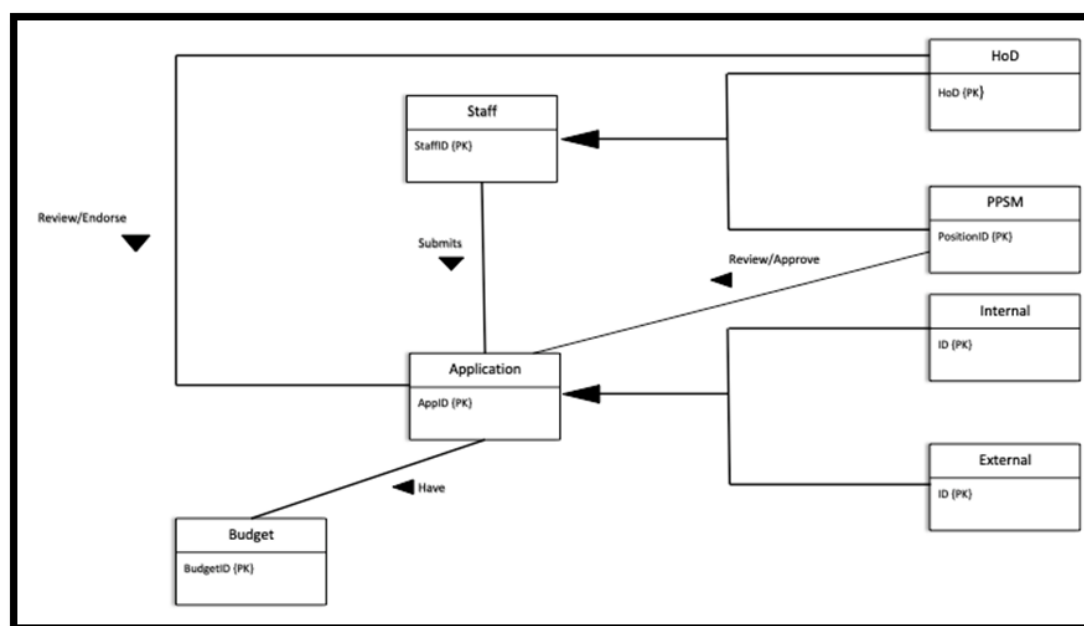


Figure 3: FBM-HRIS Class Diagram

Demographic Details on E-Survey

This study focused on several service quality dimensions: Access Convenience, Transaction Convenience, Reliability, Responsiveness, Security, Ease of Use, Tangibility and Information Quality. Additionally, overall satisfaction towards manual process and new process was also tested. The descriptive analyses of the participant’s profiles for manual service show 15 staff were females and 6 staff were males, 13 staff were in the age category of 20 to 40 years old and 8 staff were over 40 years old, and majority are senior lecturers (N = 18). Meanwhile, participant’s profiles for FBM-HRIS show 12 staff were females and 2 staff were males, 10 staff were in the age category of 20 to 40 years old and 4 staff were over 40 years old, and majority are senior lecturers (N = 12). The demographic details are shown in Figure 4.

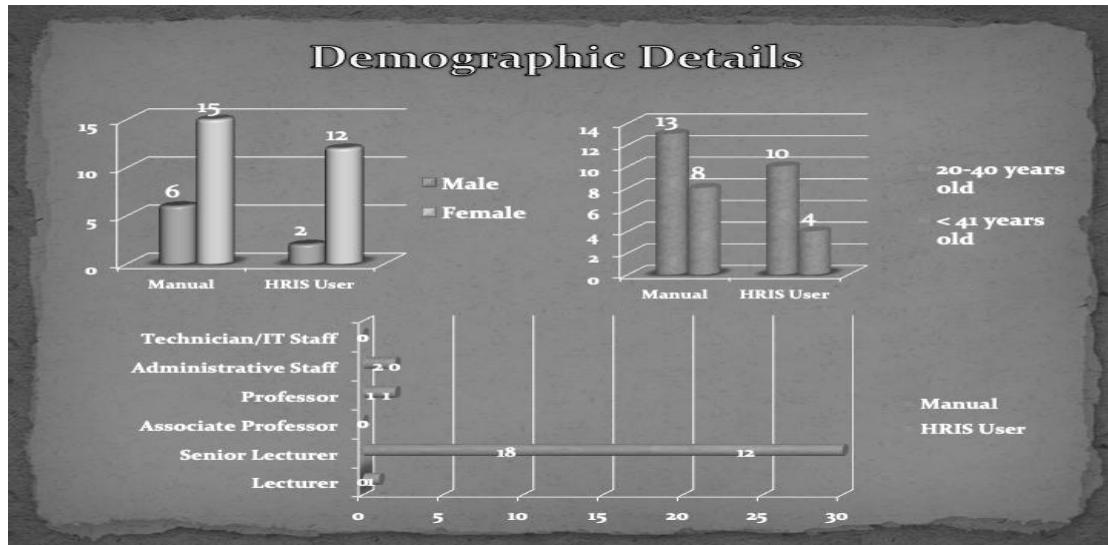


Figure 4: Demographic Details

Respondent's Satisfaction Level

Referring to Figure 5, the result shows that the level of satisfaction for manual system was moderate with the range of average score between 3.27 and 3.50. Meanwhile, the level of satisfaction for FBM-HRIS is high with a range of average score between 4.30 and 4.73. This can be concluded that majority of the respondents strongly satisfied with every service quality dimensions for FBM-HRIS compared to manual service. The finding also found that the average level of satisfaction (\bar{x}) on Security Dimension ($\bar{x}_{FBM-HRIS \text{ service quality}} = 4.73$, $\bar{x}_{\text{manual service quality}} = 3.64$) was the highest compared to other dimensions. Based on overall findings, this study believes that the development of FBM-HRIS is bringing some positive impact on FBM staff.

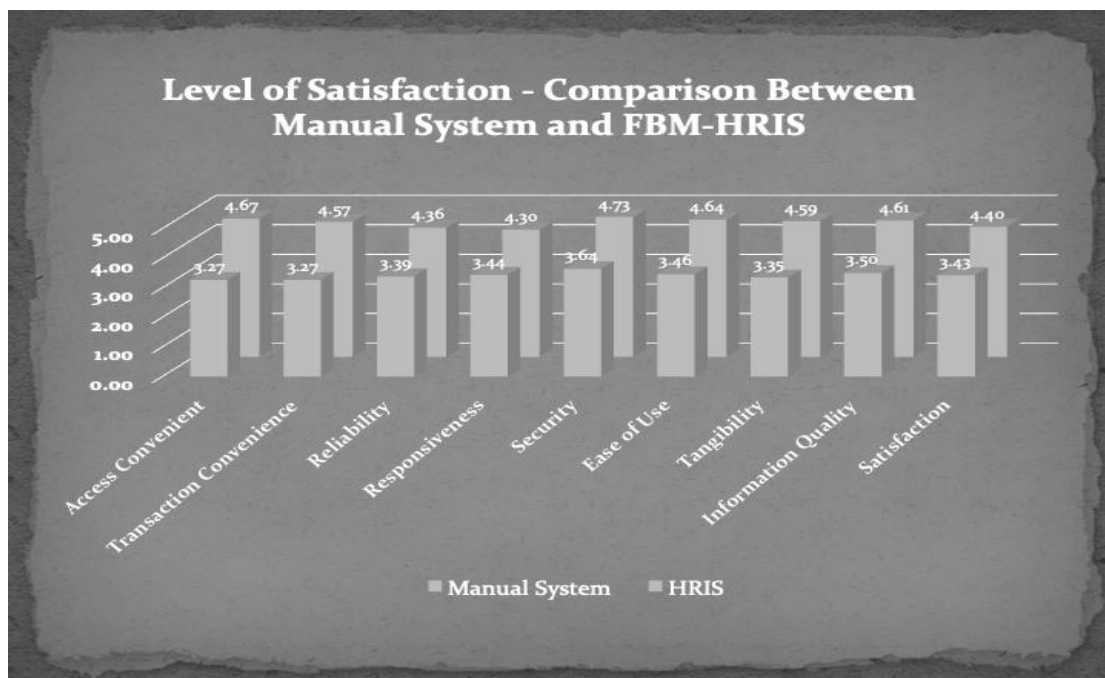


Figure 5: Level of Satisfaction Average (\bar{x})

Furthermore, this study also conducted in-depth interview with two administrative staff to get their feedback on the procedure and implications of manual process and FBM-HRIS. Interviews were chosen, as they were able to provide depth to a particular issue. The interviews were recorded on audiotapes and transcribed after the interviews ended.

The interview questions were semi-structured and open-ended responses were allowed. However, the open-ended responses were controlled to ensure that the interview topics were covered and did not go beyond the research scope. Through these interviews, information was collected pertaining to users' perception towards their experience using FBM-HRIS. The semi-structured interviews were guided by a set of two open-ended questions that served as a data collection guide. The interview result shows that most of the primary themes (Service Convenience and Service Quality) were also shown to be significant factors that contributed to employee satisfaction. The summaries of the qualitative theme findings are shown in Figure 6.

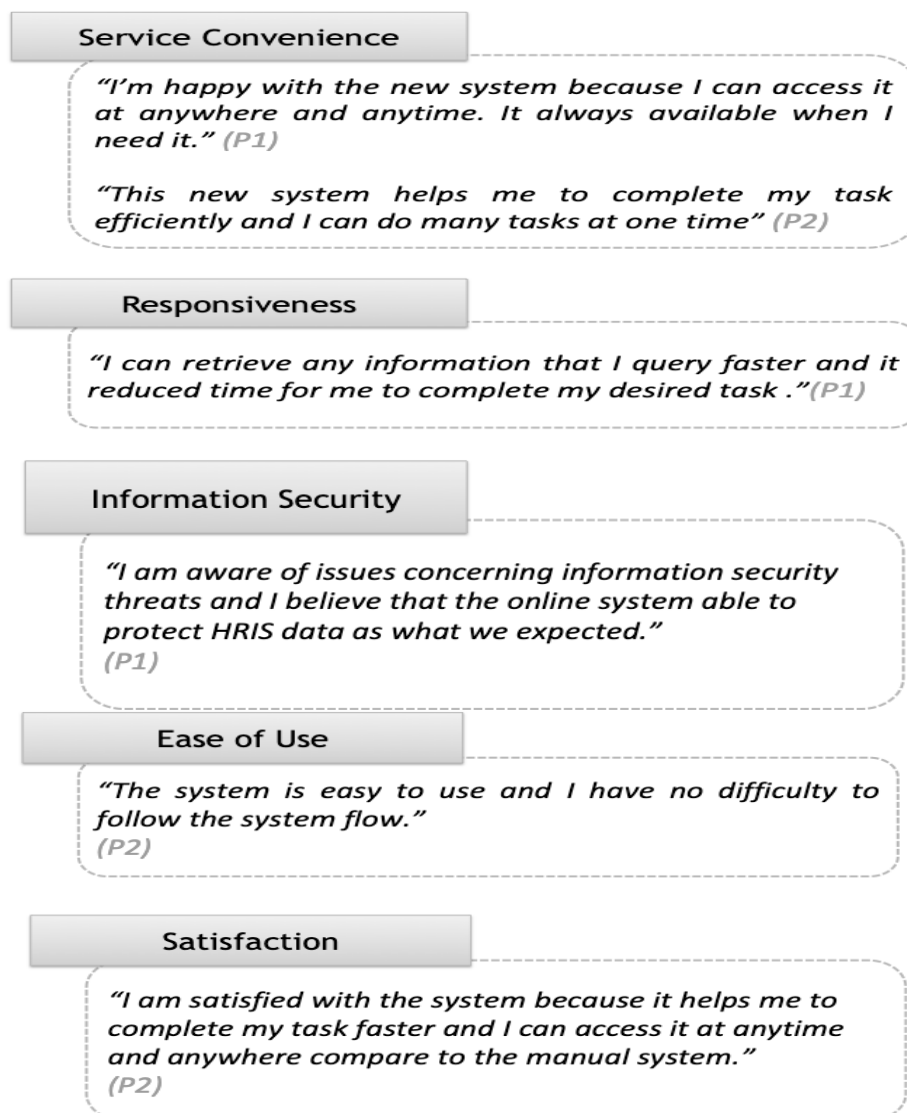


Figure 6: Interview Result

The Impact of FBM-HRIS to FBM

FBM-HRIS did have an impact to the FBM, especially in terms of the financial and manpower implications. The discussions regarding these implications were discussed as follows:

a) Time Reduction by improving the flow of the application submission and approval process. Previously, the approval process of staff application regarding human resource activities such as attending conference requires approximately 21 days. By using the new system (FBM-HRIS) the duration of the application approval takes only 5 days due to some manual processes were eliminated. For instance, FBM-HRIS eliminates the process of staff downloading the application form from faculty website manually and they do not have to be physically present to submit their application documents to the HoD for endorsement and faculty administrative division for approval process. Instead, the staff can do this directly in online system at anytime and anywhere. This can also give impact on the environment by reducing carbon footprint.

The HoD and Human Resource Administrative Staff can review the application for endorsement purpose and the approval process can be done through online system anywhere and anytime at their fingertips. This process might take approximately 5 days. Additionally, previous manual process required one (1) administrative staff to produce application approval letter and submitted to staff pigeonhole. However, with FBM-HRIS, the approval letter can be generated automatically from online system and the applicant can view their application status after getting the notification of approval from FBM-HRIS through email. Thus, the new system did have impact on the faculty in terms of time reduction approximately 76.2% and manpower reduction to 20% as shown in Figure 7.

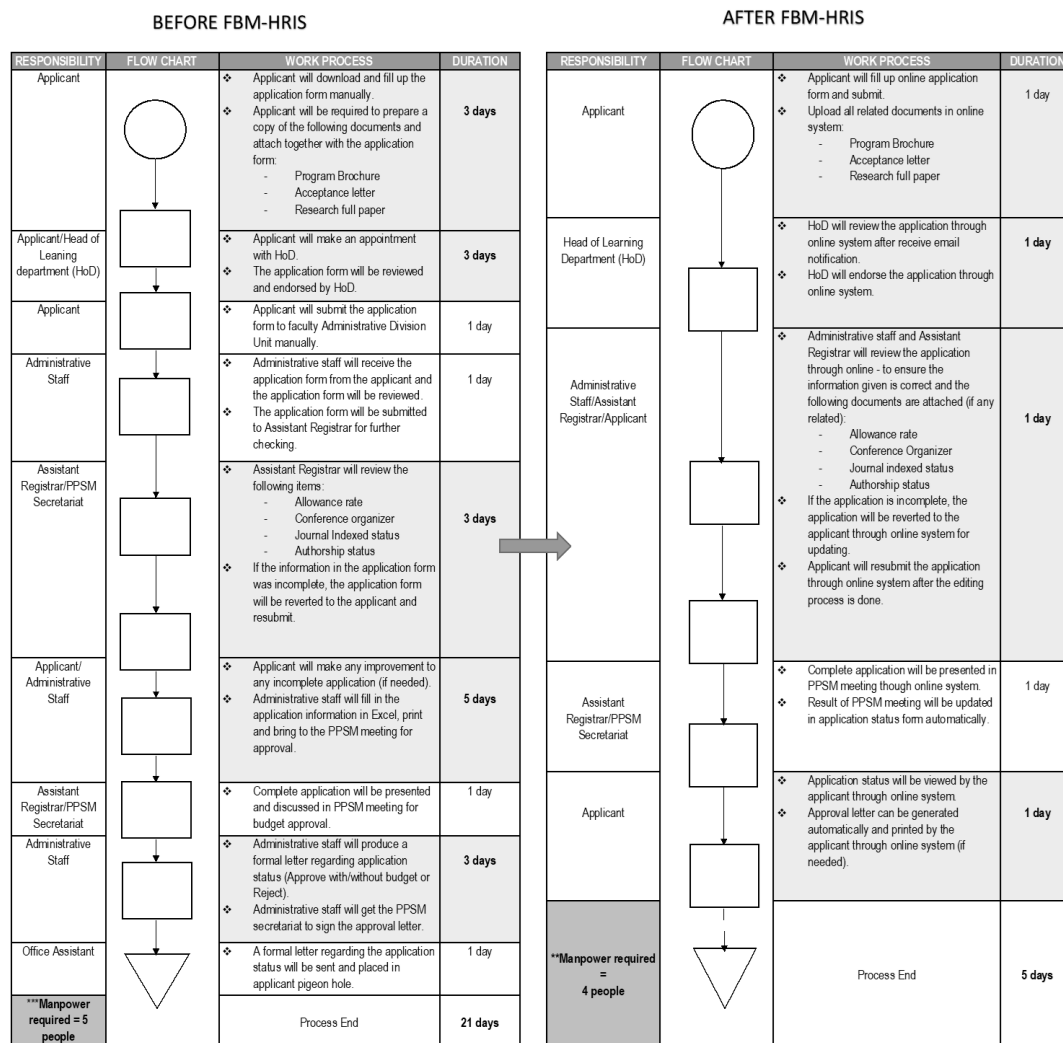


Figure 7: The Procedure Flow Chart of Manual Process and FBM-HRIS

b) Effectively manage the faculty human resource activities information through online Database Management System (DBMS)

Based on 2018 human resource activities application record, the faculty received approximately 211 staff applications. Prior to the implementation of the new system, the staff at the administrative division office had to record all the applications and to compile the approved activities in Excel software manually, which was tedious and time consuming. In some cases, the staff also had experienced missing files due to the files were misplaced and some of the files were prone to damage. With FBM-HRIS, it helps the human resource administrators to manage human resource activities application information effectively and efficiently since the new system was connected to online DBMS and the information can be retrieved through online and this is all at the user’s fingertips.

c) Data retrieving can be done automatically using web-based management system

Using the new system, HoD and faculty administrative division office can classify the staff applications according to the application categories such as attending conference or application of organizing workshop or training in FBM. This will help them to make a fast review and will also help them to make a better decision regarding budget approval.

Moreover, PPSM panel will also be able to manage human resource activities budget allocation given by the university in a particular year effectively and efficiently.

d) FBM-HRIS meets the objective of UiTM 11th Malaysia Plan and UN SDG 12

The main agenda of UiTM 11th Malaysia Plan has stated that transformation of university delivery and innovation ecosystem is important to achieve quality tertiary education. Thus, the implementation of FBM-HRIS is according to strategic direction of UiTM in embracing IR 4.0. Moreover, the UN SDG 12 goal is related to green initiative in which to reduce the usage of paper and to reduce carbon footprint. By developing the FBM-HRIS, achieving 90% of paperless practice is possible because the process of printing the application form and approval letter can be reduced.

e) Increase staff productivity and cost saving

Previously, to process each application submitted to faculty administrative division office manually required approximately 30 minutes. Based on 211 applications received in 2018, the time needed to deal with the staff and to process their application has approximately taken 106 hours. With FBM-HRIS, the total hours were reduced to approximately 11 hours (approximately 3 minutes required to process each online application); hence this will increase staff productivity at the faculty and will help them to focus other administrative works required by the management of the faculty. The new system also reduced the manpower to manage human resource activities information in the faculty. Meanwhile, the cost of paper usage and printing cartridge was also reduced by 95.5% from the total cost as shown in Tables 2 (a) and (b).

Table 2

Total of Human Resource Activity Application in 2018

NO	APPLICATION CATEGORY	TOTAL OF APPLICATION IN 2018
1	Attending conference/workshop/training/seminar (National)	41
2	Presenting research paper at the conference/symposium/colloquium (National)	33
3	Presenting innovation paper at innovation competition.	21
4	Attending conference/workshop/training/seminar (Asean Country)	8
5	Presenting research paper at the conference/symposium/colloquium (Asean Country)	23
6	Attending conference/workshop/training/seminar (International)	20
7	Presenting research paper at the conference/symposium/colloquium (International)	28
8	Organising conference, workshop, training, staff academic visit and any application related with human resource activities.	37
Overall total of applications		211

(a) Cost Implication Analysis on Human Resource Activities

ITEMS	COST FOR MANUAL PROCESS		COST AFTER FBM-HRIS IMPLEMENTATION	
	Details	Cost	Details	Cost
Application Document (Assumptions: 1 application consists of 30 pages)	30 pages x 211 application = 6330 pages (13 reams are required)	13 Reams x RM12.00 = RM156.00	0	0
Meeting Document (Meeting Agenda, Minutes Reporting – approximately 40 pages)	40 pages x 12 PPSM meeting = 480 pages (1 ream is required)	1 Ream x RM12.00 = RM12.00	40 pages x 12 PPSM Meeting = 480 pages (1 ream is required)	1 Ream x RM12.00 = RM12.00
Stationery	Lump sum	RM100	0	0
Total Cost		RM268.00		RM12.00
<p>**Cost reduction: RM268.00 – RM12.00 = <u>RM256.00</u> Percentage of cost reduction = <u>95.5%</u></p>				

Conclusion

Many industries in the new era are driven by technology. The use of technology in many industries especially in-service industries is the desire to improve services to clients and communities (Lyons & Winter, 2018). According to Jackson (2019), digital transformation technologies have emerged as an increasingly dominant paradigm that must be reckoned with in order to enable organizational viability and success over time. Therefore, the Faculty of Business and Management (FBM), UiTM Selangor, Malaysia has taken this initiative to develop FBM-HRIS. This new system provides online service for the staff to submit any related applications through Internet such as the submission of attending conference or seminar application for getting approval from the management of the faculty. To ensure the success of the new system implementation, it is essential for this study to determine the managerial implications of FBM-HRIS to FBM, UiTM Puncak Alam Campus, Malaysia. The study employed action research study to answer the research question. The summary of the impacts of FBM-HRIS to FBM is shown in Figure 8.

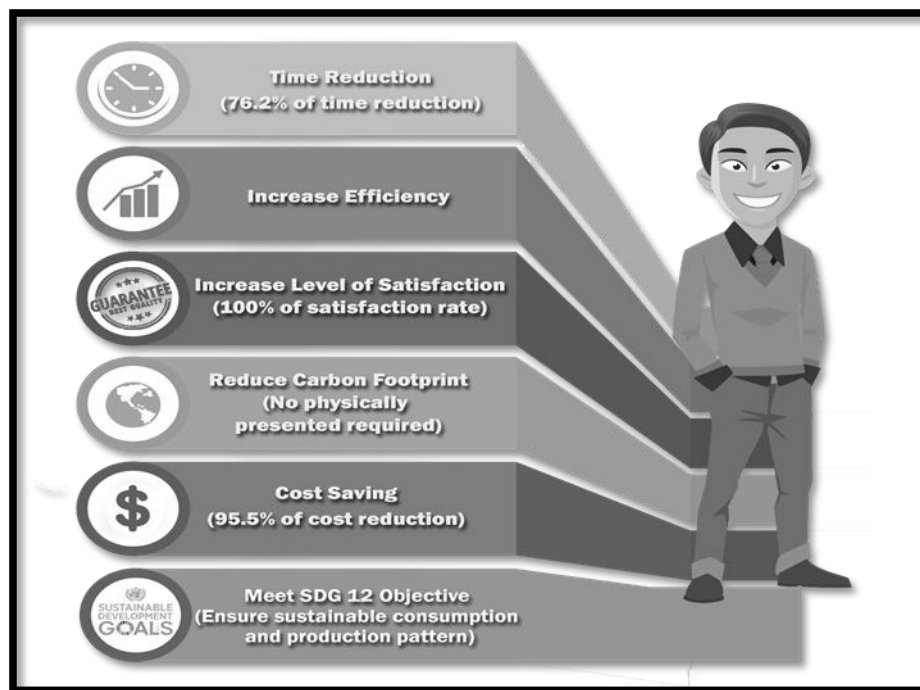


Figure 8: The Summary of the Impacts of FBM-HRIS on FBM

Implication and Contribution

This study found that there are several important implications of FBM-HRIS to the faculty as shown in Figure 8. The new system helps to increase productivity among faculty staff by reducing time to manage applications submission and approval, since all these processes can be done via online system anytime and anywhere.

Moreover, the cost of paper usage and printing cartridge was reduced by 95.5%, thus, this gives good financial implication to the faculty in terms of cost saving. Moreover, it also meets the objective of the university to ensure that the faculty is able to reduce the operational cost.

The new development of FBM-HRIS supports 'greenation' through the United Nation's Sustainable Development Goals (SDG) 12. The concept of 'greenation' is a green initiative practice in the organization, whereby through FBM-HRIS, the total of paper usage and printing cartridges were reduced and the staff were not required to be physically present at the Human Resource Division for application submissions. Instead, they can only submit the application for approval using FBM-HRIS. Moreover, this new system process also helps to reduce carbon footprint.

This study believes that the research findings can contribute to the management of the organization especially in the education sector in improving organizations' strategic plans in innovating the manual process and effectively manage the organization's records. Most organizations spend time and resources to manage all the related records; however, if employees are not willing to use the online system appropriately, then these efforts are in vain. Thus, the implementation of FBM-HRIS will give benefits to the organizations in managing and controlling organization's records more effectively and efficiently.

This study also would like to suggest the direction of future research, where further study should explore users' perception towards online service at the faculty. This can be done by exploring more appropriate research model and theory related to e-service area.

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