The Overview for Implementing Work from Home (WFH) in Malaysia Higher Education Institution (HEI) Context

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Abstract—**In recent decades, working from home (WFH) method has spread their wings beyond of normal boundaries for many sectors in working organization. Work nowadays can be categorized as "unbounded activity" environment and freely conducted at anywhere and anytime. In Malaysia as a developing country, WFH approach is not being implemented widely but there are limited group who has implement WFH unofficially after having an agreement from organization. This research study will cover the important elements for implementing WFH in HEI context. The elements are not limited on HEI context but it able to be use in other field. The university itself will be an organization who involving the employees as well as the employers. To understand more about WFH requirement, current issues and required WFH approach from organization will be consider. The overview of elements consideration will be discussed and a conceptual model is derived to support WFH for HEI. At the end of the study, a framework will be developed in order to support above elements for both employees and employers in the organization itself. The aim of this study is to increase productivity, efficiency and quality of work while the organization allows a flexible working style such as WFH to the lecturers in HEI. The result of this paper is to derive a conceptual model, which are the main elements in conducting WFH for the whole research study.**

Keywords—**Information and Communications Technology (ICT), working from home (WFH), performance evaluation, monitoring tools**

I. INTRODUCTION

This paper discusses in details regarding ICT that helps to support in WFH approach. However, no initial findings have been done by researcher. Thus, these papers provide the initial research study proposal as a conceptual model which will be use for the whole research study. The scope of this study will be in university context for lecturers. WFH can be classified as flexible working environment. This flexible environment is involving few factors such as the employee and employer relationship, employee behavior and technology used for supporting WFH. This demand is high due to the precious work-life balanced. Many commentators point to such of this flexibility because they can see there is a possibility of rationalistic of implementing this method, the control-based mechanism that controlled by employer to employee, the best practice to implement it, the technology involved and values or outcome after implementing it. Since from mid-1970's, this phenomenon has impressed many people with the great outcome and attention [1] and this statement is reinforced with interesting WFH environment since the revolution has increasingly demands individuals whom can organized themselves outside of the office as work. As discussed above, the rationalistic of implementing WFH can be categorized to few factors. However, the most crucial issue is relate to the technology required for supporting monitoring mechanism, technology suitable for this approach, suggested ICT

solutions to solve current issues in implementing WFH and evaluation of WFH implementation (Thomas de Graaff, 2006).

This paper has been organized as follows: first, the paper will explain the overview of WFH in HEI context. Second, the paper will explain the problem background of study. Third, the paper will explain the current implementation of WFH in HEI context and its dilemma. After that, researcher will discuss on the initial findings from the Literature Review that has been conducted earlier. At the end of the paper, this paper will discuss the expected outcome of research study which is proposed conceptual model as the main elements of implementing WFH followed by the conclusion.

II. OVERVIEW OF WFH IN HEI CONTEXT

Due to high demand in Malaysia which interested to perform WFH especially for female lecturers has raised an attention to researcher. An empirical study shown that there are elements need to be considered by an organization while implementing WFH. From previous research, it has been reported that there is not much framework design and guideline to implement WFH for industrial as well as university sector which elaborate on the solutions towards implementing WFH. Most of the framework discussed more on the different angle of challenges, advantages and disadvantages of WFH. From there, researcher has done some observation and study from LR. The most of the challenges are involving the organization, individual and society. However, this research study will only covers the WFH for organizational context. According to previous research, most of the related problem faced in university in implementing WFH includes [2]:

- telecommunicating difficulties,
- lack of performance monitoring,
- information security while bringing important data out of office,
- work coordination within virtual team or virtual culture,
- ICT knowledge owned by home based workers is not sufficient,
- lack of managerial control,
- limited access to resources from office,
- problem with conducive home environment as workplace,
- the relevance of human behaviour while doing WFH,
- visibility of workers while work from home

The aforementioned problems have led to the difficulties of WFH implementation in higher education level. From above problem listed, we can clearly see that most of the issues were related to important points highlighted by researcher earlier. Thus, this research study is conducted to

provide a solution for WFH approach. Few issues will be taking under consideration and will be discussed in this paper.

III. CURRENT IMPLEMENTATION OF WFH IN HEI CONTEXT

As a developing country, the WFH approach is not formally implemented in Malaysia, especially in conventional universities. However, the long-distance-learning approach in private college has used this method to deliver lecture and tutorial for students. Those situations are considering a flexible working for lecturers and students. However, it is more focused on e-learning, and the infrastructure consideration is not a main issue. In developed country such as London and Australia has been implemented WFH widely in HEI context. There are previous study covers on areas such as benefits, procedure and the way they implement it. For example, University of Edinburgh has highlighted few requirements that need to be considered. One of the requirements is the data protection during outside of university computing environment. It is including the storage, the transmission, the personal data usage as well as sensitive business information out of the university computing environment [3].

While in University of Exeter, they are implementing several IT facilities to support them in doing WFH. Majority of the employees is having an access to email, calendar and the network sharing server is big enough to support the employees to retrieve or saved any work from home. The university has implemented a portal which can be access through VPN [4]. In Georgetown University, Washington D.C., there's a concern on the infrastructure and equipment needed to do WFH. In such situation, all WFH employees have to provide their own equipment. The details of using own equipment must be agreed upon application to do WFH with the management and the lecturers have to responsible in ensuring the safe of use of equipment and compliance with University confidentiality as well as other policies. Different approach of having IT infrastructure arrangement applied to University of London, whereby the line manager will discuss and agree with the employee at the outset what equipment and IT requirements will be needed to enable individuals to work effectively from home. Any equipment judged necessary will be provided by the Division which will meet the appropriate annual pc recharge and bear the full cost of delivery and installation [5].

The most issues highlighted in the current studies are more to ensure any of University information that employees work on at home are safe from unauthorized access but the information also must be accessible to employees who work from home. From above study, researcher has identified the issues and importance of implementing WFH.

From there, researcher has identified few important elements that can be use in this research study as a conceptual model. It is including IT infrastructure, security and facility, suitable job role and personality, policies and other related conditions, performance evaluation and monitoring mechanism and the evaluation on WFH effectiveness. Fig. 1 show the conceptual model that has been derived based on LR.
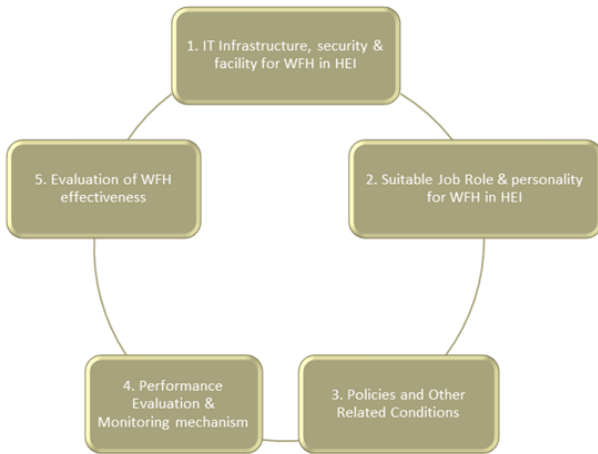

Fig. 1. Conceptual model of elements from LR in implementing WFH in developed country

A. IT Infrastructure, Security and Facility

Before implementing WFH, one of the important elements that need to be considered is the IT infrastructure, security and the facility. The availability of IT infrastructure must be determined at initial stage in order for lecturers to consider the options that they have. For example, in University of Exeter, the management is not providing any internet line options to the lecturers involved in WFH programme. According to the management, the implementation is based on volunteering method. If the lecturers meet all requirements fixed by management, they are allowed to get involve in WFH [6]. All of IT equipment such as laptop, printer and mobile phone are provided by university. However, the IT knowledge sharing session is a must in order for them to have a basic knowledge to have self-troubleshoot if in case the equipment is not working in a good condition. A basic guideline is provided in shared server [7].

In terms of security, a basic policy has been derived by the management of University of Leeds. All of information is able to be accessed via remote desktop with laptop registered under their asset only [8]. However, researcher found there is missing information on the policy created as it is not mentioning any issues and steps to be taken to remove the data remotely if the laptop is missing. In current implementation of WFH in developed country, they are not really mentioning on the facility provided such as

the home-workstation that meets requirements. As for researcher view, it is important for management to determine the suitability of creating and placing workstation at home in a conducive environment. The facility needed such as laptop, printer and other related equipment must be discussed and clearly state in the policy at the initial stage. Lecturers need to understand all of the infrastructure need, either it will be provided by management or they need to prepare it before involve in WFH.

B. Suitable Job Role and Personality

According to Kurland N. B., the issue of quality of work is the main attention that discussed in European Union countries where will affect the performance of working. Thus, one of the solutions is to include the motivation and positive personality under the important characteristic of WFH implementation [9]. In mid of year 2014, University of Virginia was successfully published a formal guideline of determining whether WFH is appropriate for certain position in the university. However, they did not specific the position group for this guideline. According to the guideline, there are certain positions are not very suitable for WFH. Due to that, the management is making their own determination based on the tasks and functions of the position. Table I shows the lists of roles which may or may not suitable for WFH implementation environment [10].

TABLE I. THE CRITERIA OF JOB ROLE SUITABILITY FOR WFH IMPLEMENTATION IN HEI CONTEXT

Suitable	Not suitable/Challenging
system administration with tasks that can be done remotely	anything that requires face-to-face contact with internal or external customers (front-line support)
technical/analytical writing (research project)	anything that requires hands-on contact with on-site equipment
communications development/ graphic design	interviewing and performance reviews/work planning
software development	projects requiring large amounts of collaboration
individual work (non-collaborative)(e.g. development of training materials)	clerical support (i.e., receptionist, file clerk)
on-line data entry/data processing/routine report generation	hardware-related services
administrative tasks (e-mail, status, reports, budgets, and so on)	staff meetings/project meetings/training new staff
web development/ programming	contract discussions/negotiations
certain research (i.e., online)	detailed accounting, reconciliation and reporting requirements
	close supervision of staff

Based on Table I, it can be seen that the criteria mentioned was not specifically for lecturers. However, the suitable characteristics that highlighted by University of Exeter, UK [11] are person who have self-motivated, discipline to work without direct supervision and ability to meet deadline according to the schedule, have initiatives and flexibility of time management skills, able to cope with multiple tasks. A lot of characteristics need to be considered by management and as a human; we do not really know the characteristics of each employee. Due to that, the consideration of characteristics is categorized under the intangible solutions towards implementing WFH in HEI.

C. Policies and Other Related Conditions

Policy is important to be embedded while implementing WFH to ensure there is a limitation and employees always have a reference to follow during WFH. The WFH policy has been use in Georgetown University. In researcher's view, the policy was created with a structural and easy to refer. Policy that has been highlighted was procedures (job criteria, employee criteria, schedules, work area, management and supervision, evaluation and discontinuation) and responsibility [12]. In mid of year 2013, University of Leeds has provide their own flexible working policy which is applicable to all lecturers who want to do WFH [13]. The policy has been setup by the Human Resource department. The content is more towards the application procedure, guidelines to flexible working hours and other related HR matters. However, the policy did not mentioned clearly on the infrastructure used, policy for data security, personal development plan (lecturer's assessment) and the monitoring issue within management and lecturer's WFH. There are few important elements need to be consider as a policy. However, there is a gap and information missing from current policies used in university that currently implements WFH. Further study need to be conducted in order to select the essential points for WFH policy.

D. Performance Evaluation and Monitoring Mechanism

Based on previous research that has been studied by researcher, there are lots of HEI in developed country has implemented WFH very well. Most of them had already developed the policies and procedures for employee's (including lecturers and administrative staffs) references. One of the main components in the policies is to evaluate lecturers after they have commit task by WFH [14]. Due to that, the policy done by Illinois State University, US is including the performance evaluation for lecturers WFH implementation. An evaluation of the employee's performance and the overall effectiveness of WFH implementation will be conducted and documented in the department file. Performance during the WFH should be reflected in the employee's annual performance appraisal. However, there is no further discussion after WFH has been implemented in the university. There is more than one method on evaluating and monitoring the WFH participants. It is based on the management itself to conduct in such way. Further study will be conducted in order to identify options and mechanism to do the performance evaluation and monitoring.

E. Evaluation of WFH Effectiveness

In regards of doing WFH, it is important for the management to understand the pro and cons. To measure how far the WFH implementation effectiveness is, it is important to study which method is suitable for the measurement. Whether it is a worth to have a continuous implementation, management have to decide after run through the evaluation. In researcher point of view, the positive feedback can be considered such as able to increase lecturer's working productivity since they tend to spend longer hours while working at home, able to increase job satisfaction due to more issues will be solved in regards of working from home and the team is approaching the green IT due to communication is more on virtual. The management will be able to look into cost saving for example electricity and sharing cubicles for WFH lecturers. More points and issues will be discover during the further study conducted in this research.

IV. CONCLUSION

In conjunction of work that has been done for producing this paper, researcher has conducted the preliminary literature review of WFH in HEI. It is involve two parties; employee and employer to implement WFH. Multiple case studies have been shared in above discussion in order to share an idea of WFH in HEI context. The initial work has been done by researcher in order to define important nodes and to have in depth study of previous journals and articles by using NVIVO software. There are knowledge gap determine in this preliminary study which has been highlighted in the conceptual model. Researcher's concern is the implementation in developing country like Malaysia is very rare especially in conventional universities. The end result of this research study will be WFH framework which is correlated with the conceptual model. An option is available in order for management to choose in order to implement WFH. For example, the performance evaluation method can be rated based on output or work quality. Besides that, the resource and information is very less and this topic is rarely discussed recently. One of the challenges is to have further study of recent works related to WFH in HEI context.

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