

# A Technology Foresight Study on HR Apps: Identifying the Drivers

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**ABSTRACT** –Emerging flexible types of employees has necessitated the use of HR Mobile Apps where HR functions could be accessed anywhere. However, future use of HR Mobile Apps is not well known in Malaysia. The purpose of this study was to identify drivers of HR Mobile Apps usage among Multi-National Companies (MNC) in Malaysia. Foresight tools such as STEEPV analysis and impact-uncertainty were used to answer the research questions. The drivers of the HR Mobile Apps were identified by using STEEPV analysis and questionnaires were distributed to forty-two MNC in Klang Valley. It is found that external integration and human resource digital mindset scored the highest in impact-uncertainty analysis.

## 1. INTRODUCTION

According to Guy Pink [1], real-time information access, robust analytical tools and more automated functions for payroll and recruitment would take place in less than 10 years. Such changes are driven by the changes in future works and exponential use of smart phones at work and home [2]. Talent Corp Malaysia reported that 10% of companies in Malaysia were practising flexible work arrangements and majority of the percentage contributed were from multinational companies [3]. As employees increasingly expect more flexible work arrangements, companies must embrace mobile technology such as HR apps to maintain and improve human contact, drive employee engagement and increase their satisfaction [4].

HR apps could improve employee productivity and engagement by developing specific mobile applications that excite them [5]. It could also be used to maximise recruitment opportunities and talents of their employees in order to ensure their continuity, flexibility, retention, and motivation [6].

## 2. METHODOLOGY

The research design of this study was descriptive using secondary data. The secondary data that were used to collect information about human resource mobile apps included journals and articles from websites published within five years from 2012 to 2017 as shown in Table 1.

Thematic analysis was used to categorize key issues in each article and tabulate them in the STEEPV table. STEEPV is an acronym for Social, Technology, Economy, Environment, Politics and Values. The drivers that had been identified from various literatures became

the basis of questionnaire development. The questionnaires were then distributed to forty-three MNCs. Impact uncertainty analysis was done based on the survey results to determine future trend of human resource mobile apps among the multinational companies. The drivers with the highest impact and uncertainty were identified as key drivers for future trends.

Table 1 Types of Secondary Data

Secondary Data	Source	Total
<b>Journals</b>	Emerald Insight	18
	ScienceDirect	
	ACM Digital Library	
	International Research Journal of Computer Science	
	International Journal Communication and Information Technology	
<b>Developers Websites</b>	Sage Journal	11
	ADP Solution and Research Institute	
	HR Access	
	Accenture Technology Rapid Value Solution	
	Oracle	
<b>Website</b>	Breathe HR	15
	Deloitte Insight	
	CoreHR	
	Globoforce	
	Inside HR	
	Econocom	
	HPPY	
	LinkedIn	
	Talent Culture	
	App Sheet	
Catavolt		
Forbes		
Digitalist Magazine		
EuroTriade		

## 3. RESULTS

Table 2 clearly shown that Technology has the highest number of drivers based on STEEPV analysis. One of the most important driver identified is whether the HR mobile apps could be seamlessly integrated with

existing Human Resource Information System (HRIS). The easier the 'add-ons', the more likely is its adoption. Moreover, since HR utilizes massive amount of data in forms of employees' personal data, training record, and compensation details, the HR mobile apps must be able to offer solutions that mitigate this issue. Ease of use remains an important feature of the HR mobile apps.

Values had the second highest number of drivers as the use of HR mobile apps has significant implications on work-life balance and organizational values. Easy access means that the employees could record their attendance from home and thus ethical consideration might arise. High level of trust is required for HR mobile apps to be implemented.

Social drivers include improvement of quality of life, productivity, and user's experience and engagement. Human resource mobile apps technology characteristic allows human resource leaders to transform the employee experience through new digital platform, apps and ways of delivering human resource services [7].

Table 2 STEEPV Frequencies

	Drivers	Total
Social	1. Quality of Life 2. Improve User's experience 3. Enhance work process 4. Engaging Users	8
Technology	1. Technology Characteristics 2. Managing massive information 3. Integration with system	17
Environment	1. Sustainability 2. New digital ecosystem	2
Economic	1. Business financial 2. Organizational efficiencies 3. International integration	5
Politic Value	NIL 1. User management 2. Working life 3. Easy to access 4. Organizational values	- 12

Figure 1 shows the mapping of means of drivers that were extracted from the questionnaires' responses. External integration among subsidiaries around the world and moving towards better mind-set on HR were rated as the highest impact towards future implementation of HR mobile apps. However, they were also uncertain to what extent these drivers will be shaping the future of works.

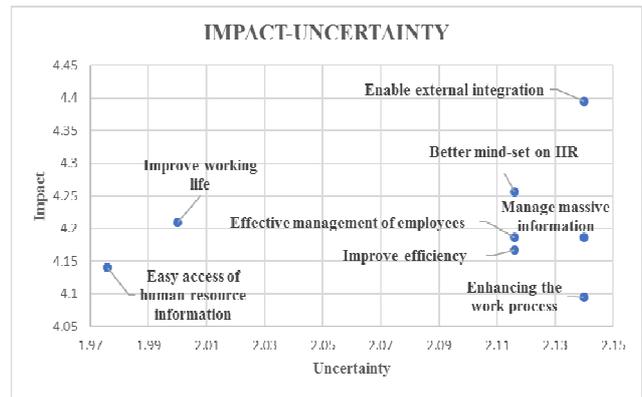


Figure 1 Impact-Uncertainty Analysis

Most of the respondents were certain that HR mobile apps would improve working life as access to the HR information becomes easier. However, in terms of improved efficiency, majority of respondents were still skeptical on the potential of HR mobile apps to enhance the work process and HR effectiveness.

4. CONCLUSIONS

This foresight study revealed that the use of HR mobile apps among MNCs in Malaysia is contingent to the characteristics of the technology itself (HR mobile apps) and its benefits. Another concern is the digital mindset among employers and employees. The future use of HR mobile apps requires acceptance at both organizational and individual levels. Technology Acceptance Model by Davis [8] has aptly explained that acceptance of any technology is influence by perceived usefulness and ease of use. This study substantiates TAM theory to certain extent.

This study also revealed that the use of HR mobile apps would improve organizational competitiveness as it is aligned with future work scenarios and also changing employees' demographic.

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