HR Mobile Technology: Current Station, International Comparison and Trends

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Abstract. To win the competitive advantage in market, more and more companies began to apply HR mobile technology. The paper from 7 dimension to design questionnaire, which include "administrative, workforce management, talent management, business intelligent, service delivery, workforce optimization and social media", choose different companies and industries to explore the present situation of the domestic application of HR mobile technology. Compared to the successful experience of foreign enterprises put forward the development trend of domestic enterprises in the future: extensive use of cloud technology to improve the business intelligence and service delivery contribution to the enterprise, adopt the way of renting service to improve the proportion of small and medium-sized enterprise to use HR mobile technology, use of technology and industry standards such as measures to ensure the security of data, improve the user experience to promote employee self-service system widely used.

Introduction

As technology continuous to develop, mobile terminal such as Wechat and Alipay Wallet have been widely used, closely connecting mobile technology and people's living. While people are living more conveniently, business managers have been considering how to apply the mobile technology to operation of organization. Admittedly, mobile technology itself is nothing new, and how to integrate it into core management for the improvement on organization's bottom line is the focus of administrating personnel. Mobile technology not only brought technical revolution to this area where effective HRM (human resource management) is one of the key factors for enterprise to win market competition, but also added value on human capital. It is mainly reflected in the following: mobile technology offer employee self-service, ESS(employee self-service) by which employees can get acquainted with the latest enterprise development through various mobile terminal including mobile phone and tablet PC, inquiry department number or coordinate working hours on-line as needed, thus handling the balance between "work and life" properly and improving job satisfaction. Moreover, it can better improve talent management as attracting right talents with real-time feedback of individual performance by means of on-line publishing recruitment, as well as retaining internal outstanding employees through development of professional career. As domestic enterprises put more emphasis on the application of mobile technology to manage human resource, there is a need to explore the current situation of this application which is put through international comparative analysis among large-scale enterprises in Shenyang, Liaoning province, by means of questionnaire survey shown in this article.

The current situation of the application on domestic HR mobile technology

Liaoning Shenyang was selected as research area so as to understand the application situation of mobile technology to human resource specifically. As regional central city and the provincial capital in Liaoning, Shenyang is the political, economic, cultural, financial, technological, educational, military as well as commercial and trading center in northeast China which meets questionnaire criteria in both business type and industrial characteristics. By having panel discussion with staff in

human resources departments at some enterprises in the first place, the research group found that mobile technology was widely used on HRM (human resources management) in large-scale enterprises, comparing with less use or no application in middle and small-sized enterprises due to their limited scale of operation and budget.

Based on the characteristics above mentioned, the following principles shall be taken: tax fortune 100 companies of Shenyang city in 2013; the Fortune 500 enterprises in formal operation in Shenyang; large-scale enterprises well-known in Shenyang. The questionnaire was designed by using the analytical structure of human resource system world-wide which was built by well-known U.S. Human resources consulting firm CedarCrestone as reference, as well as collected data from seven dimensions covering clerical work, staff management, talent management, BI (business intelligence),service delivery, human resource optimization and social media.[1] Afterwards, 15 companies in Shenyang were selected for trial testing that was finally come into structured questionnaire as modifying partial content. The questionnaire includes 16 questions, among which 14 are one-choice questions, with 2 multiple-choice questions and 1 sorting question. Research group issued total 300 questionnaires, among which 288 were returned as effective questionnaires with writing filled out. It met the requirements of reliability and accuracy on statistical research.

In respondents type, according to the number in the top four respectively is: private enterprises (39.6%) , state-owned enterprises (37.5%),joint venture enterprises (10%) and foreign-funded enterprises (10%).According to the number of enterprises in industries, in the top four respectively is: manufacturing (21.8%), finance (17.7%), wholesale and retail (14.6%), the real estate industry (10.4%).Therefore, the paper from two dimensions of "Company Type" and "Industry" analysis that mobile technology in human resources management has the following characteristics.

Type of enterprise

Various enterprises have been attaching more importance to the application of mobile technology to HR. Among them, over 63% enterprises believe that mobile technology will be used more in the future and 28% of them said the input on technical aspect would remain flat compared to recent years. When HR mobile technology is put into use, data security is the most concern of various enterprises. Since data leakage of personal information and development strategy is a big worry, the software security will be the first consideration to enterprises for their mobile technology selection. Foreign-funded enterprises hold the development of HR mobile technology in great account along with their long period of using it. Foreign-funded enterprise accounts for the highest proportion among enterprises who applied mobile technology into HR by over 7 years, with 2.5 times to state-owned enterprises and private enterprises. Through data analysis, the using time and scope of mobile technology have positive correlation to cognition degree of high level management. Although four types enterprises plan to increase their input to mobile technology, it is foreign-funded enterprise who has up to half senior managers considering mobile technology as all-important with fully supporting further development and improvement, compared to private enterprise who has only 13% of managers shared the same view on its influence."Low utilization rate with failed to the desired results" is the big worry for enterprises planning to apply HR mobile technology. [2]It is mainly affected by three cases described below:

Employees dislike using it. The survey data found that only 10.4% enterprises put "good UE (user experience)"into the most concern factors when choosing HR mobile technology platform or tool; while poor user experience would directly bring negative influence to participation interest as employees so expressed during discussion.

Mobile software is not in harmony with enterprise culture and development goals. 91.6% surveyed enterprises would select HR mobile technology by ways of direct purchase or customizing from software house, whereas the follow-up service of software developer is still being continuously improved at currently, thus making much differ to the expected during use.

Due to the big gap between earnings and costs brought from HR mobile technology, it is difficult to recover the investment on technology.

Industry types

HR mobile technology is used by different personnel as different industries. It is commonly used from management to staff in manufacturing and financial industry and mainly used by salesperson in wholesale and retail industry, thus the software with application equipped for front-line operators is of much importance. While the working mode is different from other industries, this software of HR mobile technology is rarely used in management of real estate industry where face-to-face sale is the primary way of sale in its business activities.

Table 1.The application of HR mobile technology.

Industry type	Application Object and situation
Manufacturing	HR mobile technology is often used to handle business affairs at all levels management.
Financial industry	Most employees use HR mobile technology and its mobile terminal for inquiry and work attendance checking on etc.
Wholesale& retail	Mainly used by business or sales staff with a special mobile technology platform offered.
Real estate	Rarely used by staff as being of little use.

Financial industry pays more attention to the impact of HR mobile technology on "talent management", whereas wholesale and retail industry emphasizes on the influence of "promoting employees to participate operation and improving enterprise competitiveness". As one of the key factors of long-run development and competitive advantage, both education background and working experience of employees are required in high level at financial industry along with "employ and keep talents" as the most concern, thus "talent management" is fully embodied in the application of HR mobile technology. Wholesale and retail industry enlarge control area handled by employees through widely using MT (mobile terminal), this will not only improve job satisfaction, but also collect information quickly, helping enterprises making right decisions.

"Employee relationship" is widely believed to difficult module among these four industries with application of HR mobile technology. Up to 70% of the real estate enterprises consider that it is very difficult to handle employees relationship affairs by using HR mobile technology through internet, including labor relation, enterprise culture and people relation management etc. Especially in the case that there is low recognition and liable psychological contract breach between employees and enterprise, face-to-face communication is more suitable for handling employee relationship than HR mobile technology which may not be all that effective.

The current situation of HR mobile technology application abroad

According to the survey of 2013-2014 American human resources consulting corporate CedarCrestone for the globalization large companies found that foreign companies combined technology with human resources have three obvious characteristics: large-scale adoption of cloud technology, enterprise according to improve the speed of information transmission improve the daily administration efficiency; integrate various human resources information software's into a single information system, enterprise according to the data analysis select the best strategy to improve the effectiveness of management;[3]staff service center system is widely used, employees obtain, share and use organization information through self-service. Suitable for handling employee relationship than HR mobile technology which may not be all that effective.

Foreign large enterprises show the following distinctive features while using mobile technology in HR management for better increasing organization's benefits.

User experience is the first condition of successful combination of mobile technology and HR

Foreign large enterprises make sure employees to gain user experience of "comfort and convenience" by following two ways: mobile software was designed for easy operating and learning. Employees' interest in learning would be frustrated if they have to spend much time in learning how

to use mobile software; use mobile software that can be communicated at any time. WeChat was able to be widely used in daily life because it enjoys powerful features as "voice message and real-time intercom" making communication to be done while waiting bus, having meal and walking. Research shows that providing feedback through real-time communication can greatly improve working quality and employee satisfaction. [4]

Set application guideline of HR mobile terminal so as to ensure data security

Data protection is the important consideration of employees as whether they will input personal information or not. In order to use related data in correct and legal manner, foreign large enterprises set out application guidelines that have to be abiding employees, which will be put into performance evaluation.

Professional software companies provide outstanding follow-up service support

As the majority of foreign enterprises use customized HR mobile software, software company will inform enterprises to update software with system upgrading, by which make the technology suitable for enterprise culture and industrial characteristics and match it with organization development and HRM (human resource management) process, thus continually improving data analysis ability for each module.

International comparison and future development trend

With the increase in the cognition for the importance of mobile technology in enterprises as well as the comparison to the development situation abroad, HR mobile technology will develop as the following trend in future.

Cloud technology

Widely use cloud technology and raise the proportion of BI (business intelligence) and service delivery on HR mobile technology application area. While foreign enterprises are committed to increase competitiveness by adopting mobile technology, domestic enterprises are placing emphasis on employees optimization and management.[5] The comparison between these two is shown in table 2:

Table 2.International comparison of HR mobile technology application.

Rank	International	Domestic (eg. Shenyang)
1	Administration	Administration
2	Talent management	Talent management
3	BI (business intelligence)	Workforce management
4	Service delivery	Workforce optimization
5	Workforce management	Social media
6	Social media	BI (business intelligence)
7	Workforce optimization	Service delivery

The most important contribution from service delivery and business intelligence is to enable managers and employees to quickly share data and to offer decision evidence for enterprises based on data analysis. At present, domestic enterprises are still weak in applying these two modules due to less application of cloud technology to human resource management. Nevertheless, not only can enterprises reduce the cost of mobile software, they can also collect the first-hand data for operating decision by means of cloud computing.

Good user experience and employee self service system

Good user experience is the determinant of effective using employee self service system that shall be designed to match various types of enterprises and industrial characteristics. Compared with experienced foreign enterprises, domestic enterprises shall pay attention to the following while selecting mobile software: first, complete demand investigation on user experience covering

management and staff; second, make software easy to upgrade and update, thus ensuring using smoothly; last, the software selected shall meet enterprise culture and development strategy, well fitting mobile software and organization development.

HR mobile technology and middle and small-sized enterprises

Enlarge the scope of applying HR mobile technology and increase proportionally to middle and small-sized enterprises. Foreign enterprises are apparently higher than domestic enterprises in using HR mobile technology covering 7 dimensions, which demonstrates big development space of applying HR mobile technology in domestic enterprises. Middle and small-sized enterprises can apply HR mobile technology into workforce planning, workforce analytics, predictive analytics and so on. Self service and workflow can give great convenient for middle and small-sized employees that they can use "HR Help Desk", "Time Record Management", "Absence Management", "Labor Scheduling" to improve work efficiency.

It is the situation in which opportunity and challenges co-exist. On the one hand, software developer will get an unprecedented opportunity for development; on the other hand, middle and small-sized enterprises with being weak in using mobile technology are facing difficulty of purchasing mobile software due to budget limit. Currently, through renting developer service and software, foreign SMEs (small and medium-sized enterprises) can enjoy cloud computing and self-service system via internet by paying less expense to technology company annually. Here's we can draw lessons from successful experiences in developed countries thus to promote the application of HR mobile technology to middle and small-sized enterprises.

Data security

Implement technology and industry standards to ensure data security. [6] Easier data acquisition cause higher risk of information leakage. Based on experiences abroad, domestic enterprises can regulate employees in using information through staff training and enterprise cultural construction while increasing security levels on mobile technology.

Distinct advantages on time saving and quick data acquisition does not represent HR mobile technology in perfection, for instance: module with large amount of information occupying much memory space is difficult to apply as affected by hardware of mobile device; users who do not use MT (mobile terminal) such as cell phone or tablet PC are likely to lose opportunity of getting information; largely using online communication will psychologically distance managers and employees due to less chance of face-to-face communication. Therefore, the weaknesses above mentioned shall be the start point of the research on HR mobile technology application in the future.

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