

# **An investigation into e-HR practices at National Taiwan Normal University**

Germaine A. Mitchel\*

Graduate Institute of International Human Resource Development  
National Taiwan Normal University  
anngeemit@hotmail.com

C. Rosa Yeh

Graduate Institute of International Human Resource Development  
National Taiwan Normal University  
rosayeh@ntnu.edu.tw

## **Abstract**

The primary aim of this study was to examine e-HR practices at National Taiwan Normal University in order to determine whether e-HR was being used to its best advantage, and to make recommendations for improvement. Qualitative methods, namely interview and observation was used to generate findings. The investigation revealed that although the university has e-enabled some of its HR practices, there is still room for improvement. Some of the difficulties stem from the attempt to integrate an existing legacy system into a new, fully customized e-HR system that is being developed by the IT department. There is also the need to address generational differences in the use of technology. However, despite these challenges the university is in a position to benefit from e-HR.

Keywords: e-HR, Human resource management, public organization

---

\* Corresponding author

# **An investigation into e-HR practices at National Taiwan Normal University**

## **I. INTRODUCTION**

The use of technology in the execution of Human resource functions is a trend that has impacted organizations worldwide. Educational institutions are no different. They too are using technology to enhance the efficiency and functionality of their Human Resource department. The nature of such institutions means that their e-HR practices are unique to that of private, profit driven organizations. A study of e-HR at National Taiwan Normal University revealed some interesting and atypical findings.

## **II. BACKGROUND**

National Taiwan Normal University was founded in 1946. It was formerly an institute for teachers' education, but later emerged as a comprehensive university. Today, NTNU comprises of three campuses, Heping campus (main campus), Gong-Guan campus and Linkou campus. The university consists of 10 colleges that include 59 departments and 54 graduate institutes. NTNU cites tradition and innovation as its hallmarks. It prides itself in being a culturally diverse university with students from over 60 countries, most of whom are pursuing the mandarin language program. NTNU's vision, as stated in the 2010 -2014 strategic plan, is to deliver quality, holistic education that incorporates innovation.

### **2.1 Organizational structure of NTNU**

In addition to its large number of academic departments, NTNU's administrative structure consists of nineteen (19) departments/divisions each devoted to unique functions. These include university relations, academic affairs, student affairs, accounting and personnel. All of these are consolidated under the office of the university's President.

### **2.2 Human Resource/Personnel Department of NTNU**

Still referred to (in English) as the Personnel department, this office is responsible for overseeing NTNU's large and diverse staff. There are more than thirty-one (31) people employed in this department with responsibilities ranging from recruiting professors to overseeing staff awards. The department groups its employees according to duties and function. For example, a group of eleven (11) employees are responsible for appointing, dismissing and transferring staff, while other smaller groups or even single individuals are responsible for carrying out other duties. The majority of the human resource functions are centralized under the personnel department. They manage employee records, oversee contract renewals, ensure adherence to regulations related to personnel matters, and deal with matters relating to leave and compensation. From the information gathered, it appears that hiring for certain positions and some training is defused across the various departments. However, most of the general human resource functions are performed by the staff of this department.

NTNU classifies employees into several different categories; the following table provides an overview of these classifications and a breakdown of the number of employees in each category. The figures presented in the table are of the entire university (all three campuses). This data was compiled in 2011.

Table 1: 2011 Staff of NTNU

<b>Category</b>	<b>Number of employees</b>
Full time Teachers	858
Contracted Teachers	15
Part time Teachers	449
Researchers	16
Teaching Assistants	82
Soldiers	13
Administration employees	234
Total	1218
Police Officers	31
Maintenance	145
Contracted employees	381
Total	557
Total Employees	1775

### III. RESEARCH QUESTIONS

The following questions guided this case study:

1. What are the technological capabilities of NTNU?
2. How is NTNU using technology to help with its Human resource function?
3. What HR functions are e-enabled and to what extent?
4. How is this e-HR system(s) being run/maintained (In -house/Vendor)?
5. Is NTNU using e-HR to its best advantage or is there room for improvement?

### IV. LITERATURE REVIEW

#### 4.1 Tracing the development of e-HR

From the very beginning HR departments have undergone constant change. For instance, the payroll function of early organizations gave birth to the Personnel department, which later became the Human Resource department and more recently HR professionals have moved from being administrators to business partners (Fletcher 2005). However, the most revolutionary and fundamental changes began in the 1990's and is still taking place today. Since then new technologies, particularly information and web technology, have been used to improve HR processes and as a result has impacted or shaped the HR field (Shilpa & Gopal 2011). One of the first processes to be automated was payroll, later the introduction of

corporate intranets and web-enabled HRIS led to more HR process undergoing automation. This trend was fed by three conditions (which evolved in the 1990's) namely; the prevalence of personal computers, widespread computer literacy and the development of the internet. Other factors include the development of enterprise resource planning software (which made it possible to link business operations) and other software that led to more effective data management (Lengnick-Hall & Moritz 2010). The term e-HR (first used in the 1990's) was coined to refer to the use of the internet (and supporting technological advancements) to conduct HR transactions.

Today a total e-HR system may include enterprise resource planning software (ERP), HR service centers, interactive voice response (IVR), web applications, voice recognition systems (VRS) as well as manager and employee portals (Lengnick-Hall & Moritz 2010). This technology has impacted all HR functions including recruitment, selection and compensation (Kim & O'Connor 2009). Moreover, Human Resource Systems have become an important input in the corporate decision making process. In addition, the number of organizations adopting e-HR and the depth of applications within the organizations are continually increasing (Strohmeier 2007).

#### 4.2 Defining e-HR

Just as the practice of e-HR has evolved, so has the definition. Although all definitions of e-HR have similar elements, they have been refined over the years to include current or emerging trends. The following table presents a snapshot of the definitions of e-HR/ e-HRM over the past decade.

Table 2: Defining e-HR

<b>Source</b>	<b>Definition</b>
Gowan 2001	e-HRM is a web-based solution that takes advantage of the latest web application technology to deliver an online real-time Human Resource Management solution. HIRS are directed towards the HR department itself whereas e-HRM targets both HR staff and people outside the department
Strohmeier 2007	e-HRM is the planning, implementation and application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities
Martin and Reddington 2010	e-HR is the application of the internet, web-based systems, including Web 2.0 social media and mobile communications technologies, to change the nature of interactions among HR staff, managers and employees from face-to-face to a technology-mediated one

e-HR has the capacity to aid all traditional HR functions (Ruel et al. 2004). Record keeping, data management and routine administrative tasks can be improved with the use of portals. E-enabled recruitment makes it possible to communicate recruitment information, post jobs online, as well as accept and screen resumes. E-selection enables organizations to administer selection procedures such as testing online. The training function can be enhanced with the adoption of e-learning. Performance appraisal and compensation functions can also be facilitated using specialized software and other computer based systems (Fletcher 2005).

#### 4.3 e-HR's Impact on organizations

More and more companies are taking advantage of the benefits of e-HR. These include lower administrative costs, improved employee communication and satisfaction, real-time access to information and reduced processing time. e-HR has made it possible for workers to have direct access to each other, to HR and to business information and as a result has changed all traditional HRM functions (Shilpa & Gopal 2011).

e-HR has enabled large companies to collect, store, process and manipulate large amounts of data inputs, reduce costs of maintaining human resource data and provide accurate information about human resources anytime and anywhere (Shilpa & Gopal 2011). According to the Cedars Crestone Survey (2008-2009), moving to e-HR has enabled organizations to serve more employees with their HR staff. As a result, the nature of HR departments has changed, before businesses tended to have more, but less qualified HR staff whereas today the reverse applies (Shilpa & Gopal 2011). e-HR has begun to replace or complement face-to-face relationships between HR professionals and employees. This is because recent improvements have made it possible to electronically deliver customized and interactive content that leads to greater individualization of services (Martin & Reddington 2010). An indication of this new relationship between HR and its customers is the fact that employees today tend to ask for advice rather than administrative assistance. The HR profession has also changed. The growth of e-HR has changed the competencies that HR professionals must possess in order to be successful. These competencies fall under three major categories; knowledge of business and finance, change management, and technology expertise (Bell et al. 2006).

There are also some negative consequences associated with e-HR. It is assumed that by automating the transactional or low value- added activities additional time and resources can be spent on strategic pursuits. Although this idea is very appealing, an investigation into the actual situation that exists in organizations may very likely challenge its accuracy. In actuality HR leaders may struggle with large scale human resource information systems that do not meet budget or performance targets. In addition, HR professionals may become isolated from customers (employees and managers) and a large chunk of the HR budget may go towards feeding e-HR systems as opposed to training and employee development (Fletcher 2005).

#### 4.4 e-HR in Public Organizations

Most of the research conducted in e-HR focuses on private sector (for profit) organizations. Although some research has been conducted with public or governmental

organizations as its focus there is still lots of uncharted territory. For instance, certain types of public organizations have been studied while others have not.

The few studies that delve into public sector organizations have revealed that there is a marked difference between public and private organizations with regard to e-HR and issues related to e-HR adoption. In his 2009 study of HRIS within city governments, Reddick found that the most important contribution of e-HR was increased customer service and improved quality of services. He also found that the primary barrier was inadequate funding to improve and maintain HRIS. In a study of the implementation of e-recruitment implementation in twenty-three (23) state governments, Kim and O'Connor (2009) found that while e-recruitment led to several advantages such as increased number of applications, many implementation challenges threatened its success. These challenges were budget constraints, technical difficulties and HR staff adapting to using the new system (Kim & O'Connor 2009). Certainly these findings are markedly different from those of private for profit organizations. This is especially true for the problem of finance which often serves to hinder the adoption of e-HR practices. All of this points to the need for further study of e-HR in public organizations especially those that have unique nature and structure.

## V. METHODOLOGY

The methods used to gather information for this case study were qualitative. Five semi-structures interviews were conducted, observation was also carried out by navigating the university's website and from observing interviewees while they used the employee portal. The first interview was carried out with a senior employee of the IT department. This was followed by an interview with an employee of the Personnel department and then two interviews with staff of the Graduate Institute of International Human Resource Development and one interview with a professor of the university. Interviews were conducted in English. They were taped and then transcribed.

## VI. RESULTS

### 6.1 IT capability of NTNU

NTNU's IT department is divided into four groups. The first group is responsible for teaching assistance/service. They operate the computer rooms and e-classrooms which help in delivering instruction. The second group is the network group which is responsible for all the network services within and outside the campuses. This is very important because networks are essential to the daily operations of the university. This group is also responsible for maintaining the university email system. The third group is the developing/development group, they are responsible for writing software for the campus administrative service. For example, they develop software for course administration and keeping student records. The final group's function is to develop and maintain the Moodle/electronic learning system. This general IT department is responsible for the entire university i.e. all three campuses with the

exception of the library which operates independently.

The department separates IT users into three major groups, namely students, teachers and employees. Technological services are provided to all of these major clients. All groups are considered to be equally important because they are all connected. The university's IT capability is described by a senior IT staff member as "above average". In his opinion, the Campus is making increased use of technology and the culture of the university encourages this trend. He points to the fact that lots of money is spent on software and human resource for IT. For example, there are more than fifty (50) people employed in teaching support and approximately fifteen (15) people work in the software development. In addition, lots of money is spent on hardware to support networks and IT systems. For instance, a new IT center will be provided in the new building at Linkou campus.

About 70-80% of the software used at the university is designed in-house. The other 20-30% is bought from outside companies. The Moodle system was bought from outside vendors but is customized by NTNU. This customization is not only university specific but is also department specific. For instance, the Chinese Department customized Moodle for their own purpose. Other examples of systems developed in-house are NTNU's main website, the email system, employee portals and the attendance system. The property management system and the accounting system were bought from a third party.

## 6.2 e-HR Practices

The following table 3 provides an overview of the extent to which the major HR functions at the university have been e-enabled. The following sections provide the details of this assessment.

Table 3: e-enablement of HR practices at NTNU

<b>Function</b>	<b>Extent to which it is e-enabled</b>
Administrative	Most functions are e-enabled
Training	Little to no e-enablement
Recruitment	Little to no e-enablement
Performance monitoring	No e-enablement
Compensation	Little to no e-enablement

### 6.2.1 NTNU's e-HR system

Over ten (10) years ago, NTNU implemented an administrative system that was developed and legislated for use by the National Personnel office. It is quite rigid and does not allow for customization. Over the years the university has worked around this system by building add-ons that work with or alongside it. For example, the fingerprinting attendance system was developed to work alongside this mainstay/fixed system. This legacy system has never been "very good" and is not the best fit for the university. For this reason, a completely new HR/personnel system is being developed. This will come into full effect in the near future.

Part of the system is already operating but full implementation is being held back by the existing legacy system which is causing some problems of integration. This integration is the most difficult and tedious part of the whole project. This new system is being developed in-house and is fully customized and tailored to fit NTNU's needs.

#### 6.2.2 Administrative Functions

Quite a few administrative functions can be carried out online. There is a system used for training record and one that tracks attendance. This attendance system utilizes fingerprinting technology. This was first introduced in 2001 and at the time, NTNU was the first in Taiwan to use this kind of system. There are stations set up at various locations on campus (administration building, IT office etc.), when employees arrive (regular employees as well as contract workers) they verify their attendance using the fingerprint device and they repeat this process when they leave at the end of the day.

The employee record system was very recently upgraded. It is now possible for employees to change their information in the personnel system. Each employee will be given (some have already been issued) a card, that looks like a typical ATM card with a computer chip embedded, which provides authorization and allows an employee to change information on their record. The card can be used to access the system through the use of a card reader. The rationale for the use of authorization cards is that an ID and password is not secure enough, especially given the confidential nature of personnel records. This is considered safer since it is not using only password and username. The card also allows for access to other types of information and its use will likely be extended.

A considerable amount of information is being communicated using email, the Personnel website or employee portal. Many announcements including information about vacancies are sent via email. The personnel website is also used to post miscellaneous HR information. However traditional methods such as the telephone and sending documents via mail or messenger are still used quite often.

#### 6.2.3 Employee Portal

The Portal allows employees to perform HR related tasks such as applying for personal days (leave), logging in overtime and applying for training. The portal allows for some self service but not a great deal. Other more sophisticated tasks such as renewing employment contracts are done through the Personnel office. The employee portal includes a section that relays university news and also lists staff emails. Previously, personnel records couldn't be altered but this has changed as discussed in the previous section. There is a Q&A list included in the portal. This list includes formal, standard questions but in many instances there may be a need to contact the Personnel office directly. Most common use of the portal is to fill out requests for leave and to check messages. It can also be used for writing memos, approving paperwork and making formal documents.

Although they admitted to using the portal almost every day, the interviewees were generally not very satisfied with it. Table 4 summarizes their assessment of the portal.



Table 4: Respondents' assessment of Employee portal

<b>Shortcomings</b>	<b>Recommendations</b>
Not user friendly	More training on using the portal
Does not allow for personalization	Allow for personalization
Limited in function	Should be connected with other systems
Is not integrated with other systems	
Occasionally breaks down	

Respondents reported that the portal was not user friendly and that at first it is not easy to use; in fact it takes a couple of months (and lots of practice) to learn to use it effectively. This happens even when employees attend courses related to portal use. Both interviewees stated that these courses are not very effective. Moreover, there are several instances throughout the typical year (at least one or twice) when the portal doesn't work/breaks down due to technical and other difficulties.

The interviewees would like to see several changes made to the portal. Firstly, they suggest that the university combine all systems into the portal because presently there are so many systems operating within the school that there is a need to remember lots of passwords and IDs. It would also be useful to allow employees to access basic information about other personnel at the university. Also when new functions are added, they would like to be informed and trained on how to use them. Finally they suggest that the portal should be more user friendly. Currently, it has no personality and is quite basic. One interviewee would like to see some extra functions added to the portal that allows for personalization, for example, allowing employees to upload photos.

#### 6.2.4 E-Learning

Most of the online training available to NTNU employees was developed and is being administered by the National Personnel administrative department. Most categories of employees must take this training. For example, contract employees are required to complete 10 hours of this online training in one year. This training is completely mobile and available anywhere 24 hours a day. The system also monitors the number of hours that employees spend on the course. The university itself does offer some online courses to employees, however these are very few. They can be done at home but certain programs have to be installed before the course material can be accessed. Most of the training offered by the university has to be completed in an actual classroom setting and requires that employees take time off work to attend. Employees are generally required to complete 40 hours of training for one year, less than 10% of this is online. The other training related task that is e-enabled is that employees can apply for training online.

#### 6.2.5 E-Recruitment

NTNU's e-recruitment efforts can be most accurately described as basic and unstructured.

The university does have a webpage that advertises job vacancies. However, this page announces information mostly about recruiting professors. For other types of workers such as assistants or secretaries the department(s) who want to hire for such positions have to make decisions about how to announce these vacancies. In most cases, the vacancy notice is posted on the department website and not the university website. It appears that the various departments do their own hiring. There appears to be no central system where all vacancy information is sent to be forwarded or posted. NTNU also advertises vacancies on other mediums such as BBS, the government website or public channel websites.

Moreover, presently there is no procedure for potential employees to apply for positions online, resumes and application forms must be submitted in hardcopy. One interviewee suggested that this might soon be included, however; to date it has not been implemented. None of the other more sophisticated features of e-recruiting such as conducting reference checks and screening online are being utilized. In addition, the website where vacancies are posted does not seem to be geared towards building an image or brand identity for the university.

#### 6.2.6 E-Performance

No part of NTNU's present performance appraisal is done online. An email is usually sent before appraisals are conducted simply to announce or remind employees and afterwards a "formal response" (which does not provide any specific details about the result) is usually sent after appraisals are complete. Both interviewees were satisfied with that procedure because they had concerns with privacy.

#### 6.2.7 E-compensation

From an employee point of view very little compensation information is provided via the portal or through email. Emails are sent informing them of when their salary will be paid but the sum to be deposited is not reported. Salary information is relatively standard because the majority of the employees are government workers and for this reason there may be little need to have a sophisticated e-compensation system.

## VII. DISCUSSION

Although some practices have been implemented, NTNU is lagging behind in its adoption of e-HR. It is lagging behind not only private sector organizations but possibly other universities. This lag is due to several factors, the major ones being its large size and its bureaucratic nature. NTNU is a traditional organization that has formal and tedious decision making processes that is tied to the larger governmental bureaucracy (NTNU is a national university), for this reason it tends to be slow to adopt new practices. To compound the situation, this organization is very large and diverse, consisting of subdivisions or departments that have a certain degree of autonomy. Change is difficult in large organizations; therefore NTNU's size and traditional bureaucratic nature makes it inevitably a slow adopter of e-HR.

This organization is not using e-HR to its best advantage. The best advantage that NTNU

can gain from using e-HR is it can gain efficiency, save time in certain processes and make it more convenient for users (employees and HR staff) to carry certain HR related tasks. There are several “kinks” or shortcomings that exist with the present system that need to be addressed. From a users’ or employees’ point of view the two major ones are as follows. First, there are too many methods of entry into the system. There are several passwords and ID’s to remember, there is the fingerprinting system for attendance and now there is a new card for entry into only two systems. Instead of all of these, NTNU should consider implementing fewer entry methods or make the methods that are already available comprehensive thus making the whole system more streamlined. For instance, why not just extend the fingerprint subsystem to allow for authorization to change information? In that way, the cost of having the card (card readers have to be bought and installed, cost of making or buying the cards) would be eliminated. Secondly, the portal is not user friendly and limited in function. People in charge of building the new system should be aware of these, user point of view, difficulties and take them into consideration.

Some of the suggested critical successful factors for the adoption of e-HR are industry differences, organizational culture, employee IT skills, and collaboration of HRM and IT (Strohmeier & Kabst 2009). These will now be examined regarding NTNU.

#### 7.1 Industry differences

As previously mentioned, it is more difficult for organizations like NTNU to adopt e-HR. The motive for adopting e-HR is not necessarily the same as that of the private sector which is usually to save money and achieve competitive advantage. What such organizations might hope to gain is efficiency, convenience for employees/users and to save time. It appears that more customization is needed in this type of organization than in private sector organizations because they have more diverse users (employees) to cater to. Customization might be necessary across departments and also across employee groups. Surprisingly they are dealing with the same issues that private companies have to battle with in that; they have a legacy system that needs to be phased out.

#### 7.2 University culture and Employee IT skills

It appears that organizational culture at NTNU is more traditional and slow to change when compared to the private sector. The university does spend lots of money on technology, however, its nature, size and decision making process contributes to slow adoption. Moreover, there are certain e-HR practices that would not work for this type of organization. These include having performance appraisals done electronically and also e-enabling selection. These are due to, not only the organizational culture of the university, but also the national culture of Taiwan which can be classified as collectivist (Stone-Romero 2005).

There is also the issue of generational differences in the use of technology. One of the interviewees pointed out that there was a difference in the way in which older staff used and responded to technological change as opposed to younger staff. The younger employees are more versed and technology savvy than older staff and as a result do not experience the same

difficulties in using and adapting to changes in the HR system. The interviewee pointed out that the older workers used the technology (she cited the portal as an example) less. This is an issue that needs addressing, especially when the new system is implemented.

### 7.3 Collaboration of HR and IT

NTNU's IT capability is very good (probably better than that of some private organizations). They have the capability to build their own customized e-HR system whereas within the private sector, the dominant trend is to buy third party systems. This build your own is expensive and takes longer, but allows NTNU the unique opportunity to create a system that works for the university.

It is uncertain as to how much collaboration exists/existed between HR and IT in designing the new HR system. However, it would be useful if the designers had a great deal of information from Personnel so that they can design a "best fit" for the university. It is important for the Personnel department to have an active role in the implementation of the system so that they can have a sense of ownership. However, it appears that this new system is more an IT project rather than a collaborative effort.

## VIII. RECOMMENDATIONS

Based on the findings uncovered during this case study, the following recommendations can be made.

First, NTNU should develop a recruiting website that is a "one stop" page that posts all available jobs. This will make the recruitment process more focused and streamlined. To achieve this, there needs to be a "behind the scenes" system set up for departments to report vacancy information to the personnel office so that they can be posted in a timely way. This can be implemented even in situations where the departments do their own screening and interviewing, the applicant information or feedback from the recruitment website can be forwarded to them and they can continue the process from there. This recruitment website can be used not only to advertise vacancies but also to establish a brand identity for the university which can serve to attract job seekers.

In addition, the university should make it possible for people to submit applications and resumes online. This will help to cut down on the cycle time for filling vacancies. Moreover, they can use technology to conduct initial screening as well as to contact applicants for interviews and selection testing. By e-enabling some of the recruitment processes they can save time and make their recruitment efforts more efficient.

Second, there is a need to streamline the systems (including the HR system) at the university. This would involve integrating the fragmented systems. This would result in a reduction in the number of IDs and passwords that employees have to learn and would also decrease the methods of access so that one or two devices can be used to access all systems. Moreover, the portal should be made more user friendly and should allow for more personalization. The portal can serve as a hub that can be used to not only perform HR

functions but also enables employees to carry out work related tasks.

Third, in implementing the new HR system, NTNU should address the generation differences that exist in the use of technology among its employees. Older workers should receive training to bring them “up to speed” with the technological advances and younger workers should be trained to familiarize them with the new features and how to use them. The IT and Personnel department will have to make sure that older staff receive enough and adequate training in the use of the system. They might require more intensive and more hours than the younger workers. Moreover, the persons who make decisions about training should consider having separate training for older and younger staff in order to ensure effectiveness.

Forth, the university should consider offering some of the training on how to use the new e-HR system and other standard training online as a time saving measure. In that way, employees would not have to take time off work to attend training, they can do it at their own convenience at anytime they wish. These do not have to utilize very sophisticated e-learning methods; they can be as simple as having PPT’s or videos of guided practice. Moreover, the IT department has the capability to design some simple online training courses especially those related to the use of technology. For instance, courses on how to use portal features and other e-HR system features can be provided online.

Finally, the Personnel or HR department should demonstrate more ownership of the e-HR system operating within the university. Presently, it appears that the new system being developed and the add-on systems that have been created for the legacy system is more IT department owned rather than HR owned. Ideally, it should be a collaborative effort with HR demonstrating expertise in the use of information and functions being enabled by the system and IT demonstrating knowledge on how the system operates. The Personnel department should therefore have a greater stake in ownership of the new system.

## IX. CONCLUSION

Although classified as a slow adopter, NTNU has the ability and IT capability to use e-HR to its advantage. There are some shortcomings that need to be addressed and there is a legacy system which needs to be completely replaced. However, it appears that all of these issues are being addressed with the development of a totally new and fully customized e-HR system. It would be interesting and useful to study NTNU after the new system has been fully implemented to determine how effective it is and to examine how it has changed the e-HR practices of the university.

## ACKNOWLEDGEMENT

This work is supported by National Science Council, R.O.C., under the contract number of NSC 100-2410-H-003 -111 -.

## REFERENCES

1. Bell, B.S, Lee, S. and Yeung, S.K. 2006. "The impact of e-HR on professional competence in HRM: Implications for the development of HR professionals," *Human Resource Management* (45: 3), August, pp: 295–308.
2. Cedar Crestone. *HR systems survey: HR Technologies, service delivery approaches and metrics* (11<sup>th</sup> annual edition) 2008-2009.
3. Fletcher, P.A. 2005. "The Transformation of the Role of HR in the Digital Age," *The Brave New world of e-HR*, John Wiley, New York.
4. Gowan, M. 2001. *E-HRM : An Internet Guide to Human Resource Management*, John Wiley, New York.
5. Kim, S. and O'Connor, J.G. 2009. "Assessing electronic recruitment implementation in state governments: Issues and challenges," *Public Personnel Management* (38:1), March, pp: 47-65.
6. Lengnick-Hall, M.L and Moritz, S. 2003. "The impact of e-HR on the human resource management function," *Journal of Labor Research* (24:3), Summer, pp: 365-379.
7. Martin, G. and Reddington, M. 2010. "Theorizing the links between e-HR and strategic HRM: a model, case illustration and reflections," *The International Journal of Human Resource Management* (21:10), August, pp: 1553–1574.
8. NTNU website: <http://www2.ntnu.edu.tw/en/modules/tinyd0/index.php?id=5> retrieved December 26, 2011
9. Personnel Office website: <http://www.ntnu.edu.tw/person/person/person1.htm> [NTNU strategic Plan.pdf](#) retrieved December 26, 2011
10. Reddick, C.G. 2009. "Human resource information systems in Texas City governments: scope and perception of its effectiveness," *Public Personnel Management* (38: 4), August, pp: 19-34.
11. Ruel, H., Bondarouk, and T. and Looise, J.K. 2004. "The contribution of E-HRM to HRM effectiveness," *Management Review* (15:3), December, pp: 364-380.
12. Shilpa, V. and Gopal, R. 2011. "The implications of implementing Electronic- Human Resource Management (E-HRM) systems in companies," *Journal of Information Systems and Communication* (2:1), January, pp: 10-29.
13. Stone-Romero, E. F. 2005. "The Effects of eHR System Characteristics and Culture on System Acceptance and Effectiveness," *The Brave New world of e-HR*, John Wiley, New York.
14. Strohmeier, S. 2007. "Research in e-HRM: Review and implications," *Human Resource Management Review* (17), March, pp: 19–37.
15. Strohmeier, S. and Kabst, R. 2009. "Organizational adoption of e-HRM in Europe: An empirical exploration of major adoption factors," *Journal of Managerial Psychology* (24: 6), December, pp: 482-501

# 電子化人力資源管理實務探討：以國立臺灣師範大學為例

米左嫻\*

國立臺灣師範大學國際人力資源管理研究所

anngemit@hotmail.com

葉俶禎

國立臺灣師範大學國際人力資源管理研究所

rosayeh@ntnu.edu.tw

## 摘要

本文以個案研究方法探討國立臺灣師範大學的電子化人力資源管理實務，以瞭解國立大學機構是否能有效應用科技，並提供改善參考建議。研究方法以質性取向的個人訪談及實地觀察為主。研究發現該機構雖已將很多人力資源管理措施電子化，但在系統的整合及使用介面上仍存在改善空間。該機構由內部資訊人員團隊發展全新的客製化人員管理系統，遇到最大的困難是與政府暨有公務人力系統的整合問題。另外，較資深與較年輕教職員在科技的使用程度存在代溝問題。本研究最後的結論是人力資源管理的電子化對國立大學提升管理效能有顯著的助益，隨然在有效利用科技上尚存在改善空間。

關鍵詞： 電子化人力資源管理、人力資源管理、公立機構

---

\* 通訊作者