



**STUDY ON METHODS FOR HUMAN RESOURCES MANAGEMENT OF  
ENTERPRISE BASED ON INFORMATION TECHNOLOGY**

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## Abstract

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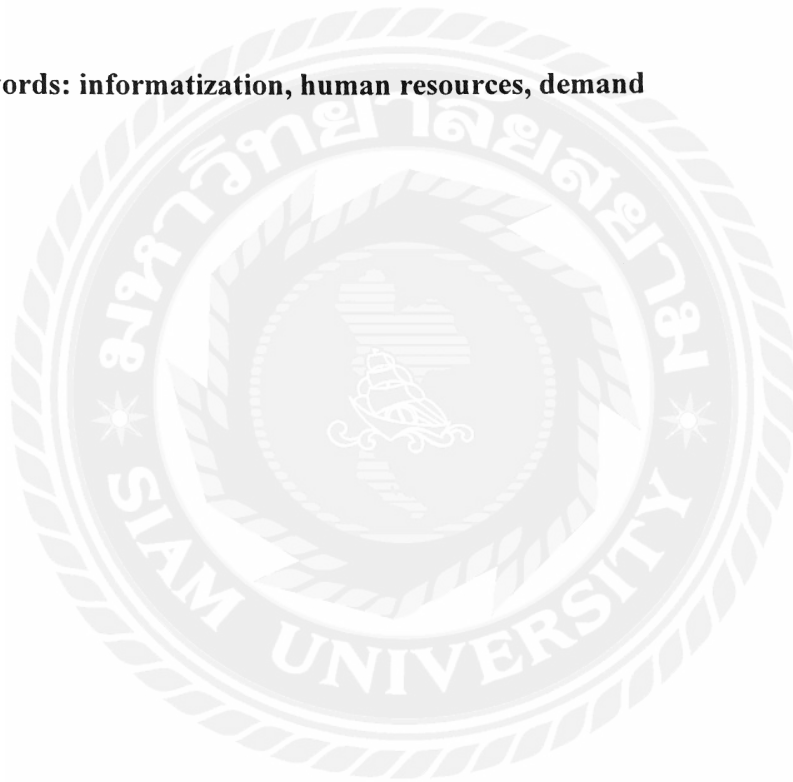
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In the era of knowledge economy, knowledge is the fundamental source of enterprise development, and people as the master of knowledge, the status of enterprises is increasingly important. Traditional personnel management, whether in the management philosophy or system, or in the management methods are unable to adapt to the "people-oriented" management philosophy and increasing competition pressure, the need for radical change and innovation. Especially in the process of enterprise information construction, how to effectively implement the human resource management reform, and thus to protect the operation of enterprise human resources management mechanism to enhance the performance of enterprise management has become an important research content of modern enterprise human resource management reform. On the basis of absorbing the relevant research results at home and abroad, this paper makes a thorough analysis on the human resource management system and method of information technology and how to implement the modern human resource management concept and apply it to enterprise practice.

This paper firstly analyzes the relevant theories of human resource management informatization, and discusses the concept and connotation of human resource management informatization. And then discuss the current situation of human resources in Novo Nordisk, the company, the human resources management functions are not perfect, human resources management and business process standardization needs to be improved at all levels of modern human resources management needs to be strengthened, training status is not ideal, human resources

Management means relatively backward, performance appraisal system is imperfect, job management efficiency is low, so Novo Nordisk on human resources management information construction to a strong demand. On the basis of this, this paper puts forward the human resource management method based on information technology, puts forward the solution of human resource informationization, analyzes the demand of human resource information system from the aspects of staff demand, human resource needs and decision-making needs. Analysis of the specific information technology solutions, and ultimately in the practical application of good results.

**Key words: informatization, human resources, demand**



## 摘要

题目: 基于信息技术的企业人力资源管理方法研究

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在知识经济时代,知识是企业发展的根本源泉,而人作为掌握知识的主体,在企业中的地位越来越重要。传统的人事管理无论是在管理理念或体系上,还是在管理方法上都无法适应“以人为本”的管理理念和不断增加的竞争压力,需要进行彻底的变革和创新。特别是在企业信息化建设进程中,如何有效地实施人力资源管理改革,并由此构建保障企业人力资源管理的运作机制,提升企业管理绩效,已成为现代企业人力资源管理变革的重要研究内容。本文在吸收国内外相关研究成果的基础上,对基于信息技术的人力资源管理体系、方法以及如何贯彻实施现代人力资源管理理念,并将其应用于企业实践进行了较为深入的分析研究。

本文首先对人力资源管理信息化的相关理论进行分析,讨论了人力资源管理信息化的概念及内涵。然后对诺和诺德的人力资源现状进行讨论。该公司,人力资源管理职能不健全、人力资源管理及业务流程规范化程度需要提高、各级部门现代人力资源管理意识有待加强、培训现状不理想、人力资源管理手段相对落后、绩效考核体系不完善、岗位管理效率低,因此诺和诺德对人力资源管理信息化建设要很强的需求。在此基础上,本文提出了基于信息技术的人力资源管理方法,提出人力资源信息化的解决方案,通过从员工需求、人力资源需要以及决策层需求三方面分析人力资源信息化系统的需求,进而分析了具体的信息化解决方案,最终在实际应用中取得良好效果。

关键字: 信息化; 人力资源; 需求

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# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Now, it has been in the era of knowledge economy. With the increasing talent competition, China's economic development also has very great change, thus leading to the revolutionary change of the enterprise development structure. The traditional capital structure of the enterprise consists of the money capital, machine capital, etc., and now gradually transits to the intellectual capital. Novo Nordisk is the world's leading biopharmaceutical company and occupies the leading position in the world in the development and production of insulin for treatment for diabetes. Novo Nordisk is headquartered in Copenhagen, the capital of Denmark. There are 30,000 staff distributed in 70 countries, and the products are sold all over 179 countries. Novo Nordisk has the manufacturing plant in the European and American countries. In the process of specific transformation in the enterprise economic form, the human capital has received great attention and become the core capital of enterprise development, and the enterprise development now pays more and more attention to the people-oriented core idea.

As an important part of modern enterprise management, whether the human resources management is appropriate or not is directly related with the business development of the enterprise. The human resources management includes the acquisition, exploitation, organization, development and motivation of the human resources. In the whole process of the human resources management, all parts are connected with each other and inseparable. The cycle in the different stages constitutes the foundation of the human resources management, and the proper management and motivation of the human capital can effectively promote the enterprise competitiveness and development advantage.

Meanwhile, with the continuous development of information technology, the economic development of China is constantly marching towards the networking development trend and becomes the "network economy" form. Especially today with the continuous development of economic globalization, the application of network technology and the dependence on the international Internet can effectively promote



the enterprise development. Under the background of the constant push of advanced technology, the idea and understanding of people for information has a fundamental change and accelerates the efficiency of information transfer, thereby directly affecting people's ways of thinking and value, and making people's life, working environment and related system have great changes. In the process of enterprise development, the traditional management system with clear hierarchy has been facing serious challenge, the organizational communication mode and operating procedures are changing, and the change of human resources management is the largest. Therefore, under such background, how the enterprise adjust and change the human resources management becomes the most important factor of deciding whether the enterprise can adapt to the new environment, constantly seize the opportunity and improve the competitive advantages.

### **1.2 Research purpose**

This paper based on the previous research on the human resources management technology and performance management system, this paper further carries out the research on the specific contents, ways and methods, technologies of the human resources management supported by the new management idea in China, and fully explains the "people-oriented" importance of the enterprise human resources management. The research in this paper aims at providing other enterprises with the theoretical and technical support for the change of human resources management, and the research on the specific operation mode and management strategy of the human resources management can help improve enterprise management level and management efficiency, thus fully mobilizing the enthusiasm of staff development and promoting the long-term development of the enterprise.

### **1.3 Research significance**

Theoretical significance: This paper builds the e-HR informationalization construction demand empirical analysis of Novo Nordisk Pharma Ltd. through the questionnaire survey, which not only supplements the deficiency in the relevant literature factor analysis in theory, but also intuitively obtains the influence factors of the enterprise human resources management information system construction, and

more helps the construction of corresponding human resources information management system by acting appropriately to the situation.

Practical significance: The human resources management informatization is a kind of management style which is based on the combined application of information technology and advanced human resources management idea and relies on information technology for optimal configuration of the human resources. The information technology as a management tool is applied to the establishment of management system, design of business processes, staff communication, human resources report analysis, etc., and completes the processing of objective affairs according to the established policies and procedures, for greatly improving the working efficiency of the human resources management department.

#### **1.4 Theoretical basis for research**

##### **1.4.1 Concept and connotation of e-HR informatization**

Concept of e-HR informatization. About the definition of e-HR informatization, it can be defined from two aspects: broad sense and narrow sense. The e-HR informatization in broad sense refers to all the E-HR informatization works, including the human resources management through the enterprise's internal Internet and other types of electronic means. The e-HR informatization in narrow sense refers to that the enterprise can implement the automatic human resources management with the use of advanced software and hardware equipment through the application of modern information technology and network, including personnel recruitment, employment, training and remuneration design.

Connotation of e-HR informatization. The contents of the e-HR informatization include the following several aspects:

First, electronization of human resources data management. During the analysis of the related data of human resources, the information database shall be established with the computer system, and the electronic management of data shall be carried out. The application of related software can promote the informatization and automation in the course of human resources management, ensure the reduction of management cost, and improve the efficiency of human resources management. Third,

human resources management and decision support. The informatization processing of human resources data can provide the support for the specific activities of the human resources management with the help of a certain model.

The constant change and innovation of modern human resources management is the development trend of the human resources management. The informatization, digitization and automation of the human resources management can be promoted and the level of human resources management can be continuously improved by making the best of information technology and network platform. In addition, the human resources management can be innovated constantly, for helping promote the rapid development of human resources management. The informatization-based human resources management can drive the innovation process of the human resources management.

#### **1.4.2 Electronic human resources management (e-HR)**

Concept of electronic human resources management. The electronic human resources management is the electronization and informatization of human resources management activities formed based on the IT technology, including business optimization and process simplification of human resources, generalization of human resources management activities and customer-oriented human resources management model. Through the application of information technology and IT technology, it gives play to the business function of human resources management and promotes the modernization development of the human resources management activities.

Therefore, the electronic human resources management can realize the whole staff participation of human resources management activities with the support of information technology means on the basis of network platform and system software, and can further reduce the management cost and improve the efficiency of human resources management activities. It can ensure the important strategic position of human resources management activities. The electronic human resources management can help enterprises' human resources management personnel in the traditional administrative and transactional work, and make them focus more time and energy on the strategic work. In addition, it can carry out the integration of resources,

encourage staff to participate in the management activities, and promote the human resources management activities to form the advanced idea.

Advantages of electronic human resources management (e-HR). The electronic human resources management has unique advantages, and these are mainly embodied in the following several aspects: First, the electronic human resources management can improve the efficiency of human resources management. The electronic human resources management can make full use of the advantages of information technology, get rid of the defects in the traditional human resources management, rescue the human resources management personnel from the traditional transactional work, and promote the automation of human resources management activities, thereby greatly improving the management efficiency. Second, the electronic human resources management is normalized and stereotyped. The sequencing of human resources management requires people to follow some rules and regulations in the human resources management activities, with the characteristics of normalization and stereotype. Third, the electronic human resources management has the diversified management means. With the application of information technology, we can make the comprehensive utilization of the design, statistics, management and other aspects of knowledge and means to participate in the management of human resources. Fourth, the electronic human resources management has the humanized management mode. With the electronic human resources management, we can ensure that the enterprise staff can participate in the human resources management activities, for realizing the continuous participation and interaction.

Significance of electronic human resources management (e-HR). Since the electronic human resources management has the above advantages and characteristics, it decides the great significance. The electronic human resources management can realize the automation and sequencing in the process of human resources management, and the extensive participation of enterprise staff can promote the humanization of enterprise management.

Through the establishment of B2C and B2B, on the one hand, it can promote the contact between enterprise and enterprise, and on the other hand, it can

promote the contact between enterprise and customers, thus realizing the sharing of enterprise resources, and interaction of enterprise staff and customers.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Foreign literature review**

Since the 1990s, Internet technology and network technology obtain the continuous development, and the e-commerce emerges as an important way. With the e-commerce platform, the enterprise can promote the informatization process with the overall development. Meanwhile, the human resources management carries out the research on the informatization process, many enterprises and scholars also carry out a lot of researches on the electronic human resources management, for constantly enriching and perfecting the informatization of electronic human resources management.

Chaeles Wiseman is a famous strategic information expert. In his study in 1988, he has put forward that the enterprise's strategic planning can be continuously perfected through the information technology and means. He believes that with the help of information technology, the enterprise's competitive strength can be continuously strengthened in order to improve enterprise's market awareness.

Gary Dessler defined the e-HR informationalization. He thinks that the e-HR informationalization is providing the enterprise's human resources management with the information support through the information collection, sorting and preservation, thus guaranteeing the implementation of enterprise human resources management and enterprise strategy. And such information support is established on the information platform with the continuous contact of various related businesses.

Steve Moritz (2003) concludes that the e-HR informationalization is the basic idea of the global human resources management based on the research on the specific stage of informatization construction and analysis on the basic opinion of the E-HR informationalization. The stages of informatization construction include: First, information release. Second, process automation. Third, transformation of strategic role, as shown in Figure 1.

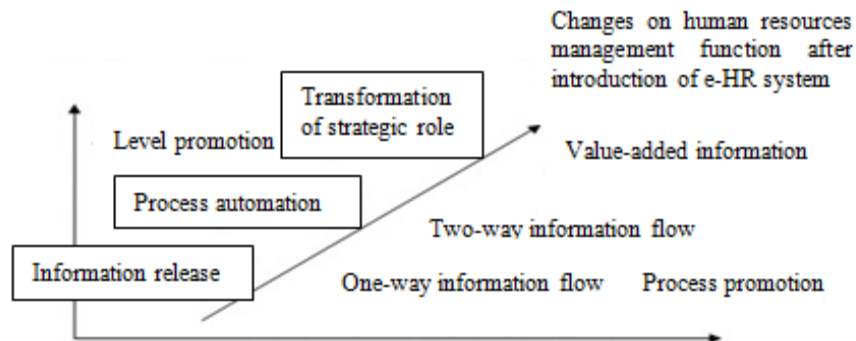


Figure 1 Changes on Human Resources Function Based on Information Technology

Bradford S. Bell et al. carried out the research on 19 enterprises which have implemented the transformation of the e-HR informatization, and concluded from the specific investigation and communication with the enterprise and the deeper research through the specific operation system and management personnel that in the enterprise human resources management, the promotion and help of information technology is the fundamental motive power of promoting the enterprise development, the extensive application of information technology can rescue the enterprise from the complex affairs, thus ensuring that the management personnel can focus more energy on more valuable works in the human resources management and make the enterprise's human resources management really realize the enterprise's strategic goal and guarantee the enterprise development. Meanwhile, the informatization of human resources management also raises new requirements for the staff's working contents and working abilities.

Marting Reddington carries out the research on the specific cases of the enterprise's human resources management, makes the effective analysis on the problems occurring in the process of e-HR informatization in the specific research process, and puts forward a series of targeted suggestions and countermeasures, thus promoting the improvement of specific mode and process of the e-HR informatization. Additionally, he also proposes that the informatization development of human resources management shall not be accomplished in an action, but in stages. The goal of each stage shall be determined, and the improvement is

made constantly. In his research, he puts forward the strategic help and support for the specific implementation of the e-HR informatization.

Liang-Hung Lin from National University of Kaohsiung points out that during the continuous development of informatization, the transformation of human resources to the informatization and electronization has had mature foundation and conditions, so the enterprise shall realize the good management of its human resources by establishing the electronic human resources management institution. He finds from the research on 86 electronics and information companies in Taiwan that in the human resources management process, the application of IT technology can constantly improve the enterprise staff's innovation consciousness and creative ability, thus injecting new vitality to the enterprise and keeping the enterprise's core competitiveness.

To sum up, the foreign scholars' research on the e-HR informatization mainly focuses on the way of improving the enterprise's working efficiency and reducing the enterprise's production cost, thereby improving the management level of enterprise's human resources and realizing the enterprise's business objectives. With the constant development of the e-HR informatization, the enterprise and comprehension involved in it increase unceasingly, not only including the basic personnel management, but also including the staff recruitment, vocational development planning and performance assessment, which can meet various needs in the enterprise's human resources management process, provide the great convenience for the enterprise's human resources management and helps promote the enterprise development.

## **2.2 Domestic literature review**

The western countries' research on the human resources management starts from the 1950s. Relatively speaking, China's research on the human resources management comprehension is later. In the 1970s, China started to contact the research on the human resources management and started the research on the e-HR informatization process. The following is the review of the human resources management literature based on information technology.

In 2002, the famous scholar Zhang Lei published the book about the human resources information management, and its contents mainly elaborate the information



system in the human resources management, including the design of human resources management information system and basis of basic information technology.

In 2004, Zheng Daqi carried out the sufficient research on e-HR in the e-HR Application Guide. He pointed out the importance of e-HR, and thought that it not only can help the enterprise's senior leader inquire about the human resources management information, salary and reward inside the enterprise and then find out the current situation of enterprise development and existing problems according to the data, but also help the enterprise manager search the related information of the enterprise staff through the talent pool established based on e-HR. And, it can conveniently know the basic information, education background, working experience as well as work features and skills of the existing enterprise staff, and can fully carry out the optimization and configuration of the existing enterprise human resources.

In 2011, Liu Xin carried out the sufficient research on the fierce market competition the enterprise faces, and thought that the enterprise shall adjust and improve its own management mode under such fierce competitive environment, and the introduction of the e-HR informatization can improve the human resources management level.

Liu Hongmei pays much attention to the specific implementation of the e-HR informatization. In 2012, she put forward that the e-HR informatization can not only simplify the human resources management procedures through the software and technology, but also change the enterprise's business and process and help promote the realization of enterprise's business objectives.

In 2015, Xin Guohuan started from the e-HR informatization mode in his research, and carried out the research on the information technology mode and fully integrated with the human resources management, for helping people treat the human resources development and realization of enterprise's business objectives from the perspective of the information technology.

Therefore, it can be found from the above research on the electronic human resources management in China that the research really obtains certain achievements in recent years, but it still shall be improved continuously due to the later development.

### **2.3 Research comment**

It can be found from the basic research review on the domestic and foreign e-HR informatization that China more focuses on carrying out the research at the level of system function during the research on the e-HR informatization, namely, more analyzing the impact and function brought by the e-HR informatization system on the enterprise, and pointing out the way of the e-HR informatization suiting to the different enterprises, therein, the research is more carried out according to the enterprise's specific practice. But the foreign research more focuses on the system theory of the e-HR informatization, analyzes and researches the specific problems in the e-HR informatization development process, and makes the theoretical analysis on the structure of the specific system. The author will discuss the human resources management method study based on the information technology with Novo Nordisk Pharma Ltd. (hereinafter referred to as Novo Nordisk) as an example, for further providing some personal opinions for the human resources informatization construction.

## **CHAPTER 3**

### **RESEARCH METHODS**

#### **3.1 Research design**

##### **3.1.1 Survey method.**

This paper knows the e-HR informationalization construction of Novo Nordisk (China) through the interview and survey of some human resources management personnel and senior management personnel of Novo Nordisk, selects the available data about the e-HR informationalization of Novo Nordisk after the interview and makes the summary.

Literature analysis method. This paper sorts out many information with the literature method and inquires about many data about the exploration theme, thus providing the theoretical basis for the exploration. The steps of related methods include: Collect domestic and foreign journals, inquire about the domestic and foreign books, search with the computer, inquire about the related survey report, etc. Inquire about the human resources management information literature of Novo Nordisk with the literature method.

##### **3.1.2 Case analysis method.**

This paper takes Novo Nordisk Group as the research object, analyzes the existing problems in the e-HR informationalization of Novo Nordisk and corresponding causes, and establishes the Novo Nordisk human resources management information system according to the demand of Novo Nordisk e-HR informationalization.

#### **3.2 Research tools**

The questionnaire in this paper is divided into three parts. According to the human resources management theory, we prepare the dimensional analysis table related to the human resources management information construction, adjust some specific survey items about the human resources management information construction analysis according to the specific situation and characteristics in the table, and finally form such survey questionnaire.

The questionnaire consists of three parts: The first part is the introduction. It mainly points out the objective and significance of such survey, and explains the

specific matters of filling out the questionnaire. The second part is the basic information. This part covers the basic information of the respondents, such as gender, age, job, marital status, etc. We can classify the respondents according to the different basic conditions, and analyze the attitude of different individuals towards the human resources management information construction on this basis, thus laying the important basis for the later research and analysis. The third part mainly investigates the respondents' demand for human resources management information system; Meanwhile, the survey results shall be selected according to the interval from "highly needed" to "very unnecessary", thus proving the role of human resources management information system construction.

### 3.3 Data collection method

The information about human resource information construction of Novo Nordisk co., LTD: 300 questionnaires are distributed, with 286 being recovered, therein, for 14 becoming invalid due to many reasons. That is to say that, there are 286 valid questionnaires truly recovered, and the true and effective recovery rate is 95.33%. According to the recovered data, we use the professional data analysis software to make the correlation analysis and obtain the corresponding conclusion.

Table 1 Basic Conditions

Demographic characteristics		Percentage
Gender	Male	60.34%
	Female	39.66%
Age	30 below	12.07%
	31-35	14.66%
	36-40	25.00%
	41-45 above	13.10%
	46 and above	28.45%
Knowledge level	Senior high school and below	19.84%
	College degree	50.00%
	Bachelor degree	29.31%
	Graduate degree	0.86%

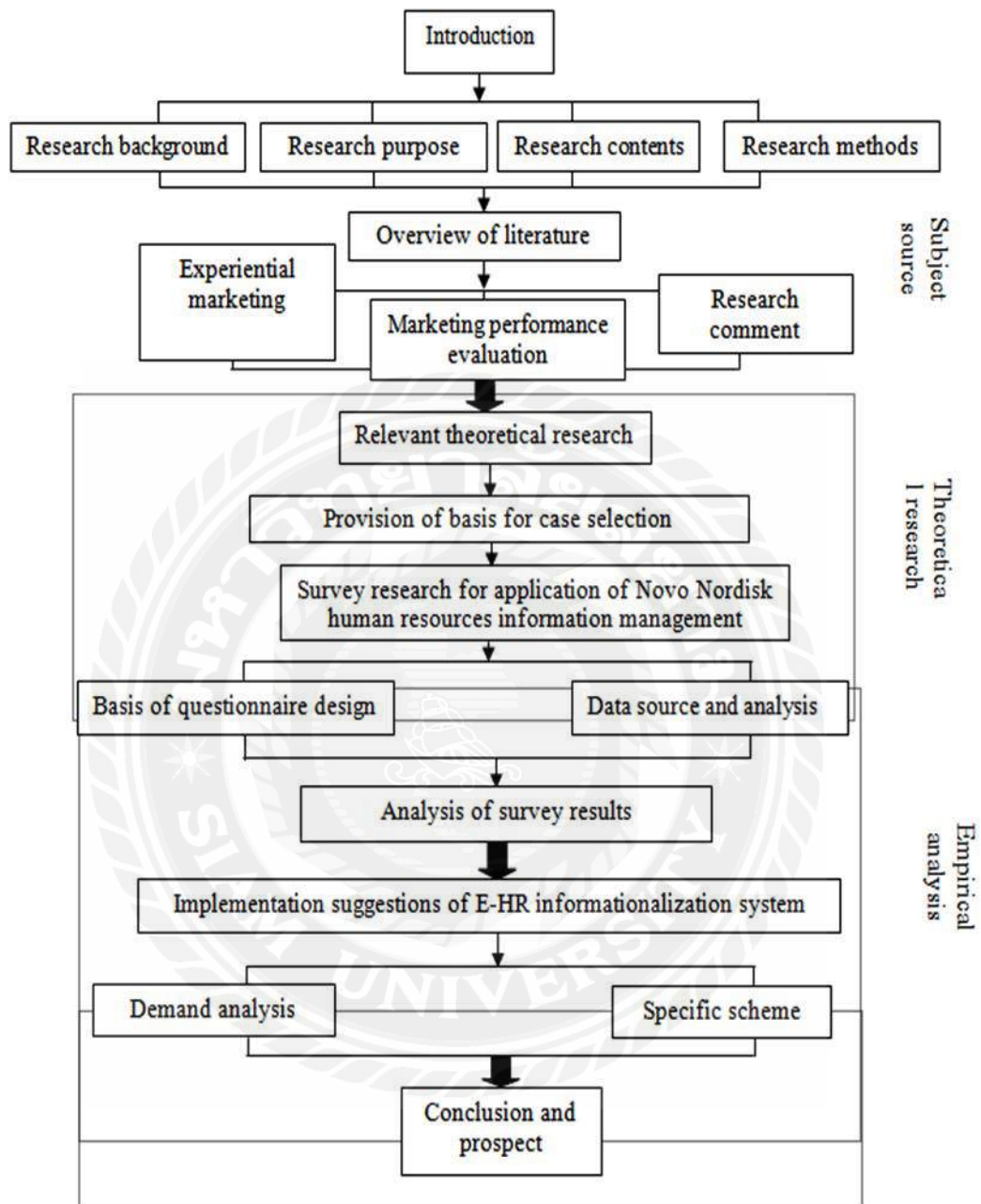
Marital status	Unmarried	11.21%
	Married but childless	12.07%
	Married and child	75.86%
	Divorced or widowed	0.86%
Working conditions	Within 5 years	19.83%
	5-10 years	14.66%
	11-15 years	25.00%
	16-20 years	13.79%
	20 years above	26.72%

### 3.4 Data analysis method

This paper uses the chart data analysis method and SPSS analysis method to analyze and process the previously collected data in the research process, makes summary and analysis on this basis, demonstrates the demand of Novo Nordisk human resources management information construction, draws a conclusion and finally gives the targeted corresponding solutions according to the existing conclusion and problems.

### 3.5 Research process

The research process in this paper is shown in the figure below: Paper Research Process



**Figure 2 Paper Research Process**

## **CHAPTER 4**

### **RESULTS AND ANALYSIS**

#### **4.1 Analysis of basic information**

##### **4.1.1 Background of Novo Nordisk**

Novo Nordisk Pharma is a pharmaceutical enterprise and mainly engages in the product lines of commonly used drugs, Insulin development for diabetes treatment drugs, etc. Due to the larger scale, Novo Nordisk Pharma establishes the subsidiaries in the different regions of China and realizes the regional management, and the rich product lines win the great market competitiveness for Novo Nordisk Pharma. At the beginning of the establishment of the company, Novo Nordisk Pharma defines the enterprise development idea of focusing on the high-tech drug development and high-quality drug service based on the market judgment and self-positioning, and puts forward the long-term objective of establishing the world-class drug manufacturing enterprise based on the globalization and drug industrialization.

At present, the total investment scale of Novo Nordisk in China has reached nearly RMB 350 million, the number of staff is 3500.

At present, Novo Nordisk implements the group-oriented management mode. The different subsidiaries keep operating under the group's overall institutional framework, and the main function of the parent company's human resources department lies in the management of branch leadership group, institutional setting, staffing, remuneration system making, etc. However, all subsidiaries have their own human resources management system. With Novo Nordisk human resources management as an example, though it is consistent with the parent company in terms of organization and personnel information management, but the implementation in terms of remuneration and staff training has the flexibility and independence, and the difference of performance management system of the subsidiaries in the different regions is very large.

##### **4.1.2 Current situation of Novo Nordisk human resources management**

Upon the research analysis, the problems existing in the company's human resources management mainly include the following aspects:

The company has introduced the modern human resources management idea, but is still in the initial transition stage of the traditional personnel management and human resources management, and the human resources management function is imperfect.

To meet the needs for reform, the company establishes the human resources management department, but this department mainly performs the staff personnel file management, staff salary management, staff recruitment, staff training and other traditional personnel management functions. The staff recruitment planning, selection, quality assessment, performance evaluation and motivation, staffing, career design, training and development and other staff growth managements, as well as the management of the knowledge, skills, IQ and EQ of enterprise human resources individuals, teams and even the whole enterprise organization are gradually improving and introducing, thus restricting the effect of the overall human resources management system of the enterprise.

The standardization of human resources management and business process shall be improved. The standardized process shall be guaranteed by the management system, perfect management system and related technical support. So the overall business and management process still have more non-value-added activities. Such as: At present, for the company's personnel recruitment, the inferior production unit and management department put forward the demand, the human resources department carries out the investigation for confirmation in the related departments but cannot know the actual number of people required by the corresponding position accurately. The recruitment in this case has no a scientific and reasonable human resources demand plan, so that the personnel cannot meet the company's requirements in a timely manner.

In terms of performance management, the company has initially formed a management appraisal system, but the description about establishment of the index standard is fuzzy, the measurement scale is not clear, and the examination and evaluation method is still not relatively scientific and reasonable.

The attendance management also is one of difficulties of the company's current human resources management. Though the company stipulates the regular



spot check of the staff attendance, it is still difficult to master the detailed and accurate attendance information of various departments. And in terms of the departmental benefits, it is difficult to avoid shielding with each other.

The modern human resources management consciousness of various departments is to be strengthened, and the idea of comprehensive human resources management is still lacking. At present, there are still some traditional personnel management ideas inside the enterprise. The staff argue that the human resources management is the duty of the human resources department, and they only provide the complete support. With such opinion, the human resources department has to implement the new plan or policy to almost all staff as a leader, which undoubtedly greatly increases the working strength of the human resources department. But actually, the enterprise's human resources management activities should be originally completed with the joint participation of the enterprise's different roles (general manager, HR manager, line manager and staff), rather than just a duty of HR department. This is the so-called "comprehensive human resources management".

Current training situation. The training management of Novo Nordisk focuses on the company's development strategy and human resources strategy, and establishes the strategic training and development system under the unified planning and unified management with post requirements and ability system based on staff development as the basis and with ability improvement as the guidance. It implements the management mode of overall management and stratified implementation. According to the different training objects, the training of Novo Nordisk mainly includes the management cadre sequence training, professional technical personnel sequence training and new staff training. The training of Novo Nordisk has the characteristics of diversification and refinement. Under such background, the existing training management lacks the training planning, training demand management, training plan management, training implementation management, etc., and the dynamic adjustment and optimization of the training cannot be carried out according to the personnel transfer and market situation.

The human resources management means are relatively backward, and the human resources department staff have heavy workload. At present, the company's

human resources management department still handle various works manually. Though with the computer, it is only used for editing part of documents. For example, the departments submit the related reports to the human resources department within the specified time, the related personnel of the human resources department inputs the data in the spreadsheet for calculation, and then sends the data reports after the calculation to the related departments in paper. For the enterprise human resources management under the guidance of the modern human resources management idea, the data size to be processed is larger, the data are more complicated, and large data analysis and query shall be carried out, so it will cause the low working efficiency in the management link and increase of time cost without an effective and convenient data processing tool, and the repetitive input of a great deal of information will undoubtedly lead to the decline of data consistency and accuracy, thus affecting the company's overall management and operation.

The perfection and comprehensive implementation of the performance assessment system is the difficulty of the company governance. Though the company has been devoting to developing a set of perfect performance management assessment system and additionally establishes the position description, yet it still lacks the effective working analysis method, so it is difficult to decompose a set of perfect and reasonable performance evaluation index system. And the standardization level of the company's performance evaluation index system is lower (evaluation index and evaluation standard are mixed together in the same document and unclear, which is one of reasons of difficult decomposition), the monitoring management mechanism in the evaluation process is lacking, and the majority still follows the traditional performance evaluation means with the experience-based judgment as the subject. The evaluation results fail to be fully used, the tightness and reasonability of the contact between staff's personal performance with their salary and training are to be strengthened, thus realizing the targeted and fair motivation.

The post management efficiency is low. The object of the human resources management not only is the "person", but also includes "post" and "organization". The post is the smallest part in the organization structure, bears a series of job duties and is undertaken by the specific personnel. The post is the most basic component element

in the organization, and only when people match the post, the organization can realize the normal operation. The post and the occupant are the one-to-one. In order to improve the working efficiency, the post requirements and staff quality shall be made for best use, so the quality management and post management are particularly important. The enterprise shall match the staff quality with the post requirements through various ways, such as the integration and design of post according to the actual situation of the existing staff; The enterprise establishes the targeted staff training plan according to the post requirements, and carries out the pre-post training for the staff. The post management means that the company makes the post system management design reasonably for realizing the strategic plan according to the scope of business, work task, development needs and established organization structure as required by the business process and workload. At present, Novo Nordisk cannot realize the post analysis, post evaluation, dynamic tracking adjustment and post system diagram design, and these depend on the support of the information technology.

#### **4.1.3 Current situation for information technology application of Novo Nordisk**

Novo Nordisk is optimistic about the application of information technology. At present, the company's office system and financial system realize the informatization construction, but the current e-HR informationalization construction process of Novo Nordisk is slow, and the connection with the office system and financial system has not been made.

Seeing from the software: At present, OA office system and financial SAP system of Novo Nordisk are the information system based on the current mainstream B/S structure, and the human resources management information system is the platinum human resources information system put into use in the end of 2004 and based on C/S structure. Since the system is C/S structure, the connection and data sharing with other information systems cannot be realized. In addition, the organization management of system, basic information management of personnel, simple query statistics and salary calculation function but because is good. However, since it is the non-collectivize version, the degree of support for the branch is not high, and it is only used for the personnel information management.

Seeing from the hardware: Novo Nordisk has its own information resources management department, with the number of staff of more than 30 and outsourced staff of more than 10. The technical force is good, the research and development ability is strong, the office system and most business systems in the company are self-developed. Meanwhile, the company has professional computer room and high-performance server, and can provide good hardware and technical support for the human resources information system construction.

#### **4.1.4 Environment analysis for human resources management of Novo Nordisk**

As the market environment of pharmaceutical industry is gradually straightened out and standardized, the pharmaceutical enterprises will face more severe competition, the core contents of competition are more and more embodied in the competition of human resources. Under such business and competition environment, the pharmaceutical industry faces the new challenge of human resources management. The new change brings the impact to the human resources strategy. Especially in terms of talent acquisition and reservation. The unstable market conditions will produce negative influence upon the staff's morale and professional attitude, and competition with other industries will intensify the talent mobility in the whole industry. The main problem in the human resources management of the future pharmaceutical industry will be how to acquire and reserve the existing human resource advantage. The establishment of the entire human resources system is carried out around the talent acquisition and reservation, such as adjusting the organization structure properly, designing the salary system, and establishing the necessary talent pool and talent map.

Analysis on external environment. With more professional business and leading technology, Novo Nordisk is in the relative monopoly position in the industry now. But with the gradual opening of the market, Novo Nordisk will face the strong talent competition, which is mainly embodied in the following three aspects:

First, when accelerating the network layout, the company in the same trade also increases the demand for business talent, so as the leading enterprise in the industry, Novo Nordisk becomes the main source of recruiting talents in the organization in the same trade. From 2012 to 2016, there are 133 persons leaving the

company. Among them, 85 persons enter other companies in the same trade, accounting for 64.24% of the number of the demission.

Second, Novo Nordisk's business is relatively professional, and it requires the practitioners to be proficient in chemical, pharmaceutical and other various aspects of knowledge. The training cycle of such talent is relatively long, and the market stock is lesser, so talents are very rare.

Therefore, what Novo Nordisk mainly considers the issue of attracting talents in terms of the external environment of human resources management.

Analysis on internal environment.

In recent years, the personnel scale and business volume of Novo Nordisk have been grown very quickly, but the internal human resources management environment does not have the corresponding change, which largely restricts the enhancement of the company's human resources management level to a great extent. It is mainly embodied in the following several aspects.

First, the personnel affairs management still dominates quite a number of workload of the human resources department, and the human resources department does not devote much time and energy to the human resources management related to the company's strategic development.

Second, the human resources work does not form the unified planning and unified deployment. At present, all branches are operated according to their respective system and management system.

Third, the human resources work does not form the effective internal process control, and often violates the operation process in some cases.

Therefore, to improve the enterprise's overall human resources management level, develop and retain the core talents, and create a fair, just and harmonious talent growth environment, it is required to establish a unified human resources information platform, for facilitating the communication among the business groups, and finally realizing the collaborative operation between the human resources department and all business departments.

#### **4.1.5 Influence factors for implementation of human resources management system**

Upon the above-mentioned analysis on the internal and external environment of Novo Nordisk's human resources, and in combination with the related operation of other enterprises' e-HR informationalization construction, the author summarizes the following influence factors:

Comprehensive implantation of scientific management idea. The human resources management involves the management activities of the enterprise's all departments and requires the participation of all personnel from the general manager to the general staff. Therefore, the modern human resources management idea, especially the comprehensive human resources management thought, shall be understood and supported earnestly by each staff inside the enterprise.

Standardization of business process. At present, the enterprise human resources management process have been basically carried out in accordance with the planning process, but due to the influence of the enterprise environment, there are still individual links being deeply influenced by the traditional personnel management, and there are certain redundancy and non-value-added activities in the process. This requires the enterprise to gradually transform the thought, change the working mode and keep close to the planned standardized process in the reform process, otherwise, the enterprise human resources information system will not be operated normally.

Standardization of management system. Due to the constraints of the enterprise scale and development stage, the enterprise still has the deficiency in the standardization of human resources management system, and is being continuously perfected. In particular, the enterprise shall accelerate the perfection in the performance evaluation mechanism, employee incentive mechanism and salary distribution system.

Standardization of data environment. The establishment of a perfect and standardized data environment is the support for the effective operation of human resources management information system. Though the company is the industrial leading enterprise, its historical data on the human resources management are missing (such as personnel transfer in the past years and prediction information), and the standardization standard is lower (such as performance evaluation index system

information), so it needs some time to make the supplement and perfection, and carry out the standardization according to the requirements.

Strengthening of staff training and promotion of knowledge transfer. At present, the understanding of most staff in the company for the modern human resources management idea, technology and method is still in its infancy, and they feel powerless to promote the enterprise human resources informatization. Therefore, the company shall strengthen the training for the enterprise's line manager and grass-roots staff, make them know their respective position and role in the system, realize the importance of their work and ensure the timely and accurate data input. In addition, the system knowledge shall be transferred to the enterprise as far as possible for making enterprise get started as soon as possible, and a group of talents who know both the business and management and software technology shall be cultivated inside the enterprise.

Perfection of hardware environment. The comprehensive and informationization of human resources management inevitably put forward certain requirements for the enterprise's hardware environment, so the company shall supply the attendance machine, staff personal computer for query and other hardware equipment on the basis of ensuring the stability of existing network structure and hardware environment, thus guaranteeing the full implementation of system and effective transmission of data environment.

## **4.2 Reliability and validity analysis**

### **4.2.1 Demand survey analysis for human resources information system of Novo Nordisk**

Novo Nordisk hopes to establish an informatization platform which can reflect the modern human resources management idea through the enterprise's internal human resources management information system. This platform shall be connected comprehensively through the Internet, and can realize the unified management, rich functions, stable operation, advanced technology, data sharing, feedback adjustment, etc. Such design of human resources management information system can not only meet the demand of enterprise to carry out human resources management, but also can ensure that the company can constantly improve the management level and can be

applicable to this system. It can not only ensure that the company's internal centralized management can be implemented effectively and meet staff's common demand, but also can realize the diversified and flexible management demands of the enterprise's different departments. In order to ensure the demand of personnel at various levels in the company for the human resources management information system, the system functions shall be predicted prior to the system construction and shall be synthesized. The questionnaire or interview method is used to carry out the survey among the enterprise staff to know their real demand, and the comprehensive design and development can be carried out in combination with the function of human resources management information system.

Staff demand analysis. In the process of the enterprise development, the staff as one of the main factors play an important role. The human resources management is to motivate the staff through the management of the enterprise staff, thus improving the staff's working enthusiasm. The improvement of the enterprise's overall human resources ability can help improve the enterprise competitiveness, thus promoting the sustainable development of the enterprise. The management object of the enterprise human resources management is the staff, so the staff's satisfaction and specific requirements for the current enterprise situation reflect the current management situation of the enterprise human resources. And the establishment of human resources management information system can meet the requirements of staff's participation in the management. In this system, the staff information query, staff development planning and staff performance evaluation can fully improve the ability of the enterprise's existing staff. And the implementation of training is helpful for providing the support for the practical development of the staff. Annex I is the staff demand questionnaire. Through the survey of 300 enterprise staff, the result statistics is shown in table I. The entry term of different staff is classified: There are 70 staffs with the entry term of less than three years, 135 staffs with the entry term from three to five years and 95 staffs with other entry terms.



Table 2 Staff Demand Survey Results Summary Sheet

No	Highly needed	Needed	Partially needed	Not needed	Very unnecessary
1	234	42	0	0	0
2	217	69	0	0	0
3	222	64	0	0	0
4	262	24	0	0	0
5	251	35	0	0	0
6	235	51	0	0	0
7	190	72	14	0	0
8	242	43	0	0	0

Upon the combined analysis of the staff demand results, it can be found that the staffs are very demanding for the self-service function in the human resources management information system, especially the functions related to themselves. Almost all staffs give the "demand" vote.

Human resources demand analysis. The analysis and management of the enterprise data can be carried out through the human resources management information system of Novo Nordisk. The enterprise can reasonably control the number of staff required by the enterprise through the observation and analysis of the basic information of the staff, and the enterprise's human resources information can be effectively integrated through this system, thus helping the centralized management. Thus, it can help the effective implementation for institutional setting of enterprise, number of management staff, post setting, etc. And it can monitor and control the human resources of the enterprise, and the information grasp can help provide certain reference basis for the enterprise in the post setting and personnel allocation. In addition, the enterprise human resources management information system can ensure that the enterprise's specific operation process and human resources management process can be standardized, and the automatic process and standardized operation can be realized in the specific process of human resources management, thus realizing the driving mode of human resources management with the full range and achieving the effective combination of enterprise business process with organization mode. The details can refer to the Annex II. Upon the analysis on the function node in Annex II

and survey for 10 managers and 26 staffs in the enterprise, the staff distribution with the different entry terms is: There are 6 staffs with the entry term of less than three years, 5 staffs with the entry term from three years to five years, and 11 staffs with other entry terms. The entry term distribution of 6 managers is: 3 managers with entry term from three years to five years, and 7 managers with entry term of more than five years. The final statistical results are shown in table 3.

Table 3 Human Resources Management Demand Survey Results Summary Sheet

No	Highly needed	Needed	Partially needed	Not needed	Very unnecessary
1	29	5	2	0	0
2	23	11	2	0	0
3	25	9	2	0	0
4	23	11	2	0	0
5	24	12	0	0	0
6	29	7	0	0	0
7	27	9	0	0	0

Upon the analysis on the survey results, it can be found that the human resources department of Novo Nordisk is satisfied with the overall situation of human resources management information system provided by the enterprise. And upon the specific analysis, it can be found that the salary and institution have the most votes, so the enterprise's manager and staff have the urgent demand for these two items.

Decision-making demand analysis. The enterprise leader's decision is crucial for the overall development of the enterprise, and whether the decision is correct and feasible or not is related to the specific information grasped by the decision maker. The establishment of human resources management information system can support the decision makers' decisions to some extent. With the comprehensive and detailed display of the related human resources information, the leader can know the enterprise's human resources supply at any time through this system, thus providing the information basis for the leader's decisions. Through the survey on the demand for the enterprise's decision-making level, the Annex III is formed. Through the survey on the demand for 4 senior managers and 24 middle managers of the enterprise, and

the statistics and analysis of each personnel's results, the statistical results shown in table 4 are obtained.

Table 4 Decision-making Demand Survey Results

No	Highly needed	Needed	Partially needed	Not needed	Very unnecessary
1	21	7	0	0	0
2	20	8	0	0	0
3	24	4	0	0	0

As the decision-makers of the enterprise, when making the decision about the specific development of the enterprise, they shall analyze the basic conditions of enterprise information and personnel, management information and data, so as to make such information provide support for the decision makers' decisions. Through the analysis of the above table, it can be found that the decision-making function of the system can basically meet the specific needs of the enterprise decision makers.

#### 4.2.2 Reliability and validity test

Reliability test. In the survey process, the questionnaire design divides the human resources information system construction into three levels. According to SPSS18.0 software analysis results, this paper concludes that the overall a coefficient of the questionnaire is 0.778, and a coefficient of all variables is greater than 0.7, which shows that the internal consistency and reliability of survey results of the questionnaire is acceptable. The specific results are shown in table 5.

Table 5 Reliability Analysis Results

	Staff demand	Human resources management demand	Decision-making demand	Standard
Coefficient $\alpha$	0.812	0.722	0.774	0.7

Validity analysis. According to the analysis results of SPSS18.0, the value of questionnaire data is 0.889, the sphericity test shows the approximate chi-square value is 5917.124, degree of freedom is 442, and Sig. is 0.000, reaching the significant level at the 0.05 level.

Table 6 KMO Value and Bartlett Sphericity Test

Item		Test value
KMO		0.889
Bartlett sphericity test	Approx. Chi - Square	5917.124
	Df	442
	Sig.	.000

### 4.3 Factor analysis

The factor analysis method uses the principal component analysis for factor extraction, and uses the varimax orthogonal rotation to minimize the number of variables with larger factor load, thus explaining the potential significance of common factor. According to the results in the table below, the factor analysis extracts three factors, and the question item distribution is same with that of three factors in the questionnaire. The first factor load is the staff demand factor, the second factor load is the human resources management demand factor, and the third factor load is the decision-making demand factor.

Table 7 Factor Rotation Matrix Analysis

Factor	Measurement option	Principal component				
		1	2	3	4	5
Staff demand factor	1. Personal information management demand	.874				
	2. Name card management demand	.799				
	3. Common application management demand	.807				
	4. My salary management demand	.809				
	5. My performance management demand	.855				
	6. My attendance management demand	.668				
	7. My professional qualification management demand	.803				
	8. Personal setting management demand	.649				

Human resources management demand	1. Staff information management demand		807			
	2. Labor contract management demand		773			
	3. Post management demand		869			
	4. Institution management demand		862			
	5. Training management demand		857			
	6. Salary management demand		869			
	7. Performance management demand		772			
Decision-making demand factor	1. Talent strategic demand			682		
	2. Organization structure demand			675		
	3. Statistical analysis and forecast demand			763		

The above results show that the questionnaire in this research has better reliability and validity, and the load coefficient of various factors in the scale is more than 0.5, so this questionnaire can be used for the formal survey research.

#### 4.4 Correlation analysis

Upon the correlation analysis on the average value and variance of the surveyed items, such as those in table 8 - table 10, we can see that among all item groups, the average value of about 11 items is lower than the intervening value, and the remaining items are higher than the intervening value. Wherein, among all factors, the maximum influence factor is the attendance management demand and performance information management demand, followed by salary management demand and personal information management demand.

Table 8 Analysis on Correlation Factors of Staff Demand

		Minimum value	Maximum value	Average value	Standard deviation
1. Personal information management demand	286	1	5	3.59	1.338
2. Name card management demand	286	1	5	2.92	1.446

3. Common application management demand	286	1	5	3.56	1.353
4. My salary management demand	286	1	5	3.60	1.438
5. My performance management demand	286	1	5	3.73	1.315
6. My attendance management demand	286	1	5	3.91	1.116
7. My professional qualification management demand	86	1	5	3.52	1.254
8. Personal setting management demand	86	1	5	3.87	1.361
Valid N (list status)	86				

Table 9 Human Resources Management Demand Analysis

	N	Minimum value	Maximum value	Average value	Standard deviation
1. Staff information management demand	286	1	5	3.45	1.360
2. Labor contract management demand	286	1	5	3.42	1.252
3. Post management demand	286	1	5	3.47	1.197
4. Institution management demand	286	1	5	3.42	1.195
5. Training management demand	286	1	5	3.24	1.213
6. Salary management demand	286	1	5	3.63	1.227
7. Performance management demand	286	1	5	3.86	1.222
Valid N (list status)	286				

Table 10 Analysis on Decision-making Factors

	N	Minimum value	Maximum value	Average value	Standard deviation
1. Talent strategic demand	286	1	5	2.92	1.307
2. Organization structure demand	286	1	5	3.18	1.131
3. Statistical analysis and forecast demand	286	1	5	3.43	1.023
Valid N (list status)	286				

According to the above table, we can clearly know and feel the demand of Novo Nordisk for the human resources management information system construction. We carry out the final sequencing of the average values obtained from 18 survey items according to three levels of human resources management information construction management demand of Novo Nordisk, and carry out the sequencing the final scores according to the five-grade marking system, with the results as follows:

Table 11 Dimensionality Statistical Analysis

	N	Minimum value	Maximum value	Average value	Standard deviation
Staff demand	9	2.92	3.91	3.5922	.28652
Human resources management demand	8	3.24	3.86	3.5425	.21985
Decision-making demand	7	2.50	3.41	2.9129	.34272
Valid N (list status)	7				

Upon the statistical analysis of three levels in the above table, the top three influence factors are attendance management demand and performance information management demand, followed by salary management demand and personal information management demand. The average scores are 3.59 points, 3.54 points and 3.40 points, respectively. The scores of these three items are higher than the intervening value. On the whole, it shows that the human resources information management system construction of Novo Nordisk produces the significant influence on these three factors. Correspondingly, the average values in two levels of name card

demand and talent strategic demand are close to the intervening value, which shows that the demand is not significant.

#### **4.5 Research results**

The implementation of the human resources management system of Novo Nordisk can provide the specific platform for staff to participate in the enterprise management, and play an important role in the different links and department operation process of the enterprises. In this system, the enterprise's internal staff can participate in the enterprise's human resources management, and the staff's personal participation can promote the improvement of enterprise cohesion. At present, Novo Nordisk's staff has been able to select their required training through the human resources management information system, and the enterprise managers can also know the staff's real demand through the system, thus ensuring the implementation of staff's goal and enterprise's goal. The human resources management information system of Novo Nordisk can analyze the organization personnel, enterprise remuneration and organization structure, and these analyses can form many report forms which help the enterprise development, thus helping the company know the change of related information about the human resources management, and then providing the related information for the enterprise leaders and managers and guaranteeing the enterprise's correct decision.



## **CHAPTER 5**

### **CONCLUSION DISCUSSION AND SUGGESTIONS**

#### **5.1 Conclusion**

The e-HR informationalization system is the inevitable product of the human resources management development and the inevitable trend of the human resources management development. This paper carries out the comparative study on the core idea, objectives and tasks of the modern human resources management with the traditional personnel management as the reference system. This paper analyzes the factors influencing enterprise human resources management and operation and the problems existing in the current management, summarizes the change trend of enterprise human resource management mode in China and the main management contents, and puts forward the general thought of enterprise human resources management and its operation.

This paper carries on the case study with Novo Nordisk as the background, analyzes the current situation and change demand of the enterprise human resources management, makes planning of the human resources management system from the perspective of overall change of the enterprise e-HR informationalization implementation and operation, and establishes the e-HR informationalization solutions suiting to the enterprise, successfully promoting the implementation of human resource management information system project and improving the company's human resources management level to a certain extent.

#### **5.2 Research limitations**

Although the project design and implementation is accord with the actual situation of Novo Nordisk, there still exist many deficiencies in the whole project implementation process, some technical deficiencies and some management deficiencies, including that:

The data sorting takes more time and energy in the project implementation process. Thousands of data shall be sorted out and checked one by one, and the accuracy is greatly reduced without the corresponding software tool support, which reveals the problems of inadequate preparation and lacking technological means.

After the project implementation, some pre-designed functions finally are not realized, which is because Novo Nordisk is the subsidiary, and its management system shall be generally consistent with the head office.

For the above problems, the author thinks that the following improvements can be made in the future learning:

Before the project implementation, the system supplier shall make the full communication and investigation, sort out the enterprise's internal management process and management system and fully know the enterprise's actual demand; The enterprise shall faithfully reflect the actual situation to the system supplier as far as possible, and the project implementation can be carried out after both parties reach a consensus.

Under the current system, the nature of the parent enterprise is hard to be changed, its management process and system will not have very large change in a short time, such as simpler post system setup, unitary staff promotion channel, unreasonable remuneration system design, etc. The human resources department shall explore these problems in the future work, combine the inherent management mode with the advanced human resources management idea, and strive to realize the uncompleted functions in the secondary development of the system.

The application of e-HR informatization system in Chinese enterprises is still in a developing and perfecting stage, and there are many contents which are worthy of our further research and discussion. It is hoped that this paper can provide certain inspiration and help for other peers in this field.

### **5.3 Research suggestions**

#### **5.3.1 The B/S structure is used to replace the traditional C/S structure.**

First, with B/S structure, any user can access the human resources management information system only through the browser, without installation program. And it provides the convenience for staff from other provinces and cities. As long as they can connect to the Internet, they can operate the system, so as to get the required information.

Second, the operation of B/S structure is more simple and can be carried out through the installation and setup of the server, reducing the complexity of the work.

Third, it can ensure the specific implementation of remote maintenance. In the specific implementation process, the implementer can supervise and control the specific implementation of the system in the way of remote operation, thus meeting the customer demand.

### **5.3.2 The layered design is conducive to transplantation and extension**

First, the layered design can separate the enterprise's business layer, data processing layer and presentation layer. It avoids the data disorder in the process of handling and controlling the enterprise's specific business. In addition, it can adjust the system appearance and specific expression form according to the different demands of the user, thus meeting the diversified demands of the users and saving the time and energy used for the secondary development.

Second, the flexible language management mechanism can ensure that the staff using the different languages can carry out the operation in the system.

### **5.3.3 Humanized configuration "my workspace"**

First, the application of the portal technology can ensure that different types of users can work in the suitable work area. And the corresponding adjustment can be made according to the actual situation of the staff.

Second, the limit to the role permission of different types of users can make different users get relevant data and make the relevant operation within their permission.

### **5.3.4 Tight security mechanism**

First, the encryption with the irreversible calculation method can guarantee the security of the user's command and password.

Second, the permission is set according to the different roles of the user.

Third, the encryption setting of some important data of the enterprise can guarantee the security of enterprise data.

### **5.3.5 Powerful external interface**

The human resources management information system shall give full consideration to the importance of human resource solutions, and realize the connection of the enterprise's human resources management system with other systems by means of data transfer, thus realizing information sharing.

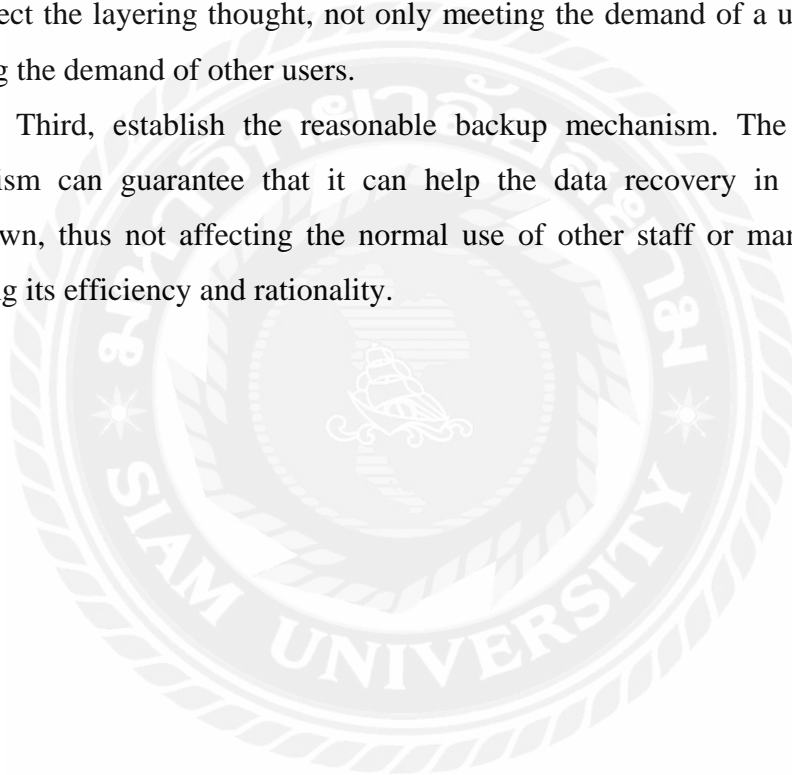
### **5.3.6 Reasonable and efficient system configuration solution**

Upon the analysis of Novo Nordisk's management mode, the preparation of the enterprise system configuration solution shall have efficiency, economy and practicality.

First, the network server shall choose Tomcat as middleware product. This middleware product is free and can provide the help for the user's user.

Second, the system's database shall be SQL Server database. The use of database can improve the efficiency of the enterprise human resources management and reflect the layering thought, not only meeting the demand of a user, but also not affecting the demand of other users.

Third, establish the reasonable backup mechanism. The use of backup mechanism can guarantee that it can help the data recovery in case of system breakdown, thus not affecting the normal use of other staff or managers and fully reflecting its efficiency and rationality.



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## APPENDIX I

Thank you for taking time out of the busy schedule to participate in this demand survey. The survey result is only used to discuss the current situation analysis and information demand of the human resources management and only used for the academic research. Please fill in according to your real demand, and check one you think is the right answer from "1" to "5" in the column of "Evaluation Standard"..

Thanks again for your cooperation!

### Staff Demand Questionnaire

S/N	Function point	Clarification of requirements	Evaluation standards
1	Personal information management	Provide the staff self-help personal information modification function, and choose which information can come into force after the examination and approval; Make setting through the system function privilege after the whole company data quality reaches the standard.	1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary
2	Name card management	When the user need to look at the personal name card, the related operation can be carried out through the function point. 1. After logging in e-HR web portal, the user can check the personal name card information in the self-help homepage, including the personal photos, staff name, staff ID number, department, my work position, office phone, mail, office location, etc.	1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary

3	Common application	<p>The most common staff application is displayed under the staff self-help4 Not Need homepage [Common Application] function.</p> <p>The system provides the user with the common application in the column of [Common Application], such as Talent application, professional qualification application, leave application, official business application, transfer application, etc. The common application list can be configured and maintained by the administrator;</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>
4	My remuneration	<p>When the user needs to check the personal remuneration information, the related operation can be carried out through the function point.</p> <p>1. After logging in e-HR web portal, the user can check the personal remuneration sheet and remuneration detail in the column of [My Remuneration] in the self-help homepage.</p> <p>2. It shall reflect the staff's other remuneration information, including the remuneration change information, remuneration</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>



		promotion information, social security information and annual earnings trend analysis chart.	
5	My Performance	<p>When the user needs to check the personal performance information, the related operation can be carried out through the function point.</p> <p>1. After logging in e-HR web portal, the user can check the personal performance plan and executive condition in the column of [My Performance Plan] in the self-help homepage.</p> <p>2. The performance information at least includes the performance plan, performance plan implementation, etc.</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>
6	My Attendance	<p>When the user needs to check the personal related attendance information, the related operation can be carried out through the function point.</p> <p>1. After logging in e-HR web portal, the user can check the personal related all previous attendance information in the column of [My Attendance] in the self-help homepage.</p> <p>2. The attendance information can be displayed according to the year,</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>

		<p>month and week;</p> <p>3. Other specific contents shall be supplemented according to the specific business of the "attendance management" module.</p>	
7	<p>My Professional Qualification</p>	<p>When the user needs to check the personal related professional qualification information, the related operation can be carried out through the function point.</p> <p>1. After logging in e-HR web portal, the user can check the personal professional qualification information in the column of [My Professional Qualification] in the self-help homepage.</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>
8	<p>Personal settings</p>	<p>Modify the user personal information</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>

## APPENDIX II

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Thanks again for your cooperation!

### Human resources management demand survey

S/ N	Function	Business role	Clarification of requirements	Evaluation standards
1	Staff information management	Human resources commissioner	Carry out the updating, maintenance and management of the personnel information which shall be grasped by the company's daily human resources management, provide various personnel information reports, and provide the decision-making information support of related leaders through the statistics and analysis of part of key indexes.	1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary
2	Labor contract management	Human resources commissioner	1. Make the process control of the signing, change, modification and termination of the labor contract 2. Inquire about the labor contract account; 3. Make the alarm setting of the staff probation period and labor contract expiration	1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary
3	Post management	Human resources	1. Basic post setting: The basic post setting includes the post	1 Greatly needed,

		commissioner	<p>classification, post level, post grade, duty level and other contents and shall be specified by the post managed business personnel of the head office, and the branch only need to check and quote under the unified post system.</p> <p>2. Post directory management: The post management business personnel of the head office can maintain the post directory under such column and carry out such operation of the standard post as addition, modification, deletion, cancellation, enabling, query and check, and the branch quotes on this basis.</p> <p>3. Post design management: The post design management involves the post set, adjustment and cancellation, and such function records the different information according to the different post design types.</p> <p>4. Post instructions management: According to the common form of the post instructions, the system default template includes the basic information, qualification, post responsibilities and other information, and the user can modify and delete the default</p>	<p>2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>
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			<p>information and create other new instructions contents. The post management business personnel of the head office can require the whole company to use some contents in the instructions.</p> <p>5. Post evaluation management: In the case of the first post system construction or great adjustment of post responsibilities, the post value and grade can be determined through the post evaluation. The post evaluation can be managed as a project.</p> <p>6. Post information management: The user inquiries about the current post information and post change information within the extent of competence under the module.</p> <p>7. Post system diagram management: The user draws the current post system diagram and inquiries about the historical post system diagram through the module.</p>	
4	Organization management	Human resources commissioner	<p>1. The system will display the different data item according to the different data types. The system default data type includes the basic information, It supports the data addition,</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need,</p>

			<p>deletion and modification. geographic information and economic situation of the organization. 2. The total amount plan is developed and prepared, the control and adjustment of the establishment of organization within its jurisdiction is carried out, and the undertaker of the institution management business at various levels can maintain the related information.</p> <p>3. The system supports the inquiry of the current or historical organization change details and displays the results in the form of lists.</p>	5Very unnecessary
5	Training management	Training commissioner	<p>1. Training planning management: It supports the maintenance, release and other management of the training planning information.</p> <p>2. Training plan management: It supports the formulation, release, storage, reporting, storage, export and other business functions of the training plan of various units.</p> <p>3. Training class management: It supports the declaration of training class and participating trainees, examination and approval, release of notice of</p>	1Greatly needed, 2 Needed, 3Partially needed, 4 Not Need, 5Very unnecessary

			<p>beginning class and maintenance of trainee' attendance records. If the training class allows the autonomous application, it also can release the application notice.</p> <p>4. Training archive management: It supports the query, check, addition, modification, deletion and export function of the training archives.</p> <p>5. Training fund management: It supports the management of the training fund information, including 4 submodules - fund item setting, fund budget management, fund reimbursement management and training fund management.</p> <p>6. Training resource management: It supports the maintenance of the training resource information.</p>	
6	Remuneration management	Remuneration commissioner	<p>1. Basic remuneration setting: It can add, modify and delete the remuneration items, and determines the type of remuneration items, such as numeric type or logical type; Data source of remuneration item; Calculation rules of remuneration item, etc. The validity period of the</p>	<p>1 Greatly needed, 2 Needed, 3 Partially needed, 4 Not Need, 5 Very unnecessary</p>

			<p>remuneration item can be set, and the automatic switching can be realized within the effective range. It can determine the basic attributes of remuneration item, such as item addition and reduction, tax assessment, participation in the remuneration calculation, etc. It can establish the allocation proportion of fixed remuneration and performance bonus at various levels as well as the allocation proportion of institution, department team and individual in the performance bonus, and the allocation dimension can be added, modified and deleted by the user on its own.</p> <p>2. Remuneration adjustment management: The remuneration adjustment results can be maintained according to the remuneration adjustment approval results, and the batch processing of remuneration information can be carried out, including the updating, import and export.</p>	
7	Performance management	Performance commissioner	<p>1. It has the modules of basic data setting for the organization and staff performance management, including 4 submodules - performance</p>	<p>1Greatly needed, 2 Needed, 3Partially needed,</p>



			<p>management grouping, grade evaluation rules, result distribution rules and performance module.</p> <p>2. It can design, modify and delete the performance management index.</p> <p>3. The user can carry out the configuration of the assessment plan for the assessment object requiring the result distribution within the same scope according to the performance management measures of the institution at this level in terms of the evaluation period, classification index weight, evaluation relationship, scoring rules and result distribution rules.</p> <p>4. It can develop the performance plan and carry out the adjustment and management of the performance plan.</p> <p>5. It can carry out the management of the staff performance evaluation and adjust the performance evaluation results.</p>	<p>4 Not Need, 5Very unnecessary</p>
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### APPENDIX III

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Thanks again for your cooperation!

#### Decision-making Demand Survey Results

S/N	Function	Clarification of requirements	Evaluation standards
1	Talent Strategy	<p>1. According to the manager's daily needs, it can define the multiple registers for facilitating the data query and the data export, and the system administrator sets the register form and the data source.</p> <p>2. According to the decision-making requirements, the analysis on the personnel structure is made (education background, age, service year, professional background, etc.), Including historical situation and current situation, the personnel structure diagram is displayed, and the manager can predict the company's future talent strategy according to the analysis results.</p>	<p>1 Greatly needed,</p> <p>2 Needed,</p> <p>3 Partially needed,</p> <p>4 Not Need,</p> <p>5 Very unnecessary</p>
2	Organizational structure	<p>When the user needs to check the organizational structure within the jurisdiction, it can be realized through this function.</p> <p>1. The system can provide the user with the diagram display of the organizational structure within the jurisdiction under the organizational structure diagram.</p> <p>2. It can display the business situation of the current institution and provide the</p>	<p>1 Greatly needed,</p> <p>2 Needed,</p> <p>3 Partially needed,</p> <p>4 Not Need,</p> <p>5 Very unnecessary</p>

		<p>analysis data.</p> <p>3.It can display the historical situation of the company's institutions, and predict the institutions which may be established in the future according to the company strategy.</p>	
3	<p>Statistical analysis and prediction</p>	<p>1. It can realize the connection with the company's office, financial and business system, and check the staff performance.</p> <p>2. It can carry out the statistics and analysis of the company's human cost through the historical and existing remuneration data, and predict the company's total human costs in the future according to the manager's demand.</p>	<p>1 Greatly needed,</p> <p>2 Needed,</p> <p>3 Partially needed,</p> <p>4 Not Need,</p> <p>5 Very unnecessary</p>

