

MINISTRY OF EDUCATION AND TRAINING MINISTRY OF FINANCE
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**PERFECTING THE ACCOUNTING INFORMATION SYSTEM
TOWARDS ERP APPLICATION IN VNPT UNITS UNDER VNPT
GROUPS IN PROVINCES AND CITIES IN VIETNAM**

Major: Accounting

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**SUMMARY OF DOCTORAL THESIS IN
ECONOMICS**

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LIST OF SCIENTIFIC WORKS PUBLISHED BY THE AUTHOR

1. Nguyen Thi Kim Anh (2016), "Solutions to develop telecommunications services at VNPT Thai Nguyen", *Journal of Asia Pacific Economy*, 481, 77-78.
2. Nguyen Thi Kim Anh (2016), "Innovations in wage calculation at VNPT Thai Nguyen", *Journal of Finance*, 647, 96-97.
3. Nguyen Thi Kim Anh, Dang Quynh Trinh, Nguyen Thu Hang (2018), "Improving finance in terms of ERP application at University of Economics and Business Administration - Thai Nguyen University", *Journal Asia Pacific Economy*, 515, 87-88.
4. Nguyen Thi Kim Anh (2020), "Accounting information system towards ERP at Vietnam Post and Telecommunication Group", *Journal of Asia Pacific Economy*, 561, 96-98.
5. Nguyen Thi Kim Anh (2020), "Lessons learned about the application of ERP enterprise resource planning system in the world", *Journal of Asia Pacific Economy*, 564, 57-59.

PREFACE

1. Urgency of the thesis

The accounting information system is an indispensable part of the management information system, performing the function of collecting, processing and providing economic and financial information for decision-making of the subjects in need of information. Therefore, the accounting information system is an important tool that Vietnamese enterprises themselves, including telecommunications companies, are particularly interested.

VNPT Group is an enterprise with 100% of charter capital owned by the state, operating in the telecommunications - IT sector. Products and services are specific from go - to - through, so the recognition of revenue in one place, but costs arise in many places. To provide information for the management needs of each department, a piece of information can be entered repeatedly in different departments. This job is both time consuming, error-prone, and reduces employee productivity.

ERP system is considered to be the largest, most complex and the most demanding information system (Severin V. Grabski et al., 2011) [83]. This is also a software that integrates many common functions of a business into a single system instead of having to use many parallel and independent software. ERP solutions will help businesses have a management system with modern processes according to international standards, improve the management and operation capabilities of the leaders as well as the operations of the employees in each department. DN.

Stemming from the above practical requirements, the author chooses to research the topic **“Perfecting the accounting information system towards the application of ERP system in VNPTs in provinces and cities under Vietnam Post Group”**.

2. Overview of domestic and foreign research projects

2.1. Studies on accounting information systems

According to research results of the American Association of Accountants (1966), the concept of accounting information system is a part of the management system of enterprises. Accounting information system needs to include both international economic and financial system to provide adequate service to those interested.

Currently, with the support of modern technical means, the boundary between the two fields has blurred. In other words, accounting information system is the intersection of financial economy and international economy through IT. Therefore, the author mainly studies the accounting information system in two directions: the process approach and the constituent elements of the accounting information system.

2.2. Researches on accounting information systems with ERP application

Research accounting information system in ERP system: The authors *Granlund and Malmi (2002)*, *Grabski et al (2011)*, has analyzed quite in detail the functional modules of a accounting information system in the ERP system. Accounting information system is capable of integrating with other software, using the same database of other software in enterprises such as supply chain management, human resource management, customer relationship management. Wagner et al (2011) clearly indicated that accounting information system in the environment associated with the ERP system has information exchange between the accounting department and other functional departments.

2.3. Studies on factors affecting accounting information systems and accounting information systems in terms of ERP application

The accounting information system plays the most important role in the management system of each enterprise or organization. Therefore, researchers have analyzed and measured the factors that affect the accounting information systems in many different directions.

Xu's research (2003 and 2009) [135], by Hajiha and Azizi (2011) [87] showed that input data is one of the very important factors affecting the operation of accounting information system. Research by Pyker & Nanh (1998) [113], by Saira et al. (2010), Grande et al. (2011), demonstrated that accounting software and management software have a positive impact on accounting information system activities in enterprises.

2.4. Studies in the field of telecommunications services and accounting information systems in telecommunications businesses

Taposh Kumar Neogy (2014) studied and evaluated the effectiveness of the accounting information system of telecommunications companies in Bangladesh. The information systems of telecommunications companies in Bangladesh are computerized and all transactions are processed by computers. The use of accounting information system on computers offers the opportunity to perform accounting functions more efficiently through the use of computers. Accounting information system saves significant time and cost.

3. Research gaps

First, no author has researched the theoretical system of accounting IT system in the service business of ERP system application.

Accounting information system, there is no research to mention about economic drainage system on both economic economics and international economy in SMEs.

Third, there are no studies to consider the accounting information system according to the system components in large-scale enterprises or economic groups in Vietnam.

Four, there is no research to build a model to identify and evaluate the impact of factors on the accounting information system.

4. Research aims and questions

4.1 Research objectives

(1) Systematizing and clarifying the basic issues of accounting information system towards ERP application in service enterprises.

(2) Surveying and assessing the status of elements constituting the accounting information system in VNPTs in provinces and cities under VNPT Group.

(3) Identifying and evaluating factors affecting accounting information systems in VNPTs in provinces and cities under VNPT Group.

(4) Proposing complete solutions and proposing conditions for implementing solutions to complete the economic economy towards

ERP application at VNPTs in provinces and cities under VNPT Group.

4.2. Research questions

- (1) What is the theoretical basis of accounting information system in service businesses towards ERP application?
- (2) What is the status of constituent elements of accounting information system?
- (3) How is the specific impact of each factor on the quality of accounting information systems in VNPT provinces and cities under VNPT Group?
- (4) Which solutions and recommendations are needed to improve the accounting information system towards ERP application in VNPTs in provinces and cities of VNPT Group?

5 Objects and scopes of the study

5.1 Research Subjects

The thesis focuses on the research of accounting information systems in VNPTs in provinces and cities of VNPT Group towards the application of ERP system.

5.2. Scope of research

* Duration

- Statistics, primary and accounting information systemary data collected from the period from 2017 to 2019
- Solutions and recommendations are researched and proposed from now to 2030

* Contents

- The thesis approaches the theory and practice of accounting information systems in the direction of the constituent elements of the accounting information systems

* Places: The thesis researched through 63 VNPT provinces and cities under VNPT Group.

6. Process and research method

6.1. Expected research process

The author plans to build a research process consisting of 5 main phases.

6. Research Methods

6.2.1. Qualitative research method

- Observation method

- Group discussion method
- Direct interview method

6.2.2. Quantitative research

* *Design survey, questionnaire survey*

- Designing survey questionnaires to investigate with 15 experts, thereby adjusting them accordingly to conduct large-scale investigations. Time conducted in July 2019.

Part I: General information about individuals and businesses participating in the survey

Part II: Accounting information needs and technical information satisfaction levels

Part III: Evaluating factors affecting accounting information system in terms of ERP application

Part IV: Assessing the status of the accounting information system in the development of provinces and cities

* *Determination of sample size*

Sampling frame: List of officers and employees of the accounting and planning department of VNPT in provinces and cities under VNPT Group.

Subject matter investigated: Financial accounting staff and leaders are currently working full-time in VNPT provinces and cities.

Sampling method: Select samples according to random and convenient method.

Sample size: About In principle, the larger the sample, the higher the accuracy. However, the investigation requires a lot of time and money, so within the ability, the author tries to investigate the most reasonable number possible while ensuring representativeness.

Structure Sample investigation: VNPT Group has 63 VNPT provinces and cities located in 63 provinces / cities in the country, in the VNPTs of provinces and cities divided into districts and towns where they directly perform activities to provide service and services.

6.3. Data collection methods

+ *Accounting information systemary data:* Documents are collected internally from within VNPTs of provinces and cities of VNPT Group, specifically taken from departments such as: Department of Administration, Finance, Accounting Department, Information Center ...

+ *Primary data*: Primary data are collected through direct exchange and in-depth interviews at VNPT provinces and cities under VNPT Group. Data are collected through questionnaire survey method.

6.4. Methods of processing and analyzing data

* Data value evaluation; data editing; data encryption

- *Analytical method of processing data*

- Describe data
- Assess the reliability of the scale
- Analyze factors
- Regression analysis of the influence of the factors

- Regression method

$$Y = b_0 + b_1 NL + b_2 QM + b_3 NC + b_4 VC + b_5 EP + b_6 PL6$$

+ a

7. New contributions and suggestion for further research

- In terms of theory: the concept of ERP system relates to many different disciplines and subjects.

- In terms of practice

+ Research, survey, and assessment of the current status of accounting information systems and premises as well as issues that need to be completed when applying ERP in VNPTs in provinces and cities under VNPT Group.

8. The structure of the thesis

In addition to the introduction and conclusion, the thesis consists of three chapters:

+ Chapter 1: General theory of accounting systems in terms of ERP system application in service businesses.

+ Chapter 2: Current status of accounting information systems in VNPTs in provinces and cities under VNPT Group.

+ Chapter 3: Solutions to perfect accounting information systems towards ERP application in VNPTs in provinces and cities under VNPT Group.

Chapter 1

GENERAL THEORY OF ACCOUNTING INFORMATION SYSTEMS WITHIN THE CONDITIONS OF APPLICATION ERP SYSTEM IN THE SERVICE TRADING BUSINESSES

1.1. Overview of ERP systems and accounting information systems

1.1.1. Enterprise resource planning system (ERP)

1.1.1.1. Enterprise resource planning system concept

According to the author, ERP system is a software system designed with many integrated modules depending on the requirements and business characteristics of each enterprise. The integrated system manages all aspects of a business such as financial management arrangement, human resources, supply chain management and production with the main function of accounting.

1.1.1.2. History and development milestones of ERP system

According to the research by Kwang et al. (2009) [99], the development of ERP systems has been developed since the 1960s with the starting point of inventory control. Key considerations are to handle BOM (Bill of Material) material activities, including: defining inventory requirements, setting goals, providing engineering and complementary options. supplement and supervise the use of goods, compare the balance and report inventory status in enterprises.



Figure 1.1 History and development of ERP system

Source: Kwang et al., 2009

1.1.1.3. Advantages and disadvantages of the ERP system for businesses

* Advantages of ERP systems for businesses

In fact, large enterprises and organizations have spent large sums of money on ERP projects, which proves that ERP has and will bring many benefits to businesses and organizations. According to Brazel & Dang (2005) [63], it is found that ERP applied in

organizations generates a positive response from the market and ERP, and that ERP implementation can improve performance (Hunton et al. , 2003) [89].

*** Restrictions of the ERP system for businesses**

First, cost includes initial cost and annual cost.

Accounting information system, in terms of time to deploy, develop ERP system is also a hindrance to many businesses, time to apply ERP is too long (Alshawi et al, 2004).

Third, software used in ERP development is often pre-written according to the manufacturer's design.

Fourth the integration of many subsystems with different modes, methods and operational goals in the enterprise makes the design and implementation of an ERP system face a difficult problem, which is highly complex.

Fifth, with the ability to withstand pressure in the implementation of the ERP system, every person in the enterprise from employees to managers and leaders at all levels must undergo training, coaching, and training for the use and compliance. players, learn from experience for individuals.

1.1.2. Accounting information system

1.1.2.1. The concept of system and information system

Thus, according to the author, the information system is a system consisting of constituent elements such as people, procedures, data, hardware and software to follow the same process including collection - storage - processing. - transmit messages to those in need.

1.1.2.2. Accounting information system concept

Thus, according to the author, the accounting information system in terms of ERP application is a system of resources to collect - store - process - transmit information together, including 6 basic components: People, Processes and Instructions, Software, Hardware and Networking Systems, Internal Control of accounting information systems.

1.1.3. Characteristics of accounting information systems in service businesses in terms of ERP application

1.1.3.1. Characteristics of service business activities

Business services is an industry, a field in the national economy whose activities create products that exist in the intangible form to satisfy the needs of production and social life. Service

business is also an activity to support and promote production and business development of enterprises, supporting Main activities of government agencies and other socio-economic organizations.

1.1.3.2. Characteristics of service businesses that affect the accounting information system

First, Service activities in service businesses are often very diverse.

Second, operation of service enterprises is highly risky.

Third It is difficult for service enterprises to control service quality before handing over to customers due to intangible service.

Fourth, each service business is often unique and not the same.

1.1.3.3. Characteristics of accounting information system in service enterprises in terms of ERP application

First, accounting information system in an ERP system application service enterprise, people will include system managers, designers and maintainers, and users.

Second, accounting information system, input database for accounting information system only needs to be entered once and is used for the whole enterprise.

Third, the process and guidance both focus on providing information presenting financial statements, while providing information for managers to make decisions.

Fourth, integrated software of information system helps to access information quickly and promptly

Fifth, hardware and network systems require high-tech physical foundations

Sixth, divide the control process into two including internal and external control.

1.2. The constituent factors of accounting information system in the condition of ERP application

1.2.1. Human resources

People always play an important role in linking with other resources in the system to ensure the system operates effectively. In the accounting information system using ERP system, human

resources are divided into 3 groups: system builders, maintainers and developers; managers and users.

1.2.2. Process and instructions

1.2.2.1. The process of receiving information

The acquisition of information in the accounting information system begins with accounting documents. Accounting vouchers have a different basic characteristic from other information in their truthfulness, objectivity and very high legal value.

1.2.2.2. The process of information processing

Accounting information system in terms of ERP application, the processing of collected information is mainly automatic due to pre-designed software. Information processing involves two steps:

1.2.2.3 Information provision process

1.2.3. Accounting data

Accounting data is considered an important component that needs to be stored and processed when computerizing et al (2010) defined “Database is a collection of related and organized data stored on accounting information systemary storage devices to satisfy the simultaneous information exploitation requirements of many programs, many users at many different times ”[56].

1.2.4. Software

Software means programs installed on hardware that manage or process data and provide information at the request of users.

1.2.5. Hardware and networking

Hardware equipment includes physical equipment used in information processing such as inputting, processing and transmitting information. Input device is used to import data and programs into the computer’s internal memory.

1.2.6. Internal control accounting information system

1.2.6.1. Control of operation status inside accounting information system includes: content, technical, and user control.

1.2.6.2. Control transaction operations outside the system, including control Website transactions, e-commerce portal, transactions with banks, customers, partners.

1.3. The need to provide information and factors affecting the accounting information system in ERP application

1.3.1. Needs to provide information for users

When determining information needs, it is necessary to identify the objects using accounting information inside and outside the enterprise.

1.3.2. Factors affecting the accounting information system in ERP application

1.3.2.1 Some background theories about Factors affecting the accounting information system in terms of ERP application

In this section, the author introduces the background theories used as the basis for the research. In the author's research, four background theories are applied, including the acceptance model of TAM technology, the success theory of the information system, the theory of organizational support and the theory of contingency.

1.3.2.2 Factors affecting the quality of accounting information system

With related studies on factors affecting the quality of accounting information systems, the author has synthesized and found 5 factors:

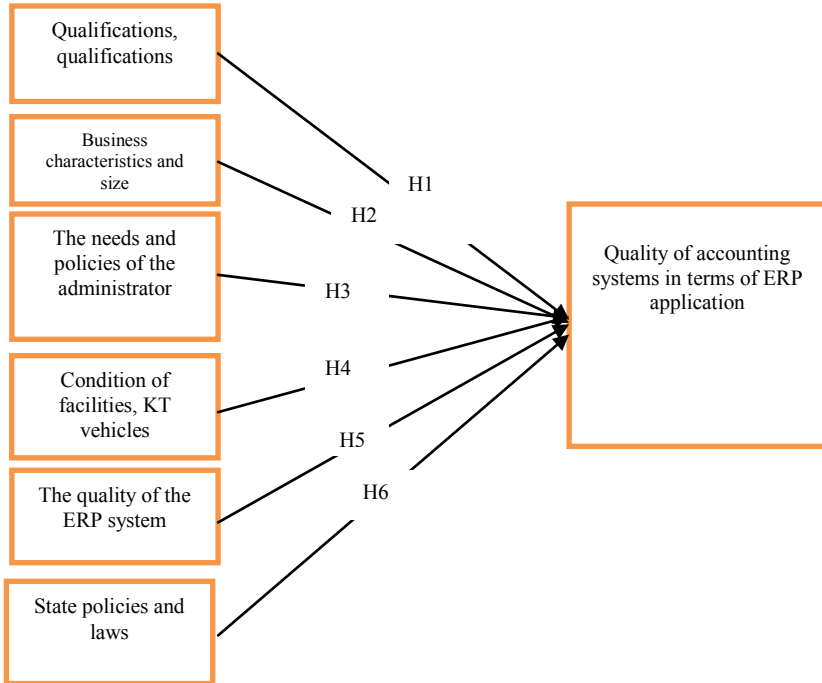


Diagram 1.6. The model of factors affecting the quality of accounting information system

Source: Author proposed

1.4. ERP implementation and application in the world and lessons learned from service enterprises in Vietnam

According to the survey report of the Panorama Consulting Group, some specific results related to the situation of ERP application of enterprises in the world in the two years 2017 - 2018 showed:

1.4.1. Reasons for implementing ERP system

The biggest common reason for implementing ERP is to improve business efficiency (14%) (Figure 1.1).

1.4.2. About ERP vendors

Many other software vendor solutions (such as IFS, NetSuite, Plex Systems, QAD, Sage, SYSPRO, Tyler Technologies and Unit4) are involved in the market (33%) followed by Oracle (16%) and SAP

(15%).

1.4.3. About the type of ERP software

According to the data sheet, in 2017, 67% of respondents agreed to choose the ERP type installed on-site, 27% chose the service-oriented ERP SaaS and only 6% chose the ERP based on cloud technology.

1.4.4. About the level of customization of the ERP system

As reported by Panaroma (2016), the ideal level of customization for an ERP system is between 10% and 20%. However, according to the survey results in 2017, the level of system customization for the majority of organizations, accounting for 70% of businesses, chooses to ‘customize some’ (11-25% of the code is modified); There are 13% small customized options (1-10% codes are customized); 12% choose not to customize; Significant 4% customizations (26-50% of codes are tuned).

1.4.5. About the cost of implementing the project

According to the 2018 survey results, up to 64% of respondents answered that the cost estimate for the project implementation was exceeded and only 36% did not exceed the estimate (chart number 1.7). In addition, 31% are very satisfied with the cost estimate.

1.4.6. About the project implementation time

Implementation time is a big issue for ERP system implementation. The average project completion time in 2018 was 17.4 months, up from 16.9 months in 2017

1.4.7. About the benefits received when implementing ERP systems

The most important benefit that organizations / businesses gain from the implementation of an ERP system is the availability of information - 14% (Chart 1.12).

1.4.8. Lessons learned for Vietnamese businesses

Vietnamese enterprises are now gradually aware of the value and influence of ERP application as an inevitable solution to the long-term development of enterprises.

For businesses with general corporate model, VNPT Group in particular, or multi-disciplinary corporations, the overall ERP system for enterprises consists of two layers serving two levels of

governance: corporate governance class and class specific management of member units (VNPT in cities and provinces).

Chapter 2

CURRENT SITUATION OF ACCOUNTING INFORMATION SYSTEM AND THE PREMISES FOR ERP APPLICATION IN PROVINCIAL AND CITY VNPT

2.1. Overview of VNPTs in provinces and cities under the VNPT Group

2.1.1. History and development milestones of VNPTs in provinces and cities under VNPT Group

The first post office built and put into use was Saigon Post Office on April 14, 1859. In April 1995, Vietnam Post and Telecommunication Corporation was officially established under the model of Corporation 91, under the Government and the General Department of Post and Telecommunications with the international transaction name abbreviated as VNPT, officially separated from the state management and become the production, business, management, exploitation and provision of post and telecommunications services.

On March 26, 2006, Vietnam Post and Telecommunication Group (VNPT Group) was officially launched and put into operation under the decision of the Prime Minister to transform the model from the Corporation. Accordingly, VNPT Group is the main economic group of the State in the field of Post, Telecommunication and IT, doing multi-industry business both domestically and internationally, with the participation of many economic sectors; to act as the core for Vietnam Post, Telecommunications and IT.

** Main functions of VNPT Group*

** Operational objectives and business lines of VNPT Group*

** Main business lines of VNPT Group*

** Related business lines of VNPT Group:*

2.1.2. Operation characteristics manufacturing business at VNPTs in provinces and cities under VNPT Group affect the accounting information system

2.1.2.1. Characteristics of facilities in VNPTs of provinces and cities.

To be able to provide services, it is necessary to invest and build infrastructure systems with a huge investment capital, including: switchboard systems, high-tech electronic accounting information systems, transmission and switching equipment, and BTS broadcasting stations, to synchronously invest in fiber optic transmission lines and internet lines, creating a large transmission and switching network covering the whole province and linking it with neighboring provinces.

2.1.2.2. Characteristics of telecommunication service production process affect the accounting information system

Step 1: Invest, build switchboards, also known as mobile and fixed switching centers.

Step 2: Invest in building a network of mobile information receiving stations within the area where they want to provide services.

Step 3: Connect broadcasting stations with the switchboard

Telecommunication service production process has transmission line.



Figure 2.1: Telecommunication service provision process

(Source: Customer Department - VNPT Thai Nguyen)

2.1.2.3. The characteristics of telecommunication products and services affect the accounting information system

First, connection fee between affiliates of VNPT Group

Second, regulation VNPT province, city recognized revenue from BTS / Nodeb station infrastructure

Third, Domestic transmission service

Fourth International transmission service

Fifth, Other transmission services (Vsat Pama, Vsat-IP, Inmarsat, transceiver via satellite)

Sixth, provide other infrastructure

Seventh, Distribution of other IT services revenue

2.1.3. Organizational characteristics of the management system that affect accounting information systems

2.1.3.1. Function and mission

BOARD'S MEMBERS

The Supervisory Board

General Director:

Deputy General Director

2.1.3.2. Mechanism of management activities between VNPT Group and VNPT Group of provinces and cities

*** Internal economic management mechanism**

- Principles of product and service delivery

+ Principles of business hubs:

Principles of the service owner

1. The Group performs the function of managing telecom-IT services of VNPT through the centralized recording of business results.

2. VNPT-Net / VNPT in provinces and cities shall, on behalf of the parent company, publish data and pay revenue in coordination with VNPT-Vinaphone.

+ Responsibility principle of the units participating in the service provision

Apply the form of revenue sharing ratio from customers to the business sector (TTKD / VNPT-Vinaphone), deployment (VNPT province / city) and infrastructure providers on the basis of service characteristics, service development commissions, promotional costs and the responsibility of each party involved in the service provision.

2.1.4. Accounting regimes and policies in VNPTs of provinces and

cities

According to the survey results, all VNPT in 63 provinces and cities apply the accounting regime issued under Circular 200/2014 / TT-BTC issued on December 22, 2014 of the Minister of Finance and technical expertise.

2.2. Situation of accounting information system and premises for ERP application in VNPTs in provinces and cities under the VNPT Group

2.2.1. Human resources

* System builder, maintenance and developer

Currently, in the VNPT provinces and cities, there are departments in charge of IT, but separate tasks include Information Technology Center and Information Operation Center.

*Administrator

VNPT Group is still in the process of continuing to restructure and rearrange its apparatus to streamline labor, but at the same time develop new services, so there are many changes

* Users

In VNPT in provinces and cities, there is a simple and light accounting apparatus organization structure

2.2.2. Procedures and instructions

2.2.2.1. Current status of accounting information collection process and instructions

- Internal sources are provided by relevant internal departments.

- External sources are collected by the accounting department and related departments

Legal basis

Based on the accounting documentary system issued by the Ministry of Finance, provincial and city VNPTs have built a documentary system for internal use in accordance with the requirements for receiving specific economic and financial information of each organization.

Methods of documents making

Document checking, sorting, synthesizing

Through surveys at the VNPT in provinces and cities, they are very interested in the inspection, classification, and synthesis of vouchers to ensure the legality of the accounting records.

Accounting document rotation process

Through a survey at provincial and city VNPTs, there are 234/250 votes, accounting for 93.5%, saying that enterprises have built a document rotation process, according to the accountants' assessment that this process is reasonable, safe.

Document preservation, storage and cancellation work

- Document preservation work
- Accounting records storage work

2.2.2.2. Current status of accounting information processing and guidance

Accounting information processing process and guidance at provincial and city VNPTs is the application of the accounting account system to process accounting information.

2.2.2.3. Current status of accounting information provision and guidance

* *Accounting books*: The economic operations are reported by VNPT in provinces and cities in general accounting books as prescribed in the Appendix of Circular 200/2014 / TT-BTC.

* *Preparation of financial statements of provincial and city VNPTs*

- Balance sheet
- Report of business activities
- Statement of cash flow

* *Financial statements of parent company - VNPT Group*

In Parent company - VNPT Group, organizing the management apparatus including the office, functional departments, affiliated accounting member units, subsidiaries and associates. Parent company - VNPT Group prepare a separate financial report, at the end of the quarter and year, and send it to the accounting department of VNPT Group to prepare the consolidated financial report.

* *The consolidated financial statements of VNPT Group*

The precise determination of the scope of enterprises to consolidate the financial statements will improve the quality of accounting information, truthfully and objectively reflect the financial and operational situation of VNPT Group. Most of the units

covered by the survey determined the scope of consolidated financial statements as follows:

** Organizing to prepare consolidated financial statements of VNPT Group*

The process of consolidating the financial statements and the consolidated income statement at VNPT Group is as follows:

** Consolidated statements of cash flows:*

Consolidated cash flow report is prepared on the basis of consolidation of cash flow report of the Parent Company - VNPT Group and its affiliates by item, by adding equivalent items on the basis of agreement of method. create.

** Notes consolidated financial report*

The parent company has focused on adding general information such as: Total number of subsidiaries, number of subsidiaries to be consolidated, list of joint ventures, key associates reflected in consolidated financial statements according to the equity method, important influencing events business activities of the parent company - the reporting year subsidiary.

** Management reports*

** Establishment of the management report:*

** Current situation of management report analysis*

** Financial statements submission and publication*

2.2.3. Current status of accounting data

Accounting data of VNPTs in provinces and cities under VNPT Group is formed from two main sources, which are data collected from the professional accounting department and data collected on original documents.

2.2.4. Softwares

The software at VNPT in 63 provinces and cities under VNPT Group is basically relatively homogeneous due to the unified organization of production and business in the whole Group. A computer-based software system consists of three levels: operating system, specialized system programs and application software.

2.2.5. The actual state of hardware and network

In the VNPT provinces and cities today, 100% use computers connected to the network through the server in accounting work, contributing to the convenient and fast information collection, processing and provision. Servers include Web server, print server

and database server such as IBM, HP, Dell.

2.2.6. Internal control situation

Survey results show VNPT in provinces and cities under VNPT Group have implemented relatively well the control procedures to ensure the quality of accounting information provided to the subjects as well as well implement the information security regime.

2.3. The current situation of the need to provide accounting information and factors affecting the quality of accounting information system towards ERP application at VNPTs

2.3.1. Situation of accounting information needs in VNPTs of provinces and cities

* Accounting information needs of managers of VNPT in provinces and cities

* Information needs of external subjects

2.3.2. Factors affecting the accounting information system in the VNPTs of provinces and cities

The standardized multiple linear regression equation showing the relationship between the quality of accounting system and 6 independent variables is built as follows:

$$CL = 0.44 NL + 0.15 NC + 0.142 EP + 0.12 VC + 0.112 QM + 0.107 PL$$

Accordingly, the factor ‘Professional qualifications’ is the factor that most strongly affects the quality of accounting information system. Other factors “The legal policies of the State”, “Characteristics of business activities and size of enterprises”, “The need to provide information and policies of the administrator”, “Facility conditions quality and technical means”, “Quality of the ERP system” are factors affecting in the same direction to the quality of accounting information systems, but at a lower level.

2.4. Assessment of accounting information system and premises for ERP application in VNPTs in provinces and cities under the VNPT Group.

2.4.1. Strengths - a premise for ERP system application

About the human resources

The provincial and city VNPTs have built up a management apparatus with a relatively stable personnel structure, with appropriate professional qualifications and experience in management.

About the process and instructions

Process and guidance on information collection, information processing and information provision at VNPT Group's cities and provinces are generally consistent with the characteristics of business activities, suitable to the field of activity and suitable Accounting Laws, Standards and Regulations of a business

About the accounting data

Data is collected fully, quickly and continuously, including from both internal and external sources.

Hardware and network system

At VNPT in provinces and cities, there is a relatively modern and synchronous hardware system: Computers connected to the LAN so that accounting modules together exploit the same computer system and can share data. data as well as network resources.

About software

For system softwares, provincial and city VNPTs are using some fully copyrighted software to reduce troubleshooting costs as well as the risks caused by using unlicensed software.

About the internal control of the accounting system

In the IT application environment, the accounting at the VNPT in provinces and cities has the main control role over the document making role, because programmers often improve the construction of forms according to the requirements of the direct users including the accountant and managers who have a need to provide information.

2.4.2. Weaknesses of accounting information systems towards ERP application

2.4.2.1. Limitations

In addition to the achieved results, accounting information systems in VNPT's provinces and cities under VNPT Group still have some limitations, as follows:

**About human resouces*

In terms of training expertise, most of the IT, management and accounting departments have qualifications suitable to the job, but the number of accounting officers who do not have any IT expertise or IT staff is. have no expertise in accounting and finance.

** About the process and instructions*

+ Information gathering

The recording of elements, content on accounting vouchers in some VNPTs in provinces and cities is not really complete such as: lack of date, month of making vouchers, lack of signature for approval of chief accountant or director, not yet summary of main ideas of arising economic transactions, arbitrary abbreviations.

+ *Information handling*

VNPTs of provinces and cities organize the systematization of information through applying the accounting account system and recording method on financial accounting accounts.

+ *Information provision*

In the accounting information system in the VNPT provinces and cities today, it shows that most enterprises do not pay attention to the detailed accounting book system, which does not reflect the cost difference between estimates and implementation, between norms and reality.

* *Accounting data*

Through the study, the author found that accounting data of VNPT in provinces and cities of VNPT Group today, although partly solved the management needs, but in the future, this database system may not meet the requirement of a large volume of management when the economy is expanding.

* *Hardware and network system*

Each department's computer systems are connected to the internet. Computers can be infected with viruses, automatically receive spam emails, emails accompanied by malicious software that can mislead the accounting information system's information. Therefore, it is necessary to have a solution to limit this problem.

* *Software*

Accounting software in the VNPTs in provinces and cities is not really complete because there is no fixed asset tracking management module but a separate management software is designed; Accounting software is still offline and not yet linked with other management software such as document management, human resource management ...

* *Control of internal accounting system*

Control activities in VNPTs in provinces and cities are sporadic and irregular, not of strategic importance. Control activities are usually post-check, taking place after the operations have occurred.

Control activities are not intended to prevent risks. In addition, the control process is not associated with each stage of the accounting system and is not automated.

2.4.2.2. *Causes of limitations*

* Objective causes

First operation scale is very large, the area is wide across the country.

Second, the State's legal documents guiding the implementation of accounting content for units with specific business activities such as telecommunications services are not many, making enterprises face many difficulties in the process of organizing accounting information systems in their units.

* Subjective causes

First, management's vision and awareness of the role of accounting information systems is limited.

Second, the organizational model of the accounting apparatus is the model combining international economy and financial accounting, so accountants must do it at the same time.

Third, human resources for accounting and operating international economic system in comparison with financial system in enterprises are currently insufficient and have limited knowledge about international economy as well as other relevant specialized knowledge such as financial analysis, corporate governance, ...

Forth, the database is not synchronized, the process of collecting, processing and providing information is processed on different application softwares.

Fifth, in the context that the Vietnamese economy is a developing country, the competition between domestic and foreign enterprises in the same field is getting fiercer.

Chapter 3

SOLUTIONS FOR A COMPLETE ACCOUNTING INFORMATION SYSTEM TOWARDS ERP APPLICATION IN VNPT IN PROVINCES AND CITIES UNDER VNPT GROUP

3.1 Development orientation of VNPTs in provinces and cities in the period 2020 - 2030 and completion requirements Accounting information system towards ERP application

3.1.1. Visions of development towards 2030

Vision: The post and telecommunications industry needs to see its importance in connecting power through information, informatics and media with countries in the region and around the world. Therefore, upgrading the infrastructure for this industry is very practical in addition to training high-quality human resources in telecommunications and IT.

3.1.2. Oriented development

** Development of telecommunications network infrastructure, informatics:* VNPTs of provinces and cities gather all resources to develop telecommunications networks with the most modern systems of machines and technology available today.

** Develop private information networks*

** Develop service*

** Expand market*

** Develop science and technology*

** Develop the post, telecommunications and informatics industries*

** Develop the human resources*

3.1.3. Development goals

VNPT Group not only affirms to hold the leading position in the field of post, telecommunications and information technology in the domestic market, but with its mission and vision, VNPT Group has been implementing the goal of reaching international markets. One of the business strategies of VNPT Group is to find new international markets with modern networks like today.

3.1.4. Completing the accounting information system towards ERP application

First, perfecting the accounting information system towards ERP application must be consistent with the development strategy and business characteristics of enterprises.

Second, perfecting the accounting information system towards ERP application according to the trend of international accounting integration and developed countries.

Third, perfecting the accounting information system towards ERP application must ensure economical and efficiency.

Forth, perfecting accounting information system must meet the objectives of managing IT systems in enterprises.

Fifth, completing the accounting information system to meet the diverse information needs of managers and management objectives.

3.2. Solutions to perfect accounting information systems towards ERP application at VNPTs of provinces and cities of Vietnam Post and Telecommunication Group

3.2.1. Solution for human resources development

3.2.1.1. Human development

** Administrators*

To be able to move towards the implementation of ERP system in VNPT provinces and cities under VNPT Group, first of all, the Board of Directors must change their cognitive thinking, must have confidence in the success of the system. to take relevant actions to achieve the system's objectives.

** System builders and maintainers*

Thus, in order to implement the integration of accounting information system with the ERP system, the IT department should be trained more especially in knowledge about finance and accounting. The parent company can act as the focal point for organizing training courses, the form can be flexible like concentration or online training. At the same time, coordinate with the financial accounting department to develop training content in accordance with the requirements of implementing the ERP system.

** Users*

First, accounting knowledge. This is the most important prerequisite for this employee to exist and work with all the accountants operating in the accounting department of the enterprise.

Second, knowledge of IT. The more knowledge an accountant has about IT, the stronger his ability to work in an ERP software application environment.

3.2.1.2. Complete the organization of the accounting apparatus

In order to integrate the accounting information system with the ERP system, the accounting system must first be completed in accordance with the specific conditions of the enterprise in order to receive, process, inspect, analyze and provide sufficient and timely information. and honestly serve the management of the manager.

3.2.2. Solution for completing accounting procedures and guidance

3.2.2.1. Complete the information collection process and guidance

In order to improve the efficiency of the accounting information system, towards the application of ERP system, the collection and recording of accounting information need to be improved in the direction of making the most of the available computer network in the VNPTs of provinces and cities.

3.2.2.2. Complete the procedures and information processing instructions

* Build coding and unified system for departments to reflect arising profession

* Complete the application of the system of accounting accounts for financial accounting

* Complete the application of the system of accounting accounts used for international accounting

3.2.2.3. Complete information provisioning process and guidance

* *Complete the provision of information on the establishment of the consolidated financial statements.*

* *Complete the provision of information to prepare consolidated financial statements*

* *Completing the management accounting reporting system*

3.2.3. Perfecting accounting data

First, collect data provided by outsiders

Second, collect data reported in the accountin documents in the accounting information systems of the VNPTs of the provinces and cities

3.2.4. Completing the software system

First, assist users to comply with the State’s regulations on accounting;

Second, ERP software must be able to upgrade, modify and supplement accordingly

Third, ERP software must automatically process and ensure the accuracy of accounting data.

Four, ERP software must ensure information confidentiality and data safety, in particular:

3.2.5. Complete solution for hardware and network system

3.2.5.1. *Complete the information technology investment model*

3.2.5.2. *Complete the hardware system organization model*

In the accounting information system, the database server is the place where the entire accounting database is gathered. The database server system is essentially the data center of the entire system, needs to be operated 24/24 and has a high level of data security.

3.2.6. Internal control of accounting information system

- Strictly control the accuracy and reasonableness of external documents. This helps ensure the legality of initial data of the accounting information system.

- Strictly control the accuracy of machine documents.

3.3. Some recommendations to implement the solutions

3.3.1. For state management agencies

First, there is a need for more regular and deep attention, leadership and direction.

Second, the government should issue specific and detailed instructions, creating an open legal corridor.

Third, the main product and service of the industry is telecom - IT, as analyzed above, which is now almost saturated, while facing competition with domestic and foreign enterprises.

Forth, there should be the state’s preparation and support to towards international standards.

3.3.2. For VNPT Group and VNPTs in provinces and cities under the VNPT Group

*** *For Vietnam Post and Telecommunication Group***

First, there should be a general direction and ‘guideline’ for the whole industry, removing difficulties for subordinate units.

Second, it is necessary to promulgate common economic development policies of the telecommunications industry to keep up with the industrial revolution 4.0 of the world.

Third, it is advisable that they continue to pay attention and direct the group’s units to work closely and create more conditions to complete the plan targets.

Forth, they should have policies to support and facilitate

*** *For VNPTs in provinces and cities***

First, unit leaders should create conditions for the financial accounting staff to participate in intensive training courses for SMEs and handle new accounting situations that arise in the process of approaching Industry 4.0.

Second, customer care after providing service and service is an art of business, so VNPT provinces and cities need to pay special attention.

Third, VNPTs in provinces and cities need to invest more in promoting new products as well as the benefits of using new products to customers.

Forth it is essential to organize the evaluation and examination of accountants’ qualifications.

Fifth, it is necessary to develop a clear reward and punishment mechanism.