

**HO CHI MINH NATIONAL ACADEMY OF POLITICS**

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**DEVELOP THE NATIONAL STANDARDS SYSTEM OF  
VIETNAM IN THE CONTEXT OF INTERNATIONAL  
ECONOMIC INTEGRATION**

**BRIEF PHD DISSERTATION OF ECONOMICS**

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## **PREAMBLE**

### **1. The urgency of the topic**

In international trade at the time of global economic integration, standards are important at both macro and micro levels. Standards are commonly used as recognized provisions when establishing transaction relationships between partners. In particular, in the event of a dispute, standards are the technical basis for discussions, resolutions and jurisdictions. Today, there is no doubt that standards have a major role and effect on the daily lives of people in particular and on the country's economic development and international integration in general.

Being aware of the role of standards and development of the national standards system in the context of international economic integration, Vietnam has paid much attention to developing the system and gained many achievements. However, the national standards system of Vietnam is still limited as it does not cover all the areas that need to be developed; the rate of national standards developed by the method of non-equivalence is quite high; the rate of national standards that are revised, replaced and withdrawn to ensure the conformity with the development of science and technology is not too high... All these limitations significantly affect trade activities in particular and the socio-economic development of the country in general.

Particularly, in the context of deeper integration into the global economy, as the majority of free trade agreements that Vietnam has participated in are in the phase of reducing and eliminating tariff barriers for the majority of import tariffs, the problem of how to develop the national standards system to meet the new situation has become even more urgent.

In order to solve this problem, it is necessary to have basic research on theories, practical experiences, analysis and assessment of current state, from which to find out reasons and solutions for developing the national standards system of Vietnam in the coming time. Thus, the title "Develop the national standards system of Vietnam in the context of international economic integration" has been chosen as a doctoral dissertation in economics, majoring in Economics development and it's critical in both theory and practice.

### **2. Aims and tasks of the dissertation**

**2.1. The aim of the dissertation:** Assessing the current state of the development of the national standards system of Vietnam since Vietnam joined the WTO and the Laws on Standards and Technical Regulations came into effect (2007) to 2016 and proposing measures to develop the national standards system of Vietnam to meet the requirements of international economic integration up to 2025 with a vision to 2035.

**2.2. Research tasks:** (i) Building the theoretical bases for the development of the national standards system; (ii) Studying experiences of some countries on the development of the national standards system in the context of international

economic integration to draw lessons for the development of the national standards system in Vietnam; (iii) Analyzing and assessing the current state of the development of the national standards system of Vietnam from 2007 to 2016, showing the achievements, limitations and causes of the limitations and weaknesses; (iv) Proposing major orientations and solutions for the development of the national standards system of Vietnam up to 2025 with a vision to 2035.

### **3. Subject and scope of the dissertation**

#### ***3.1. Subject of the study:***

The subject of the study is the development of the national standards system of Vietnam in the period of 2007 to 2016 from the perspective of the economy development, i.e., research on expanding the scale and coverage of the national standards system in socio-economic activities; developing the structure of the national standards system towards international economic integration and increasing the contribution of the national standards system to the country's socio-economic development.

#### ***3.2. Research scope***

Vietnam's standards system has two levels: (1) National standards, acronymed as TCVN; (2) Organizational (company) standards, acronymed as TCCS. The dissertation focuses only on the development of the national standards system (TCVNs) of Vietnam, not the organizational standards (TCCSs) in the interior of the business sector.

The dissertation researches on the development of the national standards system of Vietnam in the context of international economic integration.

The dissertation researches on the current state of the development of the national standards system of Vietnam in the period of 2007 to 2016 and proposes orientations for the development up to 2025 with a vision to 2035.

### **4. Theoretical bases and research methodology**

#### ***4.1. Theoretical bases***

The dissertation is based on the theory of development of materialist dialectics and of Economy development. At the same time, the dissertation is also based on the theories of Marxism-Leninism, Ho Chi Minh Thought and the Communist Party's viewpoints, Vietnamese policies and laws of the development of the national standards system in the context of deeply integration into international economy.

#### ***4.2. Research methodology***

##### *The main methods*

The dissertation uses many research methods, including methods of systematization, analysis, synthesis, statistics, comparison, etc.

##### *Sources of research material*

The secondary sources used, synthesized and analyzed in the dissertation are mainly documents published in books, newspapers, magazines, relevant domestic and international research projects. The annual catalogue of national standards of

Vietnam is issued by the Directorate for Standards, Metrology and Quality from 2008 to 2017.

### **5. New contributions of the dissertation**

– The dissertation has developed the concept of development of the national standards system and defined the content, indicators for assessment and factors affecting the development of the national standards system in the context of international economic integration.

– The dissertation has evaluated properly the current state of development of national standards system in Vietnam from 2007 to 2016.

– The dissertation proposes major orientations and solutions for the development of the national standards system of Vietnam up to 2025 with a vision to 2035.

### **6. Structure of the dissertation**

Apart from the introduction, conclusion, references and appendices, the content of the dissertation consists of 4 chapters and 10 secretions.

## **Chapter 1**

### **OVERVIEW OF RELATED STUDIES ON THE DEVELOPMENT OF THE NATIONAL STANDARDS SYSTEM**

#### **1.1. INTERNATIONAL RELATED STUDIES**

Regarding the development of the national standards system, there have been many studies published by scholars around the world, which can be divided into the following study directions:

*In terms of the role of standardization and development of national standards system:* All studies have pointed out the importance of standards and the development of national standards system such as solving fundamental issues, technical issues, which, if not resolved, will result in inefficient market performance and poor economic performance.

*In terms of the need for harmonization of standards in the context of international economic integration:* Harmonization of standards is a way to develop national standards system in the context of international economic integration. In particular, harmonizing international standards with national standards will allow countries to utilize products and technologies that transcend national borders. Harmonizing standards avoids unnecessary technical barriers to trade.

*In terms of standards development strategies of some countries in the region and in the world:* Studies have shown the importance of the standardization strategy in setting long-term orientation, determining the method of organizing the development of national standards system. Specifically, it demonstrates a special focus on market orientation, with emphasis on standardization innovation, particularly the shift from a centralized management mechanism to an open and transparent mechanism with the voluntary participation of stakeholders.

## **1.2. DOMESTIC RELATED STUDIES**

*In terms of the role of standards in socio-economic development in general, international trade in particular:* The studies have also pointed out that standardization is a diversified but oriented task, bringing all activities of society in order to achieve the most beneficial effect. In addition, standardization is also a useful tool commonly used in production and business management, helps to improve productivity and quality, creates competitive advantage so that enterprises can create their own influence on the domestic market, opening the door to the global market.

*In terms of the harmonization of standards and standardization to be applied in Vietnam:* Studies have also shown that the adoption of international standards into national standards is considered to be essential and prioritized, as well as the current state of priority areas for harmonization of standards and technical regulations of ASEAN in Vietnam, the system of documents on harmonization of Vietnamese standards and propose solutions to promote harmonization of international standards and regional standards.

*In terms of the practice of the national standards system of Vietnam and proposals for the development of a national standards system in the context of international economic integration:* Studies have pointed out some of the remaining issues, for instance, the coordination among ministries and branches in national standards development is still limited; there are overlaps of standard subjects in regulations among ministries; the pool of standards developing experts is still lacking and weak; the issue of socialization of standards development has not been studied in a proper and appropriate way. Thereby, measures have been proposed to develop the national standards system of Vietnam, such as the need to ensure that the development of standards is implemented from the top down (national standardization) as well as the bottom-up standards development (organizational standardization) to create a balance on the interests of the State and individual organizations in order to ensure the rapid application of scientific and technological advances in production, business and daily life.

## **1.3. GENERAL ASSESSMENT OF THE STUDIES INVOLVED TO DISSERTATION THEME AND ISSUES NEED TO BE STUDIED**

### **1.3.1. General assessment**

In this context, the researcher has already shown the results of the above-mentioned domestic and international studies. At the same time, they pointing out the “gap” in the development of the national standards system in the context of international economic integration approaching from the perspective of the economic development:

*In terms of theoretical aspect:*

+ Up to now, there are no comprehensive studies on the development of the national standards system of Vietnam in the context of international economic integration;

+ No studies have built up the concept of development of the national standards system as well as the set of indicators assessing the increase in the quantity (width) and the improvement in the quality (depth) of the national standards system in the context of international economic integration.

*At a practical level:* Up to now, there have been no studies that assess the current state and propose orientations and solutions to develop the national standards system in the context of international economic integration up to 2025 with a vision to 2035. Therefore, this theme has been selected for the PhD dissertation in Economics.

### **1.3.2. Dissertation issues that need to be addressed**

On the basis of inheriting and absorbing the results of these studies, filling in the gaps, the dissertation will focus on studying the following issues:

*In terms of theoretical aspect:* The dissertation builds the theoretical bases for the development of the national standards system in the context of international economic integration. Specifically, the dissertation will clarify: (i) Definition, contents and indicators assessing the development of the national standards system; (ii) Factors influencing the development of the national standards system.

*At a practical level:*

(i) The dissertation examines the experiences of developing national standards system of some countries (China, South Korea and the United States of America) in order to draw lessons for the development of national standards system of Vietnam.

(ii) The dissertation analyzes and assesses the current state of the development of national standards system of Vietnam in the context of international economic integration based on the theories developed in Chapter 2.

(iii) The dissertation sets out the context of Vietnam's deepening international economic integration and the new requirements for the development of the national standards system.

(iv) The dissertation sets out the orientations, objectives and solutions for developing the national standards system (TCVN) up to 2020 with a vision to 2030.

## **Chapter 2**

### **THEORETICAL AND PRACTICAL BASIS FOR THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM OF VIETNAM IN THE CONTEXT OF INTERNATIONAL ECONOMIC INTEGRATION**

#### **2.1. DEFINITION OF THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM AND THE NECESSITY OF DEVELOPING NATIONAL STANDARDS SYSTEM OF VIETNAM IN THE CONTEXT OF INTERNATIONAL ECONOMIC INTEGRATION**

##### **2.1.1. The concept of the development of the national standards system**

###### ***- The concept of standards***

The dissertation is consistent with the definition stated in the Laws on Standards and Technical Regulations (2006): "Standard is a document prescribing

technical characteristics and administrative provisions for classification and assessment of products, goods, services, process, environment and other subjects in the socio-economic activities, in order to improve quality and effectiveness of these subjects. Standard is to be adopted by an organization in written form for voluntary application.”

**- *The concept of national standards***

The dissertation synthesizes the definitions of national standards as follows: “National standards are standards that are developed and widely disseminated by national standards bodies.”

National standards are promulgated or issued in a certain manner, bearing the sign registered with the international organization for standardization and notified to all countries.

**- *The concept of the national standards system***

The dissertation states that: “The national standards system is an overall set of national standards developed to meet the needs of the society, classified and organized by sectors and fields of society, applied uniformly to increase the accuracy and reasonable.”

**- *The concept of development of the national standards system in the context of international economic integration***

Based on the concept of development in the philosophy and concept of development in economics along with the concept of national standards system, the author of the dissertation assumes: “Developing the national standards system in the context of international economic integration is the increase in the quantity (width) and improvement in the quality (depth) of the national standards system in the context of international economic integration”.

The development of the national standards system in the context of international economic integration is described in the “sketched” formula as follows:

Developing the national standards system in the context of international economic integration	=	Increasing the number and broaden the coverage of the national standards system	+	Developing the structure of the national standards system towards international economic integration	+	Increasing the contribution of the national standards system to the country’s socio-economic development
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**2.1.2. The necessity of developing the national standards system of Vietnam in the context of international economic integration**

***2.1.2.1. Derived from the role of standards in international trade***

The dissertation analyzes the role of standards in international trade: (i) Standards promote trade by giving a signal of quality to consumers and trading partners; (ii)



International standards create a “common language” for potential trading partners; (iii) Standards support international trade by lowering trade barriers, reducing production costs and creating opportunities for economic advantages due to economy of scale; (iv) Standards encourage trade by reducing transaction costs.

#### ***2.1.2.2. Derived from the characteristics of the integration economy***

In the context of increasing trend of globalization, international economic integration has brought about technical barriers to trade. Under the WTO-TBT Agreement, in international trade, “technical barriers to trade” are *standards and technical regulations* that a country applies to imported goods and/or *conformity assessment procedures* of imported goods with respect to those standards and technical regulations. Therefore, the development of the national standards system of Vietnam is extremely necessary.

#### ***2.1.2.3. Derived from the requirement for implementation of international commitments and membership obligations in a series of international and regional organizations to which Vietnam is a member***

In the context of Vietnam’s deepening integration into the world economy and one of the countries that have participated in many recent free trade areas, the integration in the field of metrology, accreditation, standardization, and quality is essential and important in contributing to Vietnam’s trade facilitation with other countries as well as assuring other legitimate social benefits.

## **2.2. CONTENTS, EVALUATION INDICATORS AND FACTORS AFFECTING THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM OF VIETNAM IN THE CONTEXT OF INTERNATIONAL ECONOMIC INTEGRATION**

### **2.2.1. Contents of development of the national standards system of Vietnam in the context of international economic integration**

#### ***2.2.1.1. Expanding the scale and coverage of the national standards system***

The dissertation affirms the development of the national standards system, namely:

+ *Expanding the scale of the national standards system*: This means that the goal is to have enough national standards for the sectors and fields for the development of the socio-economy in association with the need for standards for all existing subjects of socio-economic activities.

+ *Expanding the coverage of the national standards system*: This means that increasing in standardization subjects or increasing the number of groups and subgroups according to the national standard classification framework. This increase signifies the deeper penetration of the standards into specific aspects of the production, business and social management activities of the economy.

#### ***2.2.1.2. Developing the structure of the national standards system towards international economic integration***

The dissertation affirms that the development of the structure of the national economic integration demonstrates the quality development of this system and is reflected in the following aspects:

- + Increasing the proportion of national standards harmonized with international standards and regional standards.
- + Increasing the proportion of national standards that are developed with the method of acceptance according to international regulations.
- + Increasing the proportion of national standards to be revised, replaced and withdrawn in accordance with integration phases.

### ***2.2.1.3. Increasing the contribution of the national standards system to the socio-economic development of the country***

The dissertation affirms that the development of the national standards system is also reflected in the increasing contribution of the system to the socio-economic development of the country, namely:

- + At the macro level, the national standards system contributes to enhancing the competitiveness of products, goods and services in domestic and international markets; improving business environment; promoting export activities.
- + At the micro level, the national standards system contributes to social entities to regulate their activities: the State can manage the quality of products and goods. Consumers are able to select products with quality conform to standards at competitive price, standards will also be a tool to protect them when their interests are violated. For enterprises, standards help reduce production and research costs, reduce rate of non-standard products and risk level, facilitate communication and improve relationships with suppliers, enhance the competitiveness, promote cooperation in production-business; assure customers of the conformity of the products with acceptable quality requirements, etc.

### **2.2.2. Indicators assessing the development of the national standards system of Vietnam in the context of international economic integration**

Based on the contents of the development of the national standards system in the context of international economic integration, the dissertation has set up a set of indicators to assess the development of the national standards system of Vietnam in the context of international economic integration. This is shown in the table below.

**Table 2.3: A set of indicators assessing the development of the national standards system of Vietnam in the context of international economic integration**

No	Name of indicator	Expression Mode	Unit
A	<i>The group of indicators assessing the scale and coverage of the national standards system</i>		
1	Movement in the number of national standards by sectors over the years	The number of existing national standards in different sectors of standardization varies over a specific period (from year A to year B).	

2	Movement in the number of groups and subgroups of national standards over the years	+ The number of groups in the standard classification framework changes over a specific period (from year A to year B) + The number of the standard classification framework varies in a specific period (from year A to year B)	
<b>B</b>	<b><i>The group of indicators assessing the development of the structure of the national standards system towards integrating into the international economy</i></b>		
3	The proportion of national standards in harmony with international standards, regional standards in the current national standards system	$Rh_j = \frac{Sh_j}{S_j} \times 100$	%
4	The proportion of national standards developed by method $k$ ( $k$ is one of the methods of translation and revision) and is published in year $j$	$R_{kj} = \frac{M_{kj}}{M_j} \times 100$	%
5	The proportion of national standards revised annually	$Rp_j = \frac{Mr_j}{M_j} \times 100$	%
6	The number of withdrawn national standards according to period	The number of withdrawn national standards	TCVN
<b>C</b>	<b><i>The group of indicators assessing increase in the contribution of the national standards system to the country's socio-economic development (through specific research for enterprises)</i></b> Economic benefits are calculated in three aspects:		
	The percentage of economic impact of applying the standards before interest and taxes (EBIT)	(total impact/EBIT) x 100	%
	The percentage of total economic impact of standard application on sales of selected products	(total impact/sales revenue) x 100	%
	The percentage of impact according to total revenue of an enterprise	(total impact/total revenue) x 100	%

### **2.2.3. Factors affecting the development of the national standards system of Vietnam in the context of international economic integration**

There are many factors influencing the development of the national standards system in the context of international economic integration. The dissertation has analyzed a number of key determinants that can be considered as follows: (i) Strategies for developing the national standards system; (ii) Mechanisms and policies for developing the national standards system; (iii) Financial resources for developing national standards; (iv) Human resources for the development of

national standards; (v) Coordination among stakeholders in the development and application of national standards; (iv) Connection between the organizational standards and national standards.

## **2.3.EXPERIENCE IN DEVELOPMENT OF NATIONAL STANDARDS SYSTEM OF SOME COUNTRIES AND LESSONS LEARNED FOR VIETNAM**

### **2.3.1. Experiences in developing national standards system of some countries**

To learn about the experiences of developing national standards systems of some countries such as China (a country having a development process of standardization activities similar to Vietnam's), South Korea and the United States of America (as Vietnam's major economic partners), the dissertation has approached the development of the national standards system under different perspectives such as policy mechanism, development strategy, financial resources, human resources, mobilization of stakeholders in the process of developing national standards, etc., to draw on practical experiences that can be applied to Vietnam.

#### **2.3.2. Lessons learned for Vietnam**

From the experiences of developing the national standards system of China, South Korea and the United States of America, six lessons can be learned for the development of the national standards system of Vietnam: (i) Lesson on the strategies for developing the national standards system; (ii) Lesson on mechanisms and policies for developing the national standards system; (iii) Lesson on financial resources for developing national standards; (iv) Lesson on developing human resources serving the development of national standards; (v) Lesson on mobilization of stakeholders in the development and implementation of national standards; (vi) Lesson on the connection between the organizational standards and national standards.

## **Chapter 3**

### **THE CURRENT STATE OF THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM OF VIETNAM IN THE CONTEXT OF INTERNATIONAL ECONOMIC INTEGRATION**

#### **3.1. THE CURRENT STATE OF THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM OF VIETNAM IN THE PERIOD 2007 - 2016**

To analyze the current state of the development of the national standards system of Vietnam in the period of 2007 - 2016, the dissertation uses the indicators developed in Chapter 2.

##### **3.1.1. The current state of expanding the scale and coverage of the national standards system**

###### ***3.1.1.1. The current state of expanding the scale of the national standards system***

The current state of expanding the scale of the national standards system is reflected in the change in the number of existing national standards in the period 2007 - 2016.



**Figure 3.1: The number of existing national standards in the period 2007-2016**

In detail, the current state of expanding the scale of the national standards system is also reflected in the change in the number of national standards (increase/decrease) in each sector of the national standard classification framework in the period 2007-2016.

### *3.1.1.2. The current state of expanding the coverage of the national standards system*

**Table 3.2: The level of change in groups and subgroups in the period 2007-2016**

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	The level of increase 2016/2007 (times)
<b>Indicator</b>											
Number of groups	254	255	259	265	268	291	297	301	306	306	1,20
Number of subgroups	374	376	431	448	473	491	525	558	575	578	1,54

*Source: Author's treatment according to TCVN catalogue from 2008 to 2017*

In terms of overall numbers, the number of groups has increased from 254 groups in 2007 to 306 groups in 2016 (corresponding to the level of increase by 1.20 times). This shows that the national standards system of Vietnam is gradually expanding the coverage, meeting the needs of production, business and social management activities of the economy of Vietnam .

### **3.1.2. The current state of developing the structure of the national standards system towards international economic integration**

#### *3.1.2.1. The current state of increasing the proportion of national standards in harmony with international standards and regional standards*

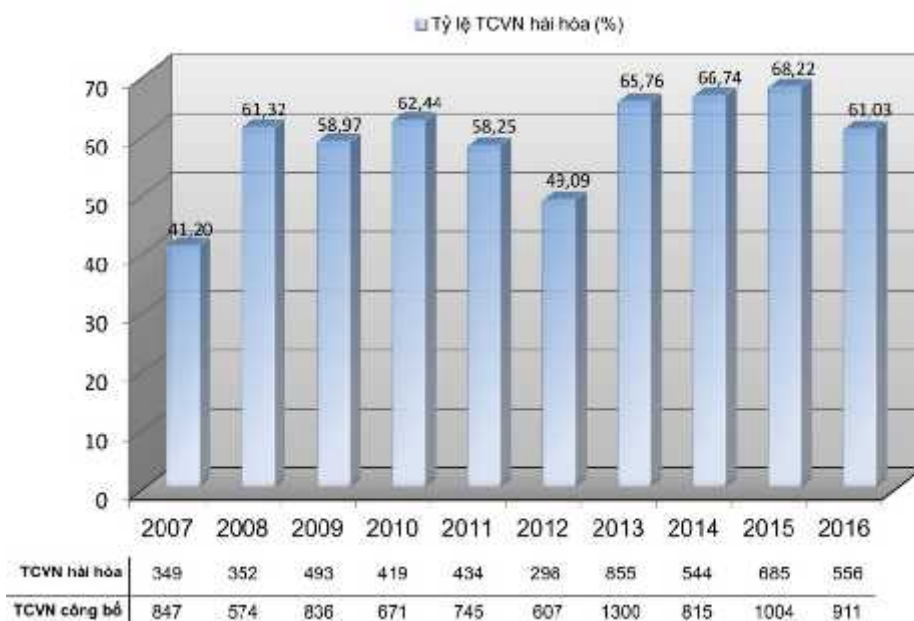


**Figure 3.4: The proportion (%) of harmonized national standards in the national standards system in the period 2007-2016**

*Source: Author's treatment according to TCVN catalogue from 2008 to 2017*

In the period 2007-2016, the national standards system of Vietnam that is developed towards harmonizing national standards with international standards and regional standards; specifically, the percentage (%) of harmonized national standards with the total number of existing national standards in the system has been gradually increasing over the years, from 29.03% in 2007 to 53.95% in 2016. This is also the proper orientation in the process of deep integration into international economy currently.

In addition to evaluating the harmonization proportion of the national standards system shown in Figure 3.4, to further illustrate the harmonization aspects, it is possible to assess the harmonization of national standards developed in each year.



**Figure 3.5: The proportion (%) national standards harmonized by the number of national standards published annually in the period 2007-2016**

*Source: Author's treatment from the final report of STAMEQ 2007-2016*

In the period 2007-2016, the proportion of harmonized national standards was high, with the highest proportion of 2015 is at 68.22%, followed by 2014 with the harmonization proportion of 66.74%. More specifically, the proportion of national standards harmonized with international standards (ISO) was highest (77,45%) compared to other international standards (IEC, Codex) and regional standards (EN).

### ***3.1.2.2. The current state of increasing in the proportion of the national standards developed in line with the international standards development methodology***

The approach to international standards development is the regulation on the method of adopting international standards and regional standards into national standards. In Vietnam, the method of acceptance and method of reprinting has not been applied because of difficulty in language barrier but only the method of translation and compilation.

**Table 3.6: The proportion (%) of national standards developed in line with the method of adopting international standards in the period 2007 - 2016**

Year	Number of published TCVN	Method of adoption	Method of re-publishing			
			Reprinting	Translation		Compilation
				Identical %	Equivalent with modifications %	Non-equivalent %
2007	847	–	–	41,2 (349/847)	3,4 (29/847)	55,4 (469/847)
2008	574	–	–	61,3 (352/574)	3,0 (17/574)	35,7 (205/574)
2009	836	–	–	59 (493/836)	3,5 (29/836)	37,5 (314/836)
2010	671	–	–	62,4 (419/671)	3,3 (22/671)	34,3 (230/671)
2011	745	–	–	58,2 (434/745)	1,9 (14/745)	39,9 (297/745)
2012	607	–	–	48,8 (298/607)	4,9 (30/607)	46,3 (279/607)
2013	1300	–	–	65,8 (855/1300)	2,4 (32/1300)	31,8 (413/1300)
2014	715	–	–	76,1 (544/715)	0,4 (3/715)	23,5 (168/715)
2015	1004	–	–	68,2 (685/1004)	0,8 (8/1004)	31,0 (311/1004)
2016	911	–	–	60,6 (552/911)	0,7 (6/911)	38,7 (353/911)
Total	<b>8210</b>	–	–	<b>60,7</b> <b>(4981/8210)</b>	<b>2,3</b> <b>(190/8210)</b>	<b>37,0</b> <b>(3039/8210)</b>

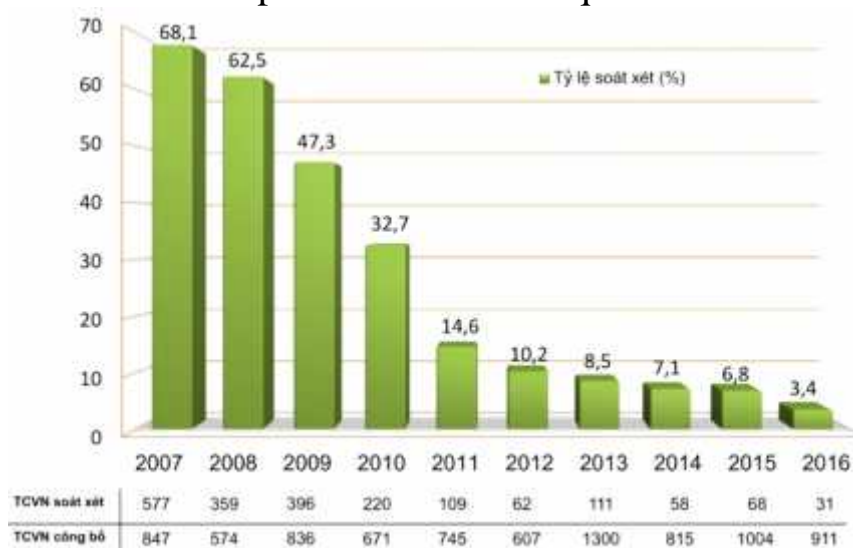
*Source: Author's treatment from the final report of STAMEQ 2007-2016*

The translation method is gradually becoming more prevalent, with the proportion of national standards in harmony with international standards and regional standards accounting for 62% (identical and equivalent with modifications), while compiling method (non-equivalent) accounting for only 38%. This is also the right direction in the context of international economic integration, when requirements of standard harmonization are one of the topics of international concern.

Vietnam has applied the method of adopting international standards and regional standards as national standards in identical more than the equivalent with modifications and non-equivalent methods. The proportion of TCVNs identical with international standards is gradually increasing by the years. Specifically, if in 2007 the proportion of non-equivalent national standards was 69,53% (4725 TCVNs) compared to the identical rate of 29,03% (1973 TCVNs), by 2016, the statistics changed, the proportion of non-equivalent national standards was 44,54% (4254 TCVNs) compared to the identical rate of 53,96% (5153 TCVNs). This shows that the harmonization of national standards of Vietnam grow gradually and according to the tendency to adopt identically to international standards and regional standards.

### ***3.1.2.3. The current state of increasing the proportion of national standards to be replaced and withdrawn in line with the integration phases***

The national standards over a period of time should be revised to ensure that new scientific and technical levels are updated to meet the requirements in each stage.



**Figure 3.7: The proportion (%) of revised national standards in the period 2007-2016**

*Source: Author's treatment from the final report of STAMEQ 2007-2016*

Figure 3.8 shows that the number of revised national standards is not fixed but varies from year to year or from period to period. Specifically, in the period



2007-2015 that is further divided into two distinct segments, the segment from 2007 to 2010, the proportion of revised national standards was quite high, while during 2011-2015, the proportion of revised national standards accounted for a low proportion of the developed national standards.

**3.1.3. The current state of the increasing contribution of the national standards system to the socio-economic development of the country** (through specific research for enterprises)

At present, Vietnam has not been able to carry out a detailed study on the contribution of the national standards system to the country's socio-economic development, but only theoretical studies due to lack of resources (including human and financial), and the lack of databases and business know hows.

The dissertation uses the research results of Vietnam Standards and Quality Institute (2010-2011) "*Research on the economic benefits of standardization activities for enterprises, economic sectors and the economy*" based on ISO methodology and indicators for *Assessing economic benefits of consensus-based standards – ISO Methodology (2010)*. Electrical Devices Joint Stock Company No. 1 (VINAKIP 1) was selected based on the fact that this company has pioneered the application of national standards (TCVNs) and international standards to many products of VINAKIP. There are two products selected for evaluation, one is conventional product – sockets, and another is new potential product – electrical cable.

The impact of the standards is determined on the basis of indicators related to inbound logistics, production, research & development, and sales & marketing functions. Economic impact was calculated according to the 2010 price by annual average impact. The total impact was identified as 7.490.497.019 VND.

In 2010, the revenue from the sales of sockets is approximately 35 billion VND, of wires and cables around 37 billion VND, so the total revenue from these two products is 72 billion VND.

The production cost of sockets is about 15,3 billion VND and that of wires and cables is about 21,5 billion VND. So the total costs of producing these products amounts to 36,8 billion VND.

Earning before payment for interest, tax (EBIT) from these products is: 35,2 billion VND.

The percentage of the total financial impacts due to the use of standards on the **company EBIT** calculated for the two products is **21,3 %** and is calculated as  $(7.490.479.019 \text{ VND} / 35.200.000.000 \text{ VND}) \times 100 = 21,3 \%$ .

The percentage of the total financial impacts due to the use of standards on the company revenue which is generated by **sales of the two products** is **10,4%** and is calculated as

$$(7.490.479.019 \text{ VND} / 72.000.000.000 \text{ VND}) \times 100 = \mathbf{10,4 \%}.$$

This is the percentage contributed by standards into earning of the company from two of its products (Sockets and Wires & Cables) within the following main activities that are: Inbound Logistic, Production, Marketing & sales and R & D.

If we calculate the impacts as a **percentage of the total sales revenue** of VINAKIP in 2010, then the percentage is  $(7.49 \text{ bill VND} / 196 \text{ bill VND}) \times 100 = \mathbf{3,8 \%}$ .

## **3.2. GENERAL ASSESSMENT ON THE CURRENT STATE OF DEVELOPING NATIONAL STANDARDS SYSTEM OF VIETNAM IN THE PERIOD 2007 - 2016**

### **3.2.1. Achievements**

*First, the scale and coverage of the national standards system is expanding:* The national standards system has been developed in a multi-disciplinary perspective in terms of scale and coverage, expanding not only products and goods, but also processes and environment as well as subjects in socio-economic activities to meet the socio-economic development needs of the country. National standards actually has become technical documents that underpin the assurance and improvement of the quality and competitiveness of Vietnamese products, goods and services.

*Second, the proportion of national standards harmonized with international standards and regional standards is increasing:* The proportion of national standards adopting from international standards and regional standards is rising, accounting for an increasingly high proportion of total national standards.

*Third, the proportion of national standards developed harmonize with the international standards is increasing:* The proportion of national standards developed by adopting from international standards and regional standards accounted for 63% (identical and equivalent with modifications), while the compilation method (non-equivalent) only accounted for 37%. This is also an advantage in the context of international economic integration, when standard harmonization requirement is one of the topics of international concerns.

*Fourth, the proportion of replaced national standards is suitable to the stages of integration:* From 2007 to 2010, the development of national standards was carried out in accordance with the program on implementation Agreement on technical barriers to trade with the main objective of developing and revising the national standards system, resulting in a high proportion of revised national standards (68%-62%-47%-32%). From 2011 to 2016, national standards development was implemented under the National Programme “*Improving productivity and quality of products and goods of Vietnam’s enterprises up to 2020*”, with the main objective of

developing new national standards (4.000 TCVNs for the period 2011-2015 and 2000 TCVNs for the period 2016-2020), therefore the proportion of revised national standards is not high (14,6%-10,2%-8,5%-8,1%-6,77%-3,4%).

*Finally, the economic benefits of standard application for enterprises:* Although it's only a study with limited scale, according to calculation results of the research group of Vietnam Standards and Quality Institute, it showed that the impact of applying the standards ranges from over 6 % to 14 % of the annual sales revenue of the company, from 100 to nearly 160 billions VND per year.

### **3.2.2. Limitations and reasons**

#### **3.2.2.1. Limitations**

*First, the coverage of the national standards system does not cover the areas that need to be developed:* The national standards system has been developed in a multi-disciplinary perspective in terms of coverage, however, it not yet cover the areas that need to be developed as well as meet the needs of the market or otherwise the needs of the stakeholders.

*Second, the proportion of harmonized national standards increases but not very high efficiency:* Vietnam is currently focusing more on harmonizing standards in a quantitative way without a proper orientation of standards harmonization to minimize the negative impact caused by standard harmonization.

*Third, the proportion of national standards developed by the method of non-equivalence is still high:* The number of national standards developed by the method of non-equivalent method also accounts for a high proportion in the national standards system, that easily creating technical barriers to trade.

*Fourth, the national standards system has not been revised in accordance with regulations:* The revision of the national standards system has not yet followed the regulations, so in the national standards system of Vietnam, there still types of standards that are no longer covered by the laws, as well as standards for technical revision.

*Finally, there is no officially published statistics on the economic benefits of standards to the economy:* Since the 1980s, there has not been any in-depth study on the economic benefit of the standards. The results of the study conducted by Vietnam Standards and Quality Institute in 2010-2011 are limited to a number of enterprises operating in the same field, one type (electrical wires and cables). At the broader level of the scope of an industry and the entire economy, there's only the proposed methodology, indicators for assessing the economic benefits of the standards, is theoretical.

#### **3.2.2.2. Reasons**

*First, lack of strategy for national standards system development:* So far, Vietnam has not developed the national standards system development strategy. The strategy will be an important orientation for the development of the national

standards system in the most effective way, the basis for the national standards system to meet the integration requirements and Vietnam's commitments in implementing the WTO/TBT Agreement and the new-generation FTAs.

*Second, the mechanism and policy on developing the national standards system of Vietnam is inadequate:* The concern of the specialized ministries is limited, reflected by the lack of legal documents and guidelines on the orientation of related TCVNs development, mechanisms and policies for the implementation of TCVNs. Specialized laws and subordinate legal documents generally include the promotion of developing standards and technical regulations for the subjects mentioned in the legal documents, but not the orientation and mechanism and policy of standardization relating to that speciality.

*Third, financial resources for national standards development are limited and dispersed:* The annual budget for the development of national standards is mainly allocated from the state budget. Funding from domestic and international organizations as well as individuals is at low rate. Therefore, the development of new standards is only in the form of "theoretical", desk research, which means studying materials, translating international standards (in English) into national standards (in Vietnamese) without testing and inspection, leading to a too mechanical application of "identical" harmonization level when adopting international standards and regional standards.

*Fourth, the human resources for the development of national standards are inadequate and limited:* With the characteristics of the sector, the experts are mainly participants part-time, the number of full-time for standardization activities is limited (62 people) so the quality of human resources for the standardization activities is limited. Another reason is that standard-developing manpower does not meet the requirements of standardization due to lack of regular training for national standards-developing organizations; there are no specialized/formal educational institutions in standardization training starting at university and even at high school for students.

*Fifth, the mobilization of stakeholders in the process of developing national standards is still limited:* Participation of stakeholders in the process of developing TCVN (bottom-up) is very passive, limited, not attracting wide range of stakeholders (especially enterprises, private sectors) in the national standards development. This leads to the limitation that the national standards system has not met the requirements of standards development based on market demand with voluntary and broad participation of stakeholders, in particular, it has not reflected the need for standards development, which in part affects the scale and coverage of the national standards system.

*Finally, the connection between organizational standards and national standards is limited:* As a technical precondition for national standards, but

standardization activities of enterprises has not paid much attention, resulting in the developed organizational standards do not have good quality and synchronism, so they are not really an effective management tool for enterprises.

## **Chapter 4**

### **ORIENTATIONS AND SOLUTIONS OF DEVELOPING NATIONAL STANDARDS SYSTEM UP TO 2025 WITH A VISION TO 2035**

#### **4.1. ORIENTATIONS FOR THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM UP TO 2025 WITH A VISION TO 2035**

In order to have scientific proposals on the orientations and development goals of the national standards system of Vietnam up to 2025 with a vision to 2035, the dissertation has pointed out the context of Vietnam's deepening international economic integration and new requirements.

##### **4.1.1. The context of Vietnam's deepening international economic integration and the new requirements for the development of the national standards system**

###### ***4.1.1.1. The context of deepening international economic integration of Vietnam***

In 2015 and the early of 2016, with impressive efforts in the negotiation, Vietnam has signed four important new-generation Free Trade Agreements (FTA): Vietnam – South Korea Free Trade Agreement (VKFTA) signed on May 5, 2015; Free Trade Agreement between Vietnam and the Eurasian Economic Union (VN-EAEU FTA) signed on May 29, 2015; Vietnam – EU Free Trade Agreement (EVFTA) signed on December 2, 2015; and Trans-Pacific Partnership Agreement (TPP) signed on February 4, 2016.

By the end of 2016, Vietnam had signed, implemented and was negotiating 16 FTAs. Of these, 10 FTAs have been implemented (six of them as ASEAN members, the other four FTAs with Chile, Japan, South Korea and EEC). Two FTAs have concluded negotiations, namely the TPP and the Free Trade Agreement between Vietnam and the EU (EVFTA). Four FTAs being negotiated are the Regional Comprehensive Economic Partnership Agreement (RCEP), the ASEAN – Hong Kong FTA, the FTA with Israel and with the European Free Trade Association (EFTA).

Under the roadmap, most of the free trade agreements that Vietnam participates in are subject to deep cuts and removal of tariff barriers for most tariff lines in the import tariff.

#### *4.1.1.2. New requirements for the development of national standards system of Vietnam*

New-generation FTAs have high standards and contents that have never been mentioned in previous FTAs. In the coming period, Vietnam will continue to participate more and more in regional and international, multilateral, multidimensional and multidisciplinary economic cooperation processes in which trade is one of the key areas. That, on one hand, will create more impetus for socio-economic development, especially in attracting investment and boosting Vietnam's exports to the economies of the world. On the other hand, it also required Vietnam to step up the process of restructuring, reforming the growth model, improving the allocation of national resources, increasing the total factor productivity (TFP), and improving competitiveness and flexibility of the economy.

#### **4.1.2. Orientations and objectives for the development of the national standards system (TCVN) up to 2025 with a vision to 2035**

##### **4.1.2.1. Orientations**

Facing the new international integration, the development of the national standards system of Vietnam need more new requirements to meet the sustainable development of the economy, environment and society, namely: (i) Expanding the coverage of the national standards system in order to better meet the country's socio-economic development objectives in the context of deepening international economic integration; (ii) The orientation of harmonizing national standards with international standards should ensure the rationality and selectivity to both mitigate the negative effects caused by standard saturation and keep up with advances in science and technology. Studying to reduce the proportion of national standards developed in a non-equivalent method; (iii) Enhance participation in the activities of leading international standards organizations in parallel with the development of bilateral relations with other leading international standards organizations; (iv) Reviewing the national standards system in line with current regulations to keep up with advances in science and technology, meeting the requirements of the new-generation FTA; (v) Promoting, renewing ways and means of communication and information on standardization activities. Operate the businesses portal, website, warning on the quality of products and goods.

##### **4.1.2.2. Objectives**

In order to meet new requirements in the context of deep integration into the international economy, it is necessary to develop a national standards system in accordance with the following objectives: (i) Developing national standards with high scientific content; (ii) Developing key and concentrated national standards that are responsive to high and sustainable growth, to ensure that national standards can be most effective when being implemented; (iii) Implementing plans, planning and organizing the development of a number of strategic standards groups for economic development and renewal of the growth model; (iv) Mobilizing the participation of the whole society in the development of the

national standards system; (v) Training young human resources and attracting highly qualified human resources to develop the national standards system; (vi) Develop legal information systems and related information to standards and standards for products and goods.

## **4.2. SOLUTIONS FOR THE DEVELOPMENT OF NATIONAL STANDARDS SYSTEM OF VIETNAM UP TO 2025 WITH A VISION TO 2035**

### **4.2.1. Group of solutions on building strategies for development of national standards system**

#### *4.2.1.1. Building the strategies for development of the national standards system of Vietnam until 2035*

In the context of Vietnam's deep integration into the international economy, the strategies for development of national standards system must be developed on the basis of meeting demands of the country's socio-economic development in accordance with the strategic orientations for socio-economic development of Vietnam until 2035, while meeting the development needs of economic and technical sectors according to the development strategies and planning approved by the Government. Therefore, the strategic objective of the national standards system of Vietnam is to: *Effectively support the country's socio-economic development to achieve its industrialization goal with the Vision to 2035 for the national standards system of Vietnam is: Developing high-quality standards by ensuring that Engaging stakeholders and partners effectively. A solid foundation in Developing human and organization, Using technology effectively and focusing on Information exchange will help us achieve the ultimate goal of Standards being used everywhere.*

#### *4.2.1.2. Enhancing the alignment of national standards with international standards and regional standards through standards harmonization progress*

*First*, ensuring the interoperability of the fields/subjects between TCVN system and international standards system such as ISO, IEC, Codex and standard systems of regional standardization organizations selected for harmonization in Vietnam.

*Second*, revising existing national standards in harmony with international standards and regional standards.

*Third*, developing new national standards in harmony with international standards and regional standards.

### **4.2.2. Group of solutions for improving institutions and policies to develop the national standards system**

#### *4.2.2.1. Improving and renovating mechanisms and policies on the State management and full implementation of State management over standardization*

*First*, establish a mechanism to reflect the opinions of industries, consumers and stakeholders in the development and implementation of standards.

*Second*, gradually transfer the task of developing specific standards to other parts of society.

*Third*, intensify the training, propagation and dissemination provisions of laws on standards and technical regulations, metrology, quality of products and goods to enterprises, businesses, organizations, individuals and consumers.

*Fourth*, intensify the inspection and examination of production and/or business of organizations and individuals that violate any provision on standards, metrology and quality of products and goods, industrial property rights and goods labeling.

*Fifth*, promote the program of supporting enterprises to improve productivity-quality.

*Sixth*, guiding enterprises on the certification and declare of conformity to standards and technical regulations of products and goods.

#### *4.2.2.2. Studying on amendments to the Laws on Standards and Technical Regulations (2006)*

It is necessary to study on amendments to the Laws on Standards and Technical Regulations because in practice, some contents are no longer suitable to the current situation of the assignment of the State management responsibilities of ministries and branches as well as production and business activities. In addition, in the process of international economic integration, international and regional commitments such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the EU – Vietnam Free Trade Agreement (EVFTA), the Vietnam – Eurasian Economic Union Free Trade Agreement (EAEU), on the removal of technical barriers to make higher commitments and requirements than the previous ones to ensure transparency and openness of standards and technical regulations, requiring members to provide more legal mechanisms and specific measures so that the parties have the right to participate deeply in the process of planning, elaborating and promulgating standards and technical regulations to promote free trade.

#### **4.2.3. Group of solutions on financial resources and investment in technical infrastructure for developing national standards**

The funding mechanism from the state budget should be improved and renewed on the basis of a full review of the required work items, that is, not just shifting, organizing meetings of the technical committees/subcommittees, experts consulting, etc., but also other means that ensuring the feasibility of national standards to be developed and ensuring that national standards are applied effectively by means such as survey, test, dissemination, evaluation of effectiveness and revision.

The mobilization of funding from other sources is also very necessary, for example: mobilization from the National Fund for Science and Technology Development; contributions from organizations and enterprises that will apply harmonized standards; financial supports from international and foreign cooperation projects, etc. Besides, it is possible to create a financial support by



providing education-training, printing-publishing services, consulting, conformity certification and other services that the market requires.

#### **4.2.4. Group of solutions to improve the quality of human resources for developing national standards**

Regularly conduct training and fostering courses on standardization and IT document-processing skills in the course of developing standards for members of national standards bodies, including overseas training, while enabling experts to participate in international/regional standardization activities. Bringing standardization into a teaching subject at school/university/college as many countries have done.

#### **4.2.5. Group of solutions to expand cooperation among stakeholders in developing national standards**

##### *4.2.5.1. Socializing the development of national standards in Vietnam.*

The socialization of standardization activities of Vietnam should be guided by the following: (i) Extending the proper involvement of industry and society in national and international standardization activities; (ii) Strengthening supportive activities such as education and training, information campaign, guidance, dissemination of knowledge, awareness and technical, professional on standardization.

*4.2.5.2. Promoting information, propaganda, promotion and support of Vietnamese enterprises, raising awareness of standardization at all levels, all sectors and for all components of the social community.*

The following measures should be implemented: (i) Raising awareness among all stakeholders on the role and positive impacts of standards and standards harmonization in international trade; (ii) Strengthening propaganda and dissemination of standards and content of standards, raising awareness of enterprises on the implementation and well recognition of adopted national standards in harmony with international standards.

#### **4.2.6. Group of solutions to strengthen the connection between organizational standards and national standards**

Organizational standards are very important, it is a premise for national standards and international standards. In order to strengthen the development and implementation of organization standards, we need: (i) Information dissemination and awareness raising on the role, significance and benefits of standardization activities for enterprises; (ii) Information and dissemination of legal provisions on standardization of enterprises; (iii) Strengthening technical support, knowledge and skills for standardization of enterprises; (iv) Establishing information system on national standards and international standards so that enterprises can catch and use this information in time for organizational standardization activities; (v) Enterprises also need to actively study to promote organizational standardization activities and participation in standardization activities at all levels.

## CONCLUSION

With the theme "*Development of the national standards system of Vietnam in the context of international economic integration*", the author has initially studied and clarified some theoretical and practical issues in developing the national standards system. Below are some main results of the dissertation:

1. The dissertation have introduced the concept of the national standards system and clarified the content of the concept of developing the national standards system;

2. It has set up a system of indicators for assessing the development of the national standards system;

3. It has identified factors that affect the development of the national standards system;

4. Based on the established theories, it has focused on analyzing and assessing the current status of development of the national standards system of Vietnam in the period 2007-2016 on three aspects: (i) The current state of expanding the scale and coverage of the national standards system; (ii) The current state of structural development of the national standards system towards international economic integration; (iii) The situation of increasing the contribution of the standards implementation to socio-economic development of the country according to the indicators set out in Chapter 2.

5. It has shown the results and limitations of the development of the national standards system in the period 2006-2016 as well as the causes of the limitations.

6. It has set out the context of Vietnam's deepening international economic integration and the new requirements for the development of the national standards system; point out the orientations and objectives for the development of the national standards system up to 2025 with a vision to 2035. At the same time, it has proposed 6 groups of solutions to develop national standards system of Vietnam up to 2025 with a vision to 2035, they are: (i) a group of solutions on building strategies for developing national standards system; (ii) a group of solutions on improving institution and policies to develop the national standards system; (iii) a group of solutions on financial resources and investment in technical infrastructure for developing national standards; (iv) a group of solutions for improving the quality of human resources for national standards development; (v) a group of solutions to expand cooperation among stakeholders in the development of national standards; (vi) a group of solutions to strengthen the connection between organizational standards and national standards. They are the underlying solutions, which are unified, closely interrelated, inseparable, and cannot absolutize or underestimate any of them./.

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