

Current Status Of Implementation Of Mechanism And Policy For Science And Technology Human Resources Development Of Vietnam Trade Union Organization

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Abstract

Developing science and technology human resources is an inevitable trend in the context of the country's globalization and international integration. In addition to opportunities for integration trends and the development of effective, and smart organizational governance models in science and technology (S&T) management activities, S&T organizations need to clearly identify priority goals in science and technology human resource development policy. Based on the analysis and evaluation of reports and secondary data from many reputable and reliable sources, this article analyzes the current status of implementing mechanisms and policies for developing science and technology human resources of Vietnam Trade Union organization today, thereby providing some suggestions for application in the context of developing S&T human resources of the Trade Union organization. The research results are useful reference documents for researchers and science and technology policy-making agencies of the Vietnam Trade Union organization.

Keywords: *Science and technology human resources, science and technology policy, Vietnam Trade Union Organization.*

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I. Introduction

In published scientific research works, books, and publications on Science and Technology, S&T human resources can be understood in many different ways.

General understanding, S&T human resources include people who meet one of the following conditions: (1) have graduated from university or college and work in a S&T field; (2) have graduated from university or college, but do not work in any science and technology field; (3) have not graduated from university or college, but work in a field of science and technology that requires equivalent qualifications (Ministry of Science and Technology, 2003).

According to the FRASCATI Handbook - Statistical Guide to Development Research of the Organization for Economic Co-operation and Development (OECD), development research human resources include people directly involved in development research activities or directly support research and development activities.

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the concept related to human resources in the field of science and technology is defined as: "*Total number of qualified human resources*" and "*Number of skilled human resources currently employed*". According to UNESCO, human resources in the field of science and technology are not only simply a matter of summing up individual counts but also taking into account other factors, such as: Full-Time Equivalent and their specific characteristics.

In Vietnam, the current S&T human resources data system only reflects the "*total number of qualified human resources*" of a country. According to the provisions of Clause 12, Article 3, Law on Science and Technology 2018: individuals engaged in science and technology activities are those who carry out science and technology activities. According to common belief, science and technology human resources in our country include the following 5 main components (Tran Van Ngoi, 2017):

- (1) Officials engaged in scientific research.
- (2) Officials holding technology titles (technician, engineer, main engineer, senior engineer) working in public service units and science and technology enterprises.
- (3) Officials and civil servants responsible for state management of science and technology at the central, provincial and district levels.
- (4) Vietnamese intellectuals living abroad and foreign experts working in the field of science and technology in Vietnam.

(5) Individuals from various social background with a passion for science and technology who have innovative ideas and apply scientific and technological advancements in everyday life (Tran Van Ngoi, 2017).

Thus, if understood according to the concept of "S&T human resources on the State payroll", this team only includes groups 1, 2 and 3 above. In particular, groups 1 and 2 are called Science and Technology officers (based on Joint Circular No. 24/2014/TTLT-BKHCN-BNV dated October 1st, 2014 of the Ministry of Home Affairs and the Ministry of Science and Technology stipulating code numbers and standards for professional titles of public employees specialized in Science and Technology); Group 3 is known as civil servants leading and managing science and technology (or human resources managing science and technology) (Tran Van Ngoi, 2017).

According to previous research it can be seen that S&T human resources are generally understood as those directly involved in S&T activities and services. Although there is much potential for development, the quantity and quality of this team in Vietnam is still considered low, inadequate and not used effectively, especially leading experts in the industry, individuals working in the field of high-quality science and technology.

Similarly, to other ministries, branches, and socio-political organizations, the Vietnam Trade Union organization has had mechanisms and policies to create conditions for the development of science and technology and has many achievements, contributing to building and perfecting science and technology, improving policies, quality and operational efficiency, innovating activities of trade union organization. However, the process of implementing S&T human resources mechanisms and policies still has many limitations, obstacles, and inadequacies in practice that need to be promptly evaluated to overcome and create conditions for S&T to develop. Therefore, it is very necessary to study the content of S&T human resources mechanisms and policies, analyze the current state of implementation, and then propose solutions to develop S&T human resources of the Vietnam Trade Union in the coming time.

II. Research Methods

To clarify the current status of the implementation of mechanisms and policies, and to propose solutions for the development of science and technology human resources within the Vietnam Trade Union organization in the near future, this research employs qualitative research methods based on secondary sources such as documents, data from official domestic information channels, and legal documents. These methods are used to clarify the research content, including the content of the mechanisms and policies, analyze the current implementation status, and propose suggestions applicable to the context of human resource development in science and technology in the Vietnam Trade Union.

III. Research Results And Discussion

Contents of mechanisms and policies for developing science and technology human resources in Vietnam today

Resolution No. 20-NQ/TW dated November 1st, 2012 of the Central Executive Committee of the Communist Party of Vietnam, term XI, on developing science and technology to serve the cause of industrialization and modernization in the conditions of the socialist-oriented market economy and international integration has determined the goal of strongly developing science and technology, making science and technology truly the most important driving force to develop modern production forces and a knowledge-based economy, improving productivity, quality, efficiency and competitiveness of the economy; protecting the environment, ensuring national defense and security, and turning our country into basically a modern industrial country by 2020 and a modern socialist-oriented industrial country by the middle of the 21st century (Communist Party of Vietnam, 2012).

Article 6 of the 2013 Law on Science and Technology clearly identifies eight State policies on science and technology development, including policies on science and technology human resources, prioritizing and focusing all national resources for science and technology development. Synchronously applying incentive mechanisms and measures to promote the key role and driving force of science and technology in socio-economic development, ensuring national defense, security, environmental protection and enhancing people's quality of life; focusing on investing in building physical and technical facilities, focusing on priority and key national science and technology fields; applying special preferential mechanisms and policies to develop, train, attract and effectively use S&T human resources.

To clarify this content, the Law on Science and Technology continues to affirm the preferential policies regarding the use of scientific and technological personnel and talents: they are classified into appropriate job positions and receive salaries and allowances that align with their expertise and competence within public science and technology organizations; they enjoy tax incentives; they are provided with equipment and favorable working conditions that exceed the standard set for state officials and civil servants, in line with the requirements of their assigned scientific and technological tasks; they are exempt from civil liability in cases where damage or risk occurs to the State during the execution of scientific and technological tasks due to objective reasons, provided that all processes and regulations regarding scientific research have been followed.

In order for the 2013 Law on Science and Technology to be effectively implemented in practice, the Government has issued a number of additional typical documents such as: Decree 27/2020/ND-CP dated March 1st, 2020 on amending and supplementing a number of documents of Articles of Decree No. 40/2014/ND-CP dated May 12th, 2014 of the Government regulating the use and appreciation of individuals in science and technology activities and Decree No. 87/2014/ND-CP dated September 22nd, 2014 of the Government regulations on attracting individuals engaged in science and technology activities who are overseas Vietnamese and foreign experts to participate in science and technology activities in Vietnam; Decree 19/2021/ND-CP dated March 15th, 2021 on amending and supplementing a number of articles of the Charter on organization and operation of the National Science and Technology Development Fund issued together with Decree No. 23/2014/ND -CP dated April 3rd, 2014; Decree 109/2022/ND-CP dated December 30th, 2022 regulating science and technology activities in higher education institutions; Decision No. 569/QĐ/TTg dated May 11th, 2022 of the Prime Minister promulgating the Strategy for developing science, technology and innovation (STI) until 2030.

Policies and Mechanisms for the Development of Science and Technology within the Trade Union Organization Today

At the 13th Conference of the Executive Committee of the 11th Presidium of the Vietnam General Confederation of Labor, Resolution No. 01/NQ-ĐCT dated September 18th, 2015, was discussed and passed, focusing on "Promoting theoretical research and science and technology activities of the Trade Union organization during the period of industrialization, modernization, and international integration." The resolution outlined five main solutions, including measures related to scientific and technological personnel, as follows:

- *Reform the organization and improve the capacity of scientific research staff*

Continue to complete the transformation of universities and institutes in the Trade Union system to an autonomous and self-responsible operating mechanism. Invest in and build the Institute of Workers and Trade Unions on a par with the task of theoretical research and practical review on workers in the new conditions, soon becoming a national-level strategic research institute by 2025 at the latest.

Continue to build, consolidate, and enhance the research staff at institutes, universities, and training institutions within the Trade Union system, ensuring sufficient capacity to carry out important domestic and international scientific projects.

Continue to develop and issue policies that encourage and ensure the intellectual labor reproduction of the research staff within the Trade Union system, attracting dedicated scientists to the field of worker and trade union research. Build a network of collaborators to research CNCĐ (Vietnam General Confederation of Labor, 2015).

- *Coordinate among Trade Union levels, expand domestic and international cooperation on scientific research*

Promote the integration between research and teaching, encouraging scientific researchers within the Trade Union system to participate in teaching at universities and training institutions, both within and outside the Trade Union system. Additionally, encourage them to take part in training and workshops for organizations, agencies, and businesses with relevant needs.

Attract international experts and domestic specialists to conduct research commissioned by the Vietnam General Confederation of Labor; Enhancing foreign language skills, particularly English, for Trade Union staff to boost international cooperation; Strengthening partnerships with international scientific organizations in theoretical research and the scientific and technology activities of the Trade Union in the new era (Vietnam General Confederation of Labor, 2015).

Resolution No. 16/NQ-BCH dated February 22nd, 2022 of the Executive Committee of the Vietnam General Confederation of Labor, term XII, on promoting science, technology and innovation research to serve the tasks of trade unions in the new situation. The resolution sets out 6 key tasks in science, technology and innovation research to serve the tasks of trade unions in the new situation, including contents related to science and technology human resources such as: capacity building for research institutes, universities, training places in the Vietnam Trade Union system; promoting the participation of trade unions and workers at all levels in the science, technology and innovation research movement (Vietnam General Confederation of Labor, 2022).

Current Status of the Implementation of Policies and Mechanisms for the Development of Scientific and Technological Personnel within the Vietnam Trade Union Organization

Discrepancies in the Organizational Structure, Quantity, and Quality of Scientific and Technological Human Resources across Different Units and Levels of the Trade Union

The Distribution of the Scientific and Technological Network within the Trade Union Organization is Uneven and Faces Many Challenges

The Science and Technology network of the Trade Union organization is currently concentrated and distributed mainly in 02 institutes (Institute of Workers and Trade Unions, Vietnam National Institute of

Occupational Safety and Health) and 02 universities (Trade Union University, Ton Duc Thang University), which are the main units responsible for S&T research. While this concentration facilitates easier management, monitoring, and evaluation, it also leads to an uneven distribution of S&T resources. This lack of distribution may limit the accessibility and participation of other units within the Trade Union system.

There are also structural and personnel challenges in units with S&T research functions. Some research units have a thin leadership and expert base (both at the unit and departmental levels), with a lack of highly qualified, experienced scientists. The next generation of researchers remains weak in expertise and severely lacks experience. Specifically:

Table 1. S&T human resources of institutes and universities affiliated with the Vietnam Trade Union, 2024

No	Unit	Total number of S&T human resources (Person)	Title				
			Doctor/Scientific doctor	Master	Bachelor	Professor	Associate professor
1	Institute of Workers and Trade Unions	16	04 (25%)	06 (37,5%)	06 (37,5%)		02
2	Vietnam National Institute of Occupational Safety and Health	221	14 (6,3%)	56 (25,3%)	100 (45,2%)		
3	Trade Union University	311	101 (32,5%)	202 (65%)	08 (2,5%)		08
4	Ton Duc Thang University	956	239 (25%)	489 (51,1%)	228 (23,9%)	06	19

(Source: Statistics from the Institute of Workers and Trade Unions, 2024; Vietnam National Institute of Occupational Safety and Health, 2024; Trade Union University, 2024; Ton Duc Thang University, 2024)

Institutes that have the main function of scientific and technological research of the Trade Union, including the Institute of Workers and Trade Unions, in addition to in-depth research on workers, the Trade Union also participates in teaching directly related to labor. workers, trade unions, policies and laws of workers; Vietnam National Institute of Occupational Safety and Health is responsible for researching science and technology to serve the State management of occupational safety and hygiene, ensuring the safety and health of workers, and protecting the working environment. Science and technology research human resources with doctorate and scientific doctorate degrees as above are still scarce.

On the other hand, according to Circular 01/2024/TT-BGDĐT dated February 5th, 2024 of the Ministry of Education and Training Promulgating Standards for higher education institutions, from March 22nd, 2024, for educational institutions for higher education with doctoral training, the proportion of university lecturers (S&T research staff) with doctoral degrees is at least 40% and not less than 50% from 2030 (Ministry of Education and Training, 2024). Thus, compared to the standards, currently both Trade Union University and Ton Duc Thang University - 02 educational institutions under the Vietnam Trade Union organization are training doctoral degrees and have not achieved the rate of lecturers achieving doctoral degrees according to regulations.

Besides, at all trade union levels there is still a lack of human resources to carry out in-depth scientific and technological research on workers and trade unions. Most of the Labor Confederation units at the provincial and central city levels and industry trade unions currently do not have a specific department assigned to be in charge of science and technology. Trade union officials at all levels are focusing on the main role of protecting the legitimate rights and interests of workers, and are not deeply involved in scientific and technological research. S&T human resources are concentrated mainly in 02 institutes and 02 universities with headquarters in 02 big cities: Hanoi and Ho Chi Minh City. That is the reason why many science and technology products are considered far from reality, do not match the real life of local workers, and are not highly applicable.

Human resources for science and technology management and the capacity of officials working in consulting and management of science and technology at the General Confederation and at the Trade Union levels still have many shortcomings.

Human resources for science and technology management and the capacity of officials working in consulting and management of science and technology at the General Confederation and at the Trade Union levels still have many shortcomings. Officials in charge of S&T management at the General Confederation and at the Trade Union levels are not efficient in number and in professional S&T experience and academic qualifications as well. In particular, currently at the General Confederation level, the transfer of science and technology management functions from research institutes (which have experience and resources) to specialized departments, arising a number of disadvantages, including the promotion of joint programs and coordination with state management agencies in science and technology such as the Ministry of Science and Technology, the Ministry of Finance, etc. or with major academic contacts such as the Central Theoretical Council, Ho Chi Minh National Academy of Politics, Vietnam Academy of Social Sciences...; as well as slowing down the proposal and

implementation progress, creating procedures for approval, evaluation and acceptance of research products. In particular, the issue of administrativeization of science and technology process procedures has a great impact on the initiative of science and technology organizations in the practical activities of their units (Nhac Phan Linh, 2022).

Science and technology mechanisms and policies have not really awakened the potential and gathered the intelligence of science and technology human resources of all levels of Trade Unions

Mechanisms and policies have not really awakened the potential and gathered the intelligence of scientific and technological human resources

Mechanisms and policies have not really awakened the potential and gathered the intelligence of S&T human resources. Currently, there is no clear policy to awaken the potential and gather the intelligence of officials and trade union members in theoretical research and practical reviews of workers and trade unions. There are no awards or forms of commendation for science and technology from the Trade Union organization (Nhac Phan Linh, 2022).

The implementation of policies on science and technology is not synchronized at all levels of the Trade Union

The implementation of policies on science and technology research is not synchronized. Many levels of Trade Unions have not yet issued resolutions, plans, and instructions for implementing Resolution No. 01 of the Vietnam General Confederation of Labor's Presidium; There are no implementation instructions on resources and funding; duty, and targets for each type of unit; Lack of mechanism for ordering and delivering research targets. Many Provincial and City Labor Confederations and Industry Trade Unions believe that S&T research is mainly for institutes and universities (Nhac Phan Linh, 2022).

Brain drain among high-quality science and technology human resources is still common

The policies of the Party and State regarding talent attraction have seen many positive changes, but they remain slow and incomplete. Many mechanisms, policies, infrastructure conditions, and incentive regimes for this group have not received adequate attention, causing many individuals to lose interest in staying within scientific and technological organizations.

According to Nguyen Thi Quynh Giang, although Party Resolutions and legal documents always emphasize the importance of scientific and technological personnel, in practice, the policies remain vague, fragmented, and inconsistent. There are still no concrete policies in place to effectively utilize, honor, and support scientific staff (Nguyen Thi Quynh Giang, 2015).

The implementation of science and technology human resource development policies at educational institutions under the Vietnam Trade Union system has some limitations

Article 9 of Decree 109/2022/ND-CP, dated December 30th, 2022, which regulates scientific and technological activities in higher education institutions, sets forth standards for the leaders and members of strong research groups within these institutions. This regulation is considered to impose high requirements that are difficult to meet, particularly for many higher education institutions across the country. The standards are seen as too challenging for universities outside the top 50 in Vietnam, including Trade Union University (an institution affiliated with the Vietnam Trade Union) and many local public universities, as they are expected to meet "all of the following standards simultaneously" (Ministry of Education and Training, 2022). Currently, Trade Union University has not yet established any research groups according to Decree 109/2022/ND-CP and does not have a dedicated fund for the development of science and technology.

On the other hand, the incentive policies for strong research groups in higher education institutions are still limited. Larger institutions receive more significant financial investments compared to others, and public institutions tend to receive less funding than private ones. Additionally, the slow allocation of funds and the complex disbursement procedures discourage researchers, with financial support often serving more as a morale booster than a substantial resource.

IV. Conclusion

S&T human resources are the main force in building scientific arguments to help the Party and State determine strategic guidelines, policies, and plans for industrialization and modernization of the country; at the same time, it is the core force in implementing those policies. Therefore, for the Trade Union organization, S&T human resources are also a force to effectively solve theoretical and practical problems, contributing to innovating the organization and operation of the Vietnam Trade Union, implementing perform the task of representing, caring for, and protecting the legitimate rights and interests of union members, workers, and economic development - society, building a modern, strong Vietnamese working class, meeting the requirements of the new situation according to the spirit of Resolution No. 16/NQ-BCH of the General Confederation Executive Committee. It can be seen that the current Science and Technology human resources of the Trade Union have increased in both

quantity and quality, contributing partly to the achievements of the Trade Union in recent times. However, human resources directly doing science and technology work at research institutes, universities, and training places in the Trade Union system are still limited. In particular, it has not yet mobilized and attracted experts and scientists inside and outside the Trade Union system and the intellectual contributions of a large number of Trade Union members and officials nationwide to serve the cause of science and technology research. That reality requires the need for appropriate policies and solutions to make reasonable and effective use of this team. Through research on the current status of S&T human resource development of the Vietnam Trade Union, we can draw some suggestions for application in the current context as follows:

Firstly, raise awareness of the role and responsibility of S&T human resources for the development of the Trade Union organization: The 13th Party Congress proposed strategic breakthroughs, including an important step: “Continue to comprehensively develop human resources, science, technology, and innovation associated with arousing the desire to develop the country, national pride, the will to be self-reliant and promote Vietnamese cultural values and people” (Communist Party of Vietnam, 2021), the State, ministries, branches and localities at all levels need to promote propaganda of the roles and responsibilities of science and technology human resources for national development and national defense; add content about the roles and responsibilities of S&T human resources to teaching programs at all educational levels, courses, and specially in educational units in Trade Union system.

Secondly, synchronize quality and quantity in a strategic way to improve S&T human resources at all levels of the Trade Union. Prioritized policy groups for the development of S&T human resources in the current context, such as: Policies to attract S&T human resources, policies to train high-quality S&T human resources...

Thirdly, create working conditions and research equipment for science and technology researchers. Although the scientific research equipment of the units with the main research function of the Trade Union has received a lot of attention, improvement and innovation, it still does not meet the infrastructure requirements for the development of science and technology in the current situation.

Finally, ensure creative freedom in academic research and international publication of science and technology products. There should be policies to encourage scientists to publish their research products, especially in the fields of social sciences and humanities, key science and technology fields.

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