SOME THOUGHTS OF NEW PUBLIC MANAGEMENT MODEL AND POSSIBILITY OF APPLYING IN SCIENTIFIC AND TECHNOLOGICAL MANAGEMENT IN VIETNAM

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Abstract:

New public management (NPM) is a model developed by many countries around the world to reform the state management system which primary purpose is to increase the efficiency of public bureaucracy apparatus serving for people. Results of performance in developed countries are assessed to be successful. Many developing countries also applied some of the main contents of this model in their reform process with varying levels of success, even failure. In Vietnam, the state management of science and technology (S&T) has been reformed since 28th September, 2004 when the Prime Minister issued Decision 171/2004/QD-TTg approved the Scheme on renovation of S&T management mechanism (hereinafter referred to as Decision 171). Over the past 10 years, the renovation of the state management mechanism in S&T has been strongly implemented and has resulted in many contents such as public finance, evaluation of the results of S&T projects/themes, devolution and decentralization in S&T management. However, the requirements of socio-economic development in the period of 2016-2020 are putting pressure on the continued vigorous innovation, synchronization of the effectiveness and efficiency of state management of S&T to contribute to strengthening S&T potential, develop national innovation system (NIS), uphold the creative capacity of all individuals, enterprises and organizations.

Within the framework of this article, the author will study the NPM model, the current state of NPM application in developing countries, and some characteristics of Vietnam's current S&T management system. On that basis, the author raises some thoughts on the possibility of applying some contents of NPM to state management on S&T in our country in the coming period.

Keywords: *New public management; State management; Science and technology; State management of science and technology.*

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1. New public management with developing countries

The late 70s and early 80s of the 20th century brought together elements that were strong enough to establish a tendency for state management reforms, called NPM. Developed countries in the world have pioneered in applying this model, such as Japan (1982), Australia (1984), United Kingdom (1982), United States (1984), Denmark (1983, 1991 and 2000),… Although

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the name may be different, the core of the NPM model is to transform the traditional "governance" function of the public administration into a social "service" function.

NPM was born as a necessity in developed countries in the face of the recession, the budget deficit. Large payrolls in state agencies have made the public financial crisis become more severe in most of these countries. At that time, the traditional public administration model revealed inefficiencies with low quality of service due to rigid regulations as well as strict enforcement of procedures, process instead of paying attention to the output of the apparatus. International integration has also made these countries adjust their policy system in line with common standards, so it is necessary to design a more simply and efficient management system. The intensive application of information technology into the state management has increased the efficiency of transactions between the state and citizens. This has created a pressure on transparency in state management, requiring the contingent of civil servants to improve the quality of administration and service. The increasing level of people requires the public administration to change, promote socialization, develop the private sector, increase the participation, supervision and decision of the people in the process of management.

NPM has some basic characteristics: *first*, *the highest goal is the output results and performance*. The NPM model is closely linked to monitoring and evaluating results through specific criteria. This management model requires a coherent implementation of the investment method and public financial allocation; building indicator systems and performance-based evaluation methods; incentive and punishment mechanisms for human resources across the whole system of state apparatus. *Second, NPM promotes equal competition in the provision of public services*. Competition means lower costs, improved quality and the main beneficiaries are citizens. Citizens are the people who will evaluate the quality of public services. The state in the NPM model will gradually reduce the provision of public services that outsource to contracting out organizations but they are still subject to the supervision and management of the state. *Third, NPM on the basis of decentralization, minimizes the level of intermediary management and enhances teamwork*. NPM models give maximum authority to the agencies, especially localities, officials, and civil servants who regularly and directly interact with people because they are well aware of the needs of the people and the real issues are happening there. Intermediary management level in the NPM model will be minimized. *Fourth, civil servants, managers* in NPM must also work for the purpose of this model, which is to ensure good results and high performance. Managers need to create conditions to perform tasks more flexibly. Administrative activities

in NPM are not completely independent of politics, but politics is increasingly influential in public affairs, so civil servants need greater political commitment.

Established in developed countries but the NPM model is still receiving great attention from governments in developing countries, especially in countries that need to reform. Brazil, Jordan and Malaysia applied total quality management (TQM) into state management programs; Uganda implemented results-oriented management initiative; Chile undertook a radical restructuring of the market-oriented education system; Latin America tested privatization of pensions and used the education voucher system to reform education; Ghana and Uganda issued performance indicators for public authorities; Jamaica, Malaysia, Malta and South Africa put into use the concept of citizen as client and applied the accessing mechanism of individual civil servants through the results.

The purpose of developing countries in adopting the NPM model is to make public sector governance more effective and responsive to market changes and people's needs. Governments use measures such as streamlined, professional management, strategic planning, quality management, output-based management, socialization, and results-based allocations. In these countries, public governance reforms are often accompanied by economic structural programs. The following are some of the main contents of the NPM model applied by developing countries in the reform of public management:

Corporatization of administrative units: In fact, this is the process of transforming public organizations into self-governance or corporate units. Corporatization allows agencies to increase wages for workers, fire ineffective people, recruit qualified personnel and be rewarded under a retention mechanism that satisfies all tax purposes and operates on the basis of financial autonomy. In developing countries, this process is carried out at a rapid pace (Jamaica, Singapore, Ghana and Tanzania). Some countries have incorporated customs office and taxation office into national revenue authorities that act as a business (Ghana, Kenya, Tanzania); or to undertake corporatization in the health sector, transform public hospitals into autonomous units run by the governing board and separate from the administration of Public health ministry. As a result, most of them have been successful, increasing their contribution to national GDP.

Results-oriented and performance-based management is also being experimentally developed by many developing countries, with a strong focus on the development and operation of a human assessment system based on results and performance capacity. However, implementation of

this system encountered some difficulties in linking the results of assessment with the bonus and punishment regime for civil servants. Some countries associate results with bonuses or promotions. This mechanism often requires a combination of enforcement form or seniority, while guiding managers to evaluate their employees carefully, avoiding bias. After that, the government will base on that assessment to decide whether to award or promote. For developing countries, this is the most difficult part of the NPM model because successful application requires radical change from accountability to the culture of government. Some successful countries like India, Pakistan and Bolivia. However, results applying in Ghana are disappointing. The main reason is that incentives for good workers are not strong enough to make a difference, while the direct state agencies responsible for this reform did not have the authority to issue sanctions.

Granting the self-governance for public service delivery units: The granting of self-governance status to public service providing organization leads to results the transaction costs are often higher than the gained outputs in terms of performance. The practice of applying autonomy in Central and Eastern Europe and Africa is seen as an attempt for public agencies to be not closed rather than to improve performance. Autonomy has been fairly successful in the health sector, but has been difficult for agricultural research organizations in Africa, Asia, and Latin America. In addition, the separation of consumers (people) from public service providers can reduce accountability and increase the imbalance in service quality. Similarly to the process of granting autonomy, the process of privatization of public services also noted that very few countries succeed. This is a process that requires sufficient capacity of private entities to "sell" public services to citizens. This is largely due to the private sector capacity as well as benefits from providing public service which are not attractive to them, although NPM models in these countries have had to adjust, the scale of privatization is too small which does not make a significant contribution to national GDP.

Agentification (establishment of so-called "semi-public" organizations) is also a way to assign the self-governance to public service providing organizations. The objective here is to establish intermediary organizations between public administration authorities and the population to handle public services. These intermediate organizations are less influenced by politics content of services and, at the same time, are more flexible and self-deciding in their activities. This type of organizations is highly evaluated in their way to deal with the shortcomings in the current management practice of public service. For maximal efficiency rate, this model should be operated in an environment with a clear separation between state framework regulations and actual agreements in the contracts signed between state authorities and these semi-publicservice agents.

Cost cutting and downsizing: Due to the pressure from the technological revolution, fierce international competition, pressure from customer demand and domestic economic difficulties, the plan of streamlining the system is often performed in public management reform packages in many developing countries. The objective of streamlined apparatus is (a) cutting costs; (b) reduction of management level; (c) reducing duplication; (d) reallocation of resources and power; and (e) continuing to deal with surplus payrolls. Reducing payrolls and downsizing in developing countries have been accessed as less successful and, in some cases, counterproductive. In some cases, good public servants left the public sector, while the rest are jobless, shunned and ineffective. The reason is partly dependent on political will. Part of the problem also arises from administrative difficulties because there are so many public management activities that government is very difficult to connect them optimally in the process of downsizing. Without a thoughtful plan, implementing a downsized apparatus can lead to high social costs.

Decentralization: This is a focused content of NPM. Decentralization is the process of empowerment and management responsibility for heads of government agencies. For developing countries, this process is understood as the granting of political power to local governments. Decentralization is also directed towards the debureaucratization of public services. The appeal of this content is to make the government more efficient and reliable, and respond promptly to local needs. However, in practice in developing countries, the decentralization is not always successful. Some studies have shown that decentralization results in positive outcomes in countries where are less corrupt and have good customer service attitude.

Thus, NPM is seen as an effective public management model for many developed countries to overcome the shortcomings of the old public management model. However, the application of this model has not yet become an effective public management model for developing countries. The main reason for developing countries to face difficulties in the reform process is: *First, institutional and organizational structures* of developing countries create difficulties for successful reforms under the NPM model, even in some underdeveloped countries, the application of the NPM model also corrupts the already very loose and fragile administrative system. In these countries, despite strong efforts to implement reforms, the government is still running a vertical linking bureaucratic bureaucracy. This is one of the reasons why the NPM model is not working as expected. In addition, the government tends to adopt the NPM model without considering the compatibility of NPM with the economic - political - social conditions in the country, one of some prerequisite conditions is having a comprehensive legal infrastructure that governs the market economy that is lacking in these

countries. In addition, the successful implementation of the NPM model requires transparency and minimizes corruption in the public sector. This is again the biggest challenge in the state apparatus in developing countries. In that condition, if continued to apply the NPM model in these countries will create unexpected side effects that is the higher corruption rate. The reason is that the NPM model gives more authority and decision-making freedom to managers; at the same time, the use of low-level monitoring mechanism. *Secondly, some of the contents in NPM are highly academic and theoretical in nature,* difficult to implement in practice. For example, the issue of ethics of civil servant, accountability, equitable distribution of resources. In addition, allowing the private sector to have a higher advantage over the public sector for the purpose of effect for public service delivery activities which is causing more controversy within governments of developing countries, where the role of governmental organizations and state-owned enterprises remains dominant. *Third*, *the successful application of NPM in developed countries is based on adherence* to some of the basic principles of the old public administration. Meanwhile, the reform of public management under NPM model in some developing countries discarded these principles. This has limited the success of the reform. In addition, for different application conditions, NPM has different effects during implementation. The difference is called "amplitude of impact". Because of the difficulty of measuring the "amplitude of impact", it is difficult to accurately assess which results, contents is need to improve after the implementation of the reform under the NPM model.

In order to increase the efficiency of NPM adoption in developing countries, a prerequisite condition for these countries is that they require a certain level of economic development, management and operational experience of the market economy, a strong enough jurisdiction to control the market and to enforce the law. In addition, the state should also have the capacity and commitment to ensure a successful transition from the old public administration to NPM. Cultural factors are also considered important to determine the success or failure of the NPM model in developing countries. Cultural factors include the values, beliefs, and ideas that are common in that country on the issue of individualism or collectivism, and attitudes towards political power.

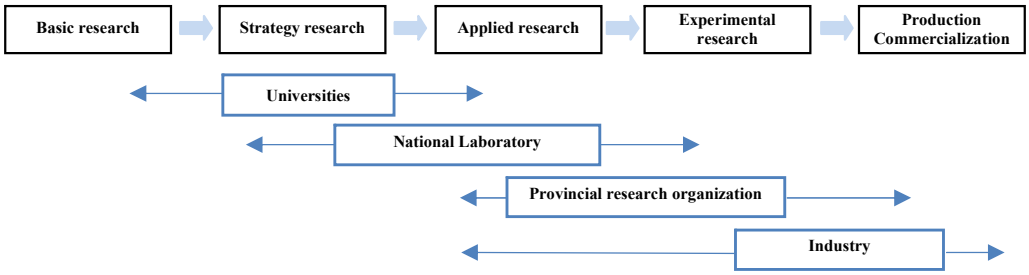
2. NPM model with state management of science and technology in Vietnam

2.1. Overall of state management of science and technology in Vietnam

State management of S&T in Vietnam is operated and reformed on the basis of ensuring the highest objective of national S&T development. In all

stages of development, the priority of S&T is always stated in the most important documents. The 1959 *Constitution* affirmed that Viet Nam progressed from the people's democratic regime to socialism with advanced S&T (Article 9, Constitution 1959). The State builds advanced S&T; technological innovation, development of production force, quality assurance and economic growth; contributing to ensuring national defense and security (Article 37, Constitution 1992). S&T development is a leading national policy, playing a key role in the country's socio-economic development (Article 62, Constitution 2013).

Prior to 1986, S&T management was organized in a form of subsidized administration. Activities of scientific research are less related to education as well as business production and fully state-funded. The role of enterprises in S&T activities is not remarkable. From 1986 to 2000, S&T management thought was approached in a linear model (Figure 1) which focus on business production, linking research with education and focusing on applied research. State management at this stage is oriented to rearrange the S&T organizations, prioritize applied research in association with production and business (such as the Ordinance on the Protection of Industrial Property and the Ordinance on the Technology Transfer from abroad into Vietnam). Nevertheless, state management still lacks of breakthrough policies so that S&T become a "hitch" for increasing the competitiveness of the business and the growth of the economy.

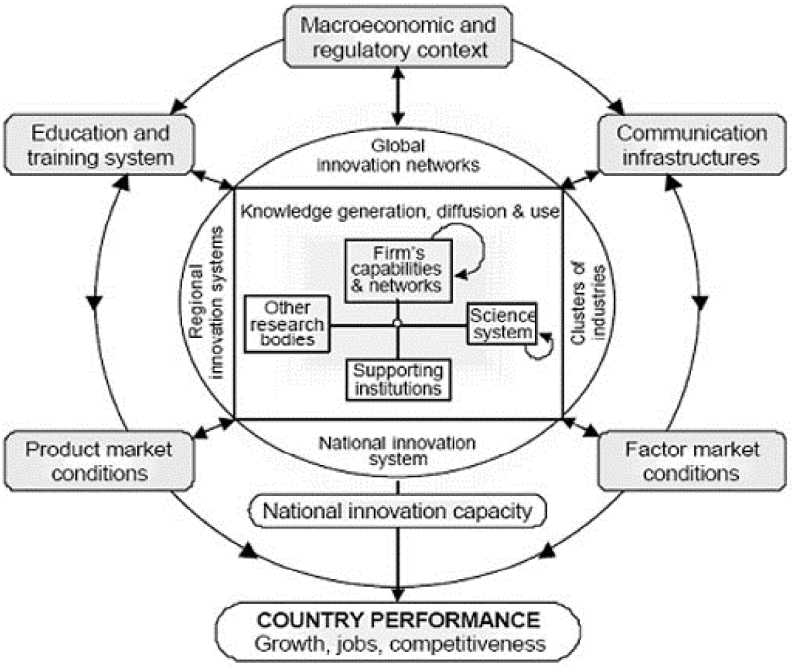


Source: Dang Duy Thinh, 2000

Figure 1. Linear model of S&T system

Since 2000, in the context of Vietnam's deeper integration into the global economy, the first Law on S&T has defined the tasks and contents of state management of S&T. The most important task of state management is to ensure that S&T is the basis and an important element in socio-economic development, national defense and security maintenance (Article 6). The most important content of state management on S&T is to develop and direct the implementation of S&T strategies, policies, planning, plans and tasks; protection of intellectual property rights; applying and evaluating the results of scientific research and technological development... (Article 49).

"The philosophy" of State management of S&T of Vietnam has gradually shifted from the *linear model* into the *National Innovation System Model* (Figure 2), whereby enterprise is defined as the center of development, technological application and innovation.



Source: OECD, 1999

Figure 2. National Innovation System Model (NIS)

During this period, many legal documents were issued, forming legal tools for state management of S&T. This is the time when state management carried out many transformation reforms, synchronously implemented, contributed to shaping some new financial mechanisms for S&T activities; to increase major investment in S&T infrastructure; and promote autonomy in public research institutes. The State apparatus of S&T has also formed a number of important organizations such as the National Council of S&T Policy (2003), the National center for technology progress (2007), the Vietnam center for S&T Evaluation (2006) and National Agency for technology entrepreneurship and commercialization development (2011).

In addition to these achievements, state management of S&T is facing several key challenges:

Firstly, there is no effective tool to measure the results and evaluate the effectiveness of S&T activities for the socio-economy. Activities of state management have made efforts to quantify S&T performance as well as

evaluation of the effectiveness of S&T for socio-economic development, though still in the construction phase, is continuing to improve. Specifically, the Law on S&T in 2000 just started to mention the evaluation and acceptance of the results of the implementation of S&T tasks (S&T themes, projects) (Article 24); by December 2008, the S&T statistical classification system was issued[2]; In June 2010 issued the national statistical indicator system[3]; In 2013, S&T statistics books will be published for the first time according to criteria compatible with the world S&T statistical standards; In August 2015, the Ministry of S&T issued the Circular to regulates the system of statistical indicators of S&T[4]. By 2013, the new S&T Law regulates the evaluation and ranking of S&T organizations; in December 2014[5], there is an official regulation on evaluation of public S&T organizations coming into effect in February 2015. The tool for assessing the effectiveness of S&T contributing to the socio-economy is still limited, we are using the Total Factor Productivity Index (TFP).

Secondly, in decentralizing the management of S&T activities, the separation between state management and non-business activities, granting right of autonomy to S&T organizations has not yet been fully decentralized. In the last 10 years (2004-2014), the assignment, decentralization and enhancement of the coordination role of the State management agency on S&T at the central level has always been given priority. The content of assignment and decentralization has been legalized in the Law on S&T in 2013, which emphasizes the role in state management coordination of Ministry of S&T in this field. The Ministry of S&T has also established the Office of National S&T research Programs (2006) and the Office of National Programmes on S&T (2014) to separate state administrative units from non-business activities. The autonomy of S&T organizations is also stipulated in the Government's Decree No.15/2005 dated 5th September, 2005. However, besides the achievements, the decentralization has not been thoroughly implemented in practice, leading to the coordination between ministries, committees, branches and between the central and local authorities is not close; it has not created a

[2] Decision No. 12/2008/QD-BKHCN dated 4th September , 2008 by the Minister of S&T on the promulgation of a number of S&T statistical classification tables.

[3] Decision No. 43/2010/QD-TTg dated 2nd June 2010 of the Prime Minister on list of S&T statistical indicators in the National Statistical Indicator System

[4] Circular No. 14/2015/TT-BKHCN dated 19th August 2015 of the Minister of S&T on regulating the system of statistical indicators of S&T.

[5] Circular No. 38/2014/TT-BKHCN dated 16th December 2014 of the Minister of S&T on regulating the evaluation of S&T organizations.

transparent environment in S&T activities[6]; the implementation of the autonomy and self-liability mechanism of public S&T organizations has been ineffective due to the lack of consistency between the promulgation of policy mechanisms and implementation[7].

Thirdly, the public finance mechanism for S&T does not increase the effectiveness of scientific research and not encourage the application of many research results into production and business, not mobilizing much investment from enterprises for research and development. Since 2003, the Government has advocated the reform of the public finance system. Specifically: diversification of S&T investment funds: encourage enterprises to set up S&T development funds, put into operation National Fund for S&T Development (NAFOSTED), encourage the development of venture capital funds, attract ODA for S&T; renovation of investment policy and mechanism of state budget allocation; and create an incentive mechanism for S&T activities. There have been many reforms of the public finance system in Vietnam (for example, the Joint Circular of the Ministry of Finance and the Ministry of S&T No. 93/2006/TTLT/BTC-BKHCN on the package funding mechanism of themes/projects; NAFOSTED operates in accordance with international practice, Decree 95/2014/ND-CP on investment and financial mechanism for S&T activities...). However, the budget for S&T is limited, the efficiency is not high; there is no appropriate mechanism to mobilize social resources for S&T investment; scattered management methods and financial mechanisms have slowed the progress of the whole S&T program and project, and led to the heterogeneous management method of program that imbalances national funding[8].

2.2. Application of NPM in state management of science and technology in Vietnam

In addition to the difficulties for the successful application of NPM in Vietnam (such as the lack of uniformity of the legal system, the administration still has bureaucratic ideology, cumbersome apparatus; the private sector is limited, uneven the capacity of civil servants, etc.), this model still has some valuable contents that need to be applied to improve the effectiveness of state management, including: (i) Performance and result based-management rather than process management; (ii) Socialization of public services, including privatization; (iii) Promoting vertical decentralization; de-regulation, eliminating unnecessary administrative barriers; (iv) Creating a healthy, fair and transparent competitive

[6] Resolution 20-NQ/TW dated 31st October 2012 of Central Executive Committee XI.
[7] Final report of the Ministry of Science and Technology 2013.
[8] Final report of the Ministry of Science and Technology 2013 and 2014.

environment; (v) Public finance reforming towards to allocation under programs based on targets, results and performance of the previous year, combined with a monitoring mechanism to ensure transparency of expenditure.

In the field of S&T, after studying the NPM model, the author considers that some of the contents of this model are suitable with the renovation of state management in the period from now to 2020. Specifically as follows:

Firstly, to build a comprehensive index of indicators in all three aspects of "capacity"; "results" and "impact" of individuals engaged in S&T activities; S&T organization; enterprises and nation. This is a system of quantifiable indicators including national S&T statistical indices, indicators for evaluating results of S&T themes/projects, index of S&T capacity of S&T organizations, technological innovation indexes in enterprises, and national technology maps. These indicators need to be compatible (in terms of concept, content, calculation) and must be consistent with international metrics. In order to have the system of indicators to operate in practice, it is necessary to ensure two additional factors: (i) the information technology infrastructure for storage, link and data extraction (databank); (ii) Legal infrastructure institutionalizes monitoring, evaluation and budget allocation based on the capacity, performance and effectiveness of each group of financial beneficiaries.

Second, decentralization on all three aspects (i) management of S&T activities throughout the country; (ii) autonomy and self-liability of S&T organizations; and (iii) separation of S&T management activities from S&T activities. To ensure that decentralization is effectively enforced in practice, some additional shortcomings in the legal framework should be added such as the documents to guarantees the authority of the management agency in establishing and allocating S&T budget; mechanism of allocation of public assets to the units after the autonomy, self-liability. In addition, it is necessary to review and eliminate overlapping regulatory documents, reducing the effectiveness of each other, increasing intermediary management level and public administrative transaction costs. It is necessary to promote separation of the state management roles of departments and units from non-business activities through the granting of management rights to S&T themes/projects to the offices (including evaluation, settlement and acceptance of research results), allows the use of a proportion of the expense of themes/project as a management fees and these offices have the right to use it to operate the apparatus; it could even be extended to allow private companies to bid for the management of state-funded S&T themes/projects.

In fact, this is a form of encouraging private sector participation in S&T public service. This mechanism can be extended to other services such as services of S&T themes/program evaluation, technology appraisal, technology transfer linkage, organizing of technology market, intellectual property, product quality consulting,...

Third, applying public finance mechanism in S&T based on outputs and performance of individuals, S&T organizations and enterprises. The public finance mechanism should be guaranteed both functions: (i) ensuring that the budget targets for S&T achieve its stated objectives, transparency and avoiding waste; (ii) mobilizing investment capital from society and enterprises for S&T activities. The S&T Law 2013 has provided provisions on the allocation of state budget funds to S&T the following year, based on the basis of practical needs and results using the allocated budget (Article 49). This is the legal basis for the implementation of public financial management mechanism for S&T based on outputs and activities of beneficiaries of budget. In order to operate this mechanism in practice, it is necessary to develop sub-law documents to ensure consistency with the decentralization mechanism to the final beneficiary of budget unit, which the higher-level management unit only retains the right to monitor, evaluate and reallocate on the basis of the results obtained. Once the funds have been allocated, the beneficiary unit has full decision-making authority of expenditure activities with condition to ensure that the results are registered and the financial transparency. In addition, public finance needs to operate as a tool to mobilize resources from enterprises and society for S&T investments. The Public Private Partnership (PPP) model is considered to be effective in convincing the private sector to invest in S&T.

Starting in the 1980s, NPM has indeed become a strong wave of state management reform in the world, spreading from developed countries to developing countries to this day. This wave comes from a variety of objective and subjective causes, but the root cause is the need for people to see the state system representing their interests to work effectively, responsibly and transparently. People place themselves in the position of customers - a higher position and therefore have the right to require public authorities to improve the quality of service by better products, satisfying the needs of the people. That is the main driving force behind the NPM's vitality. NPM's main focus is to change the role of the state from “governing” to “serving”. The state must find every method and way to raise quality of service such as: downsizing apparatus; applying a result-based and performance-based assessment approach to public organizations, linking the allocation of funds based on this assessment; decentralizing the synchronous right in state management, promoting the socialization of

public services; applying the market mechanism to the public sector. NPM will continue to develop with content tailored to fit the new context of the world as well as the socio-economic conditions of each country. NPM continues to be a trend of reforms applied by states if they remain loyal to the goal of obtaining the satisfaction of the people as the last measure.

In Vietnam, the reform of the state management system for S&T has had concrete results, but still faces challenges, including: (i) lack of tools for measuring and evaluating results and effectiveness S&T activities; (ii) decentralization of management has not been thoroughly and synchronously, so it has not created a high-performance S&T management system; (iii) public financial management mechanism is not effective in terms of output management and mobilization of social resources for S&T investment. On the basis of the NPM, the authors found that the main principles of NPM can be applied in the design of the contents of S&T management reform in our country for the period from now to 2020. It is possible to apply the three contents of this model: (i) synchronously building up the index system in terms of "capacity", "effect" and "impact" of individuals; S&T organizations (research institutes, universities inside and outside the public); enterprises (state and private); (ii) decentralization on all three aspects: S&T management throughout the country, self-liability of S&T organizations, and separating the state management of S&T out of S&T non-business activities; and (iii) application of public finance mechanism in S&T based on outputs and performance of S&T individuals, organizations and enterprises. The public finance mechanism should be guaranteed both functions: (a) to ensure budget targets for S&T to achieve goals, transparency and avoidance of costs; (b) to mobilize investment capital from society and enterprises for S&T activities. In addition, in order to ensure the successful application of the NPM model in state management of S&T, reforms should be made to improve the capacity of S&T personals, enhance transparency and fair competition in technology research and development./.

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