

EXCHANGE FOR POLICIES**THEORY Z AND SCIENCE AND TECHNOLOGY HUMAN
RESOURCES DEVELOPMENT POLICY OF JAPAN
IN 21th CENTURY - LESSONS SUGGESTED FOR VIETNAM****M.Sc. Trieu Thi Bao Hoa**

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Abstract:

More than 3 decades ago, William Ouchi started writing a series of articles about how to "fix up" the shortcoming in human resources management to enhance the production capacity of US companies based on successful models of Japan. These works of Ouchi had gone beyond the framework of human resources management of businesses and territorial boundaries of the United States or Japan to become one of the classic theories of human resource development, called Theory Z, even became a philosophy in dealing with people. Center of Theory Z was the word "和" (fair) which scientifically considered between the philosophy of "feeling oriented" of the Orient combined sophisticatedly with "rationale oriented" method of the West, creating vitality in scientific, business community and policy makers. The value of Theory Z was also clearly expressed in S&T human resources development policy system in 21th century of Japan: a period where Japan had to overcome major challenges for economic growth, prosperity and sustainability.

In the framework of this article, the authors related Theory Z with science and technology (S&T) human resources development policy in Vietnam, at the same time, made some suggestions with the desire that Vietnam would set up a synchronized policy system, feasible to be able to achieve the development objectives of the country with high quality human resources and an advanced S&T foundation.

Keywords: *Theory Z; Human Resources; S&T; Japan; Vietnam.*

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In the early 80's of the twentieth century, William Ouchi, a Japanese American Professor teaching at Stanford University (USA), published the book *"Theory Z: How American management model can address the challenges with characterized Japan color"*. The book was born in the context where Japan and its development model had created a miracle with

companies of world highest productivity and a diligent, loyal and professional qualification workforce. In the meantime, US businesses were facing operational difficulties and low efficiency. Theory Z placed a major influence on global corporations such as IBM, P&G, HP, Kodak and the US Army. This theory was also used by government policy makers to develop national human resources. Theory Z had experienced its own vitality for over 3 decades and became one of the classic theories of human resource management. Entering the 21th twenty-first century, contemporary Japan was facing many challenges due to economic slowdown, aging population and the strong rise of China as well as other economies. Japan chose the development of human resources, including human resources in S&T was a key tool to restore prosperity. Ouchi once said, "The secret of success of Japan was not thanks to technology, but the special way how to manage people. That was the management way to create, build the culture of enterprise, long-term human resource development and consensus-based decision-making" (*Ouchi, 1981*). The question *whether Theory Z of Ouchi had influential effect on S&T human resources policy development in Japan or not?* will be answered by the authors in the framework of this article, by through study of the core points of Theory Z and its relation with the actual policy development of S&T human resources of Japan.

1. Some the main contents of Theory Z

Theory Z was born in the context that inefficient management practices of US businesses was considered as the cause of reduced industrial productivity leading to the national competitiveness slippery. Scholars (*Drucker 1972, Pascal, Athos 1981, Nevis 1982*) argued about the need to change American traditional management practices. Management was considered not only as a principle, but the culture with values, beliefs, tools and language of its own. Management models in the society of collective character as Japan and China had been scrutinized through which it showed the blind spot in the management model of the US where existed a typical American culture that should be "revolutionized" in the direction of enhancing collectivism and group values. That evolution can occur profoundly only when creating radical change in human resource management (*Mroczkowski, 1983*). In this context, Theory Z appeared and was rated as the excellent work with extensive recommendations and valuable for US businesses.

Theory Z made a conclusion that a bureaucratic management model deployed in American businesses had exposed increased inefficient social interaction. This showed the opportunism in many employees, low commitment to the organization and lack of motivation in work. The direct

consequence was the decrease of productivity and competitiveness of enterprises in international markets. It should select an organizational paradigm convincing enough to reactivate the highly qualified personnel with high loyalty and commitment to employers. Specifically, Theory Z supposed that declination of productivity was the result of: (i) increased cost of monitoring, enforcement of discipline in work; (ii) increased cost of personal performance, handling conflicts and discontent of the workers arising from ambiguity of capacity and opportunism in the workforce; (iii) increased labor costs causing obstacles to processes of recruitment, selection, appointment and training of highly qualified workers.

Theory Z follows the participative approach for human resource management. This model was different from the authoritarian management model, also known as a hard management. Theory Z considered that human management must put faith in employees. Workers can participate in decision making process of the company at a high level. Ouchi explained that workers should have adequate knowledge of the problems of the company, as well as owning capacity in making decision. He also pointed out that management of human resources sometimes tended to underestimate the capacity of workers in contributing effectively to the process of decision-making (*Bittel, 1989*). For this reason, Theory Z insisted that workers should become generalist than specialist to increase understanding and knowledge of the company.

Theory Z emphasized the necessity of having loyalty from employees for enterprises and organizations where they work. To achieve such loyalty, human resources development must create maximum satisfaction of and respect to workers. Theory Z considered that the higher level of satisfaction in the work of the workers the lower rate of quitting and leaving the work, the higher quality and productivity, and ultimately making better business for US companies.

The above core point of Theory Z was relied on the basis of some following comments: *First*, workers tend to create working relationship with funny and friendly people whom they work with as well as with those who work for them. *Second*, employees need to receive support from the company, and they highly appreciate the work environment in which issues such as family, culture, tradition and social norms are perceived as similar important as the work. People working in such an environment they always comply with rules and regulations, obey to order, take responsibility, have ethics, teamwork enthusiasm, cooperation and association with colleagues. *Third*, employees can perform their work in the best way when they are entrusted/believed, and they themselves believe that managers always

support and pay attention for them (*Massie and Douglas, 1992*). On that basis, Theory Z made details in some main contents of workforce management, including: *First*, the process and management institutions need to ensure the participation of employees in decision making process; or create mechanisms to ensure flows of information should promptly reflect opinions of staff to leader of the company. *Second*, to ensure a long-term employment regime for employees, whereby it can obtain maximum possible initiatives, positive, proactive behavior from workers toward their job; create a close link between the employee's benefits with companies/organizations, from that share together the same problems or successes. *Third*, it should pay attention to the family, spiritual life of the employees, through which it creates an environment of peace, consensus, irrespective rank. *Fourth*, it needs to focus on training and staff development; creating a clear, complete, careful mechanism for assessing the worker's performance and a sufficiently delicate, flexible control mechanism, saving face for workers. *Fifth*, it should make the work place become attractive for employees, continuous attention on training, rotational position and career development for employees. *Sixth*, Theory Z supposed that promotion tended to be slower, because the employees had longer training opportunity and spent more time on familiarizing the activities of the company. The desire of Theory Z was to develop human resources who had loyalties to stay long with the company during their working life, therefore when they got promoted to higher position in management, they would know more about the company and the way how to run the company efficiently.

2. Some observations on the Theory Z

Theory Z is also known as the theory of Japanese like management. In other words, it is a theory generalized, systematized from the behavior, habits and culture of Japanese people in the management of human resources. The theory has strong vitality in the academic community as well as users in practical management, including businesses and government agencies considering it as one of the bubbles for human resource management.

The most notable point in Theory Z is the clear reflection of the unique Japanese culture as well as the Japanese society condensed in the word "和" (Fairness), where come together the highest sense of harmony, consensus, cooperation, collectivity and for the mutual benefit, being admired by the world. "Fairness" is shown in solving the problem and finding a solution to the problems. In many cases, people regard it more valuable than money.

It is therefore Japanese cultural values have been integrated in Theory Z making this theory have harmonic convergence between management

actions and behavior of employees towards achieving the organization development goals. The philosophy of human resources management in Theory Z aims to encourage employees to create cordial relationships, links and collaboration among colleagues, between superiors and subordinates. This partnership will create and develop confidence among people. On this basis, the groups work with greater solidarity, no need of specific management processes, policies. Thus employees are trusted to do right things and the managers are trusted to bring welfare benefits for employees. That was the point of making up Theory Z different and successful. According to statistics, the productivity of companies applying Theory Z model was much higher than that of those did not apply to the theory for human resources management (*Sullivan, 1983*).

However, besides the outstanding success, Theory Z also received much criticism from academics and applicants of this theory (*Chand, 1993; Sullivan, 1983*). Ouchi, the author of Theory Z thought that his theory was considered as a theory of "humanism" for it always put people at the center of the productive activities, when people achieve greater satisfaction and high autonomy level, the work efficiency would obviously be increased. Meanwhile, people with criticism argued that Theory Z favored of "structuralism" rather than "humanism". Because the human factor in Theory Z was considered those persons with principles, order and universal moral values for the whole group. These values will create code of conduct, rules to establish the social order, stability and cohesion. The manager is the person transmitting the rules and values to employees, while encouraging them to comply with. They convince workers that a tidy working environment will ensure everyone happy, as the result, the labor productivity is higher. The core for the compliance by employee did not much related to motivation from managers but from the need, the wish of employees for a general collective order. So when an organization is structured towards secured stability, the manager did not need much to persuade employees.

Another part also received many criticisms was that Theory Z based only on management practice of Japan. This practice was derived from the own cultural identity of the people. Thus, the theory might not suitable to other cultures. Besides, if considering the Japanese model is typical, its success should be seen as a combination of key factors, including government policies with a special support of the administrative management system and careful planning by a specialized system of software and hardware plus a friendly, low cost financial support system. Behind this standard, human resources management by the Japanese model though was considered the most important, not the unique factor to contribute to increased productivity of Japanese businesses.

Critic comments were focused on some other contents of Theory Z. For instance, *first*, the creation of long lifetime jobs for employees to develop deep intimate relationship between organizations and workers may fail in terms of mobilizing workers to take higher responsibility. It simply guarantees jobs, not really to create the loyalty of employees for companies. An employee can quit his job at this company to work for other companies if she/he can get a better job. In addition, an absolute guarantee of work can create inertia and dependence in employees. On the other hand, no manager wants to retain on long-term, permanent bases those workers with low performance. *Second*, in fact, the employees' involvement in decision-making process is not so easy. Managers may not like this involvement because it could hurt their "ego" and autonomy. For workers, they are afraid to engage in that process for fear of criticism and lack of motivation. Even if they participate together with managers, they may have little contribution unless they understand the problem and are proactive to propose initiatives. The participation of all employees in decision-making will slow down this process. *Third*, consensus and collective based decisions go in parallel may create non-specialization, lifetime employment, and age-based promotion. By this way, the poor management capability will be protected by under employees. A manager who does not have special skills but is promoted to a job she/he does not have required expertise, that manager would not be able to make good decisions and therefore should not be given responsibility. She/he will have to rely on under personnel, as a result, it seems make decisions based on consensus and collective responsibility. It is therefore not advisable to create intimate relationships and build trust in order to protect the hierarchical relationships to ensure the achievement of the organization's development goals. *Fourth*, Theory Z gives organizational model without structure, if may lead to chaos in the organization because there is no person accountable to whom and for what. *Fifth*, the development of a common culture within an organization cannot be feasible because people are different in attitudes, behaviors, habits, language, religion,...

Theory Z has strong vitality in the academic community and is widely applied in management practice in public and private sector. The theory still has some issues to be addressed in different angles by researchers. This is quite obvious for a value of a theory in life sciences. The strength of Theory Z that is not only a pure theory of motivation of employees, or the actions needed to enhance the effectiveness of human resource management, but also has become a philosophy of managing people, in which, non-physical factors are considered decisive factors such as culture, faith, loyalty, satisfaction,... to influence on the behavior and productivity of employees,

besides other physical factors like salary and bonus remuneration. Theory Z appreciates the freedom with responsibility, the human individuality but all should be put harmoniously in the overall relationship with colleagues, subordinates, superiors, and especially with the objective of the organization's development.

3. S&T human resource policy of Japan in XXIth century

In Japan, S&T human resources have always been a key element for development of a prosperous nation. They are the main forces in "producing" knowledge, from which to create wealth for the nation and good value for society. In the XXIth century, Japan's human resources in general and S&T manpower, in particular are facing phenomenon of aging population with estimated declination from 128 million persons in 2012 to 100 million by 2048. The number of researchers in Japan was a range of more than 800,000 in 2013 and the percentage of PhD per 1 million people was half of the US, less than half of the UK and Germany. The age of the Japanese scientists is shrinking, only 30% were under 39 and aged researchers from 40-59 increased rapidly.

In addition, employment for scientists, especially young scientists in Japan is decreasing. They are facing with unstable jobs, "hierarchy by age" is quite heavy in the S&T system, i.e researchers with long experience, has a higher position often occupy important position and enjoyed some "privileges" in research. Rigid salary system and inflexible remuneration policy for scientists.

Facing before this situation, the Japanese government issued a series of important policies for S&T human resources development to make Japan become a world leading nation of innovation in the 21st century. These important policies emphasized the stimulation of scientific research and technological development passion in both scientific and business community. Through these policies, we could see some of the core contents of Theory Z had been inherited and incorporated therein, though there seemed some cons- points to the theory Z.

One of the focuses on Theory Z was to ensure a stable, full lifetime job regime for employees in an organization. Workers could move around many positions but still were within that organization. However, the policy of S&T human resources of Japan in XXIth century was to promote mobility, encouraging exchanges and networking of scientists, especially young scientists in the field of research. Japan scientists now may work in many different research institutes, universities and even private businesses. They are allowed to enjoy combined salary from different institutions.

Survey of the National Institute of Science and Technology Policy (NISTEP) indicated the position movement rate of Japanese scientists was very low. Features of Japanese people tend to be introverted, so they are very reluctant to change or communicate with international outside. Change in position of employment of Japanese researchers was almost negligible for over last 10 years, although there was an improved trend, it was still much lower than other developed countries, especially the move within the S&T institution system, or between universities and private business sector. Although the Government also considered the move could disturb the work of S&T institutions and of scientists themselves as well, this was the optimum solution to ensure minimum shortage of research positions, strengthened international exchanges and opening up the opportunities for the participation of qualified experts to work in Japan and in the world instead of being bound in the "four walls" of their institution for whole lifetime.

Another point needs to be emphasized was the salary policy for scientists. It also had some change compared with the Theory Z model. Theory Z "advocated" for a stable salary system, increased by hierarchy, seniority and high responsibility positions, and ensure a pension system of high incentives. Meanwhile, the remuneration policy for staff in new era of S&T is applied by the government based on capability and performance of scientific research personnel. Salary scale is decided annually (annual salary system) instead of salary increase by as determined before. Traditionally, pension was considered very high, now it has been converted into the pay roll system for the working period. The duration holding high responsibility position also can be extended or terminated based on the performance of scientists. Positions, including high positions in research institutions have clearly defined criteria for capability. Scientists in research institutes/universities are requested to annually state their needs for each working position and express their interest for management positions. On the basis of annual capacity assessment, scientists will gain the expected position for them can maximize their capabilities. Under the new policy, scientists can move to work in higher pay places. At the same time this stops the situation where management personnel with low capacity still "holding" position and cannot be moved to other jobs. This is considered as a breakthrough reform in S&T human resource policy of Japan leading to the break of "empiricism" and "the longer life the higher position held" habit in the S&T human resources management system in Japan before.

Theory Z believed that people with loyalty and long time working in the organization they have more synthetic and influencing capability to

operate the unit, therefore they should be appreciated and appointed to key management positions. In that system, though young workers with capability, they often have the little chance to break through in career development. However, in the new policy on S&T human resources development, the Japanese government pays special attention to young scientists. This policy action is to ensure the sustainability of the national S&T system, which is facing challenges when young talents do not aspire to become scientists. The new policy provide attractive positions for top researchers without mention of age, facilitate at maximum for young scientists to access major research tasks and be equal with "predecessor" scientists. In addition, young scientists are also entitled to education, training through large package of government fellowship; they also have free mobility in their work. The promotion of young scientists in profession is based on the results of their S&T activities of their own and the volume of their interaction with the private sector.

Some important contents mentioned above in the S&T manpower policy of Japan for XXIth century have difference compared with the main principles of the Theory Z on human resources management. Explanation for this, we can make reference to the particularity of S&T manpower which needs academic freedom, freedom of each individual creative scientist. Moreover, the trend of globalization and international integration in the field of S&T is putting pressure on scientists, making them to strengthen interdisciplinary exchanges and cooperation not just with local but also international colleagues...

However, if we look at macro-economic policies of a country in broader view and consider Japan as a large organization, the philosophy of human management of Theory Z would be appreciated. In the new policy, the Government of Japan confirmed that it would build a comprehensive sustainable ecosystem of the nation, where ensuring, on the one hand, the diversity of careers for scientists, but on the other hand, ensuring a sustainable, stable national community of S&T. The whole S&T system including research institutes, universities, state and private enterprises is encouraged to participate in S&T activities, use of scientists in production business, create favorable conditions for scientists to have mobility, including working for projects with many organizations and businesses involved This mechanism will encourage scientists to gain research experience in institutes, universities, and work experience from business environment at home and abroad. This will help them develop and accumulate capacity and talent of their own. Universities in Japan were

delegated the maximum power, they can proactively prioritize their S&T human resources development internally. "Basic Policy on transforming administrative agencies" issued in December 2013 has converted some universities and research institutes into "R&D oriented public corporations" and they are fully authorized to pay for scientists. The government also applied several policies connecting PhD personnel to private enterprises, diversification of career development path (such as organizing training programs for young researchers, retraining personnel in businesses,...). The Japanese government believed that with such policies it would ensure the system of S&T human resources of the country stable, meeting dynamic requirements in a competitive and strong integration environment and making the development of this important resource of the country harmonized and sustainable.

Theory Z was considered as a theory of motivation for employees. Arguments in Theory Z inclined to encourage workers to be more motivated and active, thus they could develop their capacity to contribute at maximum for work, thereby increasing productivity and quality for the entire organization. The new policy on S&T human resources of Japan in XXIth century is totally derived from this purpose with focus on encouraging passion of young people to become scientists, retaining talented people, encouraging participation of women in S&T activities.

The government has the policy of providing young scientists with autonomy and independence to conduct scientific research activities; introducing the regime of working under fix term contract with combination of basic salary with income from implementation of themes/projects to create attractive job opportunities for them. Young scientists are allowed to involve in the government scholarship programs for training abroad and they also have the opportunity to advance in their career development through the research capacity performance review system. Women scientists are also encouraged by the mechanisms to create a balance between work and family obligations, such as childbirth, child care; they enjoy less number of hours in work days, they can choose number of working hours between 19 hours 35 and 29 hours 35/week during the period from 1 month to 1 year before their child attends primary school. Additionally, research institutions, universities in Japan also established after-school day-care centres to support women scientists with children in primary school. Women scientists are provided with the conditions to become leaders of research groups in universities and research institutes in Japan.

4. Some thoughts on the policy of S&T human resources development in Vietnam

S&T human resources development was confirmed in major directives and policies of Vietnam. *“Investment in S&T manpower is an investment for sustainable development, it directly increases the knowledge and strength of the nation. Party and State have strong policies to develop, promote, respect and effectively use the S&T personnel”*. Vietnam should *“comprehensively form a cadre of highly qualified, enthusiastic, honest and dedicated S&T contingent; develop strong S&T organizations and collectives, leading scientists; the number of R&D would reached the figure of 11 per one thousand people”*¹. Human resource of S&T Vietnamese leaving abroad has been a major priority policy of the Party since the early 2000’s. *“It should develop a new comprehensive system of policies to attract, respect talents and promote the contribution of overseas Vietnamese intellectuals to the cause of national development; develop satisfactory remuneration for Vietnamese overseas specialists/experts, intellectuals with high professional qualifications, consulting capacity in management and execution, technology transfer, high technology development for the country”*²; It should have appropriate policies to *“attract resources of Vietnamese experts, living abroad and foreigners participate in S&T projects in Vietnam; encourage and create favorable conditions for students, graduate students, trainees to return and work in the country after completion of training overseas”*³. S&T human resources is considered as a key element in the process of international integration of S&T up to 2020. Therefore, the objective of S&T human resources development should be *“qualified enough to directly involve in S&T activities in the region and the world in some advanced and key areas”*⁴.

From the identification of the role of S&T human resources, Vietnam has set a target of building a cadre of S&T personnel, including groups of leading experts, engineers with high qualifications equivalent to those of advanced countries in the region, as one of the priorities. This is a contingent of qualified manpower capable to do research, reception, transfer

¹ Party’s Resolution No. 20-NQ/TW dated 31st October 2012 on the development of S&T to serve the cause of industrialization and modernization in condition of socialist-oriented market economy and international integration.

² Party’s Resolution No. 36/NQ-TW dated 26th March 2004 regarding policies for Vietnamese living abroad.

³ Party’s Resolution No. 20-NQ/TW dated 31th October 2012 on the development S&T to serve the cause of industrialization and modernization in conditions of market economy and socialist-oriented international integration.

⁴ Prime Minister Decision No. 735 /QD-TTg dated 18th May 2011 approving the proposal of international integration of S&T up to 2020.

and proposed science, technology solutions, address basic challenges of national development and integration with the trends of development of natural, social and technology sciences in the world. National plan for S&T human resources development in 2011-2020 confirmed the viewpoint that S&T human development must be associated with the management and effective use of manpower. The main objective is to build a contingent of S&T manpower sufficient in quantity, good in quality to reach the advanced level in the region and catch up the level of advanced countries; and parallel to ensure overall planning of S&T manpower and meet the required priority areas. Development of human resources in S&T needs to link with the requirements of international integration⁵.

The government has worked out a series of directive solutions for development of S&T human resources in Vietnam, the main solutions are: issuing synchronized incentive policies on attraction, training and use of S&T human resources (enabling work environment, remuneration policies); issuing policies to effectively use and promote S&T manpower (including leading experts and young professionals with high qualifications), which clearly define the autonomy on financial mechanism, special preferential regimes for S&T manpower who are assigned to perform S&T projects at national level; amendment, supplement of policies to attract Vietnamese scientists living abroad and foreign scientists participating in S&T activities in Vietnam; enacting and enforcement of regulations on democracy in S&T activities, particularly in social sciences and humanities; implementation of training plans for S&T personnel in priority areas of S&T⁶; in collaboration with the Ministry of Education and Training to have S&T human resources development mainstreamed and integrated into the university programs of priority, such as information technology, biotechnology, mechanical engineering-automation technology, technology of new materials and atomic energy. In addition, the Government has also pointed out some solutions for S&T human resources development to meet the requirements of international integration in general and in S&T development, in particular. Specifically, there should establish links with strong potential foreign S&T partners to train S&T personnel for Vietnam; implement joint research bilateral, multilateral, international programs/projects of; attract skilled foreign, Vietnamese overseas experts/specialists to work for Viet Nam; send S&T personnel to participate in international programs/projects of

⁵ Decision No. 4009/QĐ-BKHCHN dated 29th December 2011 of Minister of S&T approving the plan of S&T manpower development for the period 2011-2020.

⁶ Decision N0. 579/QĐ-TTg dated 19th April 2011 of Prime Minister approving the human resource development Strategy for the period 2011-2020.

S&T; improve foreign language skills for S&T personnel to meet the requirements of international integration of S&T⁷.

The system of policy of S&T human resources development of Vietnam is in the transition process of perfection. Major macro-economic oriented policies have been issued. That is considered as a necessary condition for the agenda setting policy. However, *a sufficient condition* is still under development. This condition includes specific policies and programs of action (including financial sanctions and incentive measures) which direct beneficiaries are Vietnamese scientists at home and abroad being potential personnel involved in the national S&T, who should know how and what to do to "enjoy" it. According to the authors, this is the moment when policy-makers should refer to contemporary values, including those no longer appropriate of Theory Z in the design of specific policies on S&T human resources development for Vietnam in the context of international integration.

Theory Z is the harmonized combination between the Oriental management philosophy and Western management practices. One of the values throughout Theory Z is the honoring of forever faithful, close connection of employees with the organizations where they work. Theory Z launched policies emphasizing on oriental culture philosophy as a basis combined with result based management of Western system. This value of Theory Z is very suitable for personality and customs of Vietnamese, particularly S&T personnel, who want cohesion, fidelity to scientific subjects being pursued with passion and experience accumulated. In scientific research, this will ensure the creation of science-intensive areas, encourage innovation and promote the application S&T into practice. Furthermore, S&T people are persons who like appreciation, respect, honor, spirit glorification, stable material conditions of living. If expanded across the border, the philosophy of Theory Z may apply for the attraction of the great intellectual property source of the nation, i.e the Vietnamese S&T people living abroad. They have the same mentality towards the motherland, the same wishes to contribute to the country development through transfer of knowledge, research and development activities in the country. Thus, if the policy of S&T human resources development of Vietnam is designed by Theory Z model it will ensure achieving three critical success factors, as follows: (i) Mobilized highly qualified and skilled S&T personnel from abroad to work for the country; (ii) keep this manpower working for long-term; and (iii) encourage their dedication and work by result-based performance. Directives for S&T human resources development policy of Vietnam have also

⁷ Decision No. 735/QĐ-TTg dated 18th May 2011 of Prime Minister approving the Strategy of international integration of S&T up to 2020.

mentioned above attraction, respect, appreciation in use of S&T personnel. However, specific policies are still under development. To ensure the effective implementation of this policy according to Theory Z, Vietnam needs to promulgated synchronously policies of material and spiritual incentives for appreciation and attraction of S&T people.

A value of Theory Z still exists, that the personnel management by believe. That is the management model of utmost excellence, in which all purely administrative management measures becomes unnecessary. Therefore, the policy of human resource development should focus on building trust between managers and employees and between employees and their organization. Management by confidence is meant that employees are empowered, involved in decision-making processes of the organization and they are entitled to access to information sources in the institution. Theory Z advocated reducing forms of administrative management, reduced intermediate levels, increased freedom, flexibility for workers, together with clear, complete capacity assessment, gentle control mechanisms, to save face for workers. This value of Theory Z is appropriate to characteristics of S&T human resources of Vietnam, especially in the current trend of reform. Specifically, the nature of scientific research and technological development activities require autonomy for scientists in their creative environment. Therefore and management by administrative "orders" only increased bureaucracy and low efficiency of S&T activities. Currently, Vietnam is implementing autonomy, self-responsibility policy for S&T organizations and scientists doing research and development, this expresses, in principle, a breakthrough in 2013 Law on S&T, and a number of related decrees. However, to implement comprehensively the Theory Z model, Vietnam needs to continue to improve public finance policies in S&T, in which encouraging lump-sum allocation to scientists who have been assigned to host S&T topics and projects and result based settlement of expenses. The effect of this policy on the one hand, is to build trust in scientists, while improving their accountability for the research results they generated, on the other as they need to conduct S&T by trust committed and for the reputation of themselves.

Besides some points with remained contemporary values, Theory Z has some limitations in practical application, namely lack of international link encouragement. This is the weak point of Theory Z in human resources development policy, in general and in S&T, in particular. In the context of globalization and international integration, S&T manpower must inevitably be linked with international community and it must be considered as a mandatory element for development. International links include not only undertaking learning, training, exchange of knowledge at conferences/

seminars but also the "production" of S&T products of international quality standard and having sufficient capacity for participation in international S&T community in addressing global challenges. The policy directives of Vietnam for S&T human resources development have already placed emphasis on this issue. Some specific policies have been mainstreamed in the target support programs for international integration of S&T such as bilateral and multilateral research programs or the program of searching and importing technologies from abroad. However, Vietnam could consider some specific policies to promote international integration for the scientists, such as having a percentage of national budget for topics and projects with international involvement, or adding an additional indicator in the assessment of S&T performance of scientists.

5. Conclusions

Theory Z was created by a Japanese scholar, imbedded with Asian culture in general and Japanese culture characteristics, in particular. The theory expressed generalized practice of human resource management in Japan for fixing the "error" in human resources management system of US businesses during the 80's. However, the influence scope of the theory went beyond the framework of the "error fixing" of US businesses purpose to become classical philosophy not only in the human resources development for businesses but also in policy-making bodies of government. Even though, Theory Z philosophy can be applied for dealing with relations between people in society. The theory glorifies level of loyalty, satisfaction of employees; respect the individualism in harmony with the collectivism, and development objectives of the organization as a whole.

For almost three decades, Theory Z has been the inspiration of academics to find out the right and not right spots to debate and finalize. In practice, policy makers have tried to apply, adjust some of the content of Theory Z to make it appropriate to domestic political conditions, world trends, and specific management areas.

Management of S&T human resources in Japan plays an important role in a country where the miracle is more determined by S&T and human factor. Japanese see this as national proud. In XXIth century, being aware of the challenges faced, Japan had long-term, timely strategy and policy on S&T human resources development. They focused on maintaining and ensuring the sustainability of the S&T manpower of the country through the promulgation of mechanisms of motivating, promoting passion together with preferential working conditions, training, wages and incomes for those doing research in Japan. Besides, the government also has flexible policies, get rid of rigidity in the traditional system of personnel management

systems, i.e lifetime working for one organization, escaping the trend of inward by employees, little communication with the outside world, little mobility to work for diversified organizations. Japanese scientists are encouraged to move around, change jobs and cooperate with colleagues from all local and foreign organizations. Remuneration tools and personal performance assessment system based on qualifications results rather than on seniority was applied in order to stimulate professional capabilities and creative freedom of scientists.

For Vietnam, S&T human resource development is also put at the center of socio-economic development strategies, in general and in S&T development, in particular.

The application of values of Theory Z can bring about useful thoughts for policy makers to design a synchronous system of national policies on S&T human resources development, such as salary preferences, glory compliment, autonomy, budget allocation based on the trust on scientific reputation of scientists and technologists.

So, the philosophy of human resources management by Theory Z has been applied at national macro level, although its application should take into account the specific characteristics of each country. This further confirms the vitality and value of Theory Z in the new century where human being and S&T are the two decisive factors that determine the prosperity of each country./.

REFERENCES

1. Resolution No. 20-NQ/TW dated 31st October 2012 of the sixth Party's Central Conference, term XI, on S&T development to serve the cause of industrialization and modernization in the socialist-oriented market economy and integration international conditions.
2. Resolution No. 36/NQ-TW of the Politburo dated 26th March 2004 on various issues of Vietnamese living abroad.
3. Decision No. 735/QD-TTg dated 18th May 2011 of Prime Minister approving the proposal on international integration of S&T up to 2020.
4. Decision No. 579/QD-TTg dated 19th April 2011 of Prime Minister approving the human resource development strategy of Vietnam for the period 2011-2020.
5. Decision No. 4009/QD-BKHHCN 29th December 2011 of Minister of S&T approving the plan of S&T manpower development for 2011-2020.
6. National Agency for S&T information. (2009) *World Science and Technology*. Hanoi: S&T Publishing House.

7. National Agency for S&T information. (2004) *History of S&T policies of Japan*. Hanoi: Labor - Social Welfare Publishing House.
8. *Human Strategy "Miracle in economic development of Japan"*. Hanoi: National Political Publishing House.
9. Ministry of Education, Culture, Sports and Science of Japan. (2008) *Statistical Yearbook 2007*.
10. Lebra, T., S, (1976) *Japanese patterns of behavior*. Honolulu: The University Press of Hawaii
11. Hatvany, N., and Pucik, V. (1981) *Japanese management practices and productivity*, *Organizational Dynamics*, 9 (4), pp. 5-21
12. Ouchi, W. (1981) *Theory Z: How American business can meet the Japanese challenge*, *Business Horizons*, Volume 24, Issue 6, November-December 1981, pp. 82-83
13. Sullivan, J.J. (1983) *A critique of Theory Z*, *The Academy of Management Review*, Vol. 8, No. 1, (Jan., 1983), pp.132-142
14. Van der Staal, P. (1992) *S&T Policy in Japan*, University of Technology Delft, the Netherlands, <http://data.nistep.go.jp/dspace/bitstream/11035/773/1/NISTEP-RM017-Fulle.pdf>
15. Chand, Smriti. (1993) *William Ouchi's Theory Z of Motivation: Features and Limitations*, <http://www.yourarticlelibrary.com/motivation/william-ouchis-theory-z-of-motivation-features-and-limitations/28024/>
16. Ministry of Education, Culture, Sports, Science and Technology Japan. (2011) *White Paper on Science and Technology 2011*, <http://www.mext.go.jp/english/whitepaper/1324365.htm>
17. Ministry of Education, Culture, Sports, Science and Technology Japan. (2014) *White Paper on Science and Technology 2014*, <http://www.mext.go.jp/english/whitepaper/1354396.htm>.