

Empirical Study of Human Resource for Innovation in Vietnamese Enterprises

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Abstract: This study is the product of a base line study (human resource development study in science, technology and innovation) launched by Innovation Partnership Programme (IPP) (An ODA program jointly financed by Governments Finland and Vietnam, since 2009). The research aims at presenting an empirical study of human resource capacity building for innovation through doing survey, fieldwork and face-to-face interviews with business leaders and managers of Vietnamese enterprises in 2012. The enterprises participated in the survey are the members of Young Entrepreneurs Associations. The fieldwork has been conducted between March and June in six locations in Vietnam which are Ha Noi, Hai Phong, Da Nang, Da Lat, An Giang and Ho Chi Minh City. The information collected in the survey includes background of the respondents, status of innovation work in the enterprise and the opinions on human resource capacity of 583 Vietnamese enterprises. We expect the results can support enterprises, public management agencies, research organizations, universities and individuals to have better capacity in the innovative activities.

Key words: Human resource, innovation, vietnamese enterprises, survey, business leader

INTRODUCTION

What is innovation: It is a common misunderstanding that innovation is the same as invention. An invention is an output of a research institute a university, an individual inventor or a business organization. An invention might emerge as a quick insight or it has been purposefully developed in a long and creative process. However, an invention is only raw material for an innovation.

In this study, innovation is defined as the use of new technological and market knowledge to process a commercial product or service to customers in old or new geographic markets. The three basic competition factors of a product-price, quality and involved services are essential for the success in both export and domestic markets. The differentiation of these factors is done by innovations.

Innovation in Vietnam: The economy in Vietnam has progressed extremely well over the last two decades with annual GDP growth rate of 7-8%. The main reason for this growth was the low prices of production factors and huge investments in the basic infrastructure. Vietnam has mainly exported raw materials, primary agricultural products or low technology products like garments and shoes. Joining the World Trade Organization in 2007, Vietnam has opened to global markets and increased imports.

In the World Bank Knowledge Economy Index (KEI 2012) (KEI measures if knowledge can be effectively

used for economic development), Vietnam was ranked 104th among 145 countries, standing behind other neighboring countries such as Singapore (23th), Malaysia (46th), Thailand (66th), China (84th). At the same time, the World Intellectual Property Organization (WIPO, UN 2012) ranked Vietnam the 76th of 141 countries in the annual Global Innovation Index. The index assesses both innovation capabilities and achievements. The positions of neighbors such as Singapore, China, Malaysia, Thailand and Cambodia were 3th, 34th 32th, 57th and 129th, respectively. Thus, Vietnam can be considered a developing country with innovation potential. In Vietnam, the R&D activities are organized in research institutes of line ministries and often financed by the government. However, it is a very modest financing of about 0.3% of GDP. The government plans to increase the R&D investments to 2000 million USD by 2020. Besides, given the significance of innovation in private enterprises innovation owners, the government finance goes mainly to public sector institutions and seldom to the private enterprises. The financial sector like banks hesitates to fund innovations because of the high risk involved. That is the reason why innovations in Vietnamese enterprises are mainly self-financed. Therefore, this practice often restricts their innovation activities.

In Vietnam, there has been a strong belief that inventions generate new commercial values. However, Vietnam still cannot fully realize innovation successes. Vietnam mainly employs and reproduces technologies generated elsewhere. This situation should be changed in

order to get stronger grip of growth and productivity and move to the next ladder of development. Only own innovations based on own national strengths can make the national economy strong.

In addition, even when Vietnamese enterprises entirely get involved in innovation process, they will face numerous obstacles such as: lack of technical skills, management skills, finances for innovations and especially low human resource capacity for innovation. Essentially, innovation processes need people with creativity, specialized know-how and networks. Thus, human resource is seen as one of the most important factors for innovation because they are directly involved in innovation process. Therefore, building human resource capacity for innovation would be more important today than ever as the dramatic changes in current economic crisis requires enterprises to be more flexible and creative.

Vietnam is a country with abundant and young population of 90 million. However, a large number of them lack education; therefore, the salaries are often low. Over the last decade, the country has increased its rating in terms of education and human resource development on international indices. In 2012, Vietnam was rated 127th of 186 countries in the UNDP Human Development Index. This has brought Vietnam to the middle development category together with some neighbors such as China (101th), Thailand (103th), Laos and Cambodia (both in 138th). Besides, Vietnam has been quested for the universalization of primary education in order to build a sound basis for higher quality of work force. There are 250 public and private technical and vocational schools with over 300,000 students. However, there is no dual vocational education system where students can combine theoretical training with practical training at a company. In general, domestic companies prefer not to take on trainees or apprentices while foreign firms prefer to train their workers in-house or import highly skilled workers for handling specialized, mainly Chinese machinery. This practice does not encourage labor force's capacity as well as their innovations.

Objectives of the study: The main objective of this research is giving an empirical study on human resource capacity for innovation in the enterprises located in 6 cities which are Ha Noi, Hai Phong, Da Nang, Ho Chi Minh city, An Giang and Da Lat. Through this study, we can draw a picture of the current status of human resource capacity for innovation in Vietnam.

Literature review: Innovation in business in general and human resources for innovation in particular is an urgent

issue not only for the performance of the enterprises but also for the development of the economy. As a result, this issue is a hot topic that has been studied by many researchers and organizers.

Montes *et al.* (2004) proved that the greater successful in innovativeness of enterprise in order to change and develop new capabilities, could better contributed to the achievement performance for enterprise. According to this view, prior studies namely Collins and Clark (2003), Lado and Wilson (1994), Wright *et al.* (2001) and Youndt *et al.* (1996) recognized the development of knowledge and capacity of human resource are very crucial for the enterprise innovation. Furthermore, MacDuffie (1995), Collins and Clark (2003), Delery and Doty (1996), Mendelson and Pillai (1999) and Youndt *et al.* (1996) studied that there were a significant relationship between human resources innovation and organizational outcomes such as productivity, flexibility and financial performance. They also explored the relationships between environmental factors and the use of "innovative human resource practices".

Human resources policies and capacity for innovation are studied differently by some researchers. Collins and Clark (2003), Currie and Kerrin (2003) and Youndt *et al.* (1996) mentioned about the innovation for human resources practices applied for several ways such as strategic human resource practices, innovative work. Mendelson and Pillai (1999) and Laursen and Foss (2003) also found that improving the characteristics of information age organizations were one of the way to contribute new human resource practices. In addition, there are many different measurements of human resources practices in these prior studies associating with their research purposes.

Training for employees is the main way that each enterprise implements for the innovation in human resources (Brockbank, 1999; Jaw and Liu, 2003). Brockbank (1999) and Mumford (2000) studied that employees could be educated and enhanced new knowledge, skills and innovative capability necessary for performing their work by providing some training programs. Weisberg (2006) found that enterprise could develop the organizational expertise related to the demand and content for the innovation. Torraco and Swanson (1995) recommended that enterprise should invest in training to enhance employee expertise at all levels of the organization. As a result, a potentially inexhaustible source of ideas for further innovation can be created. In addition, Damanpour (1991) and Hurley and Hult (1998) proved that innovation requires employees a high level of involvement and participation by granting them to solve problems and to participate in decision making that affects

their work. A high level of training programs could make the conditions to encourage employees to exchange knowledge and create new ideas in the process of innovation and in lead to the improvement of innovative outcomes (Jimenez-Jimenez and Sanz-Valle, 2005; Tsai, 2002).

Crespi and Zuniga (2012) and Lee and Kang (2007) found that innovation was broadly expected to be one of the most important factors for economic growth, especially in developing countries. Those countries often focus more on the development of human resources to promote the economic growth by spending necessary time and efforts. Therefore, companies in developing countries are trying to invest reasonable resources in developing human capital which leads to a significant impact on the enterprises' profit (Marimuthu *et al.*, 2009). Many emerging economies namely China have become appreciable factor in the global innovation system. There is evidence that R&D played an important role in the dramatic growth of Asian economies such as China, Korea and India. However, human resources for innovation is not strongly focused on OECD (2012). In the opportunities of integration into global knowledge today, the development of innovation ability in each developing country requires supportive measures such as finance, especially provision of suitable skills and knowledge of human resources.

Most of the studies have evaluated a wide range of aspects of innovation in human resources, especially for the employees training. However, this aspect has not been adequately codified. Very few researches did surveys to enterprises in order to offer more practical evidences. In addition, Vietnam still does not have any research papers on human resource innovation. Also, in the reviewed literatures, obstacles and proposals in building human resource for innovation were not mentioned and studied by doing survey. Therefore, this study will attempt to overcome these limitations.

MATERIALS AND METHODS

The study used survey methods with interviews of managers and directors in Vietnamese enterprises. Like other surveys, 14 operation steps are applied to find final results. The process includes agreement on the contract, training on project requirement and survey, draft of questionnaire, draft of questionnaire review, questionnaire testing, final questionnaire, data preparation, training for interviewers, interviews, data collection, data analysis, draft of survey report, feedback on survey report and final survey report.

The estimated number of interviews was 614 in six locations namely Hanoi, Hai Phong, Da Nang, HCM city, An Giang and Da Lat. The interviewees were business leaders or managers in enterprises related to innovation. The enterprises that were contacted to interview came from six business sectors namely ICT, Biotechnology, Mechanical engineering, Environment technology, Building materials and Services.

Among 614 enterprises, 583 enterprises were successfully interviewed. Of the remaining 31 enterprises, 11 enterprises change their interview schedules due to the unforeseen reasons. Therefore, we could not conduct the interview successfully. Moreover, 20 enterprises who participated in the interview could not fulfill the questionnaire. As a result, these respondents are considered invalid.

Questionnaires: Based on the suggested questionnaire from IPP, the questionnaire was applied to one surveyed object: enterprises. The questionnaire was based on the structure with three parts: background of the respondents, status of innovation and opinions on human resource capacity and other innovation-related issues.

Sampling strategy: The study can be considered a pilot study. No random sampling was used because that might have caused too much empty cases and waste of effort. When selecting enterprises, we have been in consideration to include those who can be expected to have the linkages to innovations.

Fieldwork method: In order to conduct the interview, we set up three different interview groups: one in Hanoi which was in charge of Hanoi and Haiphong; one in Da Nang, in charge of Da Nang area and one in Ho Chi Minh City, in charge of the area of three provinces and cities: An Giang, Da Lat and Ho Chi Minh City in which IPP has communication activities, training awareness of innovation. Each group had one leader and worked directly with the project's chief consultant. Before the official interview, we provided trainings on interview skills to the group leaders.

Interview appointments were agreed in advance by phone with the Managing Director or other heads of institutions in 614 Vietnamese enterprises. Besides, the questionnaire was also sent to the interviewees in advance.

RESULTS AND DISCUSSION

Basic information of studied enterprises-innovation owners: The sample mainly represents domestic enterprises in Vietnam (88%), of which 57% sell their

Table 1: Position of the interviewees (enterprises)

Position of the interviewees	Number	Percentage
Director	12	2
Deputy director	192	33
Manager, senior expert	379	65
Total	583	100

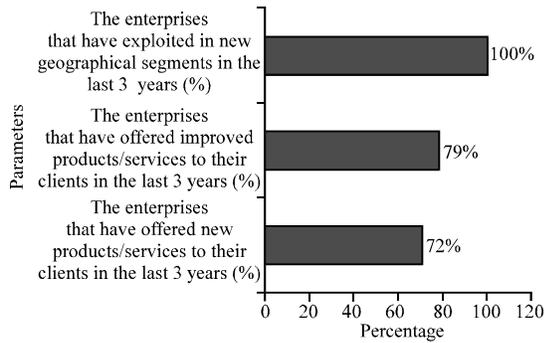


Fig. 1: Percentage of enterprises that have offered new and improved products and services to their clients or exploited new geographical segments in the last 3 years (n = 583)

products nationwide and only 11% sell their products to overseas markets (ASEAN and outside ASEAN). About 62% of the surveyed enterprises are located in Hanoi and HCM city and they are expected to compete by having their own products and innovations. Distribution of the surveyed enterprises by business sector is quite equal, about 17% per sector on average. About a half of the surveyed enterprises has <100 employees, only 6% of the surveyed enterprises have >500 employees. On average, the number of employees in the surveyed enterprises is 168. Besides, nearly a third of the surveyed enterprises have turnover ranging from 10-30 billion VND in 2011. Enterprises with turnover of >300 billion VND account for 16% of the sample.

Table 1 shows that 65% of the interviewees are managers and senior expert and 35% are general director and deputy director. They are knowledgeable about business and innovation activities of enterprises. Many interview subjects are related to business and sales. This study does not investigate employee's perceptions and opinion on innovation-related issues.

Human resources for innovation

Enterprises-status of innovation and HR policies for innovation: The sampled enterprises show dynamism in their business. In more details, all surveyed enterprises have expanded their geographical markets in the last three years. Over 70% of them have offered new products to their clients which is a relatively high figure (Fig. 1). The results indicate such great efforts of Vietnamese enterprises on innovations in recent years. As a result,

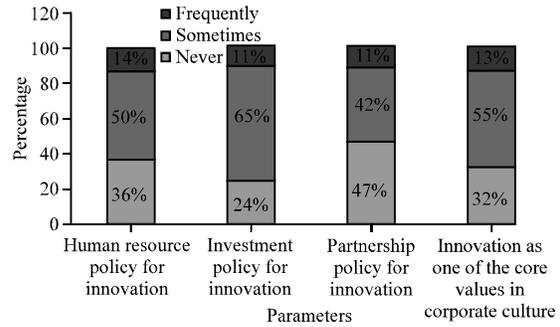


Fig. 2: Percentage of enterprises in which the leaders speak to their employees about policies related to innovation by frequency in the last 3 years (n = 583)

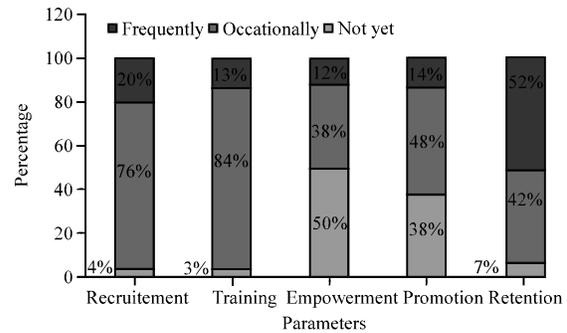


Fig. 3: Policies for prioritizing innovative people (n = 583)

these attempts can possibly increase the gross revenue of Vietnamese enterprises by 10% in estimation (IPP, 2012).

According to the survey, slightly >50% of enterprises already mentioned innovation policies to their employees. By contrast, there are from 24-47% of enterprises in which the leaders never speak to their employees about any kinds of policies related to innovation in the last 3 year. Besides, it is worth mentioning that up to 14% of enterprises frequently speak to their employees about human resource policy for innovation, compared to only 11% about investment policy and partnership policy and 13% about innovation as the core value in corporate culture. Therefore in the innovation process, human resources policy is considered by enterprises to be very important compared to other policies such as investment, partnership, etc. (Fig. 2).

More than 50% of the surveyed enterprises have introduced a wide range of policies to prioritize innovative human resources. The majority of enterprises (76 and 84%) cares about recruitment and training policies, respectively. This result indicates that the surveyed enterprises are highly conscious of the role of human resource in innovation and are making efforts to recruit and retain innovative people (Fig. 3).

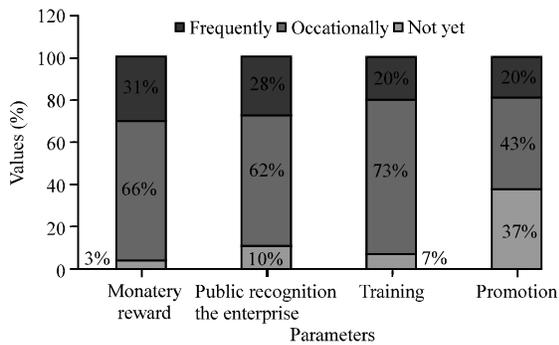


Fig. 4: Incentives to reward innovation efforts, enterprises (n = 583)

In addition, enterprises have started to organize training courses and created other incentives for innovation such as money reward, public recognition or promotion to encourage talents, especially those who have potential to participate in innovation. Of these four incentives, monetary reward is most frequently used by the enterprises, while promotion is the least widely used (Fig. 4). Most of the enterprises have encouraged innovative employees through occasional or frequent monetary rewards, training courses or public recognition (97, 93 and 90%, respectively).

However, there are a small number of enterprises that do not implement any incentives to reward innovation efforts. Especially, 37% enterprises have not carried out promotion policy that empowers innovative people (i.e., giving innovative people more power or higher hierarchical positions).

Vietnamese enterprises often apply incentives to reward innovation efforts because of the following reasons. According to IPP (2012), there is strong proportional relationship between turnover from new/improved products and services and some specific policies of prioritizing innovative people especially promotion, empowerment. Moreover while the incentive of training is highly proportional to the turnover from new products and services, the monetary reward has strong effect on motivating the improvement of the products and services. In other word, in order to increase the turnover from new and improved products and services, many of enterprises occasionally use training courses and money as incentives to reward innovation efforts. The results also indicate that the enterprises that are successful in innovations are well organized in managing human resources (IPP, 2012).

Employees involved in innovation-related activities in the last three years: The percentage of innovative employees in all surveyed enterprises is normally well below 10%. In

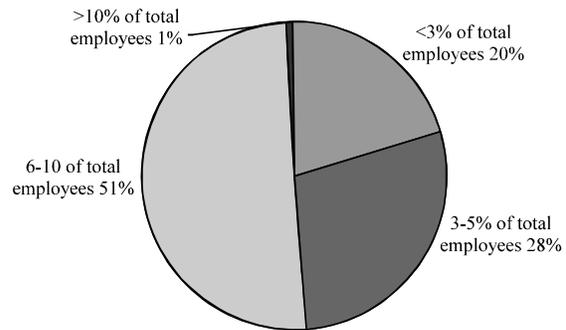


Fig. 5: Employees involved in innovation related activities in the last 3 years, % of all enterprises (n = 583)

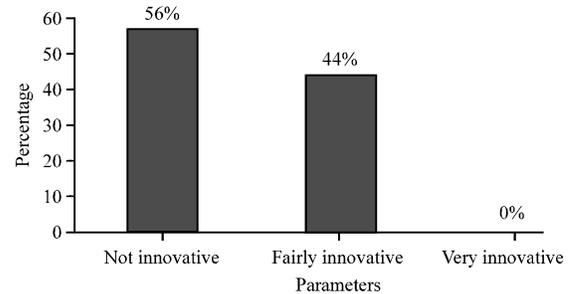


Fig. 6: Innovative assessment of employees, enterprises (n = 583)

>50% of the surveyed enterprises, 6-10% of employees involved in innovation whereas in only 1% of the enterprises. The proportion of innovative employees reaches 10% or higher. The results indicate a lack of human resource for innovation in the surveyed enterprises in the last three years. However, it is important to note that the results may be distorted because human resources in the surveyed enterprises do not work only with innovation but they do several jobs concurrently (Fig. 5).

As can be seen, 56% of the surveyed enterprises provide an assessment that their employees' innovative capabilities are very weak. Besides, no surveyed enterprises confirm extreme innovation capacity of their employees. This moderate number of innovative employees can be explained as the surveyed enterprises have not applied comprehensive system to assess the innovating performance (Fig. 6).

By ownership and legal status of enterprises, the employees are assessed to be fairly innovative in 56% of FDI enterprises and in 53% of the sole proprietorship enterprises. Besides, according to this survey, 56% of Vietnamese state-own enterprises and 89% of general partnership enterprises said that their employees are not innovative (Table 2).

Table 2: Considerations of innovation capability of the employees

Parameters	How innovative the employees are? (%)		Total
	Not innovative	Fairly innovative	
Ownership			
State	56	44	75
Private	57	43	490
FDI	44	56	18
Total respondents	329	254	583
Legal status			
Limited liability	59	41	276
Corporations	55	45	247
General partnership	89	11	9
Sole proprietorship	47	53	49
Other	0	100	2
Total respondents	329	254	583
Nationality			
Domestic	59	41	510
Foreign	43	57	23
Domestic-foreign	36	64	50
Total respondents	329	254	583
Sector			
ICT	53	47	83
Biotechnology	60	40	92
Mechanical engineering	62	28	99
Environment technology	62	38	101
Construction materials	53	47	96
Services	49	51	112
Total respondents	329	254	583

By nationality, the joint venture enterprises experience a higher level of innovation in which 64% of respondents agree their employees are fairly innovative. At the same time, 59% of domestic enterprises assess their employees as uncreative.

By sector, 47% employees from construction materials and 51% services are fairly innovative. On the contrary, the environment technology, biotechnology and mechanical engineering sectors are the most uncreative sectors with their figure of no-answer being above 60%.

Awareness and willingness: In the surveyed enterprises, innovation awareness among employees remains fairly low. More than 70% of employees in the enterprises have low awareness about all the three innovation policies. This result implies that employees are often not aware of any kinds of innovation policies. In addition, the proportions of employees with high innovation awareness about the three policies are very small (6% for all three innovation policies) (Fig. 7).

Figure 8 compares the degree of willingness to innovate between two groups of employees managers (and higher) and other staffs. It can be seen that the top managers are more likely to be willing to innovate and reform the company (49%) while the figure for other staffs is much lower, 13%. Besides, low willingness to innovate can be seen in 16% of in both managers and staff level. It is likely that the managers have tendency to consider the future of the enterprise and the willingness of staff is lower because they are seldom involved in innovation discussions (Fig. 8).

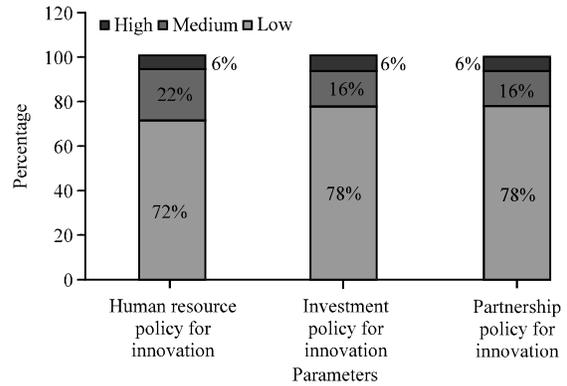


Fig. 7: Awareness level of employees about innovations in enterprises, % (n = 198 for human resource policy, 229 for investment policy and 178 for partnership policy); low: under 30%, medium: from 31-70%, high: >71%

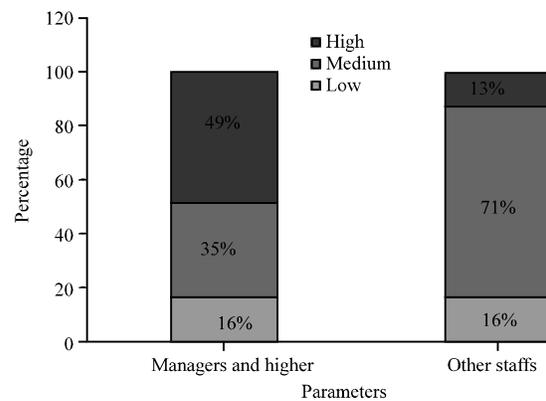


Fig. 8: Percentage of enterprises whose employees are willing to innovate (n = 583) low: under 30%, medium: from 31-70%, high: >71%

HR capacity building for innovation

Activities to build HR capacity: Most of the surveyed enterprises have provided new working and learning materials and tools for their employees in the workplace frequently (58%) in order to enhance the innovation capacity of employees. Although, enterprises are not very likely to organize internal training courses for employees (only 37% of the enterprises), they prefer to send them for training courses from other partners (55%). Besides, 63% of them have not hired experts yet in order to provide assistance to their employees. Thus, the employees in these enterprises do not have a chance to learn from those experts (Fig. 9 and Table 3).

Table 3: Activities to build the HR capacity for innovation by ownership

By ownership	The enterprise that organizes its own training courses (%)			The enterprise that sends its employees to training courses organized by other partners (%)			The enterprise that hires technical assistance to work with its employees (%)			The enterprise that provides its employees with updated working and learning materials and tools (%)		
	Not yet	Occasionally	Frequently	Not yet	Occasionally	Frequently	Not yet	Occasionally	Frequently	Not yet	Occasionally	Frequently
State	53	40	7	49	45	6	67	21	12	11	23	66
Private	52	42	6	44	48	8	62	30	8	9	33	58
FDI	78	22	0	50	44	6	72	17	11	22	28	50

Table 4: Activities to build the HR capacity for innovation by sector

By sector	The enterprise that organizes its own training courses (%)			The enterprise that sends its employees to training courses organized by other partners (%)			The enterprise that hires technical assistance to work with its employees (%)			The enterprise that provides its employees with updated working and learning materials and tools (%)		
	Not yet	Occasionally	Frequently	Not yet	Occasionally	Frequently	Not yet	Occasionally	Frequently	Not yet	Occasionally	Frequently
ICT	40	49	11	47	48	5	52	45	4	12	25	63
Biotechnology	67	28	5	41	50	9	75	19	6	10	36	54
Mechanical engineering	66	30	4	49	39	12	66	24	10	12	37	51
Environment technology	48	48	4	50	39	11	67	28	5	8	36	56
Construction materials	56	35	9	44	49	7	68	25	7	7	34	59
Services	42	52	6	39	60	1	53	32	15	12	21	67

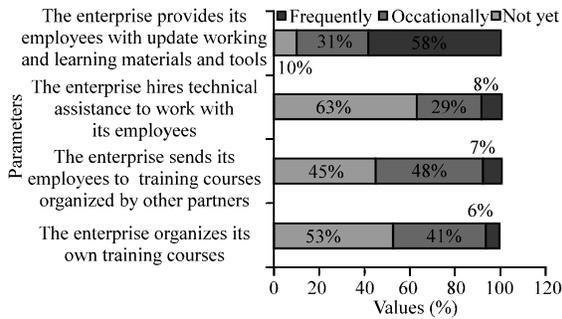


Fig. 9: Activities to build HR capacity for innovation in the last 3 years

Updated working and learning materials and tools can be seen the most popular activity to build innovative capacity in the three kinds of Vietnamese enterprises. Only <25% of three different kinds do not practice this policy. By comparison, state enterprises more frequently organize their own training courses than private and FDI enterprises. On the contrary, private enterprises prefer to send their employees to training courses organized by other partners (56%). Almost all enterprises in the three kinds are not interested in hiring technical assistance with the figures being above 62%. The most common innovative activity for FDI companies is to update working and learning materials and tools. These enterprises have not usually organized training courses or hired technical assistance.

Table 4 shows that the employees with updated working and learning materials and tools by sectors are applied most by enterprises in the six sectors. Besides, for

ICT sector, they mostly provide their employees with their own training (60%). In Biotechnology sector, employees are usually sent to training courses organized by other partners (59%). However, hiring technical assistance to work with its employees is not appealing to most of enterprises (75%). Mechanical engineering and environment technology sectors witness an occasional sending of their employees to training courses organized by other partners. Especially, they sometimes hire technical assistance to work with their employees (>20%). By comparison, the enterprises in construction materials sector more frequently hire technical assistance than enterprises in the above sectors, excepting in mechanical engineering. In service sector, they normally organizes their own training courses (58%) use training courses provided by other partners (61%).

Training content and topics: Table 5 shows that the most frequent training content is organization development and management. Besides, other importance training topics including research and development, business planning, production, soft skills do not appear frequently in the training contents. Thus, enterprises should diversify training contents in order to enhance the innovation capacity for employees.

Training cost: There are 174 enterprises that have organized training courses on innovation and 80% of them (141/174) spend <500 million VND on innovation training in 2011. By contrast, only 4% pay >5 billion VND. Especially, nearly half of them (47%) spend <100 million VND on the training programs. Therefore, it is obvious

Table 5: The contents and topics to enhance the innovation capacity for employees

Contents and topics	Status
Research and development	Not frequently
Product development	Occasionally
Business planning	Not frequently
Production	Not frequently
Business development	Occasionally
Soft skills	Not frequently
Organization development and management	Frequently
Business legal issues, innovation project management and product commercialization	Occasionally

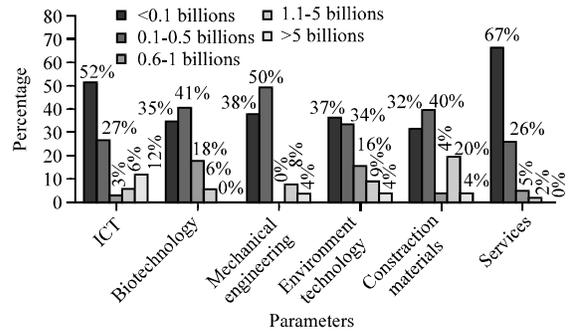


Fig. 11: Cost related to training on innovation in 2011 of the surveyed enterprises by sector (billion VND)

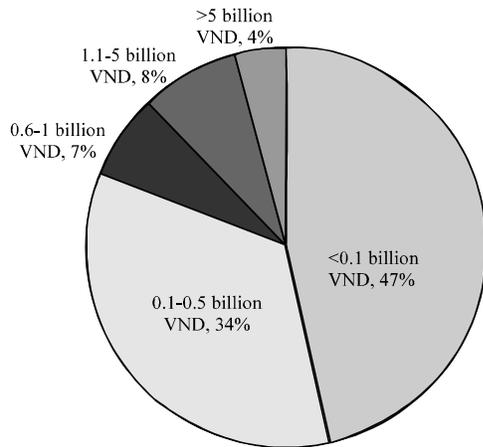


Fig. 10: Cost related to training on innovation in 2011, Enterprises (n = 174)

that the cost that enterprises pay for training on innovation is still very small (Fig. 10).

ICT is the most common sector in which enterprises spend >5 billion VND for training courses. Mechanical engineering, environment technology, construction materials and services are four sectors in which a third of the surveyed enterprises spent from 100-500 million VND. In service sector, Vietnamese enterprises spend a modest amount for innovation training program with 67% of them spending <100 million VND (Fig. 11).

Future training needs: Figure 12 illustrated the expected budget on innovation (compared to the budget in 2011) of enterprises in the next three years. More than a half of the 583 enterprises expect that budget for training in innovation in the next 3 years is equal to that in 2011. Besides, only 10% of them expect an increased in budget for training by the next three years. That means in most of the surveyed enterprises, long-term budget plan for training and the willingness to increase innovation budget in the next years are not commonly considered.

Obstacles of building HR capacity for innovation: The graph presents five obstacles of building HR capacity for

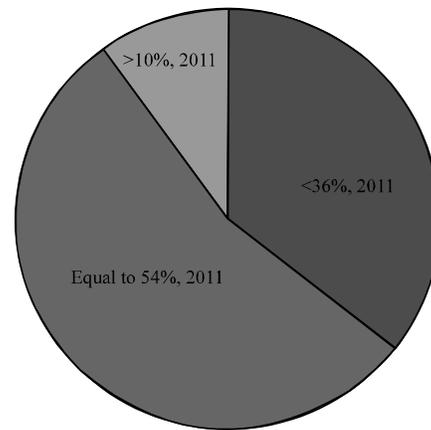


Fig. 12: Expected budget for training on innovation in the next three years, enterprises (n = 583)

innovation in the surveyed enterprises. It shows that to most enterprises (70%) the shortage of talented and innovative human resources is the main obstacle for building human resource's innovation capacity. Other important obstacles are the lack of innovation knowledge/knowhow and financial resources with the figure at 56 and 53%, respectively. In addition, the figure implies that an inability to promote innovativeness is not a main problem for enterprise with the percentage of agreed respondents being at 56%. It is noticeable that there is equal percentage of surveyed enterprises agree whether closed and backward corporate culture is the obstacle of building human resources for innovation (Fig. 13).

Proposals for HR capacity building for innovation: From the survey, the respondents had proposed a lot of suggestions to accelerate the innovation process. Most of the enterprises believe that the most needed is to have a detailed work plan and an appropriate budget for improving innovation capacity (85%) or to define the

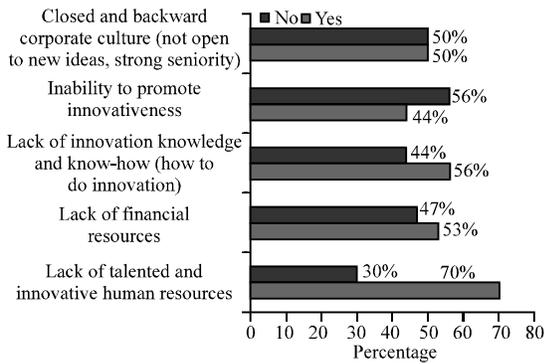


Fig. 13: Obstacles of building HR capacity for innovation, enterprises (n = 583)

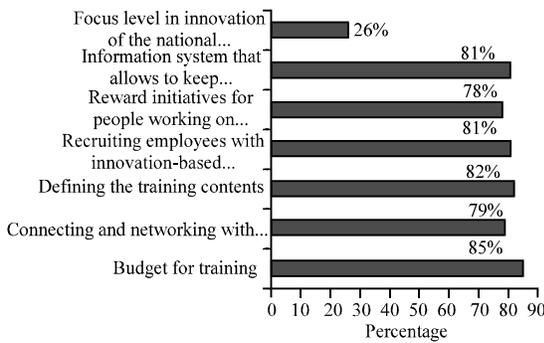


Fig. 14: Proposals for building HR capacity, enterprises (n = 583)

training contents (82%). In addition, 81% surveyed enterprises suggest that innovation-based criteria in employee recruitment and an information system are needed so that enterprises can keep updated with innovations (Fig. 14).

However, only 26% enterprises propose a focus level in innovation of national development policy. Moreover, enterprises also expect the Government to execute a long-term strategy and detailed policies to improve the innovation environment. Enterprises are also concerned about innovation education and professional training to boost the innovative capacity. Also the innovativeness should be included as part of the recruiting policy. There is also a need to have innovation specialists as a profession to transfer innovation knowledge to the employees and help them approach successful innovation process.

CONCLUSION

The study implies that in the innovation process, human resources policy plays an important role for

enterprises compared to other policies like investment, partnership. Besides, many enterprises have rewarded the innovative employees by money and training courses because they have recognized the strong proportional relationship between innovation (turnover from new and improved products and services) and innovation policies and incentives.

However, their employees' innovative capabilities were still weak in the surveyed enterprises and the percentage of innovative employees in all surveyed enterprises is very moderate (10%). Although, >50% of enterprises already mentioned innovation policies to their employees, there are >70% of enterprises said that their employees are often not aware of any innovation policies. At the same time, the level of willingness to innovate is normally high at manager level, higher than at staff level.

Regarding innovation activities, Vietnamese enterprises currently try to build human capacity by providing staff with latest working tools and equipment for self-training. This is hoped to improve the innovation capacity. In case of training, enterprises have sent employees to public courses more frequently than conducted in-house courses. The mechanical engineering sector hired technical assistance to work with their employees more frequently than other sectors. ICT is the sector that spends most in innovation training. Moreover, all surveyed organizations said that they have demand for training in innovation. However, the cost that enterprises pay for training on innovation is still very small and the enterprises' willingness to increased long-term budget for training in innovation in the next years are quite low.

LIMITATIONS

This study is one of the first innovation studies in Vietnam. The innovation concepts are not familiar even though innovation consultants have been using them all the time to explain the essential contents. The understanding of innovation varies a lot and thereby affects the survey results. In addition because of sampling strategy, the results cannot be considered as fully statistical significant but they can describe the general picture of innovation in Vietnamese enterprises.

Enterprises are the natural innovation owners. They are in charge of the innovation process. However, normally they do not pose all necessary know-how to solve problems in the innovation process. Moreover, the paper could not provide comprehensive research result because the study just reflects findings only from the perspectives of directors and managers in enterprises.

That is why, it is important to link with knowledge

producers like universities, research institution and specialized consultants, especially employees directly related to human resources for innovation process in enterprise. Thus, in the next research, the study will expand the sample to universities, research institutions and specialized consultants. Besides, the future research can be conducted for other provinces in Vietnam like Nam Dinh, Vinh, Hue, Binh Duong, etc.

IMPLICATIONS

The study can draw some implications for academics, practitioners and policy-makers. For the academics, the study provides empirical evidences about human resource for innovation in Vietnam. It clarifies how business leaders and manager's perceive innovation-related issues from which researchers can propose new research directions that can create the supportive linkage between theoretical and empirical studies.

Besides, the results suggest that the managers and executives in Vietnamese enterprises should empirically approach to innovation, recognizing significance of innovation, obstacles and proposals for better human resource building capacity in Vietnam. Thus, they can adjust their attitude and behaviors toward innovation and adopt effective training programs.

Finally for public policymakers, it is obvious that the government, considering the practical study of innovation in Vietnamese enterprises should play essential role in imposing law and incentives regarding enterprises, especially SMEs to encourage them to engage in innovation. Therefore, policymakers should finance higher money for innovation and introduce more R&D projects that can be conducted by Vietnamese enterprises.

REFERENCES

Brockbank, W., 1999. If HR were really strategically proactive: Present and future directions in HR's contribution to competitive advantage. *Human Resour. Manage.*, 38: 337-352.

Collins, C.J. and K.D. Clark, 2003. Strategic human resource practices, top management team social networks and firm performance: The role of human resource practices in creating organizational competitive advantage. *Acad. Manage. J.*, 46: 740-751.

Crespi, G. and P. Zuniga, 2012. Innovation and productivity: Evidence from six Latin American countries. *World Dev.*, 40: 273-290.

Currie, G. and M. Kerrin, 2003. Human resource management and knowledge management: Enhancing knowledge sharing in a pharmaceutical company. *Int. J. Human Resour. Manage.*, 14: 1027-1045.

Damanpour, F., 1991. Organizational innovation: A meta-analysis of effects of determinants and moderators. *Acad. Manage. J.*, 34: 555-590.

Delery, J.E. and D.H. Doty, 1996. Modes of theorizing in strategic human resource management: Tests of universalistic, contingency and configurational performance predictions. *Acad. Manage. J.*, 39: 802-835.

Hurley, R.F. and G.T.M. Hult, 1998. Innovation, market orientation and organizational learning: An integration and empirical examination. *J. Market.*, 62: 42-54.

Jaw, B.S. and W. Liu, 2003. Promoting organizational learning and self-renewal in Taiwanese companies: The role of HRM. *Human Resour. Manage.*, 42: 223-241.

Jimenez-Jimenez, D. and R. Sanz-Valle, 2005. Innovation and human resource management fit: An empirical study. *Int. J. Manpower*, 26: 364-381.

Lado, A.A. and M.C. Wilson, 1994. Human resource systems and sustained competitive advantage: A competency-based perspective. *Acad. Manage. Rev.*, 19: 699-727.

Laursen, K. and N.J. Foss, 2003. New human resource management practices, complementarities and the impact on innovation performance. *Cambridge J. Econ.*, 27: 243-263.

Lee, K. and S.M. Kang, 2007. Innovation types and productivity growth: Evidence from Korean manufacturing firms. *Global Econ. Rev.*, 36: 343-359.

MacDuffie, J.P., 1995. Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Ind. Labour Relat. Rev.*, 48: 197-221.

Marimuthu, M., L. Arokiasamy and M. Ismail, 2009. Human capital development and its impact on firm performance: Evidence from developmental economics. *J. Int. Soc. Res.*, 2: 265-272.

Mendelson, H. and R.R. Pillai, 1999. Information age organizations, dynamics and performance. *J. Econ. Beh. Org.*, 38: 253-281.

Montes, F.J.L., A.R. Moreno and L.M.M. Fernandez, 2004. Assessing the organizational climate and contractual relationship for perceptions of support for innovation. *Int. J. Manpower*, 25: 167-180.

- Mumford, M.D., 2000. Managing creative people: Strategies and tactics for innovation. *Human Resour. Manage. Rev.*, 10: 313-351.
- OECD., 2012. Innovation for Development: A Discussion of the Issues and an Overview of Work of the OECD Directorate for Science, Technology and Industry. OECD, Paris.
- Torraco, R.J. and R.A. Swanson, 1995. The strategic roles of human resource development. *Hum. Resour. Plann.*, 18: 10-21.
- Tsai, W., 2002. Social structure of competition within a multiunit organization: Coordination, competition and intraorganizational knowledge sharing. *Organiz. Sci.*, 13: 179-190.
- Weisberg, R.W., 2006. Expertise and Reason in Creative Thinking: Evidence from Case Studies and the Laboratory. In: *Creativity and Reason in Cognitive Development*, Kaufman, J.C. and J. Baer (Eds.). Cambridge University Press, Cambridge.
- Wright, P.M., B.B. Dunford and S.A. Snell, 2001. Human resources and the resource based view of the firm. *J. Manage.*, 27: 701-721.
- Youndt, M.A., S.A. Snell, J.W. Dean Jr. and D.P. Lepak, 1996. Human resource management, manufacturing strategy and firm performance. *Acad. Manage. J.*, 39: 836-866.