The framework for evaluation of the technology transfer

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Abstract. The definition of technology transfer has been expanded, because of radical change of environment. According to change of the definition, it is necessary to extract the new evaluation framework for evaluating the technology transfer. The proposed framework consists of redefining the technology transfer, analyzing the value chain of technology transfer, drawing the barriers of technology transfer and extracting the CSFs of each perspective for reducing the barriers. By using the proposed framework, managers can get the beneficial information in terms of grasping the whole picture of technology transfer according to CSFs and strategies. An enterprise can also focuses on the important activities of technology transfer based on value chain.

Keywords: Critical success factors, Evaluation framework, Technology transfer, Value chain

1 Introduction

According to radical environment change, enterprise becomes more attention to technology transfer. The concern of technology transfer has been increased among not only researchers but also among enterprises.

Technology transfer in many researches is defined as the technology movement between the organizations [1]. General definition of technology transfer in the hardware perspective such as only the movement of the license and intellectual right property can make technology transfer not only slow down but also fail [2]. The explicit knowledge transfer from technology donor to technology recipient occurs mainly in the process of technology transfer. In other words, it is needed to share tacit knowledge for successful technology transfer. For this, the definition of the technology transfer should be expanded based on the perspective of software [3]. Namely, the definition of technology transfer should involve the transfer of knowledge, best practice, know-how, implication process and expert.
According to the scope change of technology transfer, it is important to derive the new evaluation framework for assessing the technology transfer. To be informed of the current status, it is essential to derive the CSFs (Critical Success factors) and strategies that helps an enterprise know the strategic achievements of technology transfer [4]. The framework reveals the core parts of an enterprise for solving any strategic problems of technology transfer.

However, the previous researches have focused on the effectiveness for evaluating technology transfer. For the successful technology transfer, despite there is need to comprehensively consider the knowledge and experts related to the technology, most of the researches was developed by evaluation methods to target the only technology. Therefore, the new framework for evaluating the technology transfer is developed in this research.

2 Literature Review

2.1 Success Factors of Technology Transfer

Research analyzed the factors that affect the technology transfer was initiated since mid-1980s [5]. [6] presented 18 factors and classified into 4 dimensions: Strategic factors, Development process factors, Organizational factors and Market environment factors. [7] analyzed 24 factors and classified into 4 categories: Product characteristics, Firm strategy characteristics, Market place characteristics and Firm process characteristics. [8] identified 17 factors for technology commercialization and classified into 4 dimensions: Product-related factors, Firm related factors, Project-related factors and Market-related factors. [9] extracted 22 performance drivers of technology transfer, classified into 5 dimensions and calculated the relative importance of them: Human resources, Institutional/culture resources, Financial resources and Commercial resources.

2.2 Performance evaluation of Technology Transfer

Researches related with the evaluation of technology transfer are divided according to the evaluation method. A number of researchers in performance evaluation of technology transfer have focused on the technology value assessment. In addition, for the successful technology transfer, despite there is need to comprehensively consider the knowledge and experts related to the technology, most of previous researches focused on the only technology.

Meanwhile, it is difficult to reflect the recent conceptual change of technology transfer because the previous researches have focused on the effectiveness of technology transfer.

Hence, the purpose of this research is to suggest the evaluation framework considering the conceptual change of technology transfer.
3 Evaluation Framework

The Framework is shown in [Figure 1]. In order to reflect the concept of extended technology transfer and to balance the results and processes of technology transfer, the various phases are consisted: Redefining concept of the technology transfer considering software perspective, Analyzing the value chain of technology transfer such as primary and support activities, Drawing the barriers of technology transfer and Extracting the CSFs of each perspective for successful technology transfer.

The framework focuses on the overcoming the limitation of previous researches and considering the well-balanced perspectives, strategies and CSFs. By using the proposed framework, managers can get the beneficial information in terms of grasping the whole picture of technology transfer according to CSFs and strategies. An enterprise can also focuses on the important activities of technology transfer based on value chain.

Fig. 1. Evaluation Framework

4 Conclusions

The definition of the technology transfer should be extended based on the perspective of software, because technology transfers involve the transfer of knowledge, best practice, know-how, implication process and expert, recently. According to the scope change of technology transfer, it is needed to derive the new evaluation framework of the technology transfer. Therefore, the new framework for cultivating the technology transfer was developed in this research.

The proposed framework consists of redefining the technology transfer, analyzing the value chain of technology transfer, drawing the barriers of technology transfer and extracting the CSFs of each perspective for reducing the barriers.
However, our research has some limitations. The performance measures are very essential, because the performance measures inform important target. Therefore, it is necessary to add the new phase of extracting the performance measures. Furthermore, since the proposed framework is based on academic and theoretical research, the proposed framework should be verified through case studies.

References