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学位の種類	博士（知識科学）			
学位記番号	博知第 292 号			
学位授与年月日	令和 3 年 9 月 24 日			
論文題目	Bridge Managers in Global R&D Projects: Relationship between Project Difficulties and Manager's Competencies for Facilitating the Projects			
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論文の内容の要旨

Research and development (R&D) is an important activity of the organization to gain a competitive advantage as it leads to the production of new and innovative products and services for customers. In the globally connected world, innovation becomes more and more dependent on the collaboration among people from different backgrounds who exchange and combine their own knowledge and expertise to create innovative outcomes. Literature has long shown that diversity of knowledge increases the creativity and innovation of teams and corporations. Multinational corporations (MNCs) expand their R&D function abroad and take advantage of global knowledge resources. However, there are challenges to overcome ranging from organizational level such as international R&D strategies, global R&D team cooperation to individual level issues such as R&D manager assignment, researcher relocation, and expatriate adjustment. During the early days of R&D internationalization around the 1980s, prior studies in R&D internationalization focused on the organizational level, how firms organize their international R&D operations. Therefore, issues such as international R&D strategies and global R&D team cooperation were better developed and well established. As the business environment has always been changing and the world has become more connected, although the organization management needs to adapt to the changing environment, it is also necessary to pay attention to the individual level issues to enhance the global R&D operations.

Facilitating research collaboration between teams located in different countries and have members of diverse backgrounds is a challenging task for managers. Organizations operate global R&D projects all over the world to gain access to diverse knowledge resources. Global R&D projects involve both internal and external stakeholders who are from different countries and having diverse backgrounds. Although global R&D project members can interact with each other using technology support tools, the effectiveness of interaction is limited by the communication channels such as email, phone, etc. Cultural differences which are the different values, beliefs, behaviors, languages, and practices play an important role in global R&D project collaboration. Organizations

employ managers, who we call "R&D bridge managers (BMs)", to facilitate research collaboration in global R&D projects. They are facilitators in charge of bridging research activities between teams in the home country of the company and foreign R&D teams. There is a limited number of studies of BMs who help the organizations to put in place a smooth operation of global R&D projects.

Individual managers require particular competencies to perform their tasks effectively. The concept of competency has been used to improve the task performance of individuals. A number of prior studies focused on leadership competencies and defined competency to includes skills, knowledge, abilities, and characteristics that lead to superior results. Competency development frameworks were identified for different professions such as project managers and medical workers. In the case of global R&D projects, the research found that manager's sophisticated people skills and leadership to deal with the human aspect influence performance of dispersed R&D teams. Extant studies have shown that the leadership competencies of managers are an important factor for successful cross-cultural collaboration. The competency concept is used in this dissertation to improve the global R&D project facilitation. The competencies of managers who facilitate research collaboration between headquarters and foreign R&D laboratories in global R&D projects have not been identified.

This dissertation aims to identify crucial competencies of BMs for the facilitation of global R&D projects of MNCs in the information technology industry and to investigate the relationship between difficulties of facilitating global R&D projects and competencies of BMs. Particularly, this dissertation attempts to address the major research question: *How are the difficulties and competencies of managers in global R&D projects related?* This dissertation employed multimethodology, including semi-structured interviews and questionnaire surveys as data collection methods. Thematic coding was used to analyze interview data of BMs to identify difficulties in facilitating global R&D projects. A list of competencies was derived from existing literature on leadership competency to develop measurement items of the questionnaire survey. Relevance ratio and qualitative comparative analysis were conducted to explore the relationships between difficulties and competencies. Findings reveal four difficulties that the BMs face when they facilitate global R&D projects, including quality control, research approach guidance, requirement clarification, and team communication. In addition, the results show relatively more important competencies of BMs for solving difficulties in global R&D projects. To the best of our knowledge, there are no competencies specifically identify for BMs concerning difficulties they faced, especially in the context of global R&D projects. It is plausible to conclude that there are crucial competencies for BMs to overcome particular difficulties in global R&D projects. BMs may develop and possess those competencies hence they could improve global R&D project facilitation. In addition, organizations may utilize crucial competencies of BMs in their human resource management practices, including new manager recruitment, manager assignment, and manager's training program development.

Keywords: Global R&D project, R&D bridge manager, Project difficulty, Manager competency, Global team collaboration

論文審査の結果の要旨

In the globally connected world, global research and development (R&D) becomes a highly important activity of the company to gain a competitive advantage. This study explores global R&D project management from an individual level, while previous studies mainly discuss it from an organization and strategy level. This study focuses on R&D bridge managers (BMs) who facilitate research collaboration in global R&D projects, then identifies crucial competencies of BMs and investigates the relationship between difficulties of facilitating global R&D projects and competencies of BMs.

The research methods of this paper include semi-structured interviews and questionnaire surveys for global R&D managers of multinational IT companies in Japan. Findings reveal four difficulties that the BMs face when they facilitate global R&D projects, including quality control, research approach guidance, requirement clarification, and team communication. Then, the results show important competencies of BMs for solving difficulties in global R&D projects. These results are not only academically new but also practically useful. Based on these results, BMs can develop and possess those competencies to improve global R&D project facilitation. The companies can utilize crucial competencies of BMs in their human resource management practices, including new manager recruitment, manager assignment, and manager's training program development.

R&D project management is one of the most important research theme of MOT (Management of Technology) and Knowledge Science. We confirm theoretical and practical contribution of this paper to global R&D project management. This is an excellent dissertation and we approve awarding a doctoral degree to Nawarerk Chalarak.