

# Alliance Orientation and University's Performances: The Moderating Roles of Organizational Characteristics

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**Abstract**—This study attempts to discuss the moderating roles of three prominent organizational characteristics shaped by the contemporary economy with the intervention of technology 4.0 and globalization namely international cooperation, results-oriented culture, and ICT capability for innovation performance and market performance of universities. The study proposes that international cooperation, results-oriented culture, and ICT capability are moderating variables in the effect of sub-components of alliance orientation (i.e. alliance scanning, alliance coordination, alliance learning) on innovation performance and market performance. The study also discuss the relevance of the model for the context of higher education in Vietnam. With the proposed model, the study suggests useful managerial implications for managing and improving performances of universities.

**Index Terms**—International cooperation, results-oriented culture, ICT capability, innovation performance, market performance.

## I. INTRODUCTION

With the improved quality of life, focus on education has been accentuated at both individual level and national level. In response to this market demand, higher education institutions have been increasingly established and extended, and accordingly intensified competition in the field. To strategically develop and prosper in the fiercely competitive market, universities start to look for progressive practices and strategies. Developing alliance or cooperation with enterprises has been identified as one strategy for both leveraging capabilities of universities and grasping, exploiting opportunities. Evidence has shown that the extent of alliance orientation of universities is a catalyst for better performances for innovations as well as market. Nevertheless, for performances of universities, several influential factors may involve that can moderate the strengths and robustness of the effects because a wide range of factors are present in the contexts of business management. While some factors may exert minimum impacts, some other factors may be dominantly relevant to the operations of business, including performance achieving processes. An identification of the influential moderating factors is vital as it helps universities to properly and effectively manage the contexts so as to create an optimal environments as well as conditions for performances. In the contexts of alliance between universities and enterprises, there has been little research on moderating factors in the relationship between university-enterprise cooperation and perfor-

mances of universities. Specifically, previously-studied moderators for the relationship include changes-oriented environments [1], environments with technological uncertainties or market uncertainties [2], time, long term relationships [3], and specific cooperation characteristics such as aspects of cooperation. Apart from factors pertaining to cooperative environments, factors of characteristics of universities have also proved to moderate for university's performances. Precisely, contributions of universities, breadth of collaboration, and intellectual capability have been proved to be moderators for innovation performance of universities [4]. Besides these factors, to date, other factors of university's characteristics, particularly factors pertaining to the contemporary business world with globalization and impact of Technology 4.0 have not been researched for university's performance.

In the contemporary economy with preeminent trends of globalization, high demands for big data analyses, and Technology 4.0, typical characteristics of this economical environment may exert moderating influences on the relationship between alliance orientation and university performances. Intervention of those economic characteristics enables organizations in general and universities in particular to have numerous opportunities for cooperation with other overseas organizations, place more focus on outcomes in doing business, and have solid capability of using technologies. These three eminent characteristics of enterprises and universities in the present economy embodied through international cooperation, results-oriented culture, and information and communication technology capability may help enterprises and universities to achieve high performances in doing business [1]. Evidence has shown that in the contemporary economic situation, due to competition intensity, organizations increasingly have international cooperation with foreign organizations, executing an organizational culture with a focus on results achievement, and striving for leveraging information and communication technology capability which benefit their performances. Regrettably, they have not received much attention from research. Precisely, to date, no study has been found to comprehensively evaluate the effects of these factors on university's performances. Therefore, this research is carried out to address the moderating effects of university's characteristics including the level of international cooperation, results-oriented culture, and ICT capability in the effect of alliance orientation on innovation performance and market performance of universities. With

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the proposed research model, the study expects to provide valuable managerial implications for managers at universities in Vietnam.

## II. THEORETICAL BACKGROUND

### A. International cooperation

International cooperation refers to firm's involvement into cooperative activities with international partners. There exists ample evidence that cooperation of firms with international organizations leads to positive firm performances. According to Chen, through cooperation with international organizations, firms can learn international management skills and optimization of resource allocations. This is agreed by Xie and Liu such that firms can better access to resources and assets, increasing revenues and improving management skills. It is revealed that resources pertaining to technological and marketing knowledge are relevant to firm's cooperation with international organizations. Lou & Tung reckoned that by cooperating with global players who have transferred technological and organizational skills, Chinese companies gained many benefits for development and competition in markets.

In the context of education, international cooperation of higher education institutions with foreign partners has been proved conducive to positive outcomes. It is shown that international cooperation is an integral part of modern university education and it has large influences on academic processes. Through cooperation with institutions in foreign or neighboring countries, universities may overcome problems such as outdated curricula and skills of teachers.

### B. Results-oriented culture

Results-oriented culture is a sub-form of organizational culture [5]. As a specific type of organizational culture, it shares the common feature of organizational culture that entails a deep structure of organizations rooted in the values, beliefs, and assumptions held by organizational members. Results-oriented culture has been deemed equated to performance culture, and is known as a driver for performance improvement [5]. According to Spekle and Verbeeten [5], there is not a robust definition of results-oriented culture, but it entails a culture in which managers are expected to take responsibility for results that are actually valued by society. This conceptualization of results-oriented culture is in line with the recognition of the concept found in the reports of OECD [6], [7]. In such a culture, companies place much emphasis on the benefits incurred from actions, rather than a focus on processes. The results-oriented culture is known to be opposite to traditional bureaucratic or administrator model which emphasizes compliance to pre-set rules while placing less values for outcomes of the efforts. In a results-oriented culture, members are acutely aware of terminal outcomes such as costs, deadlines, and quality [8].

Results-oriented culture has been sparingly studied with relevant determinants as well as resultant factors. Spekle & Verbeeten [5] reckoned that which results-oriented culture is significantly conducive to organizational performance, new public management practices (i.e. monitoring, incentives, strategic decision making, attention-focusing), goal clarity,

rules and procedures, and organizational decentralization are associated to results-oriented culture. To date, little research has been detected about the moderating influence of results-oriented culture on the phenomena pertaining to organizational performance, particularly in the context of higher education.

### C. Information and communication technology capability

Information and communication technology capability (ICT) entails the extent to which a firm is capable of utilizing information and communication technologies to improve its overall business processes. According to Wales et al., information and communication technology capability is conceptualized with three aspects including ICT internal use, ICT collaboration, and ICT communication. ICT capability of firm reflects the flow of information inside and outside the firm. Prior study showed that the use of more communication mechanisms had positive effects in collaborative projects. ICT tools include the World Wide Web and email that have facilitated migration of minds and supported collaboration.

While alliance orientation of universities is possibly relevant to innovative performance, this effect may be more pronounced with universities that have strong international cooperation with foreign partners. With international cooperation, universities have ample exposures to opportunities for innovations since foreign organizations offer valuable resources as well as inputs for innovations that can be rare or not available in domestic contexts. Moreover, by cooperating with international partners, universities may acquire advanced and updated knowledge from foreign contexts, particularly developed economies, which allows them to improve their capabilities for performing innovative tasks. Working with international organizations helps focal organization to gain R&D resources. Kotabe indicated that interactions with international partners allow organizations to improve innovative capacity as a result of exploiting a wide range of globally available resources that can be unrepresented in domestic contexts. Thus, the study proposes:

H1: International cooperation positively moderates the relationship between alliance orientation and innovation performance, such that the effect of alliance orientation on innovation performance will be higher if university's international cooperation is high; whereas, the effect of alliance orientation on innovation performance is lower if university's international cooperation is low.

Alliance orientation of universities can be linked to innovation performance thanks to useful and novelty resources triggered through alliance processes and from enterprises. In universities with an organizational culture that is highly oriented to results or outcomes, the effect can be more robust as by orienting to results, universities may strive harder for begetting more innovative outcomes. This is because employees are likely to experience pressure for producing innovative outputs. Moreover, under a results-oriented culture, universities have motivations to produce innovative results since innovative outcomes function as positive results that are favoured by universities. In organizations with a results-oriented culture, innovative outputs are often valued and encouraged by managers through recognition and rewards sys-

tems. In contrast, an environment with less emphasis on results, known as a low results-oriented culture, alliance orientation of universities has less effect on innovation performance because universities are not persistent in pursuing innovative outcomes. Therefore, the study proposes:

H2: Results-oriented culture positively moderates the relationship between alliance orientation and innovation performance, such that the effect of alliance orientation on innovation performance will be higher if university's results-oriented culture is high; whereas, the effect of alliance orientation on innovation performance is lower if university's results-oriented culture is low.

With a strong information and communication technology capability, alliance orientation of universities has more effect on innovation performance. First, ICT capability enables universities to be more effective in contacting, interacting with external partners. Effectiveness in interacting with partners allows universities to learn novelty practices from partners which are good for innovative performances. In addition, with ICT capability, universities have better capability of internal communication, which facilitates communication processes for innovative tasks, hence improving innovative performances for organizations. Research has disclosed that good ICT capability facilitates orchestration of resources for organizations including resources for innovative processes, which helps to result in positive innovation performances. Therefore, the study proposes:

H3: ICT capability positively moderates the relationship between alliance orientation and innovation performance, such that the effect of alliance orientation on innovation performance will be higher if university's ICT capability is high; whereas, the effect of alliance orientation on innovation performance is lower if university's ICT capability is low.

International cooperation may moderate the impact of alliance orientation of universities on market performance for three reasons. First, universities with a high level of international cooperation likely acquire opportunities for market performance because of good reputation acquired from partnerships with international organizations that is favored by students and parents in domestic contexts. Prior studies have indicated that international cooperation of universities is also one factor that can attract students to enter. Second, cooperation with international organizations also enables universities to attain advanced and progressive practices like new materials, updated technologies, and teaching methodology which help to satisfy students and so sustaining market performance of universities. Third, while orientation to cooperation with enterprises can result in market performance, with a high level of cooperation with international organizations, universities can gain more beneficial relations and networks which serve as resources for their competitiveness in market places. Therefore, the study proposes:

H4: International cooperation positively moderates the relationship between alliance orientation and market performance, such that the effect of alliance orientation on market performance will be higher if university's international cooperation is high; whereas, the effect of alliance orientation on market performance is lower if university's international cooperation is low.

Alliance orientation of university catalyzes market performance, and this influence likely becomes more prominent in the contexts with results-oriented culture. This is because with the ceaseless focus on attaining results, universities tend to strive more for market outcomes. Research has revealed that when organizations channel their efforts to obtaining results for the tasks or goals pursued, the market outcomes as one type of favorable outcomes become more paramount. Second, with a solid culture orienting to achieving results, universities can be more strategic in their collaboration operations, inclusive of choosing partners, managing activities with partners, and learning progressive, advanced practices from partners for gaining and sustaining a competitive advantage, therefore enhancing their effectiveness in achieving market performances. In other words, their capabilities for competition can be solidified. Finally, in universities with a strong results-oriented culture, employees have more favorable conditions for calibrating or leveraging their capabilities and motivations for pursuing outcomes, including market-related outputs. As a result, market performance of universities becomes higher. Hence, the study proposes:

H5: Results-oriented culture positively moderates the relationship between alliance orientation and market performance, such that the effect of alliance orientation on market performance will be higher if university's results-oriented culture is high; whereas, the effect of alliance orientation on market performance is lower if university's results-oriented culture is low.

ICT capability may serve as a factor moderating the influence of alliance orientation on market performance for two reasons. First, with competent ICT capability, universities are more likely to connect with external partners. By networking with a wide range of partners, universities can obtain more opportunities for competitive performances in market. Second, capability of information and communication technology enables universities to integrate inputs from stakeholders more effectively, and this effective integration amplifies innovative performance. Third, ICT capability facilitates knowledge sharing processes from both external partners to universities and amongst departments inside universities which are conducive to better attainment of knowledge as well as innovative processes. As such, innovation performance of universities can be improved. So, the study proposes:

H6: ICT capability positively moderates the relationship between alliance orientation and market performance, such that the effect of alliance orientation on market performance will be higher if university's ICT capability is high; whereas, the effect of alliance orientation on market performance is lower if university's ICT capability is low.

#### *D. Discussion*

While an increasing number of studies have been detected about the impact of alliance orientation on performances of partners, and in the meantime much research evidence have been found to address the linkage between university-enterprise alliance orientation on university's performances, little research, particularly empirical studies, has explored the moderating effects of international cooperation, results-oriented culture, and ICT capability in the influence of alliance

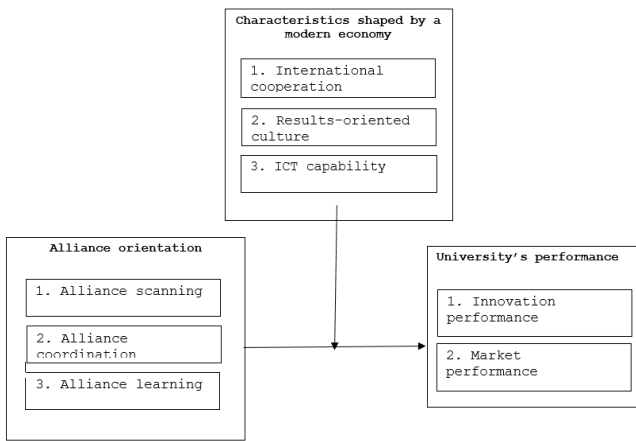


Fig. 1 The proposed research model

orientation on performances of universities. With the relevant literature discussed, this study proposes that alliance orientation is relevant to university's innovation performance and market performance, and this relationship may be positively moderated by international cooperation, results-oriented culture, and ICT capability.

Traditionally, Vietnam has a centrally-focused economy and has recently transited to a market-oriented economy. Remarkably, Vietnam's participation in World Trade Organization in 2007 amplified international cooperation and opportunities for calibrating capabilities. With these typical characteristics, Vietnam is an ideal context to examine the relevance of international cooperation, results-oriented culture, and ICT capability to performances of organizations like universities. Nevertheless, though Vietnam is an interesting context to learn about university-enterprise alliance with the viably present impetus for international cooperation, an increasing orientation to results-related performances, and an enhanced capability for communication, with the modest level of economic development of the country, the magnitude of the moderating influences of the target factors is expected to be more pronounced in comparison with in other developed economies. The reasoning can be resorted to the fact that universities in a developed country like USA or a European country enjoyed ample opportunities for a focus on international cooperation, results-orientation, and competent ICT capability for a certain period of time.

### III. CONCLUSION

This study has significant theoretical contributions. Foremost, this is the very new study to evaluate the moderating influences of international cooperation, results-oriented culture, and ICT capability in the effect of alliance orientation components on innovation performance, market performance. While these internal capabilities of universities are stressed for pursuits among organizations, higher education institutions included, in the contemporary economy with an intense competition and intervention of technology 4.0, they have not been studied as moderators for performances of organizations. The study's attempt contributes to open up a research line to attend to moderating roles of prominent capabilities of universities in understanding performances and effectiveness of universities. The extent and degree of university's orientation to cooperation with enterprises may be relevant to innovation and market performance; therefore, managers should be aware of the importance of alliance scanning, alliance coordination, and alliance learning. Organizations should be attentive to management of these dimensions so that they can achieve innovation as well as market performances.

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