

Inter-Organizational Collaboration Effectiveness: A Study of the International Joint Programs between Vietnamese Higher Education Institutions and Foreign Partners

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Abstract

This paper seeks to examine inter-organizational collaboration (IOC) effectiveness in the field of higher education. The study focuses on the relationship between Vietnamese Higher Education Institutions (HEIs) and foreign academic partners in international joint programs. The study seeks to answer the question: what are the main determinants of the effectiveness of inter-organizational collaboration in international joint programs between Vietnamese higher education institutions and foreign partners? Can modern management theory, organization theory and empirical knowledge in education field be employed to understand and explain the factors that affect effectiveness of inter-organizational collaboration? Survey data was collected from key informants in 106 Vietnam Higher Education Institutions. Multiple regression and path analysis were used to analyze the data. Findings show that institutional factors and internal resource supply largely influence the effectiveness of joint programs, while size of city has a negatively significant relationship with IOC effectiveness.

Keywords: Inter-rganization Collaboration, Higher Education, Resource Dependency

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ประสิทธิผลของความร่วมมือระหว่างองค์การ: กรณีศึกษาโครงการความร่วมมือระหว่างสถาบันอุดมศึกษาใน ประเทศเวียดนามกับต่างประเทศ

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บทคัดย่อ

บทความนี้มีวัตถุประสงค์เพื่อทดสอบประสิทธิผลของความร่วมมือระหว่างองค์การ (Inter-Organizational Collaboration) ในสาขาอุดมศึกษา โดยมุ่งเน้นโครงการความร่วมมือ (Joint Programs) ระหว่างสถาบันอุดมศึกษาในประเทศเวียดนามกับต่างประเทศ เพื่อตอบคำถามที่ว่า อะไรเป็นปัจจัยสำคัญต่อประสิทธิผลของความร่วมมือระหว่างองค์การในโครงการความร่วมมือดังกล่าว และทฤษฎีการจัดการสมัยใหม่รวมทั้งความรู้เชิงประจักษ์ในสาขาการศึกษาจะสามารถนำมาประยุกต์ใช้เพื่อทำความเข้าใจและอธิบายปัจจัยที่กระทบต่อประสิทธิผลของความร่วมมือระหว่างองค์การได้หรือไม่ โดยเก็บรวบรวมข้อมูลจากผู้ทรงคุณวุฒิในสถาบันอุดมศึกษาจำนวน 106 คน ใช้เทคนิคการถดถอยพหุ (Multiple Regression) และการวิเคราะห์เส้นทาง (Path Analysis) ในการวิเคราะห์ข้อมูล ผลการศึกษา พบว่า ปัจจัยเชิงสถาบัน (Institutional Factors) และการจัดหาทรัพยากรภายใน (Internal Resource Supply) มีอิทธิพลอย่างมากต่อประสิทธิผลของโครงการความร่วมมือ ขณะที่ขนาดของเมืองมีความสัมพันธ์เชิงลบต่อประสิทธิผลของโครงการความร่วมมือดังกล่าว

คำสำคัญ: ความร่วมมือระหว่างองค์การ (Inter-organization Collaboration), สถาบันอุดมศึกษา (Higher Education), การพึ่งพาทรัพยากร (Resource Dependency)

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Introduction

The purpose of this study was to answer the questions, “what are the main determinants of the effectiveness of interorganizational collaboration in international joint programs between Vietnamese HEIs and foreign partners?” and can the modern management theory, organization theory and empirical knowledge in education field be employed to understand and explain the factors that affect effectiveness of inter-organizational collaboration?

The reason for studying this issue is that since 1990s, Vietnam has been working on education reforms in order to build human capital required for national and regional competitiveness in economic development. Since 2000s international collaboration of joint programs in education has tremendously increased and has taken varied forms. However, this increase raises concerns over the quality and academic priorities, benefits, and lack of appropriate criteria used to determine organizational effectiveness and its implications (Nguyen, 2010).

From the above experience, it can be realized that universities in Vietnam are entering into collaborative partnerships with foreign partners without models to determine the viability of the collaboration, the provision of tools to assess and evaluate the outcomes of the collaboration. Although scholars like Van de Ven et al., (1979), Oliver (1990), and Heide (1994) have stressed the importance of studying the survival and clear understanding of how to manage IOC in order to ensure successful collaboration, there has been no empirical research to examine the relationships between Vietnamese universities and their foreign partners. Therefore, it is important to find out the major factors affecting the effectiveness of international academic collaboration between Vietnamese higher education institutions and their foreign partners.

Research Objectives

The specific objectives of the study developed to explain, test and predict the determinants of effectiveness of IOC in international joint programs among Vietnamese HEIs and their foreign partners as follows:

- 1) To identify the determinants of IOC, aimed at achieving effectiveness of inter-organizational collaboration in joint programs between Vietnamese HEIs and foreign counterparts;

2) To examine the effects of resource demand and supply, institutional factors, contingency factors, and process factors on the effectiveness of IOC in international joint programs among Vietnamese higher education institutions and their foreign partners.

3) To explore the direct and indirect causal effects of the determinants of the effectiveness of IOC in international joint programs.

Background of the Study

In recent years, higher education in Vietnam has developed considerably, contributing to the intellectual advancement of the nation, human resource training, and to a number of socio-economic improvements. Since 1999, the number of universities and colleges has increased substantially. In the last 10 years or so growth has been particularly rapid—from 153 in 1999 to 419 in 2011. In other words, higher education institutions have increased nearly 274 percent just over ten years. The diversity in the types of institutions and the form of education has better served the growing demand of the population and has also helped generate new spaces of higher learning. In 2011, nearly 20 percent of higher education institutions were non-public. Vietnam's higher education system has developed so as to be compatible with the global system in terms of qualifications and degrees granted.

The ongoing reforms in Vietnam have led to an increase in collaboration programs. Since 2000, there has been remarkable development in the establishment of international collaboration training programs run either entirely by foreign institutions or through some forms of joint ventures (Nguyen, 2010). Some key policies creating a platform for international collaboration in education are Decree No. 06/2000 on “foreign collaboration and investment in the fields of education, training and scientific research and medical examination and treatment.” This collaboration can be conducted in the form of joint ventures, business cooperation contracts, and one hundred percent foreign-owned educational training establishments. Then, Governmental Decree No. 18/2001 elaborates on the instructions for addressing a number of issues, including the conditions and procedures for establishing collaboration in Vietnam, such as representative offices, joint-ventures, and independent establishments. Later on, in 2005, Ministry of Education and Training (MOET) issued Circular No. 14/2005, which requires foreign organizations wishing to operate in Vietnam

to submit an establishment license from their home country to the Ministry of Foreign Affairs and to MOET. This was done to protect domestic learners and to assure the quality of educational services of these programs.

It is a fact that the last few years have witnessed a mushroom growth in internationally-collaborated-on degree programs operated jointly by a Vietnamese institution and a foreign partner(s). The majority of universities have signed Memorandum of Understanding and contracts with their strategic overseas partners. According to MOET's statistical data, by December 2012 there were more than 381 programs with this kind of collaboration in Vietnam, the majority of which have partners from Western countries (MOET, 2012). MOET is now encouraging Vietnamese universities to further develop these joint programs as a way to enhance educational quality and achieve regional and international standards.

As a result, the number of international collaboration-based joint programs run by Vietnamese HEIs and foreign partners has increased dramatically to address the 2020 target of becoming an international educational hub, as planned by the government. However, increasing complaints and problems regarding the management, quality, accreditation and prestige of such international educational collaboration has been noted (Mai & Nguyen 2007; Nguyen, 2010). The Minister of Education and Training further reported that it is a startling fact that among over 381 present joint programs, there is a great amount of ineffective collaboration around the country due to poor quality and improper in training (MOET, 2012). In addition, there are 40 affiliated programs without licenses or that are misleading regarding the content of the licensing program. It is a fact that there are a number of programs in which both providers and students do not place quality as the highest priority but care more about profit and getting the degrees (Nguyen, 2010). Hence, it is critical to explore the effectiveness of such international joint programs.

Benefits of the Study

This study has both theoretical and policy relevance to both academicians and managers of higher education institutions. Theoretically, the study borrows its variables from the qualitative and quantitative research reviewed in the literature. In this domain, the study draws from organizational theories, such as Interorganization Relations Theory, Resource Dependence Theory, Institutional

theory, and Structural Contingency Theory. The essence is to understand the contribution of these theories in predicting IOC effectiveness. This will also help scholars to achieve critical insight into the theories that affect IOC effectiveness and further provide useful recommendations for future academic work. This study further proposes a model for understanding the effectiveness of IOC. The pivotal part of the model is that whilst various scholars have not utilized these variables (resource supply and demand, institutional factors, and contingency and process factors) as determinants and mediating factors of IOC, this study utilizes them to broaden academic understanding.

In light of its managerial benefits, the study enhances the understanding of the critical factors that policy makers in Vietnamese higher learning organizations should consider when entering into collaboration with foreign partners. The predictive part of the model will further explicate a clear meaning of the factors that contribute to the success of IOC, which will in no small way augment the strategic dialogue and considerations for entering into IOC.

Literature Review

A number of theories and frameworks of interorganizational collaboration effectiveness have been derived from organization theory. Therefore, it is essential to examine three key modern management theories related to antecedents of this study. The synthesis of these theories, namely resource dependency, contingency and institutional theory, helps to consolidate understanding of the derivation of the variables for the study and also enhance the theoretical explanation of the research.

Resource Dependence Theory

Resource dependency focuses on the relationship characteristics and structures that emerge to manage power dependencies among organizations. According to Pfeffer & Salancik (1978), organizations need to exchange resources for survival and growth. In other words, organizations are not internally self-sufficient. As Scott & Davis (2007) organizations extract vital resources from others within their environment as a way of survival. They require resources to survive through a variety of interactions and arrangements. Resource dependence theory describes an organization's efforts to minimize its dependence on other organizations and to preserve its autonomy while recognizing that it requires resources from other organizations to operate (Wood & Gray, 1991). Among the research questions

generated by this theory in relation to this research are to what extent internal and external resources affect the collaborative programs. This therefore lead to the general notion of this study is that resource supply and demand has positive effect on inter-organizational collaboration in joint programs between Vietnamese HEIs and their partners.

H1: The resource supply and demand have a positive and significant on IOC effectiveness in JPs and indirectly positively significant through intervening variables.

Institutional Theory

Institutional theory takes a similar open systems-derived approach, and has received much attention in recent literature. This theory sees organizations as activities that take shape through their socialization into the roles and rules of their environment (Reitan, 1998). An interorganizational relationship is an abstract - collective identity that is constantly being defined by competing views within the organization and within the larger environment (DiMaggio, 1997). By adopting social norms and symbols, seen as important by the environment, the organization obtains legitimacy and ensures its survival.

In terms of legitimacy, Scott (1995) highlights three pillars of institutions, which are: regulative, normative, and cultural cognitive. The regulative pillar involves regulatory guidelines, procedures, rules, laws, and sanctions. In the context of this study, all parties related to the collaboration process of joint programs need to conform the existing laws and rules in Vietnam and their own countries. The normative pillar emphasizes the roles of values and norms in creating expectations and obligations. As such, when a higher education institution promotes the correct behavior through appropriate joint programs, that institution influences organizational and individual actions by normative process. Finally, cognitive pillar involves symbols, beliefs and social identities. In another word, this view leads to an isomorphism of activities via processes that encourage imitating patterns of activities that have strong cultural support. That explains the fact that there are more and more newly international joint programs established in higher education in Vietnam.

H2: Institutional factors are positively related to the IOC effectiveness in JPs and indirectly positive through intervening variables.

Contingency Theory

The contingency theory is premised on the grounds that the effectiveness of organizational operation depends on the fit between the organization's internal structures and the factors that impact it from its external environment. The theory essentially looks at the internal characteristics of an organization and how they affect the attainment of organizational goals or effectiveness. Branded as the fitness approach, the contingency theory asserts that organizations whose internal characteristics best fit the dictates of the prevailing environment are able to adapt easily and achieve performance effectiveness (Scott & Davis, 2007). In the literature, several variables have been used by authors as contingent factors that affect the achievement of organizational objectives (Weiss, 1987; Donaldson, 2001; Mandell & Steelman, 2003; Hodge & Greve, 2007). In relation to this research, the principal contingencies that the researcher deems critical in terms of affecting interorganizational collaboration effectiveness are: age of joint programs, age of staff, size of city where university located, as well as leader's qualification and tenure of the leader. These variables have been employed by several authors as independent variables that affect the achievement of organizational goals. For instance McGurie & Silvia (2009) found a positive relationship between age and collaborative effectiveness. Hodge & Greve (2007) also found that the qualification of leadership affects the propensity to engage in collaboration. Several authors also suggest the effect of age of administrative staff on the implementation of the collaborative programs (Child 1974; Hart & Mellors, 1993). They are contending that the age of administrative managers influences their strategic decisions. The main argument is that young managers are more likely to expand their organizations by collaborating with other counterparts on mutually-beneficial projects. Also, the length of running collaborative program has been studied as a critical determinant of interorganizational collaboration (Krueathep, Riccucci, & Suwanmala, 2010). The central posit has been that the longer organizations establish the collaborative program, the greater experience they gain from such collaboration and therefore lead to the effectiveness (Graddy & Chen, 2006). Finally, tenure in office, which is also akin to age in a setting context, has a strong bearing on inter-organizational collaboration. The argument has been that managers, who have served longer in their position, open themselves up for their organizations to engage in collaboration (Provan & Milward, 1995). It is therefore this study looks at contingency variables as independent factors having an impact on the effectiveness of joint programs.

H3: Contingency factors have a positive impact on the IOC effectiveness in JPs.

Process Factors

The process through which collaboration is administered has a considerable effect on its outcomes. It focuses on internal processes that increase the ability of organizations to cope with changes in the environment. Organizational effectiveness is defined here as smooth internal functioning and is assessed through criteria of internal health, such as adaptability, a strong sense of identity and the capacity to test reality (Steel, 1977; Daft, 2007). In an effective organization, there is no trace of stress or strain. The members are completely part of the system and the system itself works smoothly. The process model is most appropriate when the internal processes and procedures of an organization are closely associated with what the organization produces or with its primary task (Cameron, 1980). From the literature review, it was seen that authors usually look at collaborative effects by taking account of the process that led to the signing of an MOU and also how they are implemented as a measure of the effectiveness of collaboration. Most of the scholars do consider variables such as communication, trust, decision making, and stakeholders' participation (Steel, 1977; Aysin, 2004; Daft, 2007).

H4: Process factors have a positive effect on the effectiveness of the inter-organizational collaboration in joint programs.

Methodology

The data collection stage was completed during the last week of December, 2012. A total of 106 usable surveys were collected from key informants in Vietnamese HEIs. A survey instrument with a five point Likert scale ranging from 1= very low to 5= very high degree of agreement was employed. The survey was administered to key informants in each Vietnamese HEIs. The response rate was very high standing at 93%. Pilot test, reliability and validity of the measurement by employing Cronbach's alpha values and factor analysis were applied in the study. The results from reliability were shown high internal consistent with all scale measure greater than 0.70 Cronbach's alpha coefficient. Finally, the two keys techniques were also discussed. Multiple regressions were employed to find out how well the independent variables were able to predict the dependent

variables while path analysis was performed to explore the direct and indirect effects of independent variables.

Factor Analysis

Two exploratory factory analyses used the principal component extraction method and varimax rotation of 18 items of the dependent variable and 35 items of the group of independent variables related to the factors affecting IOC effectiveness in international joint programs. Using the Kaser-Guttman retention criterion of Eigenvalues greater than 1.0, a six-factor solution provided the clearest extraction for the scales of independent variables. All six factors accounted for 64.5 percent of the total variance. Communalities were fairly high for 45 observed items, ranging from .411 to .920. In accounting for each independent variable, factor one explained 26.5 percent, 13.4 percent of factor two, 7.6 percent of factor three, 6.8 percent of factor four, 5.4 percent of factor five, and factor six explains 4.7 percent of total variance. The results further confirmed that all six independent variables were retained for further analysis. In addition, the Cronbach coefficient alpha of these factors ranged from .711 to .922 among the six factors, indicating high scale reliability. From the results, the sub-scale resource supply and demand was divided into two components, which were labeled as internal resource supply and external resource demand. Meanwhile, institutional factors were also grouped into two components, which were named as the regulative institutional factor and the normative and cognitive institutional factors. Finally, process factors were classified into two groups, which were labeled as process factors and stakeholders' participation. The results from the factor analysis for the scale items, therefore, were yielded in six components. From the factor analysis of the key independent variables, three items were extracted. The results are shown as follows.

Table 1: Summary of Independent and Dependent Variables with Reliability Coefficients

Constructs	Number of Items	Alpha
Process factors	9	.922
Stakeholders' participation	5	.739
Regulative Institutional Factor	6	.783
Normative and cognitive	4	.785
External resource demand	5	.791
Internal resource supply	3	.711
Aggregate of IOC Effectiveness	18	.784

Based on the factor analysis, it was important to revise the proposed model and to review the early hypotheses of the study. First, the resource supply and demand variable was decomposed into two variables; namely, internal resource demand and external resource supply (see Table 1). Meanwhile, the sub-components of the institutional factors were merged into two variables: the regulative institutional factor and the normative-cognitive institutional factors (see Table 1). Finally, the process factors were also divided into two new variables: 1) process factors with most of the main sub-components of communication, trust, and joint decision making; and 2) stakeholders' participation. As a result, there were four main independent variables: internal resource supply, external resource demand, regulative institutional, and normative-cognitive institutional factors. On the other hand, two mediating variables were recognized including: process factors and stakeholders' participation. Therefore, the revised conceptual framework is exhibited in Figure 1.

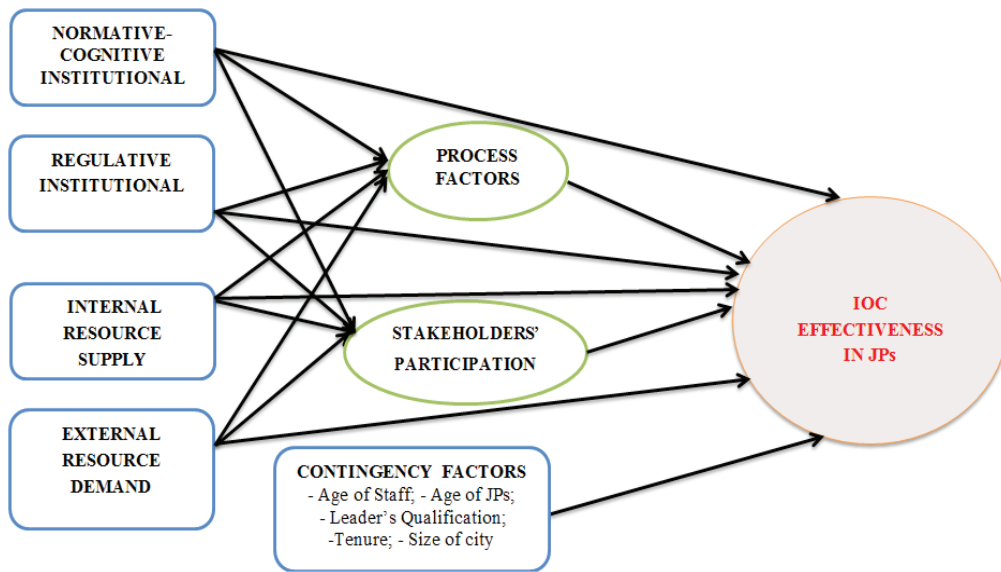


Figure 1: The Revised Conceptual Framework

Results and Discussion

Profile of the Respondents of Vietnamese HEIs in the Study

The responses to the questionnaire were gathered from the managers of the international affairs office, accounting for 33 percent, and the deputy managers accounting for nearly 26 percent and 25 percent of executive officers, respectively. The smallest group was the vice presidents, accounting for 17 percent of the sampled HEIs. In terms of gender, 51.9 percent was male. Nearly half of the respondents, 47 percent, held a master's degree and about 28 percent earned doctorate title. Over 49 percent of HEIs were located in the north of Vietnam. Most HEIs, 88 percent, were public institutions.

In terms of respondents' age, nearly 56 percent were above 37 years of age and over 44 percent were under this age. Fifty percent of HEIs had established JPs both less than 6 years and more than 6 years. Regarding the leader's qualification, over 72 percent had attained associate professor and full professor titles, whereas about 28 percent had attained a doctorate. The tenure in the office of the president also showed that 67 percent had worked in this position less than six years and about 33 percent served more than six years in the office. In terms of size of city, about 45 percent of HEIs were located in an area which had a population of fewer than two-million people and 55 percent of them were situated in a city having more than two-million residents.

Regression Results of Antecedents Affecting the IOC Effectiveness in JPs

In the aim to examine the significance of the relationships stated in the hypotheses, three multiple regression analyses were employed for each endogenous variable; namely, PROCESFA, STAKEPAR, and IOCEFFJP. The results of these analyses were integrated to form a path model of IOC effectiveness in international joint programs, exhibited in figure 2. The path analysis then was performed to investigate the direct and indirect effect of the determinants on IOC effectiveness. The variables which were retained and used for the path model of this research as as follows:

Dependent variable :	IOCEFFJP
(Intervening variables):	PROCESFA, STAKEPAR
Independent variables:	INTRESUP, EXTRESDM, REGINSTI, NORMCOGI, and SIZECITY

Where:

IOCEFFJP	:	IOC Effectiveness in JPs (dependent variable)
INTRESUP	:	Internal resource supply
EXTRESDM	:	External resource demand
REGINSTI	:	Regulative institutional factor
NORMCOGI	:	Normative-cognitive institutional factors
PROCESFA	:	Process factors
STAKEPAR	:	Stakeholders' participation
SIZECITY:		Size of city

Indirect Effects of IOC Effectiveness in International Joint Programs

1) Process as the Dependent Variable

$$\text{PROCESFA} = 2.825 + .252 \cdot \text{INTRESUP} + .214 \cdot \text{REGINSTI} + .212 \cdot \text{NORMCOGI}$$

The results from the model analysis showed that three out of four antecedents had effects on the dependent variable. Among the positive and significant predictors, internal resource supply recorded the highest effect on process ($\beta = .252$, $p < .005$) followed by the regulative institutional factor ($\beta = .214$, $p < .005$) and the least being normative and cognitive institutional influence ($\beta = .212$, $p < .005$).

From this result, it can be said that internal resource supply has the most predictive power in the collaborative process and contributed the highest

percentage nearly 6 percent of the total variance of the dependent variable. This means that every 1 – standard deviation increase in the INTRESUP will contribute an increase in the score of the process. The implication is that sufficient flows of internal resource supply will enhance the smooth process of implementing joint programs. In much the same way, increasing every unit in the REGINSTI will yield an increase of a score of .214 in the PROCESFA, while other variables are kept as constant. Conformance of laws, regulation, and procedures and standards will improve the smooth process of conducting JPs. In the same vein, strengthening normative and cognitive institutional values in creating expectations, as well as learning patterns activities from strong cultural support, will enhance the implementation process of inter-organizational effectiveness in joint programs.

2) Stakeholders' Participation as the Dependent Variable

$$\text{STAKEPAR} = 4.180 + .308*\text{EXTRESDEM} + .233*\text{REGINSTI} + .216*\text{INTRESUP}$$

The regression results showed that external resource demand, internal resource supply, and the regulative institutional factor were statistically significant and positively affected the stakeholders' participation ($F_{4,106} = 14.667$, $P < .001$, $R^2 = .301$). This indicates that 30.1 percent of the variance in the stakeholders' participation was explained by the model.

Among the significant contributions, external resource demand (EXTRESDEM) had the highest effect ($\beta = .308$, $p < .001$), followed by the regulative institutional factor with a significant value at ($\beta = .233$, $p < .005$), and finally (INTRESUP) internal resource supply ($\beta = .216$, $p < .005$). The implication is that a positive unit change in external resource demand, internal resource supply, and the regulative institutional factor would improve stakeholders' participation by 0.308, 0.233 and 0.216, respectively. From the findings, it can be concluded that external resource demand has the most predictive power to the stakeholders' participation and contributed the highest percentage nearly 10.5 percent of the total variance of the dependent variable.

Direct Effects of IOC Effectiveness in International Joint Programs

3) IOC Effectiveness in International Joint Programs as Dependent Variable

$$\text{IOCEFFJP} = 28.100 + .376*\text{INTRESUP} + .294*\text{REGINSTI} + .284*\text{PROCESFA} + .208*\text{STAKEPAR} - .166*\text{SIZECITY}$$

The results showed four statistically positive significant of internal resource supply, regulative institutional, process factors and stakeholders' participation, while a negatively significant effect of size of city was show for IOC effectiveness in JPs ($F_{9, 106} = 28.100$, $P < .001$, $R^2 = .519$). This indicates that nearly 52 percent of the variance in the IOC effectiveness in JPs was explained by the model.

From the findings, internal resource supply recorded the highest effect on process ($\beta = .376$, $p < .001$), followed by the regulative institutional factor ($\beta = .294$, $p < .001$), then the process factor ($\beta = .284$, $p < .001$), stakeholders' participation ($\beta = .208$, $p < .005$) and the least being size of city ($\beta = -.164$, $p < .005$). Therefore, it can be said that internal resource supply has the most predictive power regarding IOC effectiveness in JPs and contributed the highest percentage (as the correlation part value was .452 and its square was over 20 percent) of the total variance of the dependent variable. The implication is that a positive unit change in the internal resource supply will contribute an increase in the score of .376 to the IOC effectiveness in JPs while other factors of the model are kept unchanged. In much the same way, an increase in every unit in the regulative institutional factor will yield an increase of a score of .324 in the IOC effectiveness in joint programs while other variables are kept as constant. Similarly, a positive unit change in process and stakeholders' participation would improve JP effectiveness by .284 and 0.208, respectively. However, the fifth significant variable showed a negative impact on the dependent variable. In this view, every 1-standard deviation increase in the size of city will contribute the decrease of a score of -.166 in the IOC effectiveness in JPs while other factors of the model remain constant.

Path Diagram of IOC Effectiveness in International Joint Programs

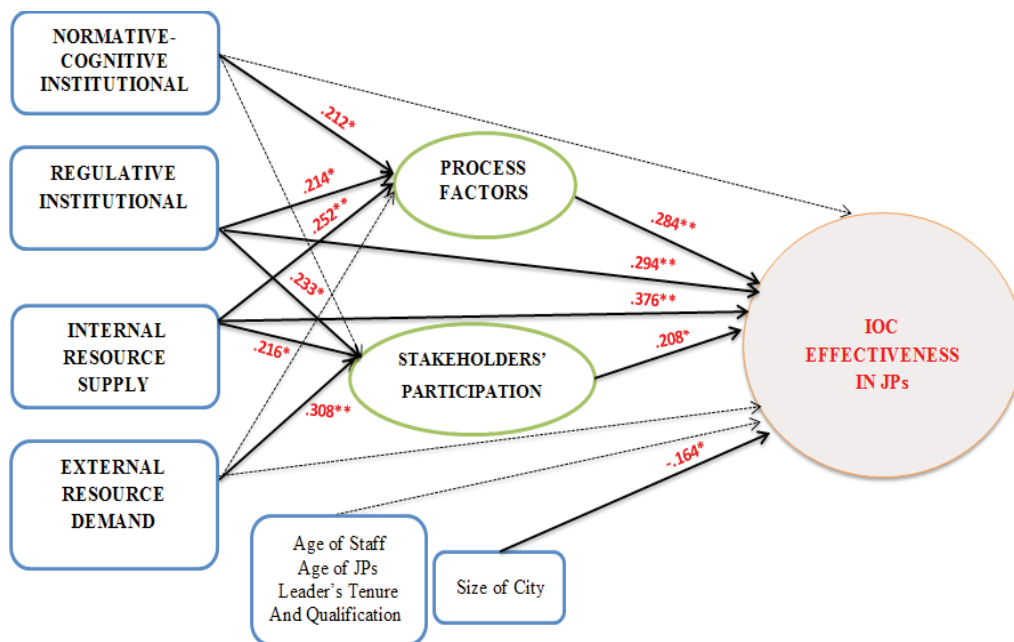


Figure 2: Path Coefficients of the Structural Equation for Hypothesis Testing

*** Note:** All coefficients in the model are significant at the .05 level.

The path diagram in figure 2 reveals that five variables, including REGINSTI, INTRESUP, PROCESFA, STAKEPAR and SIZECITY, produced a direct effect on IOCEFFJP. The total computed direct effect of the antecedents and intervening variables on the main dependent variable of the study was .996, which constituted 74.2 percent of the total effect of 1.343 (see Table 2). This means that when the direct causal effects are considered, the first choice should be placed to enhancing the internal resource supply. It is suggested that HEIs should provide and build up a sufficient flow of internal resource supply. The second priority rests on the regulative institutional factor and it should also be addressed by conforming to best practices within the collaboration environment. Then, process factors also need to be considered. The issues can be achieved by strengthening a clear communication line between co-partners, developing mutual trusting relationships among institutions, and sharing decision making to create a mutually-acceptable regulatory framework. The fourth level priority should be high attention to driving stakeholders' participation. It was

found that the stakeholders' participation in the planning and implementation of the programs in relation to the collaboration delivers great effects on the effectiveness of the collaboration. Finally, size of city also needs to be taken into consideration.

Table 2: Direct, Indirect, and Total Causal Effects

Independent Variables	Causal Effects		
	Direct	Indirect	Total Effects
INTRESUP	.376	.115	.491
REGINSTI	.294	.108	.402
PROCESFA	.284	---	.284
STAKEPAR	.208	---	.208
SIZECITY	-.166	---	-.166
EXTRESDM	---	.064	.064
NORMCOGI	---	.060	.060
Total	.996	.347	1.343

The results of the indirect causal effects indicated that INTRESUP had the highest indirect effect of (0.115), followed by REGINSTI (0.108), EXTRESDM (0.064), and NORMCOGI, accounting for the lowest (0.060). The total computed indirect effect of the antecedents' variables through the intervening variables on the main dependent variable of the study was .347, which constituted 25.8 percent of the total effect of 1.343 (also see Table 2). This means that IOC effectiveness in JPs can be improved by managing and strengthening internal resource supply through the participation of stakeholders and process factors of communication lines, and trust and decision making. The indirect effects from regulative institutional through process factors and stakeholders' participation were considered at a high level accounting at 0.108 of the total indirect effects. It was also suggested that in order to make the regulative institutional factor have an impact on IOC effectiveness there is a need to improve upon the process factors, which include a clear line of communication, mutual trust among parties, and well-defined decision making. Additionally, there is also the need to consider stakeholders' participation, which involves suitable consideration of the implementation and running of joint programs. The third indirect causal effect, the normative-cognitive institutional factor, also impacted IOC effectiveness through process factors. This also implied that there

is a need to improve shared information and open communication, mutual respect through the collaborative process, and joint decision making in planning and implementation of the joint programs. Lastly, external resource demand contributed an effect on IOC effectiveness through stakeholders' participation. This result clearly suggests that order to make external resource demand have an impact on IOC effectiveness there is the need to consider stakeholders' participation, which involves investments in the needed resources to run and implement the joint programs.

The results of the path analysis demonstrate that there were nine predictors which had direct and indirect effects on the IOC effectiveness of joint programs. As shown in Table 2, internal resource supply made the strongest total effect of .491 on IOC effectiveness, followed by the regulative institutional factor, with a total contributed effect of .402, process factors (.284), stakeholders' participation (.208), size of city (-.166), external resource demand (.064), and the normative-cognitive institutional factor, accounting for the lowest (.060). Additionally, the results also indicate that only size of city had a negative influence on IOC effectiveness. Both the regulative institutional factor and internal resource supply had direct effects on IOC effectiveness and indirectly affected the effectiveness through the mediating variables of process factors and stakeholders' participation. Also, the normative-cognitive institutional factor had an indirect effect on IOC effectiveness through process factors while external resource demand contributed an indirect effect through stakeholders' participation.

Implication of the Study

Theoretical Contribution

According to institutionalist theory, the environment is a threat to organizations. As a result, organizations respond to environmental threats by modifying their internal systems, for example, with rules, norms, reputation, and legitimacy, in order to survive the environmental threats. Institutional theory sees organizations as activities that take shape through their socialization in the roles and rules of their environment. In response to environmental forces, institutions use their legitimacy, social norms, powers, and rules to push for the necessary changes or responses, particularly for the sake of survival. The findings from this study show that institutional factors such as policies, legal

frameworks, and guidelines and procedures have the highest direct effect on the JPs. This therefore confirms the theory that socialization, which involves providing guidelines through routine organizational operation and rules, which in this case involves policies implemented within the given legal framework, affect organizational effectiveness.

As shown earlier in the literature review, the structural contingency theory of organizations argues that the performance of an organization is dependent upon the fit between organizational structure and contingencies. In this regard, a number of potential contingencies have been identified in the literature, for instance, technology, innovation, environmental change, size, and diversification. Donaldson (2001) argues that size, environment, and technology are the underlying contingencies in the structural contingency literature. In this case, the fit between an organization and its environment must be adequate for survival. Therefore, if the internal factors of the organization resonate with the environmental factors, then it is likely that the organization can achieve effectiveness in its performance. However, according to this study, contingency factors such as age of staff, age of JPs, and the leader's characteristics did not have an influence on inter-collaborative effectiveness. Only size of city had an influence, but negatively affected JP effectiveness.

As shown in the literature, resource dependency theory focuses on the relationship characteristics and structures that emerge to manage power dependencies among organizations. According to Pfeffer and Salancik (1978), organizations need to exchange resources for survival and growth. In other words, organizations are not internally self-sufficient. As Scott and Davis (2007) have stated, organizations extract vital resources from others within their environment as a way of survival. According to resource dependency theory, organizations need to exchange resources for survival and growth. This is because organizations have limited resources and cannot be self-reliant. Therefore, collaboration becomes a way to manage resources and environmental threats. This study supports this theory through empirical evidence, showing that sufficient funds, qualified staff and faculty members, support from leaders, and sufficient information from Vietnam HEIs have an effect on organizational effectiveness. Internal resource supply is a key component of inter-organizational collaboration since collaboration is about the exchange of resources for survival and growth.

However, external resource demand, for instance, sufficient funds, qualified staff and faculty members, support from leaders, and sufficient information from foreign partner institutions, has an indirect rather than a direct effect.

Therefore, this empirical study has confirmed institutionalist theory and the resource dependence theory, and has indicated the factors of contingency theory that have little effect on inter-organizational effectiveness.

Practical Contribution

In the previous sections, the major issues in the context of Vietnam were highlighted. This includes: the shift in the social context of Vietnam from a colonial society to a market oriented society over the recent past; educational reforms, particularly the restructuring of the education system; and the public need to meet the diverse and ever-increasing educational needs of the country. With this, the country can be able to sustainably and competitively increase its human capital required for development. In this case, the effectiveness of the inter-organizational collaboration is very important in determining the quality of the human capital of the country, produced through HEIs and foreign partners, the advancement of the country's technology as well as other aspects of development, and the growth of the economy of the country.

In addition, the progress of the education sector in Vietnam partly depends on the way in which the country will integrate its local education and international education, particularly within the available and future collaborations between institutions of higher learning. This means that although the education sector will continue to serve increasing and changing local needs, it will constantly face the challenge of competitively relating to the education sectors in the region and abroad. Therefore, given this context, the findings of this research have generated the following policy implications:

1) In an ever-increasing competitive world, more government focus is needed to support the institutional factors responsible for inter-organizational effectiveness so that the educational needs of the country can be effectively and competitively fulfilled. A good regulatory framework can lead to a more effective and cutting-edge education system.

2) There is a need to increase the internal resource supply, because it can determine the extent to which HEIs can partner with foreign institutions

and the best that they can do with the exchange of the resources at hand. This means that there is a need to explore alternative ways to maximize and utilize the internal resource supply, particularly in this setting, where educational needs are greater and increasing at a higher rate than the available resources.

3) There is a need to boost the normative and cognitive factors since they still contribute indirectly to inter-organizational collaboration effectiveness. This is because they influence the process factors which are important in determining organizational collaboration effectiveness.

4) There is also a need to provide incentives to boost the external resource demand because it influences the stakeholder impact on inter-organizational collaboration effectiveness. Given that education in Vietnam and the neighboring countries is shaped by forces of globalization as well as market forces, the value of external resource demand cannot be under-estimated, even if it contributes less by now.

Study Limitations and Directions for Future Research

Although the empirical results have been addressed, this study cannot avoid the limitations. First, the data for analysis were collected from the perspective of people that were involved in running and implementing international joint programs in higher education institution in Vietnam. Issues of subjectivity and bias might have appeared in their responses. Second, one of the the limitations of this study is that the sample size and the scope were not large. This is because of the restriction in the total size of the population. A larger population would have enabled a study with a larger sample and of wider scope, probably the whole country. This study was also quantitative, and a qualitative study done along with this study would have explored in greater depth and detail why and how such occurrences appeared. Further research should focus on the countrywide study, taking into account a larger sample so that it can be seen whether there are other differences realized. Finally, the reliability and validity construct should also be given consideration. Future research also needs to be done to explain why contingency factors such as age of staff, size of city, leader's age, and leader's qualifications do not have an influence on inter-collaboration effectiveness. Future research can further broaden the conceptual framework and explore the extension of variables such as environmental factors.

It is also important to note that the scope of this study focused on the inter-organizational collaborative (IOC) effectiveness in the field of higher education; particularly the relationship between Vietnamese Higher Education Institutions (HEIs) and foreign academic partners in international joint programs. This study is in essence a new study in the context of Vietnam in the sense that it tests major management theories; namely institutional and contingency theories, and resource dependency theories. However, the study creates greater insight into examining the broader context of interorganizational collaboration between higher education institutions and their foreign partners in Vietnam.

While it is important to know about management effectiveness, there are other areas of inter-organizational collaboration yet to be studied. These areas are equally important, because collaboration in essence seeks to create good outcomes from the education sector, besides the need for organizations to survive. Some of the areas that are yet to be studied, within this topical issue of interorganizational collaboration, are:

1) Curriculum. As indicated in the study, in typical joint programs all curricula, textbooks, and teaching materials are provided by the foreign partners (Ngo, 2011). This creates an interest in examining the effects, or impact, of the education curriculum provided under inter-organizational collaboration.

2) Policy frameworks: Both the institutional theory and this study have shown the significant role of policy frameworks and rules in determining interorganizational effectiveness. However, studies are yet to be done to show how these policy frameworks and rules influence inter-organizational collaboration, or students, or education in Vietnam at large. Given that education reforms are one of the key areas of Vietnam's reforms, such future studies will be very important.

3) Inter-organizational collaboration: It is important for future studies to examine, for instance, how inter-organizational collaboration has shaped education in Vietnam over the past few decades. Such study like that on curricula or policy frameworks will in the future provide a rich and extensive picture from which we can determine whether and to what extent inter-organizational collaborations positively or negatively impact Vietnam.

In general, what this study has done is to set a new base for future studies to explore the field and area of inter-organizational collaboration, particularly at a time like this, when globalization is irreversible and is one of the major trends that shape and influence the future of national development.

Conclusion

This study addresses the critical research interest in exploring the factors affecting the effectiveness of inter-organizational collaborative effectiveness in international joint programs. The findings showed that institutional factor and internal resource supply largely influence inter-organizational collaboration effectiveness. Process factors and stakeholders' participation have positive and significant impacts on IOC effectiveness, while the size of the city had a negatively significant effect on IOC effectiveness. External resource demand and normative-cognitive institutional factors did not have direct effects on IOC effectiveness, but they had an indirect effect through the mediating variables of stakeholders' participation and process. However, some of the hypotheses, such as contingency factors, did not show the expected significant relationships. Efforts should be invested in the strengthening of internal resource supply and regulative institutional factors in order to competitively meet the current and future demand for education. Finally, further research should explore in greater depth the models and apply a larger population in order to achieve a more concrete contribution regarding the effectiveness of international joint programs in Vietnam in particular and in the transnational context in general.

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