The Decision Making of Transnational Joint Venture Model: Case Study of Elevator Industry in Indonesia

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Abstract: Investment in a new foreign market is a strict challenge for any companies, especially for a small or medium company. For bigger company with bigger capital and capabilities, investment in a new foreign market, although also risky, becomes a very rewarding investment. By performing a joint venture with a local company at the destined market, the foreign company could absorb the knowledge and experience to survive in the new market without spending a lot of capital and funds. The main objective of this research is to investigate what factors affect the success of a joint venture between a foreign company and a local company. The research designed five dimensions of factors that will affect the success of a joint venture between a foreign company and a local company. This study could provide some implication of investment strategy for foreign elevator companies to establish a joint venture in Indonesia. This study adopts the following research methods: Fuzzy Delphi Method (FDM), Decision Making Trial and Evaluation Laboratory (DEMATEL), and DEMATEL Analytic Network Process (DANP). The evaluation factors of joint venture model are divided into 5 different dimensions: Win-win, Synergy, Consistency, Interaction and Complementary. The result of this study revealed that the synergy dimension will influence the other 4 dimensions. Meanwhile, the third dimensions, Interaction, is influenced by all four dimensions.

Key words: Joint venture, FDM, DEMATEL, DANP.

1. Introduction

1.1. Research Background and Motivation

Indonesia is one of the largest markets for the elevator industry, with its population of approximately 260 million people, Indonesia is the 4th largest country in the world. In Indonesia, more than half of the population live in the urban area like Jakarta, Surabaya, Medan, Bandung, etc. This condition drove the demand of high-rise building significantly and elevator plays a very important role in the modern multi-floor building. The other factor that helps increase the attractiveness of Indonesian market is, currently the Indonesian government is increasing their spending on vital infrastructure like power plants, airports and seaports which will also require elevator to be installed at the premise. Furthermore, with the increasing number of middle class in Indonesia especially in big cities, drives the need for more office and entertainment building like shopping malls. In short, the socio-economic condition of Indonesia has attracted many different elevator companies to enter the Indonesian market.

In Indonesia, there are six main elevator companies that dominate the elevator market in Indonesia; Otis, Kone, Schindler, Thyssen Krupp, Sigma and Mitsubishi. For an elevator company that want to expand to

Indonesia through joint venture, it's important to understand how to select and execute the joint venture program with a local company that have more knowledge of the local market. The objective of this study is to understand what factors affect the success of joint venture performed by examining the joint venture models.

1.2. Research Purpose

The purpose of this research is to understand the important factors that will affect the success of joint venture in the elevator industry in Indonesia. After finding the factors that will affect the success of a joint venture in Indonesia, the study will implement the evaluation factors to select the most potential joint venture partner in Indonesia.

1.3. Research Scope

The scope of this research is only limited to the elevator companies in Indonesia that perform a joint venture with local Indonesian company. The first step in this study is to develop 5 dimensions that related to creation of a joint venture. Secondly, this study will perform a focus group discussion with managers, CEO, managers, CEO, advisors and all related managers in the elevator company both in Indonesia and in Taiwan who responsible for the strategy making in the elevator company. Next, the study will calculate the result of the focus group discussion with Fuzzy Delphi Method to select the most important factor that have significant effect on the decision. Then, DEMATEL (Decision Making Trial and Evaluation Laboratory) and DANP (DEMATEL Analytic Network Process will be implemented to get the matrix that demonstrates the degree of cause and effect among all factors.

2. Literature Review

2.1. Joint Venture Strategy

The nature of opportunities in the international business is growing rapidly, thus entering a new market sometimes is a strict challenging process for a company. The increase of opportunities in the international business also increase the complexity, risk and uncertainty by performing major international projects. To achieve the goals of overseas investment, different organization with different strength and weakness must work together and cooperate to capture the growing opportunities of the international business. The only way for those companies to work together is the formation of joint venture strategy. Joint venture can be introduced as a contract between two or more parties that agree to collaborate in an economic activity by sharing profit, risk and control under an agreement. Joint venture is simpler approach that two or more companies could take to achieve their goals without the need to merge. In a business environment where new market and advanced technology become very important, forming a joint venture has been considered as a very popular collaboration way in the overseas investment [1].

Joint venture is a business entity created by two or more parties with reasons to access a new market (particularly emerging market), to gain scale efficiencies by combining assets and operations; sharing risk of major investment or project and to access skills and capabilities [2]. While Indonesian government regulation on investment defined that a joint venture model is a collaboration of two or more investors in which one party consist of a local investor from Indonesia and the other party is a foreign investor or company [3].

There are many reasons why a company forms a joint venture, but most of the time, a foreign company form a joint venture with a local company at the target market because they want to capture the opportunities in the emerging market [4]. In a typical joint venture formation, the local partner will provide local knowledge about customers and government regulations while the foreign partner will provide managerial experience and advanced technologies [5].

2.2. The Important Characteristic of Partners in Joint Ventures

According to Pelton *et al*. (2002) [6], the characteristic of the partner is very important. A bad partner in a cooperation, including a joint venture, will affect the performance of the partnership. Furthermore, a bad partner will eventually waste resources and increase opportunity costs. So it's very important for a company that want to engage in a joint venture to properly understand the partner so that it will not be failure in the future and waste company's resources and time.

There are three important characteristics that company in partnership need to have, firstly, combination of strategic alliances of two or more partners must meet the needs of the market. Secondly each party must have combability to perform a work together. Combability covers different things such as corporate culture, decision making method, etc. And lastly there needs to be a commitment between parties to achieve the goal together and keeping the partnership strong [7].

There are four important characteristics of the partners for a partnership to be successful: 1. Past cooperation experience 2. Competitors 3. Close relationship 4. combined partnership is bigger than the previous individual company [8].

According to Mohr and Spekman (1994) [9], the necessary factors for successful partnership include cooperation, commitment, trust and interdependence which allows the company to develop in a beneficial direction and make partnership survive longer, while Brouthers *et al*., (1995) [10] proposed four Cs (Complementary Skills, Cooperative Culture, Compatible Goals, Commensurate Levels of Risk) to assess the effectiveness of potential partners and finally Chung *et al*., (2000) [11] also suggested that good partners must have the following three characteristics: Resource complementarity, Status similarity, Social capital.

The characteristics of joint venture partnership will be divided into five dimensions in this study. The first dimension is win-win, according to Lo & Pushpakumara (1999) [12], win-win is described as through the mutual sharing of resources, the establishment of the relationship between enterprises, with lower transaction costs, focus on resources in the core competitiveness, to find new resources and market advantages, can make all partners a comprehensive win-win situation, and produce bigger output than individual company. The second dimension is synergy, based on Dollinger, Golden, & Saxton (1997) [13] that synergy refers to the company's culture capability with its partner. The third dimension is consistency, each partner is consistent with what they have agreed in the front and there is a trust between parties and same vision to achieve their goals [14]. And followed is the fourth dimensions, interaction, which defined as the existence of frequent and good communication and interaction between partner. Good communication and interaction is very important to ensure the stability and the quality of a long-standing relationship [15]. Finally, the last dimension is complementary. According toChung, Singh, & Lee, (2000) [11] complementary dimensions consist of others important factors that needed for a business to succeed in the foreign market.

3. Research Method

To assure the accuracy of selection process, this study combined with several research methods, including both qualitative and quantitative research methods to evaluate the successful partnership model of transnational enterprises. The research methods of this study are discussed in the following four categories: (1) Focus Group, (2) Fuzzy Delphi Method (FDM), (3) DEMATEL, and (4) DANP.

According to Polit, *et al*. (2001) [16], a research design is defined as the researcher's overall view for answering the research question or testing the hypotheses. In this thesis, the researcher aims to understand the factor behind the success of a joint venture in the elevator industry especially in Indonesia.

3.1. Focus Group

After constructing the successful joint venture factors for elevator industries, a focus group of elevator

experts was established to discover successful partnership mode relating to the transnational enterprises. The focus group could provide positive suggestions for the adjustment to the structure of initial successful partnership model factors. 15 experts from the fields of the elevator industry in Taiwan and Indonesia are anticipated to be invited to join the focus group.

3.2. Fuzzy Delphi Method

The Fuzzy Delphi Method (FDM) is used to choose appropriate factors of the successful partnership model. The gaps between the desired/aspiration values and real performances could be evaluated to choose qualified successful partnership model [17]. The study uses the reformed Fuzzy Delphi Method (FDM) which is based on triangular fuzzy numbers. The FDM method was applied to select the successful partnership model factors, because it not only solved the disadvantages resulting from the conventional Delphi Method, but also because its results would not easily be affected by extreme opinions.

3.3. DEMATEL

DEMATEL is an analytical method of structural model. It is mainly used to solve complex problems to clarify the essential of the problem. It usually uses matrix and related math theories to calculate the cause and effect on each element in the degree. DEMATEL is widely used to solve various types of complex studies that can effectively understand the complex structure and provide viable options of problem-solving [18].

3.4. DANP

Saaty (1996) [19] found that Analytic Hierarchy Process (AHP) is applied to solve the nonlinear and complex network relation. ANP is to solve the relaying and feedback problems of factors. Therefore, the study used DANP to combine ANP with DEMATEL to solve the problems [20].

4. Research Results

4.1. The Construction of Initial Factors

At the first step, the intial criteria for the evaluation of the success of joint venture are formed to ensure the credibility and appropriateness of the faculties and the guidelines. Total 15 experts will be invited to review the success factors of the cooperative relationship and compile the recommendations to construct the initial factors of a joint venture model.

4.2. The Structure of Evaluation Factors

The initial number of factors that affect the success of joint venture are 33 factors. After implementing the Fuzzy Delphi method, the model was evaluated and revised to only contain 20 most important factors. The first dimension, win-win, is divided into five factors, quality assurance, cost reduction, risk reduction, market development, and economies of scale. The second dimension, synergy, which contains three factors, operational system, enterprise culture and financial status. The third dimension, consistency, which consists of three factors: common goal, benefit and market orientation. The fourth dimension, interaction, which is divided into four factors: Contact communication, establish coordination pipeline, integrity of treatment, agreement on both sides. And the final dimension, complementary, which is divided into five factors: Policy support, technology, manufacturing capacity, company size and marketing capability. The structure of evaluation model is shown as the Fig. 1:

4.3. Measuring the Relationship by DEMATEL

As shown in Table 1, (d + r) affects the magnitude of the relationship between the factors in the overall evaluation structure according to the influence of each factor and the total degree of influence. While (d - r) is the intensity of the affected or affected relationship. If the (d - r) is bigger than 0 it means that that

dimension of factors is the actively influencing the other dimension or factors while if the (d - r) is below 0 that means that dimension or factor is being influenced by other dimensions or factors.

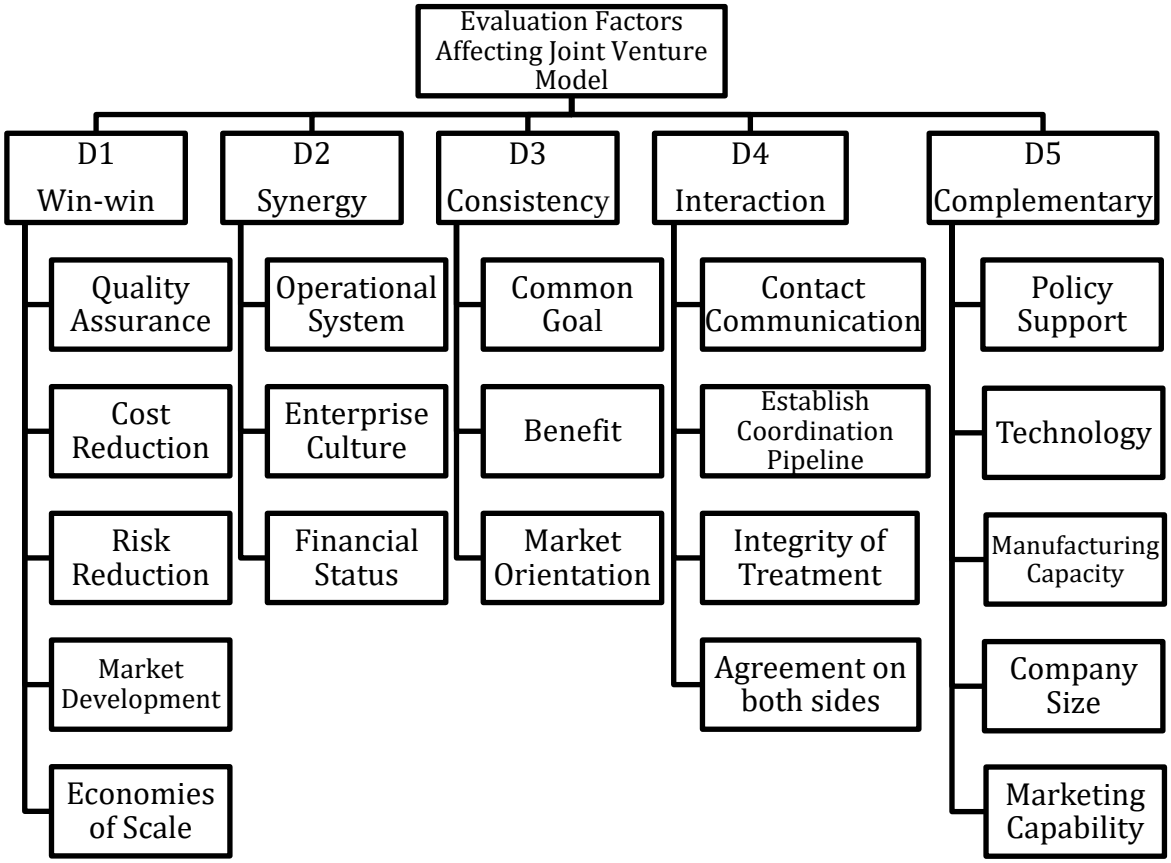

Fig. 1. The framework of evaluation factors.

The overall relationship between the five dimensions in Table 1, Complementary (D5) have the highest magnitude on the success of a joint venture with score of 5.65, followed by Synergy (D2) with score of 5.65. On the third rank is Consistency (D3) and followed by Interaction (D4) and finally Win-win (D1) with score of 5.45.

Table 1. The Total Influence Given / Received for Dimensions

Dimension	Sum of Column(d)	Sum of Rows(r)	d +r	Ranking	d - r
D1 Win-Win	2.720	2.729	5.45	5	-0.01
D2 Synergy	2.861	2.755	5.62	2	0.11
D3 Consistency	2.770	2.824	5.59	3	-0.05
D4 Interaction	2.716	2.752	5.47	4	-0.04
D5 Complementary	2.822	2.829	5.65	1	-0.01

As shown in Fig. 2, dimension D2 with the highest (d – r) score will affects the other four dimensions: D1, D3, D4, and D5 (D2→ {D1, D2, D4, D5}). From these influential relationships, elevator industry executives should first improve D4 (Synergy), then the other four dimensions D1 (Win-win), D3 (Consistency), D4 (Interaction), and D5 (Complementary) will be improved.

Within the win-win dimensions and as shown in Figure 3, Risk Reduction (F13) with (d – r) score of 0.26 will influence on Quality Assurance (F11), Cost Reduction (F12), Market Development F(14) and Economies of Scale (F15). (F13 →{F11, F12,F14,F15}). Managers and of the elevators industry should Focus on Risk Reduction first, because it will affect all the other four factors within the win-win dimensions.

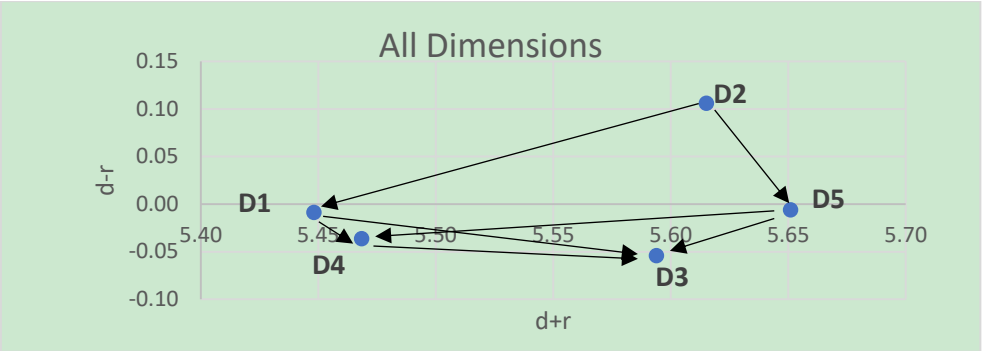

Fig. 2. The impact-relations map within all dimensions.

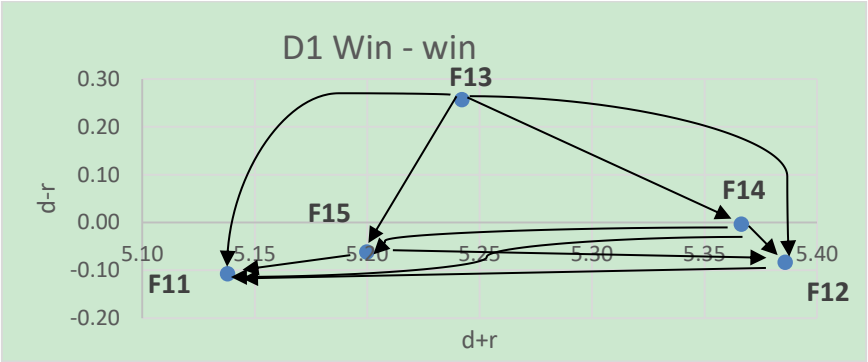

Fig. 3. The impact-relations map within D1 dimensions.

As shown in Fig. 4, Operational System (F21) has the highest (D-R) therefore Operation System has higher impact on the other factor within the Synergy (D2) Dimension. Financial Status (F23) is affected by Operational System (F21) while affecting Enterprise culture (F22). And finally, Enterprise Culture is affected by both Operational System and Financial Status since Enterprise Culture's (d - r) is the lowest of all three factors. Therefore, change on the operational system and financial status will affect the enterprise culture.

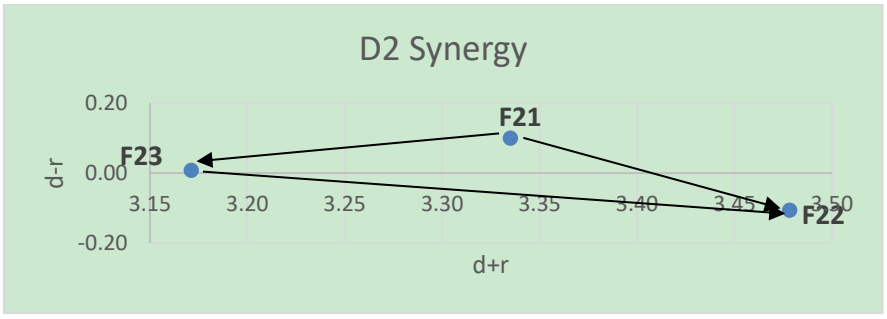

Fig. 4. The impact-relations map within D2 dimensions.

As shown in Fig. 5, Common Goal (F31) has higher influence than the other two factors within the consistency (D3) dimensions. Therefore, Common Goal affect Benefit (F32) and Market Orientation (F33). Followed by Benefit (F32) that directly affect Market Orientation (F33). And finally Market Orientation has the lowest (D-R) value compared to the other two factors within the consistency dimension therefore, Common goal (F31) and Benefit (F32) will affect Market Orientation.

As shown in Fig. 6, Contact Communication (F41) has the highest influence to the other factors within the Interaction (D4) dimension. It's important for the elevator industry executive to pay

attention to the condition of the contact communication as it will influence the establishment of coordination pipeline (F42), Integrity of Treatment (F43) and Agreement on both sides.

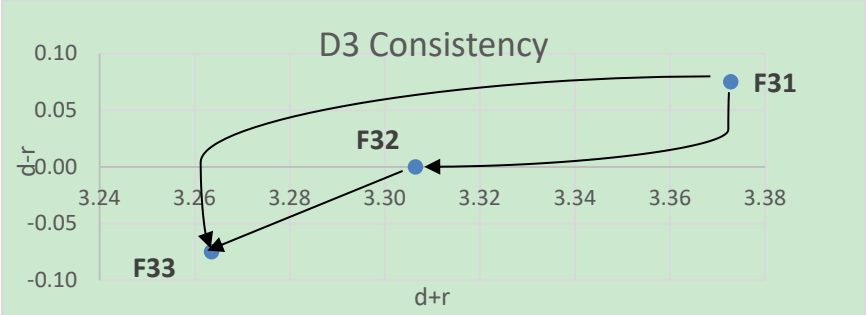

Fig. 5. The impact-relations map within D3 dimensions.

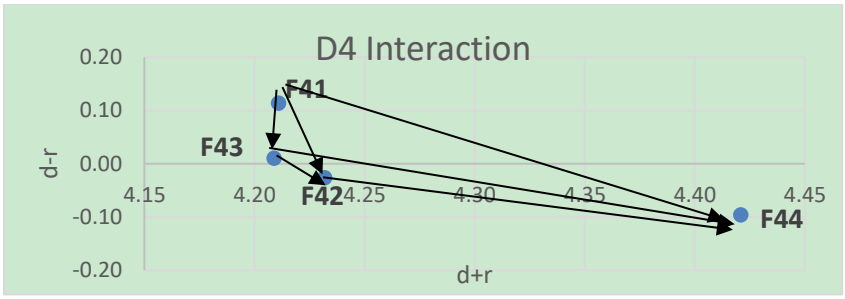

Fig. 6. The impact-relations map within D4 dimensions.

As shown in Fig. 7, Company Size (F54) is the most influential factors within the complimentary (D5) (D5) dimension that will affect the other four factors: Policy Support (F51), Technology (F52), Manufacturing Capacity (F53), and lastly Marketing Capability (F55). Company Size (F54) is the most influential factors within the complimentary dimension that will affect the other four factors: Policy Support (F51), Technology (F52), Manufacturing Capacity (F53), and lastly Marketing Capability (F55).

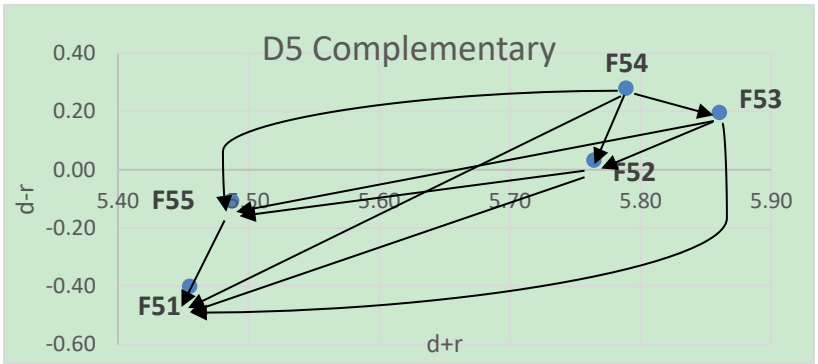

Fig. 7. The impact-relations map within D5 dimensions.

4.4. Application of DANP Method

Based on Table 2, within all five dimensions, dimension five (D5) Complementary has the most important impact weight with score of 0.2037. Followed by D3 Consistency with score of 0.2033, then D2 Synergy with score of 0.1984. And the last two are D4 Interaction with score of 0.1982 and lastly D1 Win-win with score of 0.1965.

Table 2. Impact Weight Ranking

Dimension	Global Weight	Impact Weight Ranking
D1 Win -Win	0.1965	5
D2 Synergy	0.1984	3
D3 Consistency	0.2033	2
D4 Interaction	0.1982	4
D5 Complementary	0.2037	1

5. Conclusion

This study attempts to evaluate why and how international elevator companies could become successful in Indonesia through joint venture. The methodology of this study applied the MCDM model combining DANP and VIKOR methods to identify the interrelated relationships and find the most important factors of joint venture. The research concluded when comparing all the dimensions, Synergy dimensions is the most influential dimensions compared to the other four dimensions, therefore Synergy dimension will influence Win-win, Consistency, Interaction and Complementary. Followed by Win-win and Complementary dimensions will influence Consistency and Interaction. Finally, Consistency dimensions is the least influential dimensions and influenced by the other four dimensions: Win-win, Synergy, Interaction, and Complementary dimensions.

On the first dimension, Win-win dimensions, Risk reduction factor is the most influential factor in the win-win dimensions that will affect Quality assurance, Cost reduction, Market development, and Economic of scale. On the second dimensions, Synergy, Operational system factor is influencing Enterprise culture and Financial status. And while Enterprise culture is being influenced by Operational system and Financial status. On the Consistency dimension, Common goal is the most influential factor compared to Benefit and Market orientation, and affecting both factor. While Market orientation is influenced by Common goal and Benefit factor. On the fourth dimension, Interaction dimensions, increasing Contact communication will increase the other three factors inside the Interaction dimension: Establish coordination pipeline, Integrity of treatment, and Agreement on both sides. Finally, on the last dimension, Complementary dimension, Company size is the most influential factor within the complementary dimension and will affect other four factors: Policy support, Technology, Manufacturing capacity and Marketing capability.

References

[1] Kumaraswamy, M., Palaneeswaran, E., & Humphreys, P. (2000). Selection matters - In construction supply chain optimisation. *International Journal of Physical Distribution & Logistics Management*, *30(7/8)*, 661–680.

[2] Roos, *et al*., (2015). *Getting More Value from Joint Ventures*. Boston: Boston Consulting Group.

[3] (2007). *Law of the Republic of Indonesia Concerning Investment No. 25*.

[4] Chen, X. Y., Alex, X. C., & Kevin, Z. Z. (2014). Strategic orientation, foreign parent control, and differentiation capability building of international joint ventures in an emerging market. *Journal of International Marketing*, *22(3)*, 30–49.

[5] Tsang, E. W. K., Duc, T. N., & Krishna, E. M. (2004), Knowledge acquisition and performance of international joint ventures in the transition economy of Vietnam. *Journal of International Marketing*, *12(2)*, 82–103.

[6] Pelton, L. E., Strutton, D., & Lumpkin, J. R. (2002). *Marketing channels: A Relationship Management Approach*. McGraw-Hill College.

[7] Lewis, J. D. (1990). Making strategic alliances work. *Research Technology Management*, *33(6)*, 12-15.

[8] Hakanson, L. (1993). Managing cooperative research and development: Partner selection and contract design. *R&D Management*, *23(4)*, 273-285.

[9] Mohr, J., & Spekman, R. (1994). Characteristics of partnership success: Partnership attributes, communication behavior, and conflict resolution techniques. *Strategic Management Journal*, *15(2)*, 135-152.

[10] Brouthers, K. D., Brouthers, L. E., & Wilkinson, T. J. (1995). Strategic alliances: Choose your partners. *Long Range Planning*, *28(3)*, 2-25.

[11] Chung, S. A., Singh, H., & Lee, K. (2000). Complementarity, status similarity and social capital as drivers of alliance formation. *Strategic Management Journa*l, *21(1)*, 1-22.

[12] Lo, E. K., & Pushpakumara, C. (1999). Performance and partnership in global manufacturing-modelling frameworks and techniques. *International Journal of Production Economics*, *60*, 261-269.

[13] Dollinger, M. J., Golden, P. A., & Saxton, T. (1997). The effect of reputation on the decision to joint venture. *Strategic Management Journal*, *18(2)*, 127-140.

[14] Ruekert, R. W., & Walker Jr, O. C. (1987). Marketing's interaction with other functional units: A conceptual framework and empirical evidence. *The Journal of Marketing*, 1-19.

[15] Steensma, H. K., & Corley, K. G. (2000). On the performance of technology-sourcing partnerships: The interaction between partner interdependence and technology attributes. *Academy of Management Journal*, *43(6)*, 1045-1067.

[16] Polit, D. F., Beck, C. T., & Hungler, B. P. (2001). *Essentials of Nursing Research: Methods*, *Appraisal and Utilization*., Philadelphia: Lippincott Williams & Wilkins.

[17] Lee, E. S., & Li, R. L. (1988). Comparison of fuzzy numbers based on the probability measure of fuzzy events. *Computers & Mathematics with Applications*, *15*, 87–96.

[18] Tzeng, G. H., Chiang, C. H., & Li, C. W. (2007). Evaluating intertwined effects in e-learning programs: A novel hybrid MCDM model based on factor analysis and DEMATEL. *Expert systems with Applications*, *32(4)*, 1028-1044.

[19] Saaty, T. L. (1996). *Decision Making with Dependence and Feedback: Analytic Network Process*. RWS Publications, Pittsburgh.

[20] Lee, W. S., Tzeng, G. H., & Cheng, C. M. (2009). Using novel MCDM methods based on Fama-French three-factor model for probing the stock selection. *APIEASM*, 1460-1474.

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