

A HYBRID MCDM METHOD TO IDENTIFY CRITICAL FACTORS OF FOREIGN DIRECT INVESTMENT

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The purpose of this study was to understand the varied importance of critical factors (CFs) that affect foreign direct investment (FDI) and optimize the allocation of limited resources to the CFs to increase chances for international business success. We used eclectic theory as a framework. The fuzzy analytic hierarchy process (FAHP) and the concept of the Vlse Kriterijumska Optimizacija Kompromisno Resenje (VIKOR) acceptable advantage were used to obtain the weights of the CFs and to identify the CFs objectively. Sensitivity analysis was performed to optimize the CFs. With the derivation of the CF weights, Taiwanese catering firms (i.e., the focal sample) can improve the allocation of their resources to the CFs to reduce the risk of FDI failure. Management implications, factor path analysis, and study contributions are also discussed.

Keywords: Critical Factors, Foreign Direct Investment, Eclectic Theory, Catering Firms, FAHP, VIKOR

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1. BACKGROUND

Globalization has prompted companies to expand into foreign markets. The development of foreign direct investment (FDI) has played a key role in this expansion. Through FDI, economic outcomes of multinational enterprises (MNEs) help enhance relationships between two or more countries, as MNEs affect the profitability of foreign subsidiaries and their parent companies. FDI also contributes to strengthening relationships between developing and developed countries (Haudi *et al.*, 2020). Therefore, many emerging economies are improving their investment environment to attract foreign investment from firms and concurrently promote domestic economic growth.

Most previous FDI literature has mainly focused on the impact of MNE FDI, the effect of FDI on national economic development, and the correlation among the factors affecting FDI. Furthermore, statistical analyses have usually entailed multiple regression analysis or structural equation modeling (SEM) (Tran *et al.*, 2020; Aghaei and Sokhanvar, 2020; Huang *et al.*, 2020; Ta *et al.*, 2021). Faced with an increasing number of MNEs struggling to survive and facing marked risk of failure, resource misallocation is an important factor affecting FDI (Kong *et al.*, 2021). If the weights of critical factors (CFs) can be identified, though, the possibility of resource misallocation will be reduced. This is because firms could improve the allocation of their resources to CFs based on their relative weights (i.e., importance). However, few studies have determined the weights of CFs affecting FDI; such knowledge could assist enterprises in allocating resources appropriately vis-a-vis FDI.

Normalization and standardization of multinational corporations (MNCs) are usually the issue of multiple hierarchical structures (Amann *et al.*, 2021). Because identifying CFs and ascertaining their factor weights are multi-criteria decision-making (MCDM) issues, this study integrated two MCDM tools and sensitivity analysis to determine objectively the CFs influencing FDI of Taiwan's catering industry. First, eclectic theory was utilized to explore relevant literature affecting FDI considerations and establish a hierarchical factor table. A fuzzy analytic hierarchy process (FAHP) (Fu *et al.*, 2006) was employed to obtain the factor weights and rank them. Then, the concept of the Vlse Kriterijumska Optimizacija Kompromisno

Resenje (VIKOR) (Opricovic and Tzeng, 2004) acceptable advantage was adopted to identify objectively the CFs of FDI. Finally, sensitivity analysis was performed to optimize the reliability of obtained CFs. We adopted the foregoing procedure using the Taiwanese catering industry as an illustration—in particular, caterers interested in pursuing the Shanghai market.

FDI in the catering industry focuses mainly on augmenting vitality, consolidating survival, and pursuing expansion and development as important means for long-term survival (Svetličič, 2007). Prior to the emergence of FDI, a catering company would pursue the domestic market as the foundation and cultivate it intensively. After time elapsed, a caterer's corporate image would be established, which facilitated entering foreign markets. Therefore, if the catering industry wants to engage in FDI, notionally, it initially evolves in domestic markets to increase its chances of realizing FDI success.

China's catering market is opening to foreign firms. Due to the rising income level of potential clients in the catering market, China's catering revenue reached RMB\$ 4.7 trillion in 2019, an increase of 9.4% from RMB\$ 4.3 trillion in 2018. This reflects the marked growth in China's catering industry (BSI, 2021). Indeed, China has become one of the most attractive markets in that sector. One Chinese city that holds considerable allure for foreign catering firms is Shanghai. This is because it is one of the largest cities in the world—with a population equal to that of Taiwan—and possesses vast consumer purchasing power.

Moreover, it is one of the top choices for FDI globally. Also, Shanghai has become a new geographical focus for the FDI of numerous Taiwan caterers. Therefore, this study centered on the Shanghai environs as the target market for FDI of Taiwanese catering companies. Due to the high fixed costs of FDI and the dynamic nature of internationalization, Taiwanese catering firms may be particularly vulnerable to high levels of uncertainty and attendant risk (Aguzzoli *et al.*, 2021). Therefore, the establishment of a robust FDI model has become an important issue for Taiwan's catering industry (Ciabuschi *et al.*, 2019). Scholars have conducted research on the factors affecting FDI, and some FDI empiricism has used the resource-based view (RBV) of the firm (Sukaatmadja *et al.*, 2021) as its theoretical underpinning. However, RBV only partially explains FDI and does not integrate foreign economic relations—such as international trade and FDI. The eclectic theory of Dunning (1980) incorporates many previous research theories, and MNEs regard it as advantageous in explaining FDI (Dunning, 1986). As such, researchers have recently adopted the eclectic theory for FDI research (Batschauer da Cruz *et al.*, 2022; Abille *et al.*, 2020; Dzomonda and Ngwakwe, 2020; Hendriks, 2020). Therefore, based on its strengths, relevance, and prevalence, this study adopted Eclectic Theory as its theoretical basis.

The foregoing discussion reveals that there are two research gaps dealing with MNEs' FDI. First, most previous work has used multiple regression analysis or SEM to determine the factors that influence firms' FDI. Although the β value of multiple regression analysis or SEM can represent the importance (or weight) of factors, errors or collinearity issues may occur when estimating them (Hair *et al.*, 2010). Second, the identification of CFs in previous studies has been mainly based on a researcher's subjective judgment of influencing factors, so the objectivity of the identification of those CFs can be questioned.

When Taiwanese catering firms undertake FDI in the Shanghai area, they need to ensure initially that they allocate sufficient resources to the most critical CFs to reduce the risk of failure. Our proposed evaluation model is the first that determines CFs of FDI. The results obtained in this study are more objective and reliable than those obtained in extant work. Taiwanese catering firms can hence effectively allocate appropriate resources according to the weights of the CFs. Doing so should allow them to strengthen the capacities of the truly important CFs. Such efforts should reduce the risk of failure in their FDI.

2. LITERATURE REVIEW

2.1 Eclectic Theory and FDI

Eclectic theory states that international direct investment must involve three basic elements: ownership, location, and internalization advantages. Ownership advantages include product differentiation capability and corporate capital. Location advantages comprise market potential and economic development. Internalization advantages constitute talent cultivation. Multinational corporations regard these three features as advantages for FDI and as necessary conditions for FDI (Dunning, 1980; Dunning, 1986; Agarwal and Ramaswami, 1992).

Eclectic theory is prevalently used in direct investment research and is considered to be the most complete explanation of direct investment activities among all theories. For instance, Agarwal and Ramaswami (1992) studied international leasing companies' international market entry models using eclectic theory and proposed several factors that firms should consider when planning to enter foreign markets. Hill *et al.* (1990) argued that previous literature on the consideration model of FDI has chiefly discussed environmental and transactional variables; they noted that the factors of globalization strategy affected FDI model selection. Therefore, strategic variables were added to propose strategic, environmental, and transactional variables to determine FDI models. Brouthers *et al.* (1996) used eclectic theory to explore the choices of U.S. software companies of FDI; they reported that ownership and location advantages influenced the choices of small and medium enterprises (SMEs) when FDI.

Explicitly including specific financial factors in FDI affects firms' relative cost and capital availability. Therefore, when large companies invest in overseas markets, the eclectic theory is a typical cross-border investment theory. Dunning (2000) remarked that international production, economic, and business theories are linked and, through dynamic norms and expanding scope, remain dominant theories of investment activity, explaining the ability of firms in global, knowledge-intensive market economies. Oxelheim *et al.* (2001) argued that an FDI's main structure must contain ownership, location, and internalization advantages. When studying FDI, Kennel and Enderwick (2004) inserted the relationship among companies' specific advantages, resource internationalization, local customers, and supplier and partner external networks into an eclectic theory structure to discuss external network relationships formed with subsidiaries. Their results indicated that subsidiary resource internationalization was generated using external network relationships; as such, the subsidiary could be perceived as an integrator of internal and external resources to increase FDI. Head *et al.* (2004) developed a model incorporating central features of Knickerbocker's story—oligopoly, uncertainty, and risk aversion—to establish the conditions required to generate follow-the-leader behavior. They found that rival foreign investment led risk-neutral firms to be less inclined to move abroad once their rivals had already done so. Moreover, Stoian and Filippaios (2008) averred that eclectic theory was a holistic theoretical framework for studying ownership and location advantages of the internalization of Greek investors.

Ayazlar (2015) explored the choice of lodging firms' foreign market models based on eclectic theory and confirmed that eclectic theory was applicable to FDI in the lodging industry. Nakamura and Zhang (2018) found that when local host countries' product markets were characterized by certain types of market structures, local investors considered cooperative relationships with foreign companies. In certain conditions, when foreign enterprises chose to establish joint ventures with partners in other countries, they performed better by adopting a form of technology transfer. Chen *et al.* (2019) reported that firms in countries with advanced financial markets or stronger legislation cooperated less with Chinese firms; this was because the capital market effect was observed only in companies in countries with stronger legislation, and this legislation effect only applied to companies in more developed countries. Moreover, Kottaridi *et al.* (2019) determined that developing economies had systematic failures—such as weak regulation and high taxation—whereas more reliable systems and lower foreign tax rates in developed countries were crucial incentives for attracting investment from international firms. Furthermore, some investigations have examined influential factors of FDI as well as ascertained that such critical factors vary across nations, such as Bangladesh (Mahbub *et al.*, 2022), Caribbean (Sookram *et al.*, 2022), and Vietnam (Quang *et al.*, 2022). Although advancing knowledge, those efforts tended to use multiple regression analysis or SEM.

2.2 MCDM tools

Several investigations have used MCDM to rank the weights and identify CFs vis-à-vis FDI. These are summarized in Table 1. Despite the value of this extant work, none of those studies used our proposed evaluation model.

Table 1. Investigation on factors of FDI applied to MCDM

Authors	Topic	Methodologies
Nguyen <i>et al.</i> (2023)	Found subjectively the critical factors affecting FDI attraction and open innovation in Vietnam.	Fuzzy-Delphi, Fuzzy-DEMATEL, and DANP
Çalık <i>et al.</i> (2019)	Ranked the factor priority of FDI.	AHP, TOPSIS
Korhan <i>et al.</i> (2015)	Evaluated priorities for FDI.	AHP, TOPSIS
Gupta <i>et al.</i> (2022)	Ranked the priority of factors influencing FDI.	AHP
Šimelytė <i>et al.</i> (2014)	Ranked the priority of factors influencing FDI to propose a complex targeted FDI policy.	ANP
Lin and Tsai (2010)	Ranked and applied to the problem of selecting locations of FDI for new hospitals.	ANP, TOPSIS
Le and Dang (2022)	Evaluated the efficiency of FDI attractiveness.	SMA, IFTS, DEA
DEMATEL: Decision-making Trial and Evaluation Laboratory DANP: DEMATEL-based Analytic Network Process AHP: analytic hierarchy process TOPSIS: Technique for Order Preference by Similarity to Ideal Solution ANP: Analytic Network Process SMA: Simple Moving Average IFTS: Improved Fuzzy Time Series DEA: Data Envelopment Analysis		

2.3 CF Identification

Quantitative and qualitative research methods have been previously used to determine CFs, several with an attendant review of germane literature (Langvinienė and Daunoravičiūtė, 2015; Martens and Carvalho, 2017). Some studies have utilized regression analysis or SEM to identify the determinants or success factors—such as determinants of organizational change and structural inertia of manufacturing (Colombo and Delmastro, 2002), factors in the selection of international hotel locations (Assaf *et al.*, 2015), CF analysis of a supplier inventory management model (Claassen *et al.*, 2008), analysis of CFs in ERP implementation (Žabjek *et al.*, 2009), identification of CFs for supply chain strategic partners for building materials (Lönngren *et al.*, 2010), and selection of factors on foreign market entry (Tolstoy, 2019; Gnizy *et al.*, 2014). As noted earlier, though, the CFs in these efforts were subjectively (not objectively) determined.

3. METHOD

To solve MCDM problems, the analytic hierarchy process (AHP) (Saaty, 1980) has been widely used to obtain weights. This method is mainly utilized in cases of uncertainty and decision problems having multiple evaluation criteria. It cannot, however, take into account the fuzziness of human thought patterns or the incertitude of real environments. Therefore, van Laarhoven and Pedrycz (1983) developed the FAHP using fuzzy set theory and fuzzy arithmetic combined with the AHP. The FAHP allows researchers to make appropriate changes to the traditional AHP applications and obtain results that are more accurate. Therefore, we used the FAHP to determine the weight of CFs. However, selecting CFs from many factors is difficult, as some factors have very similar weight values: that is, some values are so similar to others so that selecting one weight over another poses a problem. Wu *et al.* (2009) and Kumar *et al.* (2012) suggested that VIKOR can resolve this issue.

VIKOR provides a compromise solution to the problem of conflicting guidelines. It mainly involves the simultaneous sorting and selection of a set of options (Opricovic and Tzeng, 2004). This compromise solution approaches the ideal solution by considering certain concessions. To obtain this compromise solution, VIKOR uses the concepts of “acceptable advantage” and “acceptable stability” to determine the largest “most-favored-group utility” and the smallest “personal regret of opponents.” As a result, the compromise solution in this negotiation becomes a more acceptable solution for decision-makers.

Given the foregoing strengths of the FAHP and VIKOR, we integrated these two MCDM methods to evaluate the CFs; this study is the first to do so. After applying the FAHP to determine the weights of the factors and sort them, we then used the concept of the VIKOR acceptable advantage to obtain CFs objectively. Finally, sensitivity analysis was then performed to optimize the reliability of the obtained CFs. An in-depth discussion of the steps implemented in the current study (briefly described below) to integrate the FAHP and the concept of VIKOR acceptance advantage, as well as the detailed calculation procedure of VIKOR, can be found in Opricovic and Tzeng (2004).

3.1 Step 1: Create a Hierarchical Factor Table

Per previous studies, we sorted the relevant factors that may affect the FDI to establish a hierarchical factor table. The table was used as input in subsequent steps.

3.2 Step 2: Collect Information

From the hierarchical factor table, a pairwise comparison questionnaire comparing factors of the same level was designed. Respondents answered questions comparing the weights of the factors. This was the expert questionnaire section found in the AHP.

3.3 Step 3: Create A Fuzzy Number

There are two main methods generally used to calculate fuzzy numbers: triangular and trapezoidal fuzzy numbers. Triangular fuzzy numbers are relatively simple but insufficient to represent the information that decision-makers convey. When key factors directly influence the decision-making process, the real decision-making situation differs significantly from the data estimated via triangular fuzzy numbers (Sengupta and Pal, 2000). Trapezoidal fuzzy numbers are more extensive and reflect the subjectivity of decision-makers more effectively than triangular fuzzy numbers. Moreover, trapezoidal fuzzy numbers contain more uncertainty than triangular fuzzy numbers (Girubha and Vinodh, 2012). As such, we used trapezoidal fuzzy numbers (Figure 1). Buckley (1985) has identified and extracted four numbers from the data collected for the calculation. These four numbers (α , β , γ , and δ) form a trapezoid on a graph, which represents a trapezoidal fuzzy number, and the fuzzy numbers α and δ reflect the minimum and maximum values of all membership functions.

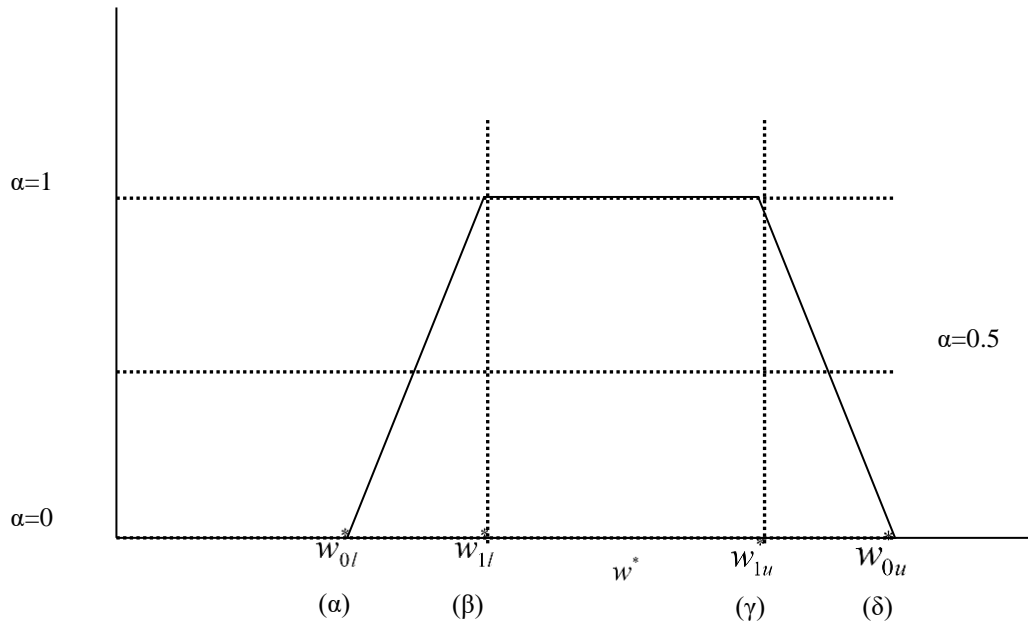


Figure 1. Trapezoidal fuzzy number

3.4 Step 4: Establish a Fuzzy Positive Reciprocal Matrix

Buckley (1985) has averred that fuzzy weights are calculated by means of the geometric mean method, which enables the determination of the fuzzy weights of fuzzy positive reciprocal matrices and achieves normalization. For example, it is a 2×2 matrix when two factors are discussed at the same level and a 3×3 matrix when three factors are described. From the trapezoidal fuzzy numbers, an $n \times n$ fuzzy positive reciprocal matrix (\bar{A}) is constructed as follows:

Let $\bar{a}_{ij} = 1$ when $i = j$, $\bar{A} = [\bar{a}_{ij}]$

$$\bar{a}_{ij} = (\alpha_{ij}, \beta_{ij}, \gamma_{ij}, \delta_{ij}) \text{ when } i < j, \text{ then } \bar{a}_{ij} = (\bar{a}_{ji})^{-1}, \text{ when } i > j, \text{ then } (\bar{a}_{ji})^{-1} = \left(\frac{1}{\delta_{ij}}, \frac{1}{\gamma_{ij}}, \frac{1}{\beta_{ij}}, \frac{1}{\alpha_{ij}} \right), i = 1, 2, 3, \dots, n; j = 1, 2, 3, \dots, n$$

3.5 Step 5: Check The Consistency of Questionnaires

Before calculating the weights, a consistency check is first performed on the positive reciprocal matrix from the collected expert questionnaires. It mainly indicated the reasonable degree of judgment the experts had made during the evaluation process. According to Csutora and Buckley (2001), let $\bar{A} = [\bar{a}_{ij}]$ be a fuzzy positive reciprocal matrix, where $\bar{a}_{ij} = (\alpha_{ij}, \beta_{ij}, \gamma_{ij}, \delta_{ij})$. Selecting $a_{ij} \in (\beta_{ij}, \gamma_{ij})$ and $a_{ji} \in (\beta_{ji}, \gamma_{ji})$, if A is consistent, then \bar{A} is also consistent. To this end, geometric means (i.e., $\Gamma_{ij} = (\alpha_{ij} \times \beta_{ij} \times \gamma_{ij} \times \delta_{ij})^{1/4}$) can be used to obtain fuzzy weights to test consistency (Buckley, 1985). The consistency index (CI) and consistency ratio (CR) were calculated as follows:

$CI = (\lambda_{max} - n)/(n - 1)$, $CR = (CI/RI_n)$, where λ_{max} is the maximum number of eigenvectors of a pairwise comparison matrix, n is the factor number of this matrix, and RI_n is a random index (Aguarón and Moreno-Jiménez, 2003; Table 2). Saaty (1980) has suggested that CR should be less than or equal to 0.1 for acceptable consistency.

Table 2. RI random table (Randomized index of RI_n)

<i>n</i>	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>RI_n</i>	0.525	0.882	1.115	1.252	1.341	1.404	1.452	1.474	1.513	1.535	1.555	1.570	1.583	1.595

3.6 Step 6: Establish a Starting Matrix

In this step, the matrix established by the previous step is used to perform the initial matrix calculation. The eigenvalues of the eigenvectors of the starting matrix are calculated and normalized to obtain standardized eigenvalues.

3.7 Step 7: Defuzzify The Fuzzy Weight Interval to Obtain Factor Weights (A-Cut)

In this study, Csutora and Buckley's (2001) α -cut method was used to obtain the CF weights. This method has three advantages. First, it can handle any pairwise comparison of fuzzy number types. Second, it is computationally simple and does not require calculus, requiring only the vector and eigenvector values of the positive matrix. Third, it can reduce ambiguity better than other methods (Csutora and Buckley, 2001).

The α -cut method calculation procedures are as follows:

Let $\alpha = 1$ and the α -cut method be used to obtain fuzzy positive reciprocal matrices A_{1l} and A_{1u} , where $A_{1l} = \beta$ and $A_{1u} = \gamma$. The smallest possible K_{1l} is the maximum possible K_{1u} , and the equations for obtaining the fuzzy weight interval value are as follows:

$$K_{1l} = \min \left\{ \frac{W_{im}}{W_{1il}} \mid 1 \leq i \leq n \right\} \quad (1)$$

$$K_{1u} = \max \left\{ \frac{W_{im}}{W_{1iu}} \mid 1 \leq i \leq n \right\} \quad (2)$$

Therefore, from K_{1l} and K_{1u} , the fuzzy number interval value can be obtained: $W^*_{1l} = K_{1l} \times W_{1l}$, $W^*_{1u} = K_{1u} \times W_{1u}$. Let $\alpha = 0.5$ and the α -cut method be used to obtain fuzzy positive reciprocal matrices $A_{0.5l}$ and $A_{0.5u}$. The minimum and maximum possible numbers are $K_{0.5l}$ and $K_{0.5u}$, respectively, and then obtain the fuzzy weight value. Finally, $W^*_{0.5l}$ and $W^*_{0.5u}$ can be obtained.

Let $\alpha = 0$ and the α -cut method be used to obtain fuzzy positive reciprocal matrices A_{0l} and A_{0u} . The minimum and maximum possible numbers are K_{0l} and K_{0u} , respectively, and then the fuzzy weight value can be obtained. Finally, W^*_{0l} and W^*_{0u} can be obtained. According to this formula, the fuzzy weight interval values (W^*_{0l} , W^*_{1l} , W^*_{1u} , and W^*_{0u}) of each factor can be obtained. The fuzzy weight interval of each factor is then defuzzified by using the geometric mean to obtain the explicit weight value (W^*). Finally, the weight value of factors is normalized to obtain the local weight. Then, the local weights of various hierarchies are connected in series, and the global weight can be obtained.

3.8 Step 8: Determine CFs

In this step, we determined CFs using the concept of VIKOR acceptable advantage. Let $Q(i)$ be the i th evaluated alternative ($i = 1, 2, \dots, j$), j is the number of alternatives, $Q(1)$ is the most suitable solution among all alternatives, and $Q(2)$ is the second most suitable solution among all alternatives. If $TD \geq DQ$, then the better solution, $Q(i)$, is a compromise solution, where $DQ = 1/(j - 1)$ and $TD = Q(i + 1) - Q(i)$.

Instead of being an empirical article with inferences and hypotheses, the purpose of this paper was to use the MCDM method to find CFs of FDI. Because we employed eclectic theory as the research framework, we focused on the three basic features of eclectic theory: ownership, location, and internalization advantage. We did so because the three are useful to help identify CFs affecting FDI. Therefore, the literature review below focuses on the FDI factor research that has been used in extant work and will be discussed in the next section.

4. ESTABLISHMENT OF HIERARCHICAL FACTOR TABLE

Based on the approach proposed in the Method section, the hierarchy factor table was established first. It was derived using the three advantages described in eclectic theory, per our literature review.

4.1 Ownership Advantages

As noted earlier, ownership advantages include product differentiation capability and corporate capital. A study of Brazilian multinational companies operating in Mexico found that some companies learned from their mistakes and considered how to re-enter markets and reallocate requisite resources adeptly (Aguzzoli *et al.*, 2021). Kong *et al.* (2021) determined that total factor productivity (TFP) was an important factor in increasing the willingness of foreign-funded enterprises and large-scale entities to invest abroad in FDI. However, intangible assets are also vital to catering firms, owing to the intangible nature of their core services. Intangible assets pertain partly to intellectual property rights (IPRs), including trademarks and patents. Indeed, Nguyen (2020) found that an IPR protection strategy was as important in trademarks as it was in patents for pharmaceutical MNEs in Vietnam.

Some studies have discerned that a company's unique advantages—such as technological leadership, export and international experience, and ability to deliver quality signals to foreign partners—are factors that companies consider prior to undertaking FDI (Oh *et al.*, 2021). In addition, differentiated and innovative products can attract customers in foreign markets (Sono, 2020). Relatedly, various innovative and risk attitudes have been observed to affect overseas business expansion in FDI (Aghaei and Sokhanvar, 2020).

Choi *et al.* (2021) revealed that domestic policy uncertainty in host countries reduced FDI inflows—with a greater impact on countries with lower levels of financial development. Becker *et al.* (2020) determined that location and skilled labor availability are critical for corporate FDI. Specifically, policies that promoted labor market flexibility—particularly through investments in skills that address skill shortages—however, mitigated these adverse effects. Moreover, Haudi *et al.* (2020) ascertained that the manner in which MNEs conducted their operations in a new country through a sole proprietorship or joint venture model was a consideration in FDI.

4.2 Location Advantages

As noted above, location advantages comprise market potential and economic development. Huang *et al.* (2021) found that the contribution of FDI to long-term performance from firms from emerging economies was greater when the investment portfolio had a higher overall diversity of strategic factors, as well as in the market and institutional environment. Al-Khouri (2015) examined the factors affecting FDI and foreign portfolio investment (FPI) flows among the 16 economies comprising the Middle East and North African (MENA) region. He found that economic risk, trade openness, political risk, and religious tension were consequential factors of FDI. Furthermore, TFP was observed to be an important factor for increasing the willingness of enterprises to invest in FDI in specific regions (Kong *et al.*, 2021). In addition, Belderbos *et al.* (2021) found that local customers, suppliers, and intra-industry FDI spillovers had a significant impact on the productivity of domestic companies.

Haudi *et al.* (2020) identified political stability, lower wage rates, lower production costs, ease of communication, favorable exchange rates, and enticing foreign investment policies of the host country as factors that attract FDI. In addition, Batschauer da Cruz (2022) conducted a systematic literature review of 41 articles published between 1990 and 2019 and found that the location strategy of MNEs should include a subnational perspective. This implies that firms should evaluate different levels of a location, as this parameter may affect a company's ability to conduct business effectively. Further, Dimitrova *et al.* (2020) reviewed the empirical literature on country-specific factors that affected FDI inflows to the Middle East and North Africa region and found that a weak understanding of the specificities of its investment environment (e.g., investment policies, economic development, political and economic stability) is one important country-specific factor of FDI.

4.3 Internalization Advantages

As mentioned previously, internalization advantages constitute talent cultivation. TFP has been discerned to affect the willingness of enterprises to engage in FDI (Kong *et al.*, 2021). In particular, FDI has been found to contribute more to the long-term performance of emerging economy firms when the investment portfolio has a higher overall diversity of strategic factor markets and institutional environment (Huang *et al.*, 2021). Ecological environmental protection, a high level of economic development, and improvement of people's quality of life or local human quality have been determined to have an important impact on FDI (Gan *et al.*, 2021). Becker *et al.* (2020) emphasized that, when identifying which geographical locations to pursue, companies significantly reduced adverse effects by investing in human capital to address skills shortages. Oh *et al.* (2021) ascertained that recent, frequent, and high-intensity risk experiences shifted a company's FDI decision-making from risk aversion to risk management.

Using the preceding literature, we developed a 3×3 hierarchical factor table that included the goal, criteria, and sub-criteria layers. The relationship among the factors affecting FDI can be understood through the hierarchical relationship among the factors. The goal layer deals with the explicit strategy (i.e., ownership, location, and internalization advantages); the criteria, and sub-criteria layers are explained in further detail subsequently. We identified 27 factors in total, as shown in Table 3.

Table 3. Layer table for FDI of catering firms

Goal Layer	Criteria Layer	Sub-criteria Layer	Literature
A1: Ownership Advantages	A11: Enterprise Resources	A111: Corporate Capital	Aguzzoli <i>et al.</i> , 2021
		A112: Intangible Assets	Nguyen, 2020
		A113: Industrial Experience	Oh <i>et al.</i> , 2021
	A12: Product Competitiveness	A121: Product Differentiation Capability	Sono, 2020
		A122: Product Innovation Capability	Aghaei and Sokhanvar, 2020
		A123: Brand Competition	Nguyen, 2020
	A13: International Operational Experience	A131: Risk-Taking	Choi <i>et al.</i> , 2021; Aghaei and Sokhanvar, 2020; Al-Khour, 2015
		A132: Business Cost	Kong <i>et al.</i> , 2021
		A133: Sole Proprietorship	Haudi <i>et al.</i> , 2020
A2: Location Advantages	A21: Market Potential	A211: Market Size and Growth	Huang <i>et al.</i> , 2020; Al-Khour, 2015
		A212: Local Suppliers and Business Partners	Kong <i>et al.</i> , 2021; Belderbos <i>et al.</i> , 2021
		A213: Labor Abundance	Kong <i>et al.</i> , 2021
	A22: National Policy	A221: Preferential Investment Policies	Choi <i>et al.</i> , 2021; Haudi <i>et al.</i> , 2020; Belderbos <i>et al.</i> , 2021; Al-Khour, 2015; Dimitrova <i>et al.</i> , 2020
		A222: Economic Development	Haudi <i>et al.</i> , 2020; Al-Khour, 2015; Dimitrova <i>et al.</i> , 2020
		A223: Political and Economic Stability	Choi <i>et al.</i> , 2021; Haudi <i>et al.</i> , 2020; Batschauer da Cruz <i>et al.</i> , 2022; Dimitrova <i>et al.</i> , 2020
	A23: Cultural and Environmental Similarities	A231: Environmental Cognitive Differences	Haudi <i>et al.</i> , 2020; Dimitrova <i>et al.</i> , 2020
		A232: Cultural and Ethnic Relations	Haudi <i>et al.</i> , 2020; Al-Khour, 2015
		A233: Geographic Location Similarity	Batschauer da Cruz <i>et al.</i> , 2022; Kong <i>et al.</i> , 2021
A3: Internalization Advantages	A31: Asset Specificity	A311: Transactional Cost Control	Merkert <i>et al.</i> , 2018; Kong <i>et al.</i> , 2021; Haudi <i>et al.</i> , 2020; Belderbos <i>et al.</i> , 2021
		A312: Vertical Integration Ability	Kong <i>et al.</i> , 2021; Belderbos <i>et al.</i> , 2021
		A313: Purchasing Cost Control	Kong <i>et al.</i> , 2021; Haudi <i>et al.</i> , 2020
	A32: Localization	A321: Human Resources	Kong <i>et al.</i> , 2021; Haudi <i>et al.</i> , 2020; Belderbos <i>et al.</i> , 2021
		A322: Marketing Capability	Haudi <i>et al.</i> , 2020
		A323: Target Market Familiarity	Huang <i>et al.</i> , 2020
	A33: Internal Management	A331: Talent Education	Gan <i>et al.</i> , 2021; Becker <i>et al.</i> , 2020
		A332: Resource Allocation	Saranga <i>et al.</i> , 2018; Kong <i>et al.</i> , 2021
		A333: Organizational Management	Oh <i>et al.</i> , 2021

5. DATA COLLECTION

5.1 Questionnaire Design

The FAHP criteria were assumed to be independent. Verifying the independence of the factors in hierarchy tables is challenging. Using expert interviews is a possible method to verify their independence (Fu *et al.*, 2006). Therefore, five management experts (professors) reviewed the 27 factors. They considered the independence of each factor in the same layer to be acceptable. Furthermore, most of the factors in Table 3 have been verified in prior work as being significant or influential factors.

We designed an expert questionnaire comparing the pairwise factors (Table 4). Saaty (1980) reported that such pairwise comparative evaluation scales should use nine scales and that too many scales create a burden on respondents' judgments. The expert questionnaire designed for the goal layer is shown in Table 4. The questionnaire designed for the other layers was the same as that in Table 4.

Table 4. Pairwise independence questionnaire in goal layer

Importance level	Absolutely important		Very strongly important		Essentially Important		Weekly Important		Equally important		Weekly important		Essentially important		Very Strongest important		Absolutely important		Importance level
	←-----●-----→																		
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9		
advantage of ownership																			location market advantage
advantage of ownership																			internal advantage of enterprises
location market advantage																			internal advantage of enterprises

5.2 Questionnaire Administration and Recycling

Following the design of the expert questionnaires, they were sent via mail to experts. This study focused on investment in foreign markets. Therefore, considering whether respondents were representative of the industry was crucial. Duke and Aull-Hyde (2002) espoused that experts must have long-term experience and an in-depth understanding of the research topic. As such, the results of the questionnaires that our industry experts provided needed to be representative of the industry's thought process regarding FDI, thus reflecting the actual industry situation. Accordingly, the experts in this study were senior managers of Taiwanese catering firms who had been in the catering industry in Shanghai for at least five years.

Thirty-one questionnaires were disseminated. After collecting and reviewing the questionnaires for completeness, sixteen questionnaires were deleted because of insufficient consistency. Thus, the final set consisted of fifteen questionnaires for analysis. All experts were Taiwanese businesspeople who had invested in the catering industry in Shanghai.

The FAHP is not a statistical regression inference method; thus, a large sample size was not required (Dias and Ionone, 1996). Delbecq *et al.* (1975) stated that fifteen to thirty respondents is a reasonable sample size for a highly homogenous expert group; similarly, Robbins (1994) averred that a reasonable sample size for an expert questionnaire is between five and seven individuals. As such, this study's sample size were compatible with the foregoing suggestions. Also, because the FAHP uses expert questionnaires, the more senior experts completed our questionnaire—thus ideally producing results that are reflective of reality.

The foregoing requirements thus led to our use of purposive sampling. Purposive sampling is a non-probability sampling method where entities selected for the sample are chosen through the researcher's judgment. Scholars generally believe that they can arrive at a representative sample using reasonable judgment, thereby saving time and reducing costs (Black, 2010). Therefore, the fifteen experts in this study were considered compatible with the representativeness of the research topic. Although only fifteen expert questionnaires were obtained (Table 5), the required number comprising the sample, along with the experts' backgrounds and experiences, was consistent with the research methodology. This sample was thus apt for undertaking statistical analysis of the data.

Table 5. List of Shanghai catering industry experts from valid questionnaires

Expert	Company	Job title	Seniority	Age (years)	Education
1	A	Vice Chairman	Over 10 years	50-59	Bachelor's Degree
2	B	Vice President	Over 10 years	Over 60	Bachelor's Degree
3	C	Vice President	Over 10 years	50-59	Bachelor's Degree
4	A	Vice President	Over 10 years	50-59	Bachelor's Degree
5	B	Manager	Over 10 years	30-39	Bachelor's Degree
6	D	Manager	6-7 years	30-39	Bachelor's Degree
7	A	Manager	Over 10 years	40-49	High School Diploma
8	D	Assistant Vice President	Over 10 years	40-49	Master's Degree
9	D	Assistant Manager	5 years	30-39	Bachelor's Degree
10	C	Assistant Manager	5 years	30-39	Master's Degree
11	F	Assistant Manager	5 years	30-39	Bachelor's Degree
12	E	Assistant Manager	Over 10 years	40-49	Bachelor's Degree
13	G	Manager	Over 10 years	30-39	Bachelor's Degree
14	H	Vice President	Over 10 years	50-59	Master's Degree
15	H	Section Manager	6-7 years	30-39	Master's Degree

Note:
A-Happiness Food and Beverage Holding Ltd
B-Shanghai Yi Cha Yi Zoo Food and Beverage Co., Ltd
C-Shanghai Zhao Xu Food and Beverage Management Co., Ltd
D-Shanghai Zhao Lei Food and Beverage Management Co., Ltd
E-Shanghai Lu Rou Fan Food and Beverage Management Co., Ltd
F-Shanghai Chuang Yu Food and Beverage Management Co., Ltd
G-Guangdong Shunda Big Food Seasoning Co., Ltd
H-Tingshin Dicos Food and Beverage Management Co., Ltd

5.3 Establishment of The Starting Matrix

Based on the returned questionnaires, the procedures of the method mentioned in the Method section were performed. CI and CR values were less than 0.1. These values met the consistency requirements and were thus acceptable. Meanwhile, the fuzzy number was obtained, and the weights of the factors were obtained using the α -cut method. The α -cut calculation procedures are described in Csutora and Buckley (2001). Based on the α -cut calculation procedures, the weights of all factors were derived for the different hierarchies (Table 6).

Table 6. Factor weight table of FDI in the catering industry

Goal layer	Weights	Criteria layer	Weights	Multiplied Weight	Sub-criteria Layer	Weights	Multiplied weight	Ordinal position
A1 Ownership Advantages	58.61 【1】	A11: Enterprise Resource	56.10 【1】	32.88 【1】	A111: Corporate Capital	56.7 【1】	18.65	1
					A112: Intangible Assets	28.0 【2】	9.22	2
					A113: Industry Experience	15.2 【3】	5.00	6
		A12: Product Competitiveness	19.83 【3】	11.62 【4】	A121: Product Differentiation Ability	56.9 【1】	6.61	5
					A122: Product Innovation Capability	26.7 【2】	3.11	10
					A123: Brand Competition	16.2 【3】	1.89	21
		A13:	24.05	14.10 【2】	A131: Risk-Taking	52.9 【1】	7.47	4

Goal layer	Weights	Criteria layer	Weights	Multiplied Weight	Sub-criteria Layer	Weights	Multiplied weight	Ordinal position
		International Operation Experience	【2】		A132: Business Cost	21.4 【3】	3.02	11
					A133: Sole Proprietorship	25.5 【2】	3.60	8
A2 Location Advantages	19.61 【3】	A21: Market Potential	41.78 【1】	7.70 【5】	A211: Market Sizes and Growth	48.2 【1】	3.71	7
					A212: Local Suppliers and Business Partners	26.2 【2】	2.02	16
					A213: Labor Abundant	25.4 【3】	1.96	20
		A22: National Policy	25.03 【3】	6.34 【6】	A221: Preferential Investment Policies	55.6 【1】	3.53	9
					A222: Economic Development	31.0 【2】	1.97	19
					A223: Political and Economic Stability	13.3 【3】	0.84	25
		A23: Cultural Distance and Environment	33.18 【2】	5.55 【7】	A231: Environmental Cognitive Differences	37.1 【1】	2.06	15
					A232: Cultural and Ethnic Relations	36.3 【2】	2.02	18
					A233: Geographic Location Similarity	26.4 【3】	1.46	22
A3 Internalization Advantages	21.77 【2】	A31: Asset Specificity	59.02 【1】	13.44 【3】	A311: Transaction Cost Control	61.2 【1】	8.23	3
					A312: Vertical Integration Ability	21.3 【2】	2.86	12
					A313: Purchasing Cost Control	17.4 【3】	2.34	14
		A32: Localization	22.27 【2】	4.51 【8】	A321: Human Resources	63.2 【1】	2.85	13
					A322: Marketing Capabilities	25.8 【2】	1.16	23
					A323: Target Market Familiarity	10.8 【3】	0.48	27
		A33: Internal Management	18.69 【3】	3.81 【9】	A331: Talent Education	53.0 【1】	2.02	17
					A332: Resource Allocation	30.1 【2】	1.15	24
					A333: Organizational Management	16.7 【3】	0.64	26

Notes. C = (B x A)/100, E = (D x C)/100. All factors passed the consistency check

5.4 Identification of CFs

The purpose of the concept of VIKOR acceptable advantage is to gradually identify a set of feasible solutions to avoid identifying too many options initially. To prevent obtaining too many CFs in one extraction, the first fourteen factors with a cumulative weight of 79.786% (i.e., the 80/20 rule) were selected to discern the CFs. The break value was first determined using the following equation:

$$\text{Break value}(i) = (Q_i - Q_j)/(Q_1 - Q_{14}) \quad (3)$$

The second break value determined in this study was identified as follows:

$$\text{Break value}(2) = (0.1865 - 0.0922)/(0.1865 - 0.0234) = 0.5782$$

With this procedure, the break values of all fourteen alternatives were obtained (Table 7).

Next, the CFs were identified using the concept of VIKOR acceptable advantage. Regarding the reasonable number of CFs, most studies have revealed that there are between four to six CFs (e.g., Janjić *et al.*, 2020; Moya and Camacho, 2021). Hence, first, extraction was stopped immediately after more than four CFs were identified and their cumulative weight exceeded 50%. CF extraction continued when fewer than four CFs were determined, and the cumulative weight did not exceed 50% (Fu *et al.*, 2018; Hsu *et al.*, 2020). From this extraction principle, the first extraction in this study yielded only one CF (A111: corporate capital; weight: 18.65%) in which $TD \geq DQ$ —which was fewer than four CFs with a cumulative weight not exceeding 50%. As a result, a second extraction was performed. The second extraction exceeded the five-CF threshold in which $TD \geq DQ$ with a total of six CFs and a cumulative weight of 54.76%—thus satisfying the requirement for stopping the extraction. Therefore, six CFs were obtained: corporate capital (A111), intangible assets (A112), transaction cost control (A311), risk-taking (A131), product differentiation ability (A121), and industry experience (A113).

Table 7. CF extraction for the catering firms entering foreign markets

CFs $Q(i)$	Weight	1 st Check				2 nd Check			
		Rank	Break value	TD	$TD \geq DQ$ $DQ=0.077$	Rank	Break value	TD	$TD \geq DQ$ $DQ=0.083$
A111	18.65	1	0.0000	0.5782	Yes				
A112	9.22	2	0.5782	0.0607	No	1	0.0000	0.1439	Yes
A311	8.23	3	0.6389	0.0466		2	0.1439	0.1105	Yes
A131	7.47	4	0.6855	0.0785		3	0.2544	0.1860	Yes
A121	6.19	5	0.7639	0.0730		4	0.4404	0.1730	Yes
A113	5	6	0.8369	0.0791		5	0.6134	0.1875	Yes
A211	3.71	7	0.9160	0.0067		6	0.8009	0.0160	No
A133	3.6	8	0.9227	0.0043		7	0.8169	0.0102	
A221	3.53	9	0.9270	0.0258		8	0.8270	0.0610	
A122	3.11	10	0.9528	0.0055		8	0.8881	0.0131	
A132	3.02	11	0.9583	0.0094		10	0.9012	0.0224	
A312	2.866	12	0.9677	0.0010		11	0.9235	0.0023	
A321	2.85	13	0.9687	0.0313		12	0.9259	0.0741	
A313	2.34	14	1.0000			13	1.0000		

Note. $DQ = 1/(n-1)$

5.5 Sensitivity analysis

To improve decision-making reliability, we conducted a sensitivity analysis to identify potential problems and optimize results. Sensitivity analysis was performed to determine whether changes in each factor affect the entire result (Wang, 2005). Therefore, we changed the weights of the six CFs obtained in the previous step to discern whether the results were affected. Shih (2016) has suggested that the factor weight values can be added or subtracted by 10% (as shown in Table 8) to perform sensitivity analysis. Based on the changed weight value of six CFs, the VIKOR acceptable advantage concept was used again to find the CFs. It revealed that, after the weights of the six CFs were increased or decreased by 10%, the top five rank CFs had no effect. In the case of the sixth CF—which was reduced by 10%—five CFs were found through VIKOR's acceptable advantage concept, which showed that the sensitivity of the sixth CF was relatively high. As such, this study excluded the

sixth CF (i.e., industry experience) owing to its high sensitivity. Finally, after sensitivity analysis was performed, the five CFs were identified as follows: corporate capital, intangible assets, transaction cost control, risk-taking, and product differentiation ability.

Table 8. Sensitivity analysis of CFs

Criteria	Multiplied Weights	A111		A112		A311		A131		A121		A113	
		+10%	-10%	+10%	-10%	+10%	-10%	+10%	-10%	+10%	-10%	+10%	-10%
A111	18.65	20.52	16.79	18.46	18.84	18.48	18.82	18.50	18.80	18.52	18.78	18.55	18.75
A112	9.22	9.01	9.43	10.14	8.30	9.14	9.30	9.15	9.29	9.15	9.29	9.17	9.27
A113	5.00	4.89	5.11	4.95	5.05	4.96	5.04	4.96	5.04	4.96	5.04	5.50	4.50
A121	6.61	6.46	6.76	6.54	6.68	6.55	6.67	6.56	6.66	7.27	5.95	6.58	6.64
A122	3.11	3.04	3.18	3.08	3.14	3.08	3.14	3.08	3.14	3.09	3.13	3.09	3.13
A123	1.89	1.85	1.93	1.87	1.91	1.87	1.91	1.87	1.91	1.88	1.90	1.88	1.90
A131	7.47	7.30	7.64	7.39	7.55	7.40	7.54	8.22	6.72	7.42	7.52	7.43	7.51
A132	3.02	2.95	3.09	2.99	3.05	2.99	3.05	3.00	3.04	3.00	3.04	3.00	3.04
A133	3.60	3.52	3.68	3.56	3.64	3.57	3.63	3.57	3.63	3.57	3.63	3.58	3.62
A211	3.71	3.62	3.80	3.67	3.75	3.68	3.74	3.68	3.74	3.68	3.74	3.69	3.73
A212	2.02	1.97	2.07	2.00	2.04	2.00	2.04	2.00	2.04	2.01	2.03	2.01	2.03
A213	1.96	1.91	2.01	1.94	1.98	1.94	1.98	1.94	1.98	1.95	1.97	1.95	1.97
A221	3.53	3.45	3.61	3.49	3.57	3.50	3.56	3.50	3.56	3.50	3.56	3.51	3.55
A222	1.97	1.92	2.02	1.95	1.99	1.95	1.99	1.95	1.99	1.96	1.98	1.96	1.98
A223	0.84	0.82	0.86	0.83	0.85	0.83	0.85	0.83	0.85	0.83	0.85	0.84	0.84
A231	2.06	2.01	2.11	2.04	2.08	2.04	2.08	2.04	2.08	2.05	2.07	2.05	2.07
A232	2.02	1.97	2.07	2.00	2.04	2.00	2.04	2.00	2.04	2.01	2.03	2.01	2.03
A233	1.46	1.43	1.49	1.45	1.47	1.45	1.47	1.45	1.47	1.45	1.47	1.45	1.47
A311	8.23	8.04	8.42	8.15	8.31	9.05	7.41	8.16	8.30	8.17	8.29	8.19	8.27
A312	2.86	2.79	2.93	2.83	2.89	2.83	2.89	2.84	2.88	2.84	2.88	2.84	2.88
A313	2.34	2.29	2.39	2.32	2.36	2.32	2.36	2.32	2.36	2.32	2.36	2.33	2.35
A321	2.85	2.78	2.92	2.82	2.88	2.82	2.88	2.83	2.87	2.83	2.87	2.83	2.87
A322	1.16	1.13	1.19	1.15	1.17	1.15	1.17	1.15	1.17	1.15	1.17	1.15	1.17
A323	0.48	0.47	0.49	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
A331	2.02	1.97	2.07	2.00	2.04	2.00	2.04	2.00	2.04	2.01	2.03	2.01	2.03
A332	1.15	1.12	1.18	1.14	1.16	1.14	1.16	1.14	1.16	1.14	1.16	1.14	1.16
A333	0.64	0.63	0.65	0.63	0.65	0.63	0.65	0.63	0.65	0.64	0.64	0.64	0.64
Number of CFs		6	6	6	6	6	6	6	6	6	6	6	5

6. MANAGEMENT IMPLICATIONS AND CONTRIBUTIONS

6.1 Management implications

Taiwanese catering firms should have mature operating models and developmental advantages vis-à-vis FDI. In addition, by choosing the apt international entry model, they can achieve effective results from FDI. From the perspective of eclectic theory, our study findings indicated that among the six CFs, five CFs involved ownership advantages, and one entailed an internalization advantage. These two broad kinds of advantages are key for Taiwanese catering firms' FDI. Our study offers several management implications.

6.1.1 “Corporate Capital” Plays A Key Role Factor in FDI

Before a firm invests in foreign markets, corporate capital should be considered. Corporate capital is a source of funding for firms interested in acquiring assets requisite for production and operational activities. When the capital structure of a catering firm's FDI is not particularly advantageous, it conceivably cannot effectively develop its markets. Therefore, firms must have tangible assets and be sufficiently competitive in using their FDI. Corporate capital also enhances managerial power, which increases the risk tolerance of management and ultimately improves corporate competitiveness (Ferris *et al.*, 2017; Aghaei and Sokhanvar, 2020).

6.1.2 “Intangible Assets” is An Advantage Factor of FDI

The intangible assets of an enterprise include intellectual property rights—such as trade secrets, copyrights, trademarks, and patent rights. In many cases, intangible assets of the catering industry constitute the core wealth of the enterprise, especially where firms possess well-known trademarks, innovative product/service capabilities, brand equity, and basic services. After entering and evolving in the market, these features become symbols of corporate credibility. They are also an important weapon for use with FDI for the catering industry. In short, for a caterer wishing to engage in FDI, the stronger its ability to build intangible assets, the greater the benefits that will likely be derived.

6.1.3 “Transaction Cost Control” is A Logistic Factor That Supports The Success of FDI

Catering firms should establish development departments domestically, maintain stable product quality, produce at an economical scale, and retain core technologies domestically to enhance international competitiveness and cost control capabilities. The core products that FDI requires can be imported from the domestic market, and the marketing/service field is dominated by FDI. Therefore, catering firms can obtain stable foreign operational income from FDI by establishing transaction cost control capabilities (Merkert *et al.*, 2018).

6.1.4 “Risk-taking” is An Important Factor That Affects The Stable Growth Of FDI

Possessing more capital implies a higher risk-taking ability from which a firm can earn higher returns (Ferris *et al.*, 2017). Before a firm engages in FDI, it should develop optimal compensation plans and reserve working capital by establishing investment plan structures pertaining to business plan forecasts to avoid operational financial pressure. Development of the catering industry in mainland China is progressing faster than in Taiwan. Therefore, catering firms should have risk-taking ability when undertaking FDI in the Shanghai market.

6.1.5 “Product Differentiation Ability” is The Main Ability Factor That Affects The FDI Market

In the process of FDI for catering firms, core products/services play a key role in their international competitiveness. In addition to developing its brands, establishing core products/services that represent a firm’s brands and product/service uniqueness are necessary. Doing so can enhance its product/service differentiation ability. As a result of consumer value imbalances or cost spillovers, companies often must improve their ability to generate more balanced product/service prices compared to their competitors (Barigozzi and Ma, 2018).

6.2 Path Analysis

Path analysis was conducted on the five CFs obtained in the previous step. The path diagrams of the five CFs are shown in Figure 2. A total of four CF paths were produced. These five CFs affected catering firms’ foreign market entry. The CF paths are described below.

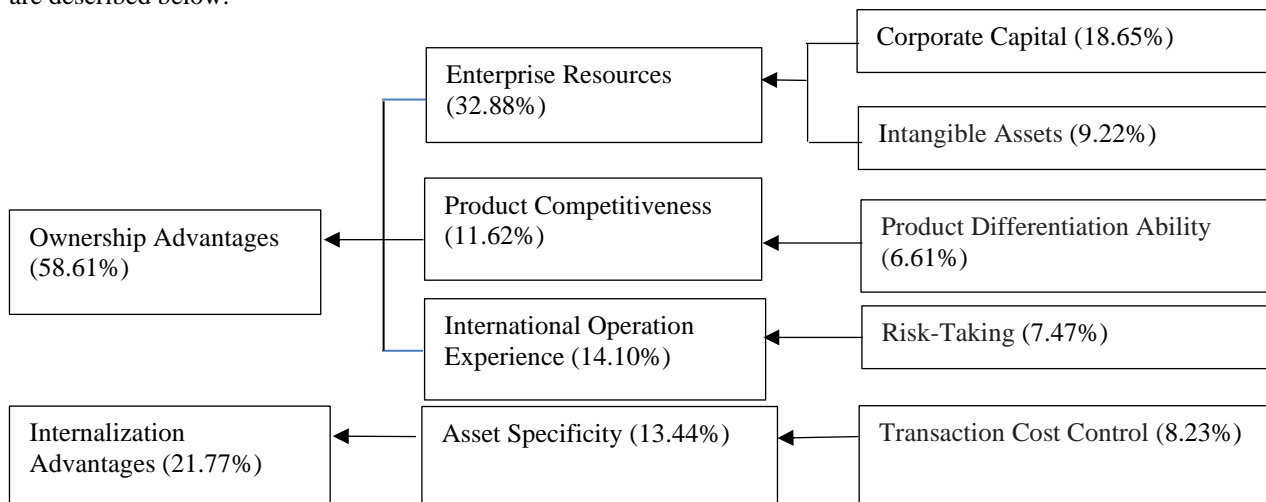


Figure 2. Path analysis of CFs for catering firms entering foreign markets

Path 1 included corporate capital (A111) and intangible assets (A112), both of which are related to enterprise resources. Thus, enterprise resources are the most important factor affecting ownership advantages for Taiwanese caterers in Shanghai. Corporate resources include corporate capital, intangible assets, industry experience, superior corporate management skills, and advanced hardware equipment (Saranga *et al.*, 2018). Therefore, companies with more resource advantages have stronger international competitiveness flowing from FDI.

Path 2 embodied product differentiation ability (A121). This factor influences product competitiveness and affects ownership advantages. Companies create different impressions by distinguishing product characteristics and differentiating their offerings from competitors' products, thus seemingly generating a competitive advantage. This key advantage results in a stronger ownership advantage of FDI for Taiwanese catering firms in the Shanghai market.

Path 3 typified risk-taking (A131), which influences the international operating experience and represents a key aspect of the ownership advantage for Taiwanese caterers in Shanghai. Firms often require a certain degree of risk-taking. In addition to their international operating experience, risk-taking ability is necessary to advance ownership advantages in FDI.

Path 4 reflected transaction cost control (A311), which affects asset specificity and creates internalized corporate advantages for Taiwanese catering firms in the Shanghai market. Firms require large amounts of capital for FDI and therefore, they need to have adequate control over transaction costs. This internalization advantage—proposed by Dunning (1980)—suggests that to reduce external transaction costs, companies should transform their external market trading behavior into being a part of their internalization production activities, thus generating an internalized company advantage.

Given the preceding discussion of the five CFs that affect Taiwanese catering firms' FDI when making forays into the Shanghai area, four pertained to ownership advantages and one to internalization firm advantages. Taiwanese catering firms that appropriately allocate their limited resources to establish these five-factor advantages may well experience an enhanced likelihood of success and reduced risk of failure of FDI in the Shanghai market.

6.3 Contributions

This paper combines two MCDM tools to determine CFs and uses sensitivity analysis to optimize the results. The findings are more objective and reliable than those obtained in previous investigations. Therefore, several important academic and practical contributions ensue from the findings and are discussed below.

6.3.1 Academic Contributions

In the past, most studies that identified CFs have mainly used multiple regression analysis or SEM to identify the influencing factors, and then the researchers subjectively determined the CFs from the set of influencing factors. We, however, integrated two MCDM methods to identify objectively six CFs. Then, sensitivity analysis was performed to optimize the number of CFs from six to five. This approach was more rigorous, and the results were more convincing than those found in extant work.

Prior scholars were limited by their theoretical models and could not explore multiple factors simultaneously. By contrast, we employed the eclectic theory hierarchical framework as the theoretical basis for reviewing the literature (that yielded 27 factors), as well as a hybrid approach and sensitivity analysis, to identify objectively the more comprehensive CFs from broader influencing factors, as well as a less subjective judgment.

6.3.2 Practical Contributions

This study identified five CFs with weights. When companies undertake FDI, they can allocate limited resources based on the weight of each CF. This should reduce the risk of FDI failure. If there are remaining resources, they can be allocated to other factors that have relatively high weights as well. Doing so should enhance the efficiency of their resource allocations. The referenced value for corporate practice will be higher than the value of merely determining the influencing factors from the past.

In the past, most studies on FDI-related factors have used multiple regression analysis or SEM to identify influencing factors. We first utilized the FAHP to ascertain the factor weights, then we employed the VIKOR's acceptable advantage concept to identify the CFs, and finally, we optimized the results through sensitivity analysis. The evaluation model of our study provides a reference for companies that want to undertake FDI to find arrive at the CFs objectively.

7. CONCLUSION

In previous studies—whether they entailed determining the influence factors or identifying CFs—regression analysis or SEM was employed, resulting in the research shortcomings discussed earlier. To overcome key limitations in extant work, this study

integrated the FAHP and the acceptable advantage concept from VIKOR to identify objectively CFs. Moreover, sensitivity analysis was ultimately used to optimize the reliability of obtained CFs of FDI for Taiwanese catering firms entering the Shanghai market. An integrated approach was employed to identify these advantages: (1) a hierarchical analysis of influencing factors clarified the hierarchical relationship among factors, and (2) the method used approximated the true decision-making logic of experts. Consequently, the CFs of FDI for catering firms were identified, and they were sorted by importance ranking. After using the VIKOR acceptable advantage concept and sensitivity analysis, five CFs were finally obtained: corporate capital, intangible assets, transaction cost control, risk-taking, and product differentiation ability. Among these five, four were ownership advantages, thus indicating that ownership advantages were a necessary condition for Taiwanese catering firms to invest in foreign markets. Such firms can consider FDI strategies from the listed CFs, allocate resources efficiently and effectively, and then establish the competitiveness of the CFs and entry models of FDI in the face of limited resources. Because the CF weights have been identified, the possibility of resource misallocation should be reduced. Moreover, when Taiwanese catering firms desire to undertake FDI in the Shanghai marketplace, they should have the foregoing capabilities to decrease the risk of failure.

Scholars have previously used multiple regression or SEM and relied on their own subjective judgment to identify CFs. As such, they were limited by their theoretical models and unable to explore multiple factors simultaneously. By contrast, our contribution was that the eclectic theory hierarchical framework was used as the theoretical basis for reviewing the literature, which yielded 27 factors. Moreover, a hybrid approach was utilized to identify objectively the more comprehensive CFs from a set of broader factors. Also, this paper first proposed the evaluation model of CFs of FDI, which combined two MCDM tools and sensitivity analysis. Accordingly, the CFs obtained by using this evaluation model were more objective and reliable than past use of subjective judgment.

This study focused on the Shanghai market and Taiwanese catering firms. However, it had certain limitations. First, it did not address other geographical areas. In addition, the results of other industries were not considered. In the future, data could be collected from other geographical areas and industries and then compared with our findings to enhance understanding of the differences across geography and business sectors. In addition, only the FAHP and VIKOR were utilized to solve the MCDM problem of FDI in this paper. However, there are numerous MCDM tools (e.g., AHP, BWM, TOPSIS, MARCOS, DEA, MARCOS or DEMANTAL). Therefore, future researchers could further evaluate other MCDM tools to solve similar problems and determine their differentiation.

REFERENCES

- Abille, A. B., Mpuure, D. M. -N., Wuni, I. Y., and Dadzie, P. (2020). Modelling The Synergy Between Fiscal Incentives and Foreign Direct Investment in Ghana. *Journal of Economics and Development*, 22(2): 325-334.
- Agarwal, S. and Ramaswami, S. N. (1992). Choice of Foreign Market Entry Mode: Impact of Ownership, Location and Internalization Factors. *Journal of International Business Studies*. 23(1): 1-27.
- Aghaei, I. and Sokhanvar, A. (2020). Factors Influencing SME Owners' Continuance Intention in Bangladesh: A Logistic Regression Model. *Eurasian Business Review*, 10: 391-415.
- Aguarón, J. and Moreno-Jiménez, J. M. (2003). The Geometric Consistency Index: Approximated Thresholds. *European Journal of Operational Research*, 147(1): 137-145.
- Aguzzoli, R., Lengler, J., Sousa, C. M., and Benito, G. R. (2021). Here We Go Again: A Case Study on Re-Entering A Foreign Market. *British Journal of Management*, 32(2): 416-434.
- Al-Khour, R. (2015). Determinants of Foreign Direct and Indirect Investment in The MENA Region. *Multinational Business Review*, 23(2): 148-166.
- Amann, B., Jaussaud, J. and Schaaper, J. (2021). The Bridging Role of Regional Headquarters. Multinational Companies in The Asia-Pacific Region. *Multinational Business Review*, 29(1): 116-142.
- Assaf, A. G. Josiassen, A. and Agbola, F. W. (2015). Attracting International Hotels: Locational Factors That Matter Most. *Tourism Management*, 47(12): 329-340.
- Ayazlar, G. (2015). Internationalization of The Lodging Industry in The Light of Eclectic Paradigm. *Procedia Economics and Finance*, 26: 875-882.

- Barigozzi, F. and Ma, C. A. (2018). Product Differentiation with Multiple Qualities. *International Journal of Industrial Organization*, 61: 380-412.
- Batschauer Da Cruz, C. B., Eliete Floriani, D. and Amal, M. 2022. The OLI Paradigm As A Comprehensive Model of FDI Determinants: A Sub-National Approach. *International Journal of Emerging Markets*, 17(1): 145-176.
- Becker, B., Driffield, N., Lancheros, S. and Love, J. H. (2020). FDI in Hot Labor Markets: The Implications of The War for Talent. *Journal of International Bussiness Policy*, 3: 107–133.
- Belderbos, R., Van Roy, V. and Sleuwaegen, L. (2021). Does Trade Participation Limit Domestic Firms' Productivity Gains from Inward Foreign Direct Investment? *Eurasian Business Review*, 11: 83–109.
- Black, K. 2010. *Business Statistics: Contemporary Decision Making*. 6th Edition, University of Houston—Clear Lake: John Wiley and Sons, Inc.
- Brouthers, K. D., Brouthers, L. E. and Werner, S. (1996). Dunning's Eclectic Theory and The Smaller Firm: The Impact Of Ownership and Locational Advantages on The Choice of Entry-Modes in The Computer Software Industry. *International Business Review*, 5(4): 377-394.
- BSI. (2021). A Key Report on The Development of The International Catering Industry 2020-2021. *Business Service Industry Yearbook*. <https://www.thenewslenz.com/article/146686>
- Buckley, J. J. (1985). Fuzzy Hierarchical Analysis. *Fuzzy Sets and Systems*, 17(3): 233-247.
- Çalık, A., Çizmecioglu, S., and Akpınar, A. (2019). An Integrated AHP-TOPSIS Framework for Foreign Direct Investment In Turkey. *Journal of Multi-Criteria Decision Analysis*, 26(5-6): 296-307.
- Chen, D. Yu, X. and Zhang, Z. (2019). Foreign Direct Investment Comovement and Home Country Institutions. *Journal of Business Research*, 95: 220-231.
- Choi, S., Furceri, D. and Yoon, C. (2021). Policy Uncertainty and Foreign Direct Investment. *Review of International Economics*, 29(2): 195-227.
- Ciabuschi, F., Lindahl, O., Barbieri, P., and Fracocchi, L. (2019). Manufacturing Reshoring: A Strategy to Manage Risk and Commitment in The Logic of The Internationalization Process Model. *European Business Review*, 31(1): 139-159.
- Claassen, M. J. T., Weele, A. J. V., and Raaij, E. M. V. 2008. Performance Outcomes and Success Factors of Vendor Managed Inventory (VMI). *Supply Chain Management: An International Journal*, 13: 406-414.
- Colombo, M. G., and Delmastro, M. (2002). The Determinants of Organizational Change and Structural Inertia: Technological and Organizational Factors. *Journal of Economics Management Strategy*, 11(4): 595–635.
- Csutora, R. and Buckley, J. J. (2001). Fuzzy Hierarchical Analysis: The Lambda-Max Method. *Fuzzy Set and Systems*, 120(2): 181-195.
- Delbecq, A. L. Van De Ven, A. H. and Gustafson, D. H. (1975). *Group Techniques for Program Planning: A Guide to Nominal Group and Delphi Processes*. Illinois: Scott, Foresman and Company.
- Dias Jr., A. and Ioannou, P. G. (1996). Company and Project Evaluation Model for Privately Promoted Infrastructure Projects. *Journal of Construction Engineering and Management*, 122(1): 71-82.
- Dimitrova, A., Rogmans, T. and Triki, D. (2020). Country-Specific Determinants of FDI Inflows to The MENA Region: A Systematic Review and Future Research Directions. *Multinational Business Review*, 28(1): 1-38.

- Duke, J. M. and Aull-Hyde, R. (2002). Identifying Public Preferences for Land Preservation Using The Analytic Hierarchy Process. *Ecological Economics*, 42(1-2): 131-145.
- Dunning, J. (1980). Toward An Electric Theory of International Production: Some Empirical Tests. *Journal of International Business Studies*, 11(1): 9–31.
- Dunning, J. (1986). The Investment Development Cycle Revisited. *Review of World Economics*, 122(4): 667–676.
- Dunning, J. H. (2000). The Eclectic Paradigm As An Envelope for Economic and Business Theories of MNE Activity. *International Business Review*, 9(2): 163–190
- Dzomonda, O., and Ngwakwe, C. C. (2020). The Link Between Foreign Direct Investment and Stock Exchange Value. *Euroeconomica*, 39(3): 38-47.
- Ferris, S. P. Javakhadze, D. and Rajkovic, T. (2017). CEO Social Capital, Risk-Taking and Corporate Policies. *Journal Of Corporate Finance*, 47: 46-71.
- Fu, H. P. Chang, T. H. Ku, C. Y. Chang, T. S. and Huang, C. H. (2014). The Critical Success Factors Affecting The Adoption Of An Inter-Organization System by SMEs. *Journal of Business and Industrial Marketing*, 29(5): 400-416.
- Fu, H-P., Ho, Y-C., Chen, R. C-Y., Chang, T-H. and Chien, P-H. (2006). Factors Affecting The Adoption of Electronic Marketplaces: A Fuzzy AHP Analysis. *International Journal of Operational Production Management*, 26(12): 1301-1324.
- Fu, H. -P., Yeh, H., and Ma, R. -L. (2018). A Study of The Csfs of An E-Cluster Platform Adoption for Microenterprises. *Information Technology and Management*, 19: 231-243.
- Gan, T., Yang, H. and Liang, W. (2021). How Do Urban Haze Pollution and Economic Development Affect Each Other? Empirical Evidence from 287 Chinese Cities During 2000–2016. *Sustainable Cities and Society*, 65:102642.
- Girubha R. J. and Vinodh, S. (2012). Application of Fuzzy VIKOR and Environmental Impact Analysis for Material Selection of An Automotive Component. *Materials and Design*, 37(1): 478-486.
- Gnizy, I. E. Baker, W. and Grinstein, A. (2014). Proactive Learning Culture: A Dynamic Capability and Key Success Factor for SMEs Entering Foreign Markets. *International Marketing Review*, 31(5): 477-505.
- Gokmenoglu, K., and Alaghemand, S. (2015). A Multi-Criteria Decision-Making Model for Evaluating Priorities for Foreign Direct Investment. *Croatian Operational Research Review*, 489-510.
- Gupta, S., Jha, B., and Singh, R. K. (2022). Decision-Making Framework for Foreign Direct Investment: Analytic Hierarchy Process and Weighted Aggregated Sum Product Assessment Integrated Approach. *Journal of Public Affairs*, 22: E2771.
- Hair, J. F. Black, W. C. Babin, B. J. and Anderson, R. E. (2006). Multivariate Data Analysis: Englewood Cliffs *Prentice Hall*.
- Haudi, H., Wijoyo, H., and Cahyono, Y. (2020). Analysis of Most Influential Factors to Attract Foreign Direct Investment. *Journal of Critical Reviews*, 7(13): 4128-4135.
- Head, K., Mayer, T., and Ries, J. (2002). Revisiting Oligopolistic Reaction: Are Decisions on Foreign Direct Investment Strategic Complements? *Journal of Economics & Management Strategy*. 11(3): 453-472
- Hendriks, G. (2020). How Outward Investment from Emerging Markets Affects Economic Development at Home: Using The Eclectic Paradigm to Synthesize Two IB Literatures. *Multinational Business Review*, 28(4): 463-482.
- Hill, C. W. L., Hwang, P., and Kim, W. C. (1990). An Electric Theory of The Choice of International Entry Mode. *Strategic Management Journal*. 11(2): 117-128.

- Hsu, K. Y. Fu, H. P. Lin, A., and Ou, T. Y. (2020). Factor-Analysis of SMEs Entering Foreign Markets: A Case of Taiwanese SMEs in Vietnam. *European Journal of International Management*, 14(3): 524-550.
- Huang, Y., Xie, E., and Wu, Z. (2021). Portfolio Characteristics of Outward Foreign Direct Investment and Dynamic Performance of Emerging Economy Firms: An Option Portfolio Perspective. *International Business Review*, 30(4): 101750.
- Janjić, V., Todorović, M., and Jovanović, D. (2020). Key Success Factors and Benefits of Kaizen Implementation. *Engineering Management Journal*, 32 (2): 98-106.
- Kennel, J. S. and Enderwick, P. (2004). Inter-Firm Alliance and Network Relationships and The Eclectic Paradigm Of International Production: An Exploratory Analysis of Quasi-Internalisation at The Subsidiary Level. *International Business Review*, 13: 425-445.
- Kong, Q., Peng, D., Ruijia, Z., and Wong, Z. (2021). Resource Misallocation, Production Efficiency and Outward Foreign Direct Investment Decisions of Chinese Enterprises. *Research in International Business and Finance*, 55: 101343.
- Kottaridi, C. Giakoulas, D. and Manolopoulos, D. (2019). Escapism FDI from Developed Economies: The Role of Regulatory Context and Corporate Taxation. *International Business Review*, 28(1): 36-47.
- Kumar, R., Singh, H., and Dureja, J. (2012). An Approach to Analyze Logistic Outsourcing Problem in Medium-Scale Organization by CFPR and VIKOR. *Journal of Manufacturing Technology Management*, 23(7): 885-898.
- Langvinienė, N. and Daunoraviciute, I. (2015). Factors Influencing The Success of Business Model in The Hospitality Service Industry. *Procedia-Social and Behavioral Sciences*, 213: 902-910.
- Le, T. -N., and Dang, T. -T. (2022). An Integrated Approach for Evaluating The Efficiency of FDI Attractiveness: Evidence from Vietnamese Provincial Data from 2012 to 2022. *Sustainability*, 14(20): 13140.
- Lin, C. -T., and Tsai, M. -C. (2010). Location Choice for Direct Foreign Investment in New Hospitals in China by Using ANP and TOPSIS. *Quality & Quantity*, 44, 375-390.
- Lönngren, H. M. Rosenkranz, C. and Kolbe, H. (2010). Aggregated Construction Supply Chains: Success Factors In Implementation of Strategic Partnerships. *Supply Chain Management: An International Journal*, 15(5): 404-411.
- Mahbub, T., Ahammad, M. F., Shlomo Y., Tarba, S. M. and Mallick, Y. (2022). Factors Encouraging Foreign Direct Investment (FDI) in The Wind and Solar Energy Sector in An Emerging Country, *Energy Strategy Reviews*, 41:100865
- Martens, M. L. and Carvalho, M. M. (2017). Key Factors of Sustainability in Project Management Context: A Survey Exploring The Project Managers' Perspective. *International Journal of Project Management*, 35(6): 1084-1102.
- Merkert, R., Mulley, C. and Hakim, M. M. (2018). Trade-Offs Between Transaction Cost, Operation Cost and Innovation in The Context of Procurement and Asset Specificity – The Example of The Bus Industry. *Research in Transportation Economics*, 69: 173-179.
- Moya, S. and Camacho, M. (2021). Identifying The Key Success Factors for The Adoption of Mobile Learning. *Education and Information Technologies*, 26: 3917–3945.
- Nakamura, M. and Zhang, A. (2018). Foreign Direct Investment with Host Country Market Structures, with Empirical Application to Japan. *Journal of The Japanese and International Economies*, 49: 43-53.
- Nguyen, A. L. T. (2020). FDI Inflows and Intellectual Property Rights for Mnes in Emerging Markets: An Alternative Approach Through The Lens of Trademarks in Vietnam (1986-2016). *Multinational Business Review*, 28(4): 483-519.
- Nguyen, P. H., Tran, L. C., Nguyen, H. B. D., Ho, T. P. T., Duong, Q. A. and Tran, T. N. (2023). Unlocking The Potential of Open Innovation Through Understanding The Interrelationship Among Key Determinants of FDI Attractiveness. *Journal of Open Innovation: Technology, Market, and Complexity*, 9 (1): 100021.

- Oh, C. H., Shin, J. and Oetzel, J. (2021). How Does Experience Change Firms' Foreign Investment Decisions to Non-Market Events? *Journal of International Management*, 27(1): 100802.
- Opricovic, S. and Tzeng, G. H. (2004). Compromise Solution by MCDM Methods: A Comparative Analysis of VIKOR and TOPSIS. *European Journal of Operational Research*, 156(2): 445-455.
- Oxelheim, L. Randomly, T. and Stonehill, A. (2001). on The Treatment of Finance-Specific Factors Within The OLI Paradigm. *International Business Review*, 10(2): 381-398.
- Quang, P. T., Rasoulinezhad, E., Linh, N. N. and Thao, D. P. (2022). Investigating The Determining Factors of Sustainable FDI In Vietnam. *China Finance Review International*, 12 (2): 334-350.
- Robbins, S. P. (1994). *Management*. New Jersey: Englewood Cliffs. Prentice Hall.
- Saaty, T. L. (1980). *The Analytic Hierarchy Process*. New York: McGraw-Hill.
- Saranga, H., George, R., Beine, J. and Arnold, U. (2018). Resource Configurations, Product Development Capability, and Competitive Advantage: An Empirical Analysis of Their Evolution. *Journal of Business Research*, 85: 32–50.
- Sengupta, A. and Pal, T. K. (2000). On Comparing Interval Numbers. *European Journal of Operational Research*, 127(1): 28-43
- Shih, H. S. (2016). Introduction to Analytic Hierarchy Process, Tamkang University at <https://scholar.google.com/citations?user=xzica-aaaaaj&hl=en>
- Šimelytė, A., Peleckis, K., and Korsakienė, R. (2014). Analytical Network Process Based on BOCR Analysis As An Approach for Designing A Foreign Direct Investment Policy. *Journal of Business Economics and Management*, 15(5): 833-852.
- Sono, F. (2020). How Local Handicrafts Enter The Global Tourism Market: A Case Study on A Carpet Business in Rural Uzbekistan. *Japanese Review of Cultural Anthropology*, 21(1): 79-114.
- Sookram, S., Hosein, R., Boodram, L. and Saridakis, G. (2022) Determining Factors of FDI Flows to Selected Caribbean Countries, *Journal Risk Financial Management*, 15(2): 48
- Stoian, C. and Filippaios, F. (2008). Dunning's Eclectic Paradigm: A Holistic, Yet Context Specific Framework for Analysing The Determinants of Outward FDI Evidence from International Greek Investments. *International Business Review*, 17(3): 349-367.
- Sukaatmadja, I., Yasa, N., Rahyuda, H., Setini, M., and Dharmanegara, I. (2021). Competitive Advantage to Enhance Internationalization and Marketing Performance Woodcraft Industry: A Perspective of Resource-Based View Theory. *Journal of Project Management*, 6(1): 45-56.
- Svetlicic, M. (2007). Outward Foreign Direct Investment by Enterprises from Slovenia. *Transnational Corporations*, 16: 55-88
- Ta, V. L., Do, A. D., Phan, T. U., Nguyen, Q. H., Nguyen, T. T. H., Le, T. D., and Nguyen, T. P. (2021). Factors Affecting FDI Intentions of Investors: Empirical Evidence from Provincial-Level Data in Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(4): 125-134.
- Tran, T. Q., Dang, T. A., and Tran, N. A. T. (2020). Factors Affecting Foreign Direct: Evidence on Tay Ninh Province. *The Journal of Asian Finance, Economics and Business*, 7(9): 263-269.
- Tolstoy, D. (2019). The Proactive Initiation of Smes' Foreign Business Relationships, *European Management Review*, 16(4): 1159-1173

Van Laarhoven, P. J. M. and Pedrycz, W. (1983). A Fuzzy Extension of Saaty's Priority Theory. *Fuzzy Sets and Systems*. 11(13): 229-241.

Wang, H. F. (2005). *Analysis on Multiple Criteria Decision Making*, Tsang-Hai Book Publishing Co. Taichung, Taiwan

Wu, H. -Y., Tzeng, G. -H., and Chen, Y. -H. (2009). A Fuzzy MCDM Approach for Evaluating Banking Performance Based on Balanced Scorecard. *Expert Systems with Applications*, 36(6): 10135-10147.

Žabjek, D., Kovačič, A., and Štemberger, M. I. (2009). The Influence of Business Process Management and Some Other Csfs on Successful ERP Implementation. *Business Process Management Journal*, 15: 588-608.