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Applying the Modified Delphi Method and DANP to Determine the Critical Selection Criteria for Local Middle and Top Management in Multinational Enterprises

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Abstract: Traditionally, multinational enterprises provided middle and top management from the mother country. They would only hire entry-level employees, such as workers, from the domestic country to control the subsidiary. However, local managers benefit from a shared background and culture with the local employees. Local managers can communicate and cooperate more effectively and smoothly with local employees than foreign mangers can. Therefore, multinational enterprises are increasingly selecting middle and top management from the local market. In this study, we aimed to determine the decision factors that influence the selection of local middle and top management from the perspective of human capital. We attempt to help multinational enterprises to choose and hire middle and top management from local markets. We first identified four dimensions and fourteen criteria according to the literature using the modified Delphi method. Then, DANP (decision making and trial evaluation laboratory (DEMATEL)-based analytic network process) was employed to determine the weights of each criterion or sub-criterion. Academic experts and top managers in multinational enterprises (Taiwanese companies in Vietnam) provided their opinions for data analysis. The results showed that positive psychological capital, managerial competencies, integration, and professional competencies were the four important factors that multinational enterprises consider when they select middle and top management from the local market. We further discussed the theoretical and practical implications of the results.

Keywords: selection criteria; middle and top management; human capital; DEMATEL-based ANP (DANP); modified delphi method

1. Introduction

The competitive advantage of multinational enterprises lies in its adaptable human capital, which determines whether the various activities of the enterprises can be executed with accuracy and efficiency. The literature widely supports that a positive relationship exists between human capital and corporate performance. Human capital is a crucial source of modern competitiveness, and a growing amount of importance is attached to it [1]. The greatest challenge that multinational enterprises face is the means of establishing a steady source of talent [2]. Thus, multinational enterprises are in greater need of international strategic human resource management when they are staffing, so that they can cultivate crucial talent to deal with various matters and achieve technology transfers. They must also attach importance to the local culture, economy, politics, and law. In some cases, the parent-company,

third-country national, or expatriates may not be able to properly deal with local matters and may require host-country nationals to communicate, facilitate business operations, collect local intelligence, and offer experience with local laws and government policies.

Human capital is one of the primary indices of corporate learning and constitutes a key resource of enterprises [3]. Human capital helps enterprises obtain personal skills, knowledge, and the ability to organize teams and also serves as a stepping stone to the knowledge needed for individual entrepreneurship and innovative achievement [4]. Empirical research has shown that the traits, experience, skills, education, salaries, and rewards, management experience, and years of service of leadership all exert an impact on the management performance of enterprises [5]. The professional skills, knowledge, and innovative abilities of employees form external behaviors that create value for enterprises [6].

Multinational enterprises can lower operating costs by hiring local managers instead of expensive expatriates. Local managers are considered valuable human capital that offers knowledge regarding the local market as well as local business relations [7]. Empirical studies have examined employee localization models based on effort and found that the factors influencing employee localization were mainly associated with human resource management [8]. Recruitment and selection are the cores of recruitment and selection in multinational enterprises. The purpose of recruitment is to seek and obtain candidates with the potential to provide quality work, whereas selection aims to determine the requirements of the job position and then assess and decide which candidate should be hired for the position [9]. In multinational enterprises, employees are recruited and selected to handle the crucial coordination and control issues that international human resource management face and to bridge the gap between the parent-company and its subsidies in various geographical areas [10].

The majority of past studies on multinational enterprises examined expatriates or global staffing [11] or employee localization strategies [12]. Existing studies on localization focused on using human resource management practices (e.g., selection, programs, training, parent-company support, and the commitment of top management) to influence the degree of employee localization (Li et al., 2018). Few studies regarding employee localization in multinational enterprises discussed the use of local middle and top management, instead focusing on how the use of expatriates in emerging countries help multinational enterprises fill skill gaps, coordinate and control local operating costs, and facilitate control and communication [13].

We regarded the use of DANP (decision making and trial evaluation laboratory (DEMATEL)-based analytic network process) to examine the selection factors of local middle and top managers. The existing literature indicates that DANP is widely used in various fields, including the evaluation and formulation of knowledge management strategies, human capacity building, subcontractor selection, and information system selection. Although the scopes of these studies vary, the one thing they have in common is that they focused on solving problems involving multi-criteria decision making.

Research gaps still exist with regard to subsidiary employee localization in multinational enterprises. Past studies on the recruitment and hiring of middle and top management in multinational enterprises mostly used transaction cost theory to examine how middle and top management can bring better competitive advantages to corporate performance or used agency theory to investigate expatriate issues in middle and top management. Multinational enterprises have studied global talent management from the perspective of human capital [14]. This study aimed to clarify how multinational enterprises utilized the human capital perspective and DANP to examine the selection factors for middle and top management—assistant vice presidents, managers, and deputy managers. The empirical results in this study address gaps in the existing research.

In this study, we aimed to identify the criteria to select top and middle managers from local labor markets for multinational companies. We took Taiwanese companies as samples, and we analyzed how Taiwanese companies hire managers for their subsidiaries in Vietnam. We investigated how parent companies in Taiwan select top or middle managers from the local labor market in Vietnam.

Therefore, we asked the managers in Vietnam subsidiaries for their opinions regarding the criteria for hiring local managers and the importance of these criteria.

2. Literature Review

2.1. Human Capital Perspective

The rise of scientific management has kept organizations focused on human capital when it comes to employees. The human resource capital attracts attention because the functions of innovative recruitment and selection, training and talent development, and salary and performance appraisal in human resource management all have impacts on corporate performance. Human capital includes knowledge, skills, and experience [15]. Companies tend to desire and heavily rely on employees that can create performance value for them, which has promoted the necessity and prevalence of the human capital perspective [16].

With the rapid transitions of the knowledge-based economy today, enterprises believe that not only are employees with knowledge, skills, expertise, experience, and the abilities to innovate and adapt necessary operation costs but also that they must possess human capital that can create knowledge value and performance value for the enterprise. Thus, only a grasp of the latest knowledge, innovations, and technological applications can seize the opportunity to become winners in this era of fierce knowledge operations.

The relevant literature shows that the accumulation of where personal human capital actively creates value forms enterprises, and the means by which enterprises allocate human capital can enhance their competitive advantages [17]. Unless human capital is allocated in a way that fits the strategic intentions of the organization, human capital will have little economic value, and enterprises are the sources of core value and creative performance that determine the rise and fall of the economy [18]. Enterprises use organizational capital to use human capital and individuals are placed in enterprises to clarify the connection between their placement and corporate performance [19,20].

2.2. Human Capital Theory

Human capital is thoughtful capital; employees can use their own knowledge, competence, and attitude to create value for the enterprise they work for [21]. This capital is one of useful attributes that companies have and that are manifested in employees; it cannot be replaced with machines or fully described with pen and paper [22].

Roos et al. [21,23] divided human capital into three aspects: competence, attitude, and intellectual agility. Competence refers to the skills and knowledge of the employees. Attitude encompasses their motives, behavior, and morality. Intellectual agility refers to the abilities of the employees to innovate, adapt, imitate, and integrate. Ployhart and Moliterno [24] then conceptualized human capital as the resources of an enterprise. Such resources are generated from the knowledge, skills, abilities, and other traits (KSAOs) of individual employees. Human capital is the ability accumulated from the personal KSAOs of employees to achieve the goals of the enterprise [25]. According to previous studies, most researchers all agreed that human capital should include four dimensions and that these are competence, attitude, intellectual agility, and traits.

A shortage of scarce human capital from middle and top management exists in the labor market, and when usage costs are higher than replacement costs, arrangements should be tailored to the local conditions. Scarce human capital from middle and top management helps enterprises fundamentally change their value creation and adaptation to dynamic environments, which ultimately prompts middle and top management and the enterprises to appropriately create the optimal productivity and resources. Such employment relationships enlarge the scope (financial income) of the market and increase the bargaining power of the middle and top management in financial income distribution [26].

The new internet era has begun, and crucial and successful organizations are in the midst of rapidly updated knowledge. The flood of knowledge can be presented in widely varying forms,

thereby necessitating navigation with a new commercial compass and the ability to act swiftly and flexibly in organizations. To enhance their transition agility, organizations require forward-looking indicators, whether they are from the organization or personal perspectives. People are forever the most basic resource of organizations, and the value of their existence lies in their knowledge, skills, experience, abilities, personal traits, attitude, and commitment. These factors can create more valuable performance and productivity and transform into the implicit intellectual capital of the organizations.

In summary of the discourse presented by the numerous scholars above, in this study, we use the human capital defined by competence, attitude, intellectual agility, and traits of the employees as four dimensions to select middle and top managers for foreign companies in local markets. Employees are the most dynamic human assets in enterprises. The selected middle and top management can create wealth and performance for enterprises, lead the organization with efficiency, and make breakthroughs in this ever-changing new era of intelligence.

2.3. Selection Criteria

Based on the definition of human capital, four dimensions are identified. We surveyed criteria corresponding to each dimension.

2.3.1. Competence

The competence of management is different from that of entry-level employees. We, therefore, divided competence into three criteria: core competencies, managerial competencies, and professional competencies. Core competencies are the crucial competencies that all organization members need to have. Managerial competencies are competencies that managers on all levels should have. Professional competencies are specific competencies needed to efficiently achieve everyday tasks and work goals [21,23,27].

2.3.2. Attitude

An individual's attitude is closely associated with his or her character and trustworthiness. It is difficult for an organization to alter an individual's initial attitude; they can only use organizational culture to imperceptibly adjust an individual's emotions toward the organization and his or her organizational identification. Attitude also includes the performance value generated by the behaviors of individuals while they work. To reach the strategic goals of the organization, they work hard to overcome seemingly unsolvable problems to demonstrate their commitment and engagement, which is also due to the presence of motives [21,23]. There are five underlying criteria of attitude: engagement, achievement motivation, trustworthiness, emotional commitment, and organizational identification from relevant literature [28–31].

2.3.3. Intellectual Agility

Intellectual agility enables organizations to successfully progress towards diverse objectives, and it is closely associated with competence. If competence is the hardware connotation of human capital, then intellectual agility is the knowledge and skills installed within the hardware. During work or learning processes, more knowledge and skills are continuously added or updated. Intellectual agility can create reciprocity that facilitates the development of intellectual capital. Intellectual agility can be further divided into four abilities: innovation, adaptation, imitation, and integration [21,23,32,33].

2.3.4. Traits

Traits are personality traits or personal characteristics that appeal to other people under unique circumstances rather than the circumstances themselves. As mentioned in the section on attitude, an individual's attitude is closely associated with his or her character, that is, his or her personality traits, particularly the personality traits of management. A trait is persistent and plays a steady and profound role in life [34]. For middle and top managers, positive psychological capital [35,36] and an

internal locus of control [37–39] are quite critical. These two traits are found in successful managers. The selection factors of this study are shown in Table 1.

Table 1. Selection factors for middle and top management.

Main Criteria	Criteria	Description	Relevant Literature
Competence	Core competencies	The ability of an individual to completely understand the history, culture, values, knowledge, technology, skills, beliefs, products, and services of a company.	Wang et al. [27]; Guimaraes et al. [40]
	Managerial competencies	The ability of an individual to apply various management methods, such as to gather, integrate, and deploy individual resources (labor, organization, and relations) of the organization and meet customer needs in various business matters.	Boermans & Roelfsem [41]; Bolmiri et al. [42]
	Professional competencies	The ability of an individual to successfully and effectively practice in an industry or perform a job.	Wu et al. [43]; Lee et al. [44]
Attitude	Engagement	Lively, contributing, and focused attitude.	Demerouti et al. [45]; Shu & Jhan [46]
	Achievement motivation	The pursuit to complete work that one feels to be important and valuable, the desire to do it well, effort for success, the pursuit of power so as not to be controlled or influenced by others, and being extremely demanding of oneself.	Schoen [29]; Tang [47]
	Trustworthiness	Work ethics, including honesty, private morality, and loyalty.	Noval & Stahl [30]; Sendjaya et al. [31]
	Emotional commitment	The willingness of an individual to devote effort to the company, contribute their strengths, and actively assist others.	Meyer et al. [48]; Waeyenberg et al. [49]
	Organizational identification	Identifying with the company's culture, mission, and objectives.	Mohammed & Eleswed [50]; Boon & Kalshoven [51].
Intellectual agility	Innovation	The search for new technologies, new procedures, new knowledge, new skills, and new product ideas.	Choi & Price [52]; Matías-Reche et al. [53]
	Imitation	The ability to incorporate originality into imitation and successfully execute and modify their creativity to produce products or services that are more suitable.	Williamson & Cable [54]; Bandura [55]
	Adaptation	The ability of an individual to adapt to family, the work environment, and the interpersonal interactions and cultural distance of an occupational role.	Thomas & Ravlin [32]; Diribarne [33]
	Integration	Taking inventory of one's own advantages and disadvantages, finding the weaknesses of the competitors, and making use of resources to open up better opportunities.	Hurley & Hult [56]; Stan & Puranam [57]
Traits	Positive psychological capital	A psychological state that causes people to be filled with confidence, hope, optimism, and resilience and be able to adjust their own psychological state at any time in the event of adversity or difficulty in the work environment.	Luthans et al. [36]; Peterson et al. [58]
	Internal locus of control	The ability of an individual to be independent and reasonable and have the ability to focus on what they feel to be important or interesting.	Boone et al. [37]; Cheng [38]

3. Materials and Methods

3.1. Research Framework

This study used the perspective of human capital to examine the selection factors for middle and top management in multinational enterprises. We first compiled the main dimensions and sub-dimensions based on the existing literature and the modified Delphi method. After all dimensions and sub-dimensions were determined, a DANP analysis structure was established. DANP questionnaires were designed and distributed to experts. The collected data was calculated to determine the weights of each sub-criterion. Figure 1 displays the research framework of this study. Figure 2 displays the initial criterial structure to select local middle and top management for multinational enterprises from the literature review.
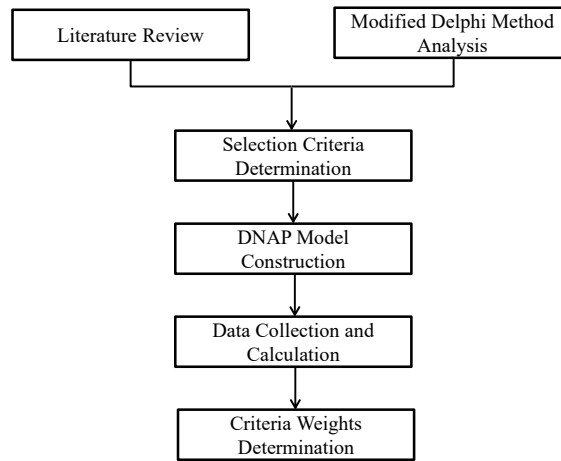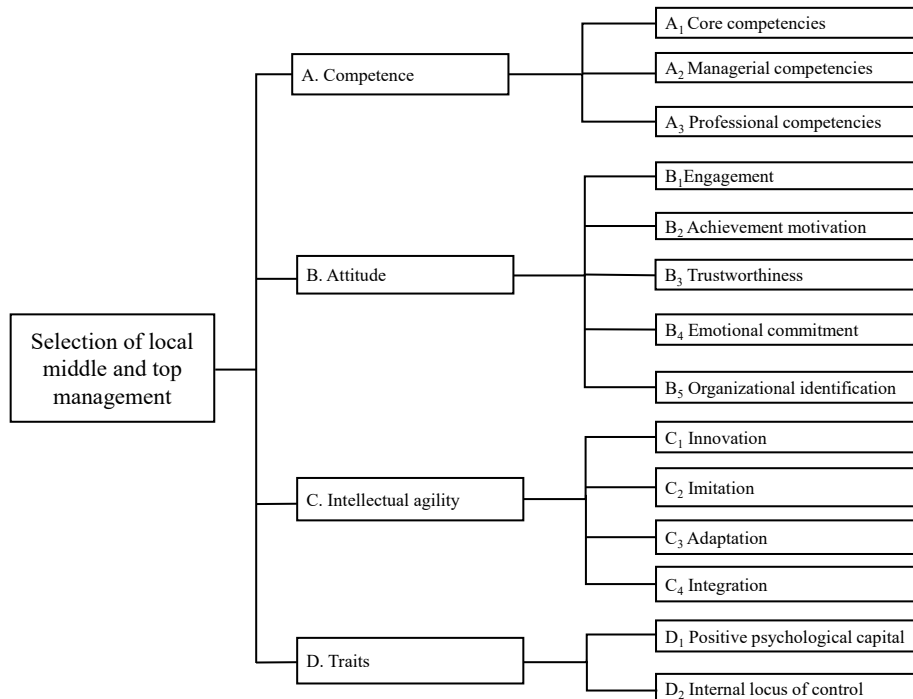
Figure 1. Our research process.

Figure 2. The initial dimensions and criteria framework.

3.2. Modified Delphi Method

Murry and Hammons [59] proposed the modified Delphi method. The relevant implementation methods and statistical methods are roughly the same as those in the conventional Delphi method, maintaining the spirit and merits of the original Delphi method. Experts can anonymously express and exchange opinions, and the complex questionnaire process was simplified; the complex open questionnaire survey in the first round was replaced with a structured questionnaire developed from the relevant results in the reference literature, the researcher's plans, or interviews with experts. This made the research work go more smoothly, saved time, and enabled the participating experts to focus on the research topic without the speculations in an open questionnaire. It also increased the questionnaire recovery rate and allowed the experts to reach a consensus. Using the experience of experts and researchers to establish credible opinions and examine related topics solves problems encountered in the conventional Delphi method [60].

In order to identify the dimensions and criteria consensus from the experts, we adopted the modified Delphi method to examine the selection dimension and criteria for middle and top management. As mentioned previously, the greatest difference in the modified version is the removal of the open questionnaire, which is time-consuming and often receives mixed opinions. Instead, a structured questionnaire was developed based on a large quantity of relevant literature. In the questionnaire of the modified Delphi method, selection criteria or sub-criteria with a mean greater than or equal to 4 and a coefficient of variation less than or equal to 0.5 were reserved and included in the DANP questionnaire.

3.3. Dematel-Based ANP

DANP (DEMATEL-based analytic network process) is a combined application of the decision making and trial evaluation laboratory (DEMATEL) and the analytic network process (ANP). In the first phase, DEMATEL was employed to confirm the influences among the main dimensions and the criteria and the magnitudes of these influences. ANP was incorporated into the second phase to obtain the weights between the criteria to confirm their degree of importance.

We referred to the DANP processes and equations employed by Hsu et al. [61], Hsu et al. [62], Chang et al. [63], and Wu and Chang [64]. The details of this method are as follows:

Step 1: Calculate the average matrix G_D.

Suppose that there are H knowledge-based experts and n dimensions/criteria. Based on the pair comparison results, the influence of dimension i on dimension j denotes g_{ij}. A non-negative $n \times n$ matrix can be shown as Equation (1).

$$
G_D^k = \begin{bmatrix}
0 & \cdots & \cdots & \cdots & g_{ij}^k \\
\vdots & 0 & & & \vdots \\
\vdots & & 0 & & \vdots \\
\vdots & & & 0 & \vdots \\
g_{ij}^k & \cdots & \cdots & \cdots & 0
\end{bmatrix} \tag{1}
$$

The average matrix A_D of the dimensions can be obtained as shown in Equations (2) and (3).

$$
A_D = \begin{bmatrix}
a_{11} & a_{12} & \cdots & a_{1j} \\
a_{21} & a_{22} & \cdots & a_{2j} \\
\vdots & \vdots & \ddots & \vdots \\
a_{i1} & a_{i2} & \cdots & a_{ij}
\end{bmatrix} \tag{2}
$$

$$
where\ a_{ij} = \frac{1}{H} \sum_{k=1}^{H} x_{ij}^k,\ k: \text{ the expert.} \tag{3}
$$

Step 2: Calculate the normalized initial direct-relation matrix D_D.

The normalized initial direct-relation matrix of the dimensions can be expressed as $D_D = \left[d_{ij}^k \right]$. First, we can calculate the positive scalar S_D using the average matrix A_D, as shown in Equation (4).

$$
v_D = max \left(\max_{1 \le i \le n} \sum_{j=1}^{n} a_{ij},\ \max_{1 \le j \le n} \sum_{i=1}^{n} a_{ij} \right) \tag{4}
$$

$$
D_D = \frac{A_D}{v_D}. \text{ Each element in matrix } D_D \text{falls between zero and one.} \tag{5}
$$

Step 3: Calculate the total relation matrix T_D.

The total relation matrix, $T_D = [t_{ij}]$, is obtained using Equation (6), where I is the identity matrix.

$$T_D = D_D(I - D_D)^{-1} \tag{6}$$

In addition, we must compute the r and c respectively, as shown in Equations (7) and (8), where r_i is the sum of row i and c_i is the sum of column i. In a sense, $(r_i + c_i)$ represents the "prominence" of the main dimensions i, and the greater prominence indicates a greater degree of importance. In contrast, $(r_i - c_i)$ represents the "relation" of main dimensions i, which is the contribution of the dimension to the overall framework. $(r_i - c_i) > 0$ indicates that the dimension is a net causer, whereas $(r_i - c_i) < 0$ indicates that it is a net receiver.

$$r_i = \left[r^i\right]_{n \times 1} = \left(\sum_{j=1}^{n} t_{ij}\right)_{n \times 1} \tag{7}$$

$$c_i = \left[c^j\right]'_{n \times 1} = \left(\sum_{i=1}^{n} t_{ij}\right)'_{1 \times n} \tag{8}$$

Step 4: Calculate the normalized total relation matrix T_D^{α}.

The normalized total relation matrix T_D^{α} can be obtained by Equation (9).

$$T_D^{\alpha} = \begin{bmatrix} t_{11}/r_1 & \cdots & t_{1j}/r_1 & \cdots & t_{1n}/r_1 \\ \vdots & & \vdots & & \vdots \\ t_{i1}/r_2 & \cdots & t_{ij}/r_2 & \cdots & t_{1n}/r_2 \\ \vdots & & \vdots & & \vdots \\ t_{n1}/r_n & \cdots & t_{nj}/r_n & \cdots & t_{nn}/r_n \end{bmatrix}' = \begin{bmatrix} t_{11}^{\alpha} & \cdots & t_{1j}^{\alpha} & \cdots & t_{1n}^{\alpha} \\ \vdots & & \vdots & & \vdots \\ t_{i1}^{\alpha} & \cdots & t_{ij}^{\alpha} & \cdots & t_{1n}^{\alpha} \\ \vdots & & \vdots & & \vdots \\ t_{n1}^{\alpha} & \cdots & t_{nj}^{\alpha} & \cdots & t_{nn}^{\alpha} \end{bmatrix} \tag{9}$$

Step 5: Calculate the weighted matrix W_D of dimension.

Transposing the normalized total relation matrix T_D^{α} gives the weighted matrix W_D as shown in Equation (10).

$$W_D = \left[T_D^{\alpha}\right]' \tag{10}$$

Step 6: Calculate the limited weighted matrix W_D^L of dimension.

After multiplying the weighted matrix W_D by itself multiple times, we can obtain the limited weighted matrix W_D^L, as shown in Equation (11). The results of the limited weighted matrix W_D^L are the weights of the main criteria.

$$W_D^L = \lim_{k \to \infty} W_D{}^k, k \in N \tag{11}$$

Step 7: Calculate the normalized total relation matrix T_C^{α} of criteria.

After step 6, the total relation matrix T_D^{α} of the sub-dimensions should be computed. d_i^{mn} should be calculated by Equation (12) and then we can obtain T_D^{α} by Equation (13).

$$d_i^{mn} = \sum_{j=1}^{n} t^{ij} \tag{12}$$

$$
T_c^\alpha =
\begin{array}{c}
\\
D_1 \begin{cases} C_{11} \\ C_{12} \\ \vdots \\ C_{1m_1} \end{cases} \\
D_2 \begin{cases} C_{21} \\ C_{22} \\ \vdots \\ C_{2m_2} \end{cases} \\
\vdots \quad \vdots \\
D_N \begin{cases} C_{n1} \\ C_{n2} \\ \vdots \\ C_{nm_n} \end{cases}
\end{array}
\begin{bmatrix}
T_c^{\alpha 11} & T_c^{\alpha 12} & \cdots & T_c^{\alpha 1n} \\
T_c^{\alpha 21} & T_c^{\alpha 22} & \cdots & T_c^{\alpha 21} \\
\vdots & \vdots & \ddots & \vdots \\
T_c^{\alpha n1} & T_c^{\alpha n2} & \cdots & T_c^{\alpha nn}
\end{bmatrix}
\tag{13}
$$

with column headers D_1 ($C_{11}\cdots C_{1m_1}$), D_2 ($C_{21}\cdots C_{2m_2}$), $\cdots$, D_N ($C_{n1}\cdots C_{nm_n}$).

Step 8: Calculate the unweighted supermatrix W of criteria.

The unweighted supermatrix W can be obtained as shown in Equation (14).

$$
W = \left[T_C^\alpha\right]' =
\begin{array}{c}
D_1 \begin{cases} C_{11} \\ C_{12} \\ \vdots \\ C_{1m_1} \end{cases} \\
D_2 \begin{cases} C_{21} \\ C_{22} \\ \vdots \\ C_{2m_2} \end{cases} \\
\vdots \quad \vdots \\
D_N \begin{cases} C_{n1} \\ C_{n2} \\ \vdots \\ C_{nm_n} \end{cases}
\end{array}
\begin{bmatrix}
W^{11} & W^{12} & \cdots & W^{1n} \\
W^{21} & W^{22} & \cdots & W^{2n} \\
\vdots & \vdots & \ddots & \vdots \\
W^{n1} & W^{n2} & \cdots & W^{nn}
\end{bmatrix}
\tag{14}
$$

with column headers D_1 ($C_{11}\cdots C_{1m_1}$), D_2 ($C_{21}\cdots C_{2m_2}$), $\cdots$, D_N ($C_{n1}\cdots C_{nm_n}$).

Step 9: Calculate the weighted supermatrix W_W.

The weighted supermatrix W_W can be obtained as shown in Equation (15).

$$
W_w =
\begin{bmatrix}
t_D^{\alpha 11} \times W^{11} & t_D^{\alpha 12} \times W^{12} & \cdots & \cdots & t_D^{\alpha 1n} \times W^{1n} \\
t_D^{\alpha 21} \times W^{21} & t_D^{\alpha 22} \times W^{22} & \vdots & & \vdots \\
\vdots & \cdots & t_D^{\alpha ij} \times W^{ij} & \cdots & t_D^{\alpha in} \times W^{in} \\
\vdots & & \vdots & & \vdots \\
t_D^{\alpha n1} \times W^{n1} & \cdots & t_D^{\alpha nj} \times W^{nj} & \cdots & t_D^{\alpha nn} \times W^{nn}
\end{bmatrix}
\tag{15}
$$

Step 10: Calculate the limited weighted supermatrix W_C^L.

The limited weighted supermatrix W_L can be attained as shown in Equation (16).

$$W_C^L = \lim_{k \to \infty} W_w^k, k \in N \tag{16}$$

The results of limited weighted matrix W_C^L are the weights of the criteria, which help researchers to conduct the subsequent analysis.

3.4. Data Collection

In this study, we aimed to identify the criteria to select top and middle managers from the local labor market for multinational companies. Therefore, we took Taiwan companies as samples and asked managers in Vietnam subsidiaries for their opinions about the dimensions and criteria for hiring local managers.

A modified Delphi questionnaire was established based on the dimensions and criteria in Table 1. In the questionnaire, we asked experts to evaluate the importance of each dimension and criteria with a five-point scale, with 1 for extremely not important and 5 for extremely important.

From the modified Delphi analysis results, the important dimensions and sub-dimensions that most experts reached a consensus on were chosen to develop the DANP questionnaire. In the DANP questionnaire, knowledge-based experts' opinions were used to determine the influential relationships among criteria by a pair-wise comparison from 4 (extremely influential) to 0 (completely non-influential).

Both the modified Delphi and DANP questionnaires were distributed to academic and industrial experts. All the industrial experts are top managers in motor vehicle parts manufacturing companies in Vietnam. They all have abundant experience in hiring employees from the Vietnam labor market. Their expertise and practical experience assisted us in analyzing the causal relationship among selection dimensions and criteria.

For the modified Delphi questionnaires, a total of 20 questionnaires were distributed, and 16 valid questionnaires were collected. For the DANP questionnaires, a total of 20 questionnaires were distributed, and 19 valid questionnaires were collected. For the 20 experts, 8 academic experts were professors in the Department of Business Administration or Human Resources Management. All industrial experts were top managers in subsidiaries of Taiwan companies in Vietnam. The basic information for industry experts is demonstrated in Table 2.

Table 2. Basic information of DANP (decision making and trial evaluation laboratory (DEMATEL)-based analytic network process) DANP industrial experts.

No.	Expert	Area	Position	Job Tenure	Scale of Subsidiary in Vietnam
1	Ms. Liu	Dong Nai Province, Vietnam	Administration manager	21	185
2	Mr. Yang	Dong Nai Province, Vietnam	General manager	17	600
3	Ms. Huang	Vinh Phuc Province, Vietnam	General manager	4	435
4	Ms. Huang	Vinh Phuc Province, Vietnam	Vice general manager	32	500
5	Mr. Hsu	Vinh Phuc Province, Vietnam	General manager	32	200
6	Mr. Hung	Dong Nai Province, Vietnam	General manager	30	180
7	Mr. Lin	Vinh Phuc Province, Vietnam	Vice general manager	40	180
8	Mr. Wu	Vinh Phuc Province, Vietnam	General manager	30	4000

Table 2. *Cont.*

No.	Expert	Area	Position	Job Tenure	Scale of Subsidiary in Vietnam
9	Mr. Wu	Vinh Phuc Province, Vietnam	Quality assurance manager	8	3700
10	Mr. Wang	Dong Nai Province, Vietnam	Assistant vice president	30	180
11	Mr. Lin	Dong Nai Province, Vietnam	Vice general manager	4	350
12	Mr. Chen	Vinh Phuc Province, Vietnam	General manager	20	90

4. Results Analysis

This study employed the modified Delphi method to determine the selection dimensions and criteria and then, used DANP to obtain the weights of the dimensions and criteria. We employed Excel to perform the calculations in this study.

4.1. Results of Modified Delphi Method Analysis

This study employed the modified Delphi method to determine the selection criteria. Four dimensions and fourteen criteria were selected from the literature review. These dimensions and criteria were included in modified Delphi questionnaire to evaluate the importance of the dimensions and criteria and to determine whether all dimensions and criteria could be reserved for further DANP analysis. Twenty experts were invited to fill out the questionnaire through email. For industry experts, we made appointments with them in Vietnam and explained how to complete the questionnaires face-to-face. The analysis results are demonstrated in Table 3. From Table 3, the mean of C_2, Imitation, was lower than 4. This indicates that it was not important enough; therefore, it was deleted. All coefficients of variation of dimensions and criteria were less than 0.5. This indicates that experts reached a consensus on the importance of the dimensions and criteria. Therefore, all dimensions and criteria, except C_2, were reserved in the DANP questionnaire for further analysis.

Table 3. Results of modified Delphi method.

Main Criteria	Criteria	Mean	SD	Coefficient of Variation	Rank of Mean	Result
A. Competence	A_1 Core competencies	4.56	0.7	0.15	3	
	A_2 Managerial competencies	4.25	0.75	0.18	7	
	A_3 Professional competencies	4.06	0.56	0.14	13	
B. Attitude	B_1 Engagement	4.88	0.33	0.05	1	
	B_2 Achievement motivation	4.38	0.78	0.18	5	
	B_3 Trustworthiness	4.88	0.03	0.07	1	
	B_4 Emotional commitment	4.19	0.63	0.15	11	
	B_5 Organizational identification	4.25	0.56	0.13	7	
C. Intellectual agility	C_1 Innovation	4.25	0.75	0.18	7	
	C_2 Imitation	3.69	1.04	0.28	14	Deleted
	C_3 Adaptation	4.25	0.66	0.16	7	
	C_4 Integration	4.38	0.78	0.18	5	
D. Traits	D_1 Positivepsychological capital	4.44	0.7	0.16	4	
	D_2 Internal locus of control	4.13	0.7	0.17	12	

4.2. Causal Relationship in DANP

After determining the dimensions and criteria, a DANP questionnaire analysis was conducted. Knowledge-based experts' opinions are integrated in Tables 4 and 5, as the form of Equation (1). After finding A_D, the DANP calculation was started. Based on the calculation by Equations (2)–(8), we can derive the prominence and relation of the main dimensions for the selection of the local middle and

top management in multinational enterprises, as shown in Table 6. We can also derive the prominence and relation of the criteria for the selection of local middle and top management in multinational enterprises, as shown in Table 7.

Table 4. Average matrix A_D of dimensions.

Dimension	A	B	C	D
A	0	1.632	1.737	1.053
B	1.895	0	1.842	1.474
C	2.000	1.316	0	1.111
D	1.737	1.842	1.368	0

Table 5. Average matrix A_D of criteria.

Criteria	A_1	A_2	A_3	B_1	B_2	B_3	B_4	B_5	C_1	C_3	C_4	D_1	D_2
A_1	0	2.263	2.105	1.421	1.421	1.211	1.158	1.737	1.421	1.105	1.211	0.947	0.684
A_2	1.474	0	1.947	1.526	1.316	1.105	1.211	1.421	1.263	1.368	2.105	1.158	0.842
A_3	1.579	1.579	0	1.474	1.368	0.895	0.842	0.895	2.105	1.421	1.737	1.053	1.158
B_1	1.526	1.263	1.263	0	1.632	1.895	1.789	1.895	1.158	1.211	1.421	1.789	1.368
B_2	1.526	1.737	1.895	1.684	0	1.053	1.105	1.158	1.579	1.737	1.789	1.526	1.316
B_3	1.158	1.158	0.842	1.684	0.947	0	1.789	1.737	.737	0.579	0.895	1.000	0.895
B_4	1.316	1.000	1.053	1.895	1.421	1.316	0	1.947	1.000	1.368	1.211	1.474	0.895
B_5	1.474	1.211	0.842	1.684	1.105	1.211	1.737	0	0.947	1.316	1.263	1.211	0.842
C_1	1.526	1.316	1.684	0.947	1.579	0.632	0.632	0.579	0	1.211	1.789	1.105	1.105
C_3	1.211	1.211	1.053	1.053	1.211	0.789	1.053	1.000	1.053	0	1.421	1.579	1.053
C_4	1.579	2.000	1.579	1.053	1.368	0.579	0.684	0.684	1.158	1.316	0	1.474	1.053
D_1	1.579	1.842	1.526	1.789	1.684	1.474	1.579	1.368	1.158	1.684	1.421	0	1.421
D_2	1.053	1.474	1.421	1.632	1.895	1.105	.947	.895	1.263	1.158	1.421	1.316	0

Table 6. Total relation matrix (T_D) and derived Prominence and Relation of dimensions.

Dimensions	A	B	C	D	r_i	c_i	$r_i + c_i$	$r_i - c_i$
A. Competence	1.247	1.310	1.372	1.033	4.962	6.022	10.984	-1.060
B. Attitude	1.668	1.235	1.537	1.200	5.639	5.260	10.899	0.378
C. Intellectual agility	1.504	1.272	1.131	1.035	4.942	5.484	10.426	-0.542
D. Traits	1.604	1.444	1.444	.963	5.454	4.230	9.684	1.224

Table 7. Total relation matrix (T_D) and derived prominence and relation of selection criteria.

Criteria	A_1	A_2	A_3	B_1	B_2	B_3	B_4	B_5	C_1	C_3	C_4	D_1	D_2	r_i	c_i	$r_i + c_i$	$r_i - c_i$
A_1	0.463	0.600	0.574	0.548	0.527	0.425	0.453	0.502	0.482	0.480	0.544	0.473	0.384	1.638	1.526	3.164	0.112
A_2	0.537	0.491	0.567	0.552	0.523	0.419	0.454	0.486	0.474	0.493	0.584	0.484	0.392	1.595	1.644	3.240	−0.049
A_3	0.525	0.553	0.456	0.531	0.510	0.395	0.421	0.445	0.499	0.480	0.551	0.464	0.395	1.534	1.597	3.132	−0.063
B_1	0.577	0.595	0.572	0.520	0.576	0.490	0.519	0.547	0.501	0.521	0.591	0.550	0.446	2.651	2.659	5.310	−0.008
B_2	0.576	0.616	0.603	0.597	0.494	0.446	0.480	0.506	0.522	0.544	0.609	0.536	0.443	2.524	2.468	4.991	0.056
B_3	0.438	0.459	0.427	0.477	0.423	0.301	0.416	0.432	0.372	0.378	0.439	0.401	0.331	2.049	2.044	4.093	0.005
B_4	0.510	0.520	0.503	0.552	0.509	0.417	0.381	0.497	0.442	0.475	0.521	0.482	0.380	2.356	2.238	4.594	0.117
B_5	0.489	0.501	0.465	0.513	0.466	0.390	0.442	0.377	0.414	0.446	0.494	0.444	0.356	2.188	2.359	4.547	−0.171
C_1	0.474	0.490	0.491	0.456	0.471	0.343	0.368	0.385	0.354	0.426	0.503	0.421	0.355	1.283	1.173	2.546	0.110
C_3	0.448	0.472	0.447	0.452	0.443	0.345	0.382	0.398	0.395	0.355	0.473	0.434	0.345	1.223	1.224	2.447	−0.001
C_4	0.490	0.536	0.500	0.476	0.475	0.353	0.384	0.404	0.424	0.444	0.429	0.450	0.363	1.297	1.405	2.702	−0.108
D_1	0.590	0.632	0.596	0.616	0.588	0.477	0.515	0.530	0.511	0.552	0.603	0.471	0.456	0.927	0.940	1.866	−0.013
D_2	0.491	0.538	0.517	0.532	0.526	0.400	0.421	0.439	0.451	0.460	0.527	0.469	0.330	0.799	0.786	1.585	0.013

Among the dimensions, traits (D) were the primary factor of selecting local middle and top management in multinational enterprises ($r_i - c_i = 1.224$, ($r_i - c_i$) > 0 means that the dimension is a net

causer). We speculate that this is because multinational enterprises mainly hope to select local middle and top management with good personality traits that fit the needed job positions. Obstacles are common during the implementation of various business management activities, which further highlights the importance of a comprehensive system for the selection of local middle and top management in multinational enterprises. In another aspect, the prominence and relation table of dimensions for the selection of local middle and top management in multinational enterprises can also facilitate the analysis of the data results.

We can see that competence had the highest prominence ($ri + ci = 10.984$), which indicates that competence takes priority in the selection of local middle and top management in multinational enterprises. The relation of competence was negative ($ri - ci = -1.060$), which means that, relatively speaking, competence is a net receiver. We, therefore, suggest that selection decisions begin by managing the net receiver. The relation of attitude is second only to that of traits ($ri - ci = 0.378$). Attitude encompasses the motivation, character, and behavior needed in local middle and top management, so attitude exerts influence on the selection of local middle and top management in multinational enterprises.

In competence, core competencies was the primary influence factor of competence ($ri - ci = 0.112$). We speculate that the selection of local middle and top management in multinational enterprises is still in the development stage, and no complete system exists yet. In practice, there is much dependence on the exchange of the knowledge needed for the selection of local middle and top management between partnering manufacturers. Thus, implementing core competencies is a way of influencing the other two criteria.

In attitude, emotional commitment was the primary factor influencing attitude ($r_i - c_i = 0.117$), whereas achievement motivation was the secondary factor ($r_i - c_i = 0.056$). We speculate that multinational enterprises require local middle and top management to be willing to devote effort to the company, contribute their strengths, and actively assist others; they want management to demonstrate their commitment and engagement and be extremely committed to the company. In practice, such managers indeed have a strong sense of mission towards their companies and are more willing to protect the company's assets. In another aspect, the selected local middle and top management must also have certain standards; whether they were hired externally or promoted from within, they must aim to pursue work of greater importance and value, work hard for their future's sake, and strive for a better quality of life. In practice, such managers are extremely hands-on and endeavor to do everything to the best of their ability.

In intellectual agility, innovation was the primary factor ($ri - ci = 0.110$). This shows that when multinational enterprises are selecting local middle and top management, they attach a great deal of importance to whether interest is shown in searching for new technologies, new procedures, new knowledge, new skills, and new product ideas. As advances in technology are made every day, managers must continuously update their knowledge and skills to keep up with the changes.

In traits, an internal locus of control was the main factor influencing the selection of local middle and top management in multinational enterprises ($ri - ci = 0.013$). We infer that middle and top management with an internal locus of control are independent and reasonable, have stable and unaggressive personalities, and have the ability to focus on dealing with various matters. In practice, such local middle and top management have even temperaments and do things with tact no matter what work they are assigned to.

This study examined the selection of local middle and top management in multinational enterprises from the perspective of human capital. Based on a literature review and a questionnaire survey administered to academic experts and industry experts in Taiwanese companies in Vietnam, we identified the dimensions and criteria for the selection of local middle and top management in multinational enterprises.

Using DANP, we determined the weights of these dimensions and criteria to determine which dimensions multinational enterprises considered important and the degree to which they were

important. Based on the data we collected, we established causal relationships among the dimensions and ranked the main dimensions and criteria by their priority level.

The results indicated that, in the selection of local middle and top management, multinational enterprises valued competence the most, followed by intellectual agility, attitude, and finally, traits. These results are consistent with the current practices. The selection of local middle and top management in multinational enterprises should follow local culture and norms, and competence takes priority. A selection system should be properly established for evaluation to increase the chance that local middle and top management hired externally or promoted from within will efficiently perform their duties in the company.

The causal relationships that were found revealed that traits was the criterion with the greatest relation. Thus, even though the weights of competence and intellectual agility were greater than that of traits, traits still took priority because they influence competence and intellectual agility. Systematic personality tests can efficiently manage the overall recruitment operations of local middle and top management in multinational enterprises, and only through competence, attitude, and intellectual agility can concepts in organizational culture and sustainability be incorporated into the internal basis of all local middle and top management.

4.3. Weights of Selection Dimension and Criteria

Having determined the relationship structure of selection dimension and criteria, the influential weights of the dimensions and criteria can be attained by Equations (10)–(16). Table 8 demonstrates the unweighted supermatrix (*W*) and Table 9 demonstrates the weighted supermatrix (*W_w*). Based on the DANP calculation results, we derived the weights of the dimensions and criteria for the selection of local middle and top management in multinational enterprises, which are shown in Table 10.

From Table 10, competence (0.284) was considered the most important of the main dimensions in multinational enterprises, followed by intellectual agility (0.260), attitude (0.251), and traits (0.203). We infer that for multinational enterprises, it is imperative to know whether local middle and top management have the competence to deal with the ever-changing environment. In terms of intellectual agility, integration, adaptation, and innovation are crucial in emerging countries, mainly because the collective is more important than the individual in emerging countries. Only a manager that can integrate people and things is able to direct corporate matters. With regard to attitude, multinational enterprises must cultivate middle and top management with an engaging spirit to generate achievement motivation and promote emotional commitment to the enterprises. Thus, competence, intellectual agility, and attitude are the dimensions for the selection of local middle and top management in multinational enterprises.

Among the criteria, positive psychological capital (0.112) was the most important; managerial competencies (0.098), integration (0.095), and professional competencies (0.094) were the second, third, and fourth most important, and core competencies (0.092) and internal locus of control (0.092) were the fifth most important. We infer that positive psychological capital indicates that local middle and top management must have confidence, hope, optimism, and resilience and be able to adjust their own psychological state at any time in the event of adversity or difficulty in the work environment. In practice, individuals with positive psychological capital are better able to face unexpected situations and self-adjust psychologically.

As for managerial competencies, middle and top management must have the ability to gather, integrate, and deploy individual resources (labor, company, and relations) of the company and meet customer needs in various business matters. Local middle and top management with the ability to integrate know their own advantages and disadvantages, find the weaknesses of the competitors, and collect data and make use of resources to open up better opportunities for the company. Local middle and top management with professional competencies take to this industry or position like a duck to water. Those with core competencies have a complete understanding of the company. Those with an

internal locus of control are independent and reasonable and have the ability to focus on promoting and developing various business matters.

Table 8. Unweighted supermatrix *W*.

	A_1	A_2	A_3	B_1	B_2	B_3	B_4	B_5	C_1	C_3	C_4	D_1	D_2
A_1	0.283	0.337	0.342	0.331	0.321	0.331	0.333	0.336	0.326	0.328	0.321	0.324	0.318
A_2	0.366	0.308	0.360	0.341	0.343	0.346	0.339	0.344	0.337	0.345	0.351	0.348	0.348
A_3	0.351	0.355	0.297	0.328	0.336	0.323	0.328	0.320	0.337	0.327	0.328	0.328	0.334
B_1	0.223	0.227	0.231	0.196	0.237	0.233	0.234	0.234	0.225	0.224	0.228	0.226	0.230
B_2	0.215	0.215	0.222	0.217	0.196	0.206	0.216	0.213	0.233	0.219	0.227	0.216	0.227
B_3	0.173	0.172	0.172	0.185	0.177	0.147	0.177	0.178	0.170	0.171	0.169	0.175	0.173
B_4	0.185	0.187	0.183	0.196	0.190	0.203	0.162	0.202	0.182	0.189	0.184	0.189	0.182
B_5	0.204	0.200	0.193	0.206	0.201	0.211	0.211	0.172	0.190	0.197	0.193	0.194	0.189
C_1	0.320	0.306	0.326	0.311	0.311	0.313	0.307	0.306	0.276	0.323	0.327	0.307	0.314
C_3	0.319	0.318	0.314	0.323	0.325	0.318	0.330	0.330	0.332	0.290	0.342	0.331	0.320
C_4	0.361	0.377	0.360	0.366	0.364	0.369	0.362	0.365	0.392	0.387	0.331	0.362	0.366
D_1	0.552	0.553	0.540	0.552	0.548	0.548	0.559	0.555	0.542	0.557	0.554	0.508	0.587
D_2	0.448	0.447	0.460	0.448	0.452	0.452	0.441	0.445	0.458	0.443	0.446	0.492	0.413

Table 9. Weighted supermatrix W_w.

	A1	A2	A3	B1	B2	B3	B4	B5	C1	C3	C4	D1	D2
A1	0.071	0.085	0.086	0.098	0.095	0.098	0.098	0.099	0.099	0.100	0.098	0.095	0.093
A2	0.092	0.077	0.090	0.101	0.102	0.102	0.100	0.102	0.103	0.105	0.107	0.102	0.102
A3	0.088	0.089	0.075	0.097	0.099	0.095	0.097	0.095	0.103	0.100	0.100	0.096	0.098
B1	0.059	0.060	0.061	0.043	0.052	0.051	0.051	0.051	0.058	0.058	0.059	0.060	0.061
B2	0.057	0.057	0.058	0.048	0.043	0.045	0.047	0.047	0.060	0.056	0.058	0.057	0.060
B3	0.046	0.045	0.045	0.040	0.039	0.032	0.039	0.039	0.044	0.044	0.043	0.046	0.046
B4	0.049	0.049	0.048	0.043	0.042	0.044	0.035	0.044	0.047	0.049	0.047	0.050	0.048
B5	0.054	0.053	0.051	0.045	0.044	0.046	0.046	0.038	0.049	0.051	0.050	0.051	0.050
C1	0.088	0.084	0.090	0.085	0.085	0.085	0.084	0.083	0.063	0.074	0.075	0.081	0.083
C3	0.088	0.088	0.087	0.088	0.089	0.087	0.090	0.090	0.076	0.066	0.078	0.088	0.085
C4	0.100	0.104	0.100	0.100	0.099	0.101	0.099	0.099	0.090	0.089	0.076	0.096	0.097
D1	0.115	0.115	0.113	0.117	0.116	0.117	0.119	0.118	0.114	0.117	0.116	0.090	0.104
D2	0.093	0.093	0.096	0.095	0.096	0.096	0.094	0.095	0.096	0.093	0.093	0.087	0.073

Table 10. DANP weights of dimensions and criteria.

Dimensions	Weight	Ranking	Criteria	Global Weight	Over Ranking
			A_1 Core competencies	0.092	5
A. Competence	0.284	1	A_2 Managerial competencies	0.098	2
			A_3 Professional competencies	0.094	4
			B_1 Engagement	0.057	9
			B_2 Achievement motivation	0.055	10
B. Attitude	0.251	3	B_3 Trustworthiness	0.043	13
			B_4 Emotional commitment	0.047	12
			B_5 Organizational identification	0.049	11
			C_1 Innovation	0.081	8
C. Intellectual agility	0.260	2	C_3 Adaptation	0.084	7
			C_4 Integration	0.095	3
D. Traits	0.203	4	D_1 Positivepsychological capital	0.112	1
			D_2 Internal locus of control	0.092	5

4.4. Discussion and Managerial Applicatiom

This study employed empirical analysis to identify the selection factors of local middle and top management in multinational enterprises from the perspective of human capital, thereby providing a whole new way of thinking and a selection decision model. Recruitment among organizations

utilizes the differences among companies to obtain and accumulate human capital and reduce human capital risk [65]. Thus, establishing a good human capital selection structure as well as strengthening and accumulating human capital in enterprises can provide direction and guidance to multinational enterprises in selecting employees from the perspective of human capital so that they can gain competitive advantages that enabled them to surpass their competitors and accumulate human capital [65].

This investigation of the factors influencing the selection of local middle and top management in multinational enterprises from the perspective of human capital can divert more attention to human capital. This also increases the amount of importance attached to the qualifications needed for local middle and top management, help enterprises understand the relationships among the knowledge, combination of skills and abilities, innovation, and performance of employees selected from the perspective of human capital, and further help enterprises categorize selection factors to provide managers in multinational enterprises with reference when they are selecting crucial talent. Selection from the perspective of human capital is also a dynamic system. Managers are responsible for revising the system and taking action. For instance, recruitment impacts not only performance evaluation but also other human capital variables, so enterprises must keep an eye on the changes in the talent flow in the market [66].

The contributions of this study in selecting middle and top management from the perspective of human capital include (1) using the perspective of human capital to help companies obtain scarce middle and top management in the labor market, (2) establishing selection mechanisms that promote competition between individuals with substantial and scarce human resources as hiring qualified middle and top management can increase the financial proceeds from the employment relationship, and (3) enhancing the local manager's bargaining power in the division of these proceeds to adjust their relative value in human capital [26]. Selection can help enterprises reduce the potential financial and strategic burdens imposed by employing the wrong middle and top management, including productivity losses, reduced revenue, and talent replacement costs [65].

Multinational enterprises are in even greater need of properly implementing human development policies, such as education and training, performance evaluation, job changes, and personal career development. To be able to take root and maintain a steady pace in emerging countries and markets, the localization of middle and top management exerts a significant impact [66]. Although employee localization is already currently underway and locals already account for the majority of middle managers, reducing the ratio of expatriate executives and improving local employees are still ongoing efforts in multinational enterprises in emerging countries. We, therefore, suggest the two following measures that can be taken in management practices.

4.4.1. Selecting Mangers Inside the Enterprises

The consideration of multinational enterprises in appointing local middle and top management is because the cost of appointing supervisors in their parent-countries is relatively high, and the economic benefits of local talents in local countries have always existed. Local talents have a deeper understanding of the local cultural, legal, economic, and political environment than the head of the home country.

In the cultivation of local talent, enterprises must first understand the employment conditions of local middle and top management and the economic structure of different industries. Certain companies may have significantly high or low performance; those with better performance focus more on accumulating human capital [67].

The selection of human capital in multinational enterprises considers the culture and language of the local employees, the spatial and temporal operations of their cognitive abilities, and the distant environment. Multinational enterprises must have a more detailed understanding of the uniqueness of human capital. The differences between the human capital in the parent-company and that in certain regions, strategic training, and promotion channels must be considered during annual inventories and

the planning of corporate human capital. Various complete education and training programs should be given to cultivate employees that will be crucial in the future to cope with future labor structure changes in the industry. The supervisors of different departments can be rotated internally to groom them as candidates for future middle and top management in preparation for future organizational expansions. Enterprises can enhance the abilities of their employees through training and construct a high performance work system to develop their human capital and competitive advantages [14].

4.4.2. Selecting Managers Outside the Enterprises

Human capital flows between different organizations, particularly pertaining to high-quality employees [68]. When enterprises cannot retain employees of higher quality, they can obtain suitable talent through different channels. Despite the import of human capital from scarce middle and top management in the labor market, a sound selection method is still needed to identify which candidate can meet the company's expectations [26].

4.4.3. Search Candidates from Industry Associations

Industry associations are established by select companies in the same industry for corporate socialization and personnel development. Employees can participate in various industry association activities early on in their career development, such as competitions, reading clubs, and work exchanges, so that the employees can get to know the organizational cultures of the companies in the industry association. If any companies or middle and top management have needs involving job changes, they can benefit from one another in the association.

4.4.4. Search Candidates from School and University Cooperation

To establish, maintain, and deepen their relations with local schools or universities, companies that are hiring will often provide resources, such as scholarships, research funding, or professor research grants, or establish seed foundations or outreach centers (such as an engineering center) on campus so that they have a wider selection of talent from the graduates. Students can also get to know different companies through academia-industry cooperation and, in turn, identify with their corporate culture and values. To gain human capital advantages, the influx of human capital must complement the attributes of the organization so as to maintain two-way communication and competitive advantages for the employees and the companies [65].

Employees should start at the bottom in order to grow in the future. The greatest shortcoming of hiring a manager from the outside is that they do not know the basic operations and may be unrealistic unless they are fairly familiar with the industry environment. Thus, if there is an entry-level employee with the capacity to go further up, rotations and other arrangements should be made to increase their work experience and teach them how to manage project work. A middle and top management candidate, either promoted from within or hired externally, needs to learn the various philosophies, cultures, and business documents of the company, comprehend the essence of the wisdom of the higher-ups, and imperceptibly incorporate them into his or her own methods so that he or she is better suited to the position.

Taiwan-based multinational enterprises have been operating in Vietnam for many years, and it is inevitable that their human resource management system will progress toward localization. Only with suitable selection decisions can they compete in the human resource market using human capital strategies. Appropriate staffing and developing their corporate social responsibility will help Taiwanese enterprises achieve sustainable operations and create value in multinational markets.

5. Conclusions

Applications of human capital to management have typically involved studies of the relationship between human capital and organizational performance [69]. Human capital is the key to creating competitive advantages for corporations [70]. Human capital is the capacity of production skills,

expertise, health, and professional knowledge in labor. It is accumulated through a series of investment decisions. Investments in human capital are the opportunity costs of individual time [71].

The main subjects of this study were Taiwan-based multinational motor vehicle parts manufacturing companies in Vietnam, and the participants included academic and industry experts. The research topic can also be applied to other emerging countries, such as Cambodia or Myanmar, to coordinate with the New Southbound Policy of the government of Taiwan and provide better policies. Thus, the research topic can also be applied to other industries to enhance its applicability.

The dimensions used in this study were designed by foreign researchers. For their suitability to the content of this study, we conducted a literature review to identify the suitable dimensions, made adjustments based on the suggestions of academic and industry experts, and created a scale in Mandarin for the practices and context of multinational enterprises. However, the imitation did not meet expectations, which indicates that the compilation of the dimensions for the scale was still affected by cultural differences and that the respondents may have had different views and perceptions of the question items. We suggest that similar studies in the future make revisions or select a different theoretical perspective to develop the questionnaire to better fit the needs and context of multinational enterprises.

We suggest that future studies investigating the selection of local middle and top management for multinational enterprises administer personality tests, such as the Holland Code Test, the Professional Dynametric Programs (P.D.P), the Big Five Personality Trait, and the Enneagram personality test as working in a multinational enterprise involves the cultural differences of different countries, communication barriers, language barriers, and power distance. Multinational enterprises, therefore, hope that local middle and top management who are hired externally or promoted from within can adjust their mental state no matter what obstacles or difficulties they encounter in the work environment.

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