Supply chain manager selection using a combined multiple intelligences theory and ANP approach

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Abstract: - Modern supply chain managers are required to possess a set of competencies or multiple intelligences in order to meet the pressing business challenges. However, although many works have studied problems in supply chain management, few of those discussed the issue of supply chain manager selection. Especially, selecting competent supply chain managers is a kind of Mu1tiple Criteria Decision-Making (MCDM) problem which requires us to consider a large number of complex factors as multiple-criteria. Many traditional MCDM methods are based on the independence assumption, whereas the Analytic Network Process (ANP) is a MCDM method which can deal with all kinds of dependences systematically. Since the ANP has these advantages, this paper proposes a favorable method combining multiple intelligences theory with ANP approach to help companies that need to select competent supply chain managers. Additionally, an empirical study is presented to illustrate the application of the proposed method.

Key-words: - Supply chain manager; Competencies; Multiple intelligences; Mu1tiple Criteria Decision - Making (MCDM); Analytic Network Process (ANP)

1 Introduction

In the current borderless economy, all business is global and competition comes from everywhere, requiring businesses of all sizes to develop a supply chain strategy with a worldwide perspective [36]. This forces numbers of companies need continually to be globally efficient and competitive through integrating activities and resources across national borders. A supply chain is a system that integrates organizations, people, technology, activities, information and resources in order to effectively deliver a product or service from supplier to client. Supply chain management is developed to handle the task of incorporating key business processes in terms of supply chains, from suppliers to clients. The primary objective of supply chain management is to fulfill both client demands and supplier offers through the most efficient use of resources, including distribution capacity, inventory and labor. Furthermore, effective supply chain management rely heavily on the high quality of information technology [17][18].

Nowadays, most companies are involved in one global supply chain owing to the business competition is no longer of the company versus company form but rather takes on a global supply chain versus global supply chain form. In order to meet the impact of existing and future globalization advancements, most companies have the ongoing need of competent supply chain managers [13]. Especially, the ability of organizations to effectively compete in the global marketplace is contingent on identifying and selecting an adequate number of qualified supply chain managers [12]. Therefore, selecting competent supply chain managers is a prerequisite for transforming resources and activities of companies into global competitive advantages [48][26]. In view of the knowledge-based competition, modern supply chain managers require a broad range of managerial competencies for coping with the changes of business environments [30][21][1]. Particularly, supply chain managers need to be sensitive and responsive to all kinds of challenges including national or cultural differences. For sufficiently possessing capable supply chain managers, companies must effectively enforce the supply chain manager selection with multiple intelligences as specific competencies [14][13], and help supply chain managers to identify and cultivate their competencies. Hence, it is now a leading company strategy to apply competency models for identifying and developing a set of competencies or multiple intelligences of their supply chain managers.

The competency model can be used to identify the competencies which employees need to improve performance in their current job or to prepare for other jobs [49]. Basically, the competency model is

a set of competencies, namely success factors which include the key behaviors required for excellent performance in a particular role [41]. Several surveys report that many modern enterprises are progressively adopting competencies as an essential management technology to enhance company's competitiveness [16][41]. Some works focus on the management competency assessment for managers such as [7]. Other works contribute to build manager competency models such as: [5][6][50][32][14]. Each of those competency models contains several clusters of many competencies. Hence, selecting proper supply chain managers is a kind of Mu1tiple Criteria Decision-Making (MCDM) problem which requires us to consider a large number of complex factors as multiple-criteria.

A typical MCDM problem is a decision-making problem required to evaluate a set of alternatives in terms of several decision criteria, it is a beneficial way to employ MCDM methods for reaching an effective problem-solving. Many traditional MCDM methods are based on the additive concept along with the independence assumption, but each individual criterion is not always completely independent [44][24]. For solving the interactions among elements, the Analytic Network Process (ANP) as a new MCDM method was proposed by [37]. The ANP is the mathematical theory that can deal with all kinds of dependence in feedback systematically [40].

Since the ANP has these advantages, this paper proposes a favorable method combining multiple intelligences theory with ANP approach to help companies that need to select competent supply chain managers. Additionally, an empirical study is presented to illustrate the application of the proposed method. The rest of this paper is organized as follows. In section 2, some of the prior literature related to competencies and multiple intelligences is reviewed. In section 3, the proposed method is developed. In section 4, an empirical study is illustrated. Finally, according to the findings of this research, conclusions and suggestions are presented.

2 Competencies and multiple intelligences

In the increasingly complex global business environment, the management of all sizes enterprises faces a growing challenge in terms of internationalizing their operations and activities. With the human resource view, successfully managing the globalization challenge has the needs to be possessed of sufficient competent supply chain managers. Therefore, one of the critical questions becomes what competencies do supply chain managers need and what criteria should be used to select these supply chain managers [13]. To answer that, the competencies and multiple intelligences are discussed below.

2.1 Competencies

For succeeding in highly competitive global market, companies need to redesign both internal processes and external linkages with business partners to meet the needs of customers and the challenges of competitors. The main effort of supply chain management is to align objectives and share resources across companies to deliver greater value [9]. Usually, supply chain managers are required to have extensive abilities ranging from sourcing and materials management to global supplier management; also, their daily tasks are busy negotiating with subcontractors and managing remote organizations for a multi-national cooperation. Especially, supply chain managers require such competencies that contain the attitudes, beliefs, knowledge, skills, and behaviors needed for success in today's multicultural, global economy [36][36]. Hence, today's supply chain managers need a broad range of managerial competencies.

Clearly identifying managerial competencies would enable supply chain managers to perform more effectively [26]. The concept of competency has been developed by McClelland and the McBer & Company. Especially, McClelland's paper, "Testing for Competence Rather Than Intelligence" [25], started the competency movement in 1970s. Indeed, the definition of what a competency is has still not reached unanimity over the years. According to [50], a competency is an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation. Moreover, [41] emphasize that competencies are behaviors that demonstrate excellent performance, but are different from knowledge, skills, and motives. Additionally, [49] argue that competencies are different from knowledge, skills, and abilities (KSAs); competencies encompass not only KSAs but also personal characteristics. Now, competencies are commonly conceptualized as a measurable pattern of knowledge, skills, abilities, behaviors, and other characteristics (KSAOs) that differentiate high from average performance [27][3][35].

2.2 The competency model

Using competencies as the basis for human resource systems has become a worldwide trend. But, in fact, it is necessary to build the competency models up front, when competencies are applied to human

resource systems. A competency model is a set of competencies, often organized into some groupings or clusters for a specific purpose. The competencies are generally defined as groupings of behaviors that encompass the knowledge, skills, attitudes, motives, and temperament that distinguish excellent performers [41]. Basically, the competency model can be used to measure performance and to guide action. As [49] remark more clearly, the competency model can be used to identify the competencies which employees need to improve performance in their current job or to prepare for other jobs. And employees' competencies may be compared to the appropriate model to detect where the gaps exist. Then, individual training and development plans may be developed to bridge the gaps.

In order to develop competency models and launch competency applications effectively, a proper competency project plan is extremely helpful. Particularly, determining appropriate methods for developing competency models is the key step within the competency project plan. Whether or not the method for developing competency models is appropriate will deeply influence success in implementation of the competencies.

2.3 Multiple intelligences

Since the continuing growth of globalization, companies need to pay careful attention to selecting and managing people who may become their supply chain managers [4] Recently, some works [13][12] suggest multiple intelligences as specific competences for the selection of supply chain managers owing to the raising significance of emotional competence [5]. The emotional competence is a learned capability based on emotional intelligence that contributes to effective performance in all aspects of life and in multiple environments including at home, work, school, or other social contexts. Emotional intelligence is the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions effectively in ourselves and in our relationships [11].

As to multiple intelligences, [10] promotes and defines seven intelligences that differ greatly from the traditional view which usually recognizes as verbal or computational intelligence. The Gardner's seven intelligences are: (1) Logical-Mathematical Intelligence is the ability to detect patterns, reason deductively and think logically; (2) Linguistic Intelligence is the ability to effectively manipulate language to express oneself rhetorically or poetically; (3) Spatial Intelligence is the ability to manipulate and create mental images in order to solve problems; (4) Musical Intelligence is the ability to recognize and compose musical pitches, tones, and rhythms; (5) Bodily-Kinesthetic Intelligence is the ability to use one's mental abilities to coordinate one's own bodily movements; (6) Personal Intelligences is the ability to realize interpersonal feelings and intentions of others; and (7) Intrapersonal Intelligence is the ability to understand one's own feelings and motivations.

Moreover, [47] proposes that multiple intelligences are effective to use in selecting individuals with different competencies. Those multiple intelligences can be categorized into three groups based on the Triarchic Theory of human intelligence [46]. The Sternberg's Multiple Intelligences includes: (1) the Analytical Intelligence contains three kinds of components which are referred to as meta-components (concerning the ability to plan, monitor, and evaluate one's problem solving), performance components (concerning the ability to execute the plans for problem solving devised by the meta-components), and knowledge-acquisition components (concerning the ability to learn how to solve the problems in the first place); (2) the Practical Intelligence perhaps even more important to managerial intelligence than the analytical aspect of intelligence, and it involves not just adaptation to environments, but also shaping and selection of environments; and (3) the Creative Intelligence has become important because the business environment is changing rapidly and creativity is particularly important in a management setting.

Recently, several researches [13][12] further divided those multiple intelligences into eight different Intelligence Quotients (IQs) for selecting competent supply chain managers [13]. These eight IQs have been identified that illustrate the heterogeneity of potential capabilities that supply chain managers may possess. According to [12], these different IQs are: (1) cognitive IQ involving the ability to reason, learn, and think analytically; (2) emotional IQ involving the ability to use one's own affective state to tap the affective state of others to accomplish specific objectives; (3) political IQ involving the manager's ability to use the formal and informal power to accomplish objectives; (4) cultural/social IQ involving the extent to which one is adequately socialized into the cultural/social difference among the organizations; (5) organizational IQ involving the ability of a manager to have a detailed and accurate understanding of how the two organizations operate functionally; (6) network IQ involving the ability to get things done when working with multiple interrelated organizational units; (7) innovative IQ involving the ability to be innovative in thinking

and create novel ideas and solutions to problems; and (8) intuitive IQ involving the ability to have quick insights into how to solve problems or to address situation without past experience with that particular problem and without actively or formally processing information.

3 The proposed method

Many works have studied problems in supply chain management, such as: examining the relationship among sourcing decisions, manufacturing goals, customer responsiveness, and manufacturing performance [28], discussing the design of distribution systems to support vendor strategies in supply chain management [34], investigating the impact of supply chain management on purchasing practices [51], examining the factors that drive and help to shape an organization's international supply management system [20], providing a purchasing framework for B2B pricing decisions and risk-sharing in supply chains [2], describing characteristics of inbound supply that affect managerial perceptions of supply risk and to create a classification of those supply risk sources [52], investigating factors affecting the level of trust and commitment in supply chain relationships [22], testing hypotheses on relational exchange and electronic communication media in supply chains involving small versus large suppliers [23], examining the influence of a firm's cross-functional orientation on supply chain performance [8], investigating the relationship between collaborative planning effectiveness and supply chain performance [31], comparing the effect of traditional manufacturing-oriented supply chain strategies on the operational and financial performance of firms in both service and manufacturing sectors [43], taking an integrated look into the area of green supply-chain management [45], and so on. However, few works discussed the issue of supply chain manager selection. Thus, this paper proposes a favorable method combining multiple intelligences theory with ANP approach to help companies that need to select competent supply chain managers.

In general, choosing an ideal supply chain manager from a pool of candidates depends on the specific purpose or strategy involved, as well as the limited resource and the preference of a company. MCDM methods are for use in situations when more than one criterion must be considered. To select competent supply chain managers is a kind of MCDM problem required to consider a large number of complex factors as multiple-criteria. According to [29], solving MCDM problems is required to establish system evaluation criteria, develop alternative systems, evaluate alternatives in terms of criteria, apply a normative multi-criteria analysis method, and accept one alternative. Therefore, the procedures of this proposed method are mainly divided into four steps as follows (Fig. 1).

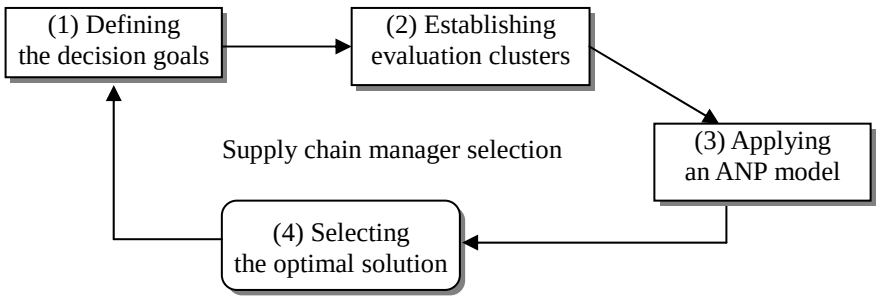

Fig. 1. The evaluation procedures.

Step 1: Defining the decision goals.

Decision making is the process of defining the decision goals, gathering relevant information, generating the broadest possible range of alternatives, evaluating the alternatives for advantages and disadvantages, selecting the optimal alternative, and monitoring the results to ensure that the decision goals are achieved [15]. Hence, the first step is defining the decision goals for selecting competent supply chain managers.

Step 2: Establishing evaluation clusters.

After defining the decision goals, it is required to generate and establish evaluation clusters including the criteria cluster, the sub-criteria cluster, and the alternatives cluster. The criteria cluster is concerned with the different targeting countries or regions where a company desires to expand their business activities, such as the USA, Japan, China, etc. The sub-criteria cluster containing eight different IQs is

to use for evaluating the alternatives cluster of a pool of candidates.

Step 3: Applying an ANP model.

It is useful to utilize MCDM methods to solve complex problems when we face the need to make decisions with multi-criteria. There are many MCDM methods that have been developed such as the Elimination and Choice Translating Reality (ELECTRE), the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), the Analytic Hierarchy Process (AHP), etc., but these methods do not consider the interdependence among criteria and alternatives. For dealing with the interdependence among elements, the ANP as a new MCDM method was proposed by [37]. As [39] states, it allows one to include all the factors and criteria, tangible and intangible, that have bearing on making an optimum decision. Thus, the ANP is a multi-criteria approach for decision-making, and may transform qualitative judgments into quantitative values.

As to the ANP model, [38] has demonstrated several types of ANP models, such as: the Hamburger Model, the Car Purchase BCR model, and the National Missile Defense model. Particularly, [16] differentiates the ANP into two kinds of models, namely, the Feedback System model and the Series System model. If the decision structure involves inner dependence among the elements, the Series System model can be expressed as the way that the goal controls a series of clusters with their own loops. As shown in Fig. 2, this model starts with the goal and goes downstream to the criteria cluster, sub-criteria cluster, and alternatives cluster.

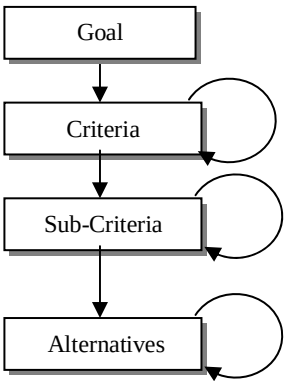

Fig. 2. The Series System model.

Step 4: Selecting the optimal solution.

After building that decision network structure, it is necessary to make pairwise comparison judgments between elements, and synthesize the overall priorities for the alternatives. For determining the relative importance between elements, decision makers are asked to respond through a series of pairwise comparisons. These pairwise comparisons are based on Saaty's nine-point scale and represent how many times one element is more important than another, where a score of 1 indicates equal importance between the two elements and 9 represents the extreme importance of one element compared to the other one. The a_{ij} or $1/a_{ji}$ express ratio scale priorities by making paired comparisons of elements, where a_{ij} denotes the importance of the ith element compared to the jth element.

For evaluating the weights of elements, the AHP uses the principal eigenvector of comparison matrix, while the ANP employs the limiting process method of the powers of the supermatrix [42]. A supermatrix is a partitioned matrix, where each submatrix is composed of a set of relationships between two clusters. The unweighted supermatrix W (Fig. 3) contains the local priorities derived from the pairwise comparisons throughout the Series System model. Where W_C is a matrix that represents the weights of criteria with respect to the goal, the matrix W_{SC} that denotes the weights of sub-criteria with respect to criteria, and the matrix W_A that shows the weights of alternatives with respect to sub-criteria. Moreover, these matrices $W_{\tilde{C}}$, $W_{S\tilde{C}}$, and $W_{\tilde{A}}$ are denoted respectively as the inner dependence matrix of criteria, sub-criteria, and alternatives. To derive the overall priorities of elements, we need to multiply submatrices numerous times in turn, until the columns stabilize and become identical in each block of submatrices. In other words, the unweighted supermatrix is raised to limiting powers to calculate the overall priorities, and thus the cumulative influence of each element on every other element with which it interacts is obtained. In this case, it is necessary to raise the unweighted supermatrix to the power $3k$, where k is an arbitrary large number [39].

$$W = \begin{array}{c} \\ \text{Goal} \\ \text{Criteria} \\ \text{Sub-Criteria} \\ \text{Alternatives} \end{array} \begin{array}{c} \begin{array}{cccc} \text{Goal} & \text{Criteria} & \text{Sub-Criteri} & \text{Alternatives} \end{array} \\ \begin{bmatrix} 0 & 0 & 0 & 0 \\ W_C & W_{\tilde{C}} & 0 & 0 \\ 0 & W_{SC} & W_{S\tilde{C}} & 0 \\ 0 & 0 & W_A & W_{\tilde{A}} \end{bmatrix} \end{array}$$

Fig. 3. The unweighted supermatrix.

4 Empirical study and discussions

Selecting the right people for managing the global business is a crucial managerial decision, which profoundly affects the performance of expanding business across borders [4]. In this section, an empirical study shows how a high-tech company applied the proposed method to select a supply chain manager successfully.

4.1 Problem descriptions

The case Company X is a Taiwan firm with more than USD 480 million turnover and over 1,350 employees. The company is one of the world's leading manufacturers in the memory modules market, offering specialized solutions and products with various devices including computers, digital cameras, video games, etc. Due to the worldwide challenge from the trend toward shorter product cycles and lower costs for consumer electronics, many enterprises are forced to perform with shorter lead-time, higher quality, competitive prices, and improved customer service in a global view. Because the needs of expanding their business activities together with enhancing their supply chain management, Company X wants to recruit a senior supply chain manager. However, to select a fitting supply chain manager is a kind of MCDM problem involving many evaluation factors. In order to execute a sensible selection, they therefore set up a selection committee consisting of the General Manager, and several managers representing the marketing, financial, production, human resource, and information technology department. The following shows how Company X utilized the proposed method to evaluate and select their proper supply chain manager.

4.2 Applications of proposed method

The committee followed the proposed method with the four-step procedures. Firstly, they defined the decision goals for selecting a senior supply chain manager who is competent to handle global business concerning particularly the USA, Japan, and China. In step 2, three evaluation clusters are used, such as: the criteria cluster, the sub-criteria cluster, and the alternatives cluster. The criteria cluster in terms of targeting destination countries includes three elements: USA (C_1); Japan (C_2); and China (C_3). The sub-criteria cluster consists of eight different IQs [13][12], including: cognitive IQ (S_1); emotional IQ (S_2); political IQ (S_3); cultural/social IQ (S_4); organizational IQ (S_5); network IQ (S_6); innovative IQ (S_7); and intuitive IQ (S_8). The alternatives cluster comprises four elements: candidate (A_1); candidate (A_2); candidate (A_3); and candidate (A_4). All these four candidates have at least 10 years experience of managing cross functional teams and dealing with global business. In step 3, the Series System model is adopted, and the decision structure (Fig. 4) is shaped. In this decision structure, the looped arc indicates that inner dependences because it is hard to obviate the possibility of interactions within the sub-criteria cluster in terms of the eight different IQs.

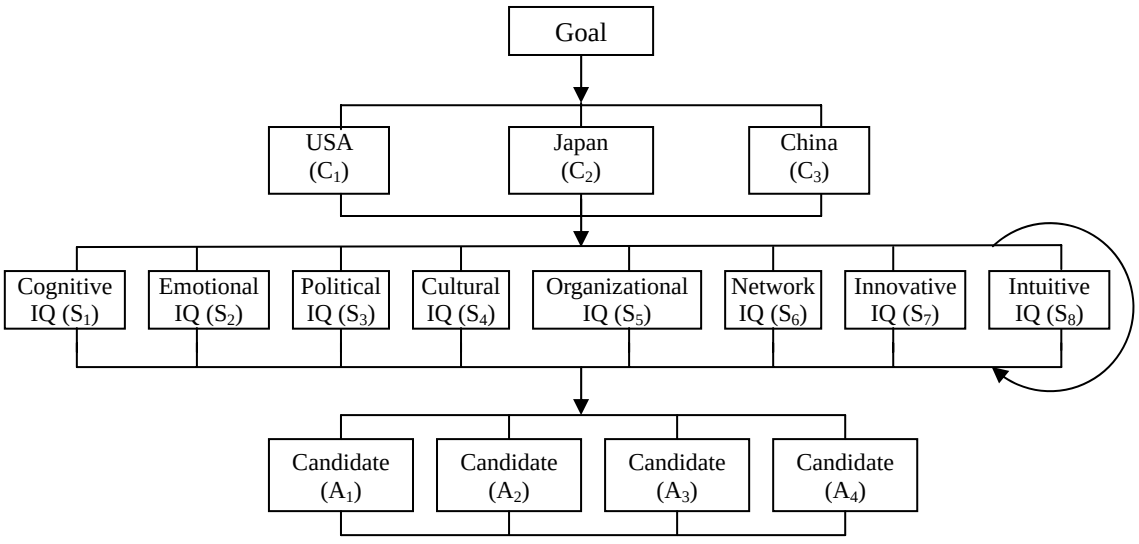

Fig. 4. The decision network structure.

In step 4, for determining the relative importance between elements, the members of committee are asked to respond through a series of pairwise comparisons with Saaty's nine-point scale. The results of their assessments are expressed in the form as the unweighted supermatrix (Table 1). Finally, in order to evaluate the weights of elements, the limiting process method of the powers of the supermatrix is employed. As for the calculations of the supermatrix, we can easily solve it with the ways using the professional software named "Super Decisions" provided by the Creative Decisions Foundation. Through using "Super Decisions", the overall priorities of the alternatives are obtained: $W_A = (A_1, A_2, A_3, A_4)$ = (0.205, 0.226, 0.232, 0.337). Therefore, the best choice is the candidate (A_4) of 0.337.

Table 1
The unweighted supermatrix of assessments

	Goal	C_1	C_2	C_3	S_1	S_2	S_3	S_4	S_5	S_6	S_7	S_8	A_1	A_2	A_3	A_4
Goal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C_1	0.493	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C_2	0.352	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
C_3	0.155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S_1	0.000	0.184	0.158	0.159	0.025	0.011	0.084	0.173	0.091	0.116	0.005	0.161	0.000	0.000	0.000	0.000
S_2	0.000	0.165	0.177	0.087	0.125	0.078	0.124	0.140	0.211	0.116	0.155	0.089	0.000	0.000	0.000	0.000
S_3	0.000	0.103	0.098	0.186	0.225	0.278	0.100	0.100	0.030	0.301	0.068	0.304	0.000	0.000	0.000	0.000
S_4	0.000	0.109	0.114	0.115	0.005	0.544	0.204	0.103	0.065	0.097	0.155	0.089	0.000	0.000	0.000	0.000
S_5	0.000	0.108	0.116	0.120	0.125	0.011	0.100	0.110	0.108	0.116	0.155	0.089	0.000	0.000	0.000	0.000
S_6	0.000	0.093	0.098	0.096	0.245	0.011	0.028	0.044	0.280	0.116	0.155	0.089	0.000	0.000	0.000	0.000
S_7	0.000	0.119	0.120	0.119	0.125	0.011	0.100	0.104	0.108	0.023	0.155	0.089	0.000	0.000	0.000	0.000
S_8	0.000	0.119	0.120	0.119	0.125	0.056	0.260	0.225	0.108	0.116	0.155	0.089	0.000	0.000	0.000	0.000
A_1	0.000	0.000	0.000	0.000	0.422	0.254	0.333	0.166	0.132	0.081	0.150	0.050	0.000	0.000	0.000	0.000
A_2	0.000	0.000	0.000	0.000	0.111	0.254	0.211	0.385	0.243	0.182	0.250	0.150	0.000	0.000	0.000	0.000
A_3	0.000	0.000	0.000	0.000	0.083	0.143	0.237	0.125	0.243	0.401	0.350	0.350	0.000	0.000	0.000	0.000
A_4	0.000	0.000	0.000	0.000	0.385	0.348	0.219	0.325	0.383	0.335	0.250	0.450	0.000	0.000	0.000	0.000

4.3 Discussions

Numerous companies have the needs to possess adequate supply chain managers for meeting the challenges from global competition, and to enable supply chain managers to leverage and transform resources and activities of the company into global competitive advantages. For achieving these objectives, selecting competent supply chain managers has become a prerequisite. However, how to select the right people for managing the global business is a crucial decision involving complex factors. In this empirical study, the MCDM problem of the supply chain manager selection involves three evaluation clusters. According to the evaluation results, we are able to derive several implications about business management as follows.

Which destination country is best to promote business expansions of companies depends on their different strategic contexts. Through the Table 1, the most targeting one is the USA (C_1) of 0.493, the next is Japan (C_2) of 0.352, and then is China (C_3) of 0.155. This reflects the fact that Taiwan high-tech companies rely greatly on the USA, because they play the role of subcontract factory for the USA. Moreover, there has an interesting finding of what intelligence is highest emphasized for a targeting country. For example, as shown in the Table 1, the cognitive IQ of 0.184 is highlighted for the USA, and the emotional IQ of 0.177 is focused for Japan, then the political IQ of 0.186 is aimed for China. This perhaps results from the various business styles of different countries. Finally, by the overall priorities through the limiting process method of the supermatrix, on the whole, the candidate (A_4) of 0.337 is the best one who has the most required multiple intelligences.

The supply chain manager selection is regarded as integral to the practice of company's globalization strategy, as the performance of supply chain managers affects the realization of strategic objectives. Hence, selection methods are important to identify those individuals who possess the capabilities to make great performances. [13] emphasize that supply chain managers have to possess a combination of technical, functional, cultural, social, and political skills to successfully handle the changing challenge. [33] argue that the traditional task-based selection is not suitable to use in a changing environment, so that the competency-based approach to selection is required. More importantly, competency models tend to be matured quickly and high-tech companies usually suffer the changeable environment. Thus, it is proper to select supply chain managers effectively

with multiple intelligences as perpetual and specific competencies.

5 Conclusions

Due to the globalization has become a much more pressing issue, the capable supply chain managers are in high demand. To effectively expand business activities and compete in rapidly changing global environments, most companies have the needs of selecting qualified supply chain managers and enabling them to transform resources and activities of the company into global competitive advantages. In view of the knowledge-based competition, modern supply chain managers are required to possess a set of multiple intelligences.

However, although many works have studied problems in supply chain management, few of those discussed the issue of supply chain manager selection. Especially, to select competent supply chain managers is a kind of MCDM problem required to consider a large number of complex factors as multiple-criteria. There are many MCDM methods that have been developed, but these traditional methods do not handle the interactions among elements. For solving this problem, the ANP, a new and potent MCDM method, was developed. Hence, it is favorable way to perform a supply chain manager selection through using the ANP together with the criteria based on multiple intelligences.For the purpose of helping companies to successfully select supply chain managers from a pool of candidates, this study develops a favorable method combining multiple intelligences theory with ANP approach. From the empirical study, several managerial implications are derived. For example, because of the varied strategic needs, companies would put the distinct weights on different destination countries to expand their business. And the different weights of targeting countries would lead to the results that what intelligence is most emphasized and which candidate is preferred. Although the selection result is much affected by the preferences and strategies needs of companies, it is undoubted that the proposed method can handle the effects of dependence and feedback, as well as it is relatively useful and the evaluation result is reasonable. Especially, it is also comprehensive and applicable to all companies which face to solve selection problems with multi-criteria. As for future research, possible directions are such as: the assessment scale of ANP is required to improve its user-friendliness, and the optimal competency set of each supply chain manager is essential to develop through the ways of Genetic algorithms or Neural Networks.

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