A Model of Marketing Strategic Alliances
To Develop Long-Term Relationships for Retailing

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ABSTRACT

Because of limited resources and restricted technical capabilities, it is difficult for individual firms to face a dynamic environment and competitors on their own. To gain competitive advantage, therefore, firms must pool marketing resources and develop reliable, long-term relationships with their partners in marketing strategic alliances. Three stages are involved in establishing marketing strategic alliances: partner selection, long-term relationship development, and long-term relationship maintenance. Of the three, the second stage (long-term relationship development) is the most important in determining the success or failure of long-term relationships in such strategic alliances. This study proposes a model of marketing strategic alliances to develop long-term relationships in retailing, based on the theory of power and the knowledge-based view to create a hierarchical framework. The study also uses fuzzy linguistic preference relations to determine the importance weights of influential attributes in hierarchical frameworks, thus identifying the key dimensions and attributes useful in developing long-term relationships between retailing firms and marketing strategic alliance partners.

Keywords: marketing strategic alliance, long-term relationship development for strategic alliance, fuzzy linguistic preference relations, retailing
1. INTRODUCTION

Radical changes in the global business environment create an updated competitive landscape and more tenacious competitors in the retail industry. Increasingly, many companies find it difficult face these challenges because of their limited marketing resources and technical capacity. One solution is to develop marketing strategic alliances that can integrate the marketing resources of each company and thereby enhance their competitive advantage (Baker et. al., 2005). At this time, however, marketing strategic alliances are still mostly based on short-term cooperation, and, for the most part, consider the interests of the alliance rather than develop long-term relationships between retailing firms and marketing strategic alliance partners (Henri Jean-Francois, 2006; Araz and Ozkarahan, 2007; Rachelle, 2009). In addition, some scholars have pointed out that long-term relationships connected with marketing strategic alliances comprise three stages: partner selection, long-term relationship development, and long-term relationship maintenance. Of the three, the second stage (long-term relationship development) is the most important in determining the success or failure of long-term relationships in establishing marketing strategic alliances (Samiee, 2008).

Past studies of patterns of strategic alliances have mostly emphasized issues of co-branding, the need to gain new product knowledge, and the integration of intra-firm and inter-firm value chains (Vyas et. al., 1995). Past studies aim to verify the success of an alliance using relevant indicators or variables, and often use a single theory or variable to explain or predict whether strategic alliances help firms to achieve their objectives via long-term relationships (Narayandas and Rangan, 2004). In past studies of strategic alliances, scholars have often used transaction cost theory and resource-based theory as their basis, disregarding the need to explain or predict whether strategic alliances can be used to achieve objectives from the “theory of power view” and the knowledge-based view. There is a need, therefore, for a standardized and systematic decision-making model with a solid theoretical foundation that can be used to examine and evaluate whether strategic alliances can be used to develop long-term relationships and to select strategic alliance partners that meet the requirements for developing long-term relationships (Wang and Chen, 2008).
To address these issues, this study proposes a model of marketing strategic alliances intended to develop long-term relationships. The model is meant to help retailers choose the right marketing strategic alliance partners and develop long-term partnerships. It uses the theory of power and the knowledge-based view as the theoretical basis for the hierarchical framework for developing long-term partnerships as part of marketing strategic alliances. This study takes into account the shortcomings of traditional hierarchical analysis, such as consistency problems caused by the over-assessment of factors, cognitive vagueness, and issues with length analysis. It uses fuzzy linguistic preference relations to determine the weights of influential dimensions (attributes) in a hierarchical structure and to identify the key dimensions (attributes) necessary to develop long-term relationships between retailing firms and marketing strategic alliance partners.

2. LITERATURE REVIEW

This section presents an overview of the literature on marketing strategic alliances, the perspective on theory of power, the knowledge-based view, and fuzzy linguistic preference relations.

2.1. Marketing Strategic Alliance

From the value chain perspective, in a marketing strategic alliance, members of the alliance are able to integrate all marketing resources or marketing activities in the value chain, share risks and costs, and implement marketing strategies to achieve the intended goals of the alliance (Samiee, 2008). In addition, Arend and Amit (2005) point out that, in the computer industry, marketing activities include marketing channels and promotion activities within marketing strategic alliances. Day and Nedungadi (1994) stress that marketing ability requires complex and rich marketing knowledge and skills that will enable strategic alliance partners to coordinate their marketing resources and improve the overall performance of the alliance.

This study defines marketing strategic alliance as what develops when “two or more than two companies develop long-term relationships in order to capture potential synergies for integrating the marketing resources and capabilities of each partner, including access to retail systems, marketing knowledge, professional skills, and marketing activities, and for sharing risks, benefits, and trust in order to develop competitive advantages in marketing strategy and create
a potential market for gaining the greatest profit from their relationship.” In this study, the principals in marketing strategic alliances are retailers and their upstream suppliers, which develop relationships with their marketing strategic alliance partners.

The “theory of power” perspective has become very helpful in evaluating the balance between retailers and upstream suppliers, especially in marketing strategic alliances. Well-known retailers enjoy a competitive advantage in terms of marketing channels and in terms of consumers who are relatively more reliant on them when new merchandise is released (Luo et al., 2007). For this reason, retailers can require upstream suppliers to offer very low prices, thus allowing retailers to generate higher sales for merchandise. Retailers may even be able to order their upstream suppliers to provide price or quantity discounts (Narayandas and Rangan, 2004; Anthony et al., 2006). Furthermore, according to the “knowledge-based view,” studies show that, through marketing strategic alliances, retailers and upstream suppliers can cooperate to attain more marketing knowledge, market information, marketing strategies, and information technology from one another and can also benefit from one another's marketing capabilities (Luigi and Kwaku, 2007; Song et al., 2008).

Working from the literature review, this study uses the theory of power and the knowledge-based theory as the foundation to describe and explain the benefits of developing long-term relationships between retailers and upstream suppliers. We then construct an analytic hierarchical framework for long-term relationships as part of marketing strategic alliances.

2.2. The Perspective on Theory of Power

Because of the disparity between the competitive power of retailers and upstream suppliers, each engages in activities to gain a greater competitive advantage than the other in marketing strategic alliances. A firm’s competitive power can be measured using five indicators:

1. existing competition between upstream suppliers;
2. bargaining power with upstream suppliers;
3. barriers to potential entrants;
4. bargaining power with customers; and
5. bargaining power for alternative goods.

For retailers, the competitive power that is achieved by offering bargain prices within a product category is also very important, and involves a number of
factors, including demand, cost, and interactions with partners (Kadiyali et al., 2000). However, competitive power is also defined by market share in the key merchandise market and by whether the strategic alliance is vertical or horizontal (Carstensen, 2008; Steiner, 2008).

Because retailers are able to reach customers and because they understand the differences between customers’ demands – such as the prices that different customers will pay for a particular brand – they have the information necessary to develop a pricing strategy to promote merchandise to particular customers. This situation creates a competitive advantage for retailers. Steiner (2008) shows, furthermore, that competitive power among upstream suppliers is related to the competitive power of retailers, but that most retailers have a higher competitive power than do upstream suppliers. For example, with regard to national merchandise, retailers have greater bargaining power than do upstream suppliers. Two factors – “intangible assets” and “market knowledge” – are therefore primary sources of competitive power for retailers when they are developing long-term relationships in the context of marketing strategic alliances. To achieve complementary resources and increase competitiveness, retailers and upstream suppliers who are partners in such alliances must make a commitment to and trust each other (Dwyer et al., 1987; Kadiyali et al., 2000).

2.3. The Knowledge-Based View

The knowledge-based view is derived from resource-based theory and organizational learning and suggests that a firm’s competitive advantage derives from having a large knowledge base, exploring new knowledge, and effectively and efficiently using knowledge to create customer value (Nonaka, 1994). Relative to other resources (such as those that are property-based), knowledge-based resources are tacit and are often embedded in an individual or in an organization's operations. These resources, therefore, are very important for a firm’s core competencies because it is more difficult to imitate them (Das and Teng, 2000). Samiee (2008) also points out that the advantage of marketing strategic alliances has to do not only with taking risk and sharing benefits jointly, but also with providing learning opportunities for each alliance partner to create newer and more diversified customer value. However, the earlier studies of strategic alliance partner selection have only emphasized the assessment of knowledge as contained within human capital and structural capital as the basis for decisions regarding whether a particular company needs to join a strategic
alliance (Edvinsson and Sullivan, 1996). In reality, different types of marketing strategic alliances are developed based on different information regarding marketing capabilities, market competitiveness, and information technology capacity. This knowledge is broadly defined as “a synthesis of technology,” an “accumulation of knowledge,” and “intangible resources” (Song et al., 2008).

In recent years, relevant studies have emphasized market-oriented knowledge as derived from market-based assets, which are constructed from market-based resources and marketing support resources. Market-oriented knowledge includes all information and knowledge in the market, including pricing, advertising, customer buying behavior, distribution network knowledge, and abilities related to technological information (Hooley et al., 2005; Song et al., 2008).

2.4. Fuzzy Linguistic Preference Relations

In most decision-making processes, decision-makers need to compare a set of alternatives and assign values based on criteria, ultimately constructing a preference relations matrix. The value represents the degree of preference for the first alternative over the second alternative. However, it has been shown that many decision-making approaches suffer from inconsistency and weak transitivity (Wang and Chen, 2007). Understanding this, Herrera-Viedma et al. (2004) propose reciprocal additive consistent fuzzy preference relations as a way to construct decision matrices for pair-wise comparisons, to ensure greater consistency in decision-makers’ preference relations and to avoid inconsistent solutions to decision-making problems. Because consistent fuzzy preference relations can be executed more quickly and efficiently than conventional methods of resolving the inconsistencies associated with multiple decision-making problems, studies related to decision-making have paid a great deal of attention to this method in recent years (e.g., Wang and Chang, 2007; Chao and Chen, 2009).

Based on the concept of consistent fuzzy preference relations, Wang and Chen (2008) combine fuzzy linguistic and consistent fuzzy preference relations to develop the fuzzy linguistic preference relations method. This method can be used to resolve consistency issues and adjust vague language when experts address the many items on a decision analysis questionnaire. It can also be used to enhance the accuracy and efficiency of decision-making. Below we describe the computing procedure for the fuzzy linguistic preference relations method.
based on group decision-making (Wang and Chen, 2008).

1. Suppose that the fuzzy linguistic assessment variables are those shown in Table 1.

<table>
<thead>
<tr>
<th>LINGUISTIC VARIABLES</th>
<th>FUZZY NUMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely important (AI)</td>
<td>( (P_{Al}^L, P_{Al}^M, 1) )</td>
</tr>
<tr>
<td>Equally important (EI)</td>
<td>( (P_{M}^L, 0, P_{M}^R) )</td>
</tr>
<tr>
<td>Less absolutely important (LAI)</td>
<td>( (1, P_{LAI}^M, P_{LAI}^R) )</td>
</tr>
</tbody>
</table>

Fuzzy judgment matrix \( \tilde{C} \) is a pair-wise comparison matrix for each alternative and evaluation criterion. The pair-wise comparisons are made by asking which of two criteria is more important:

\[
\tilde{C} = \begin{bmatrix}
\tilde{I} & \tilde{C}_{12} & \ldots & \tilde{C}_{1n} \\
\tilde{C}_{21} & \tilde{I} & \ldots & \tilde{C}_{2n} \\
\vdots & \vdots & \ddots & \vdots \\
\tilde{C}_{n1} & \tilde{C}_{n2} & \ldots & \tilde{I}
\end{bmatrix}
= \begin{bmatrix}
\tilde{I} & \tilde{C}_{12} & \ldots & \tilde{C}_{1n} \\
\tilde{C}_{12}^{-1} & \tilde{I} & \ldots & \tilde{C}_{2n} \\
\vdots & \vdots & \ddots & \vdots \\
\tilde{C}_{1n}^{-1} & \tilde{C}_{2n}^{-1} & \ldots & \tilde{I}
\end{bmatrix}
\]

where

\[
\tilde{C}_{ij} = \begin{cases}
\tilde{I}, & \text{if } i = j,
\tilde{I}^{-1}, & \text{if } i = j,
\tilde{3}^{-1}, \tilde{5}^{-1}, \tilde{7}^{-1}, \tilde{9}^{-1}, & \text{if } i \neq j,
\end{cases}
\]
2. For a group decision-making problem, let \( X = \{x_1, x_2, x_3, \ldots, x_n\} \) be the set of alternatives and let \( E = \{e_1, e_2, e_3, \ldots, e_m\} \) be the set of expert evaluators. The evaluator \( e_k \in E \) compares each pair of alternatives using fuzzy linguistic assessment variables and constructs an incomplete fuzzy linguistic preference relation \( \tilde{P}_k = \left( \tilde{p}_{ij}^{(k)} \right)_{n \times n} \) \( (k = 1,2,3,\ldots,m) \) with only \( n-1 \) judgments \( \{P_{12}^{(k)}, P_{23}^{(k)}, P_{34}^{(k)}, \ldots, P_{n-1}^{(k)}\} \).

3. Use the known elements in \( P_k \ (k = 1,2,3,\ldots,m) \) and formulas (1) to (7) to determine all of the unknown elements in \( P_k \ (k = 1,2,3,\ldots,m) \). Thus, obtain the corresponding complete fuzzy linguistic preference relation,

\[
\bar{P}_k = \left( \bar{p}_{ij}^{(k)} \right)_{n \times n} \ (k = 1,2,3,\ldots,m).
\]

\[
\tilde{p}_{ij} = g(\tilde{a}_{ij}) = \frac{1}{2} \cdot (1 + \log_9 \tilde{a}_{ij}) \quad (1)
\]

\[
P_{ij}^L + P_{ji}^R = 1, \quad \forall i,j,k \in \{1,\ldots,n\}, \quad (2)
\]

\[
P_{ij}^M + P_{ji}^M = 1, \quad \forall i,j,k \in \{1,\ldots,n\}, \quad (3)
\]

\[
P_{ij}^R + P_{ji}^L = 1, \quad \forall i,j,k \in \{1,\ldots,n\}, \quad (4)
\]

\[
P_{ji}^R = \frac{j-i+1}{2} - P_{i(j+1)}^R - P_{i(j+1)(j+2)}^R - \cdots - P_{j(j-1)}^R \quad (5)
\]

\[
P_{ji}^M = \frac{j-i+1}{2} - P_{i(j+1)}^M - P_{i(j+1)(j+2)}^M - \cdots - P_{j(j-1)}^M \quad (6)
\]

\[
P_{ji}^L = \frac{j-i+1}{2} - P_{i(j+1)}^L - P_{i(j+1)(j+2)}^L - \cdots - P_{j(j-1)}^L \quad (7)
\]
4. Use the linguistic averaging operator

\[ \overline{P}_{ij} = \frac{\sum_{k=1}^{m} \overline{P}_{ij}^{(k)}}{m}, \quad \forall i, j, \]  

(8)

to obtain the group's average opinion. If the obtained matrix \( \overline{P}_{ij} \) has entries that are not within the interval \([0,1]\), we need to transform the fuzzy numbers that we have obtained by using transformation functions as shown below:

\[ f(x^L) = \frac{x^L + c}{1+2c}, \quad c \in [-c, l+c] \]  

(9)

\[ f(x^M) = \frac{x^M + c}{1+2c}, \quad c \in [-c, l+c] \]  

(10)

\[ f(x^R) = \frac{x^R + c}{1+2c}, \quad c \in [-c, l+c] \]  

(11)

where \( c \) indicates the absolute value of the minimum in the preference matrix.

5. Use the linguistic averaging operator

\[ \overline{P}_i = \frac{\sum_{j=1}^{n} \overline{P}_{ij}}{n}, \quad \forall i, \]  

(12)

and then obtain the averaged \( \overline{P}_i \) of the \( i \)th criterion (alternative) over all the other criteria (alternatives). Obtain the weight of the criteria by
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\[ W_i = \frac{\bar{P}_i}{\sum_{j=1}^{n} (\bar{P}_j)} \]  

(13)

6. Conduct defuzzification via the fuzzy mean and spread method (Lee and Li, 1988)

\[ D_i = \frac{1}{3} \left( w_{iL}^L + w_{iM}^M + w_{iR}^R \right) \]  

(14)

7. Rank all alternatives \( x(i = 1, 2, 3, \ldots, n) \) and select the optimal one(s) in accordance with the values of \( D_i (i = 1, 2, 3, \ldots, n) \).

3. DEVELOPING THE MODEL OF MARKETING STRATEGIC ALLIANCE

Having reviewed relevant studies, we use the theory of power and the knowledge-based view as our theoretical foundation for constructing an initial hierarchical structure of marketing strategic alliance development. We identify seven core dimensions as attributes essential to developing a marketing strategic alliance and to understanding and evaluating long-term relationship development. These dimensions are:

- Commitment
- Trust
- Complementary resources
- Market knowledge
- Similarity of resources
- Soundness of financials
- Intangible assets

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To determine the real practices and processes associated with developing marketing strategic alliances in retailing, we conducted in-depth interviews with experts who have worked at a retailing company. This study uses fuzzy linguistic preference relations to identify the weights of influential attributes in the hierarchical framework – attributes that assist in the development of long-term relationships between retailing firms and partners in marketing strategic alliances. This study uses four steps to construct the model, as shown in Table 2.

### Table 2
**Steps to Construct the Model of Marketing Strategic Alliance Development**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identifying the initial dimensions of marketing strategic alliance development</td>
</tr>
<tr>
<td>2</td>
<td>Constructing final hierarchical structure for marketing strategic alliance development</td>
</tr>
<tr>
<td>3</td>
<td>Assessing the dimensions and attributes associated with marketing strategic alliance development</td>
</tr>
<tr>
<td>4</td>
<td>Identifying the key dimensions and attributes necessary to develop long-term relationships within marketing strategic alliances</td>
</tr>
</tbody>
</table>

### 4. EMPIRICAL STUDY
This study empirically examines the most famous chain retail store in Taiwan, referred to as “Company P,” as a retailer in a marketing strategic alliance and shows how to apply the model of long-term relationship development to marketing strategic alliances. Company P has opened more than 4,300 chain retail stores since 1978 and has the highest revenue and brand equity among retail stores in Taiwan. The company’s strong performance makes it a good empirical example to demonstrate the model in this study.

We began with in-depth interviews with a senior department manager and a senior project manager in the marketing department at Company P to determine the real processes the company uses in developing marketing strategic alliances. Interview results indicated that the company’s chain stores provide 3,000 items
of merchandise, of which almost 50% are fast foods. Company P, therefore, needs upstream supplier partners to provide fast food merchandise. Of these, we chose “Company C” as the upstream supplier in the marketing strategic alliance. Company C has been well-known in southern Taiwan for its delicious and high-quality frozen fast foods since 1926. It has its own factories to produce high-quality frozen fast foods and also has ISO9001:2000 and HACCP quality guarantee certification. Using Company P (a retailer) and Company C (an upstream supplier), we illustrate how to use the model of long-term relationship development for marketing strategic alliances, to determine which dimensions (attributes) are important in developing long-term relationships, and to provide practical information and strategies to marketing strategic alliance partners.

4.1. Identifying and Constructing the Hierarchical Structure

In this study, we used the theory of power and knowledge-based theory to construct an initial hierarchical structure for marketing strategic alliance development, and then conducted in-depth interviews with two senior managers at Company P to identify the dimensions and attributes for the final hierarchical structure depicted in Figure 1. The two senior managers at Company P were then asked to participate in a laddering interview to state dimensions for each attribute of marketing strategic alliance development, including 7 categories and 18 attributes, as shown in Table 3.

4.2. Assessing the Associated Dimensions and Attributes

To assess the importance weights of influential dimensions (and their attributes) within the hierarchical structure, we selected 10 experts at Company P to participate in a questionnaire survey. For purposes of this study, we defined an expert as: (a) someone who has worked in retail companies for more than 10 years; (b) a high-level or middle-level manager of a retailing company; and (c) a person responsible for selecting marketing strategic alliance partners at his or her company. We used a written questionnaire survey to collect information from the 10 experts regarding their evaluation of the dimensions and attributes associated with the marketing strategic alliance development of Company P. The questionnaire was administered face-to-face so that its contents could be more fully explained, if necessary.
Figure 1. Hierarchical Structure of Marketing Strategic Alliance Development
Table 3
Definition of Attributes Essential to Marketing Strategic Alliance Development

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>ATTRIBUTES</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The commitment to cooperation ($D_1$)</td>
<td>Regular supply ($A_1$)</td>
<td>Upstream supply firms are willing to operate with retailers on a regular time schedule.</td>
</tr>
<tr>
<td></td>
<td>A common consensus regarding cooperation ($A_2$)</td>
<td>Partners reach a common consensus regarding cooperation.</td>
</tr>
<tr>
<td></td>
<td>Long-term vision of cooperation ($A_3$)</td>
<td>The willingness to engage in long-term cooperation.</td>
</tr>
<tr>
<td>Quality control systems ($D_2$)</td>
<td>Quality certification ($A_4$)</td>
<td>Upstream suppliers provide merchandise of certified quality.</td>
</tr>
<tr>
<td></td>
<td>Sources of raw materials ($A_5$)</td>
<td>Sources of raw materials</td>
</tr>
<tr>
<td></td>
<td>Knowledge of laws and regulations ($A_6$)</td>
<td>Upstream suppliers understand the laws and regulations of the industry.</td>
</tr>
<tr>
<td>Sales service ($D_3$)</td>
<td>Ability to respond quickly to demand ($A_7$)</td>
<td>Upstream suppliers can satisfy customers’ needs in time.</td>
</tr>
<tr>
<td></td>
<td>Sales warranties and defect liability ($A_8$)</td>
<td>Upstream suppliers are able to provide customers with warranties after sales.</td>
</tr>
<tr>
<td>The potential market ($D_4$)</td>
<td>The market competitiveness of existing merchandise ($A_9$)</td>
<td>Upstream suppliers provide market competitiveness of existing merchandise.</td>
</tr>
<tr>
<td></td>
<td>Expanding the consumer market ($A_{10}$)</td>
<td>The consumer market is expanded market after cooperation.</td>
</tr>
<tr>
<td>Plant and production capabilities ($D_5$)</td>
<td>Production ability ($A_{11}$)</td>
<td>The upstream supplier is able to produce the required capacity.</td>
</tr>
<tr>
<td></td>
<td>Variable production capacity ($A_{12}$)</td>
<td>The upstream supplier can accept orders or address retailers’ emergency needs retailers at any time.</td>
</tr>
<tr>
<td></td>
<td>The integrity of factories and plants ($A_{13}$)</td>
<td>The upstream supplier has mature factories and plants.</td>
</tr>
</tbody>
</table>

(Continued)
Table 3 (Continued)
Definition of Attributes Essential to Marketing Strategic Alliance Development

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>ATTRIBUTES</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand image ((D_6))</td>
<td>Reputation ((A_{14}))</td>
<td>The reputation of the upstream supplier</td>
</tr>
<tr>
<td></td>
<td>The popularity of the brand ((A_{15}))</td>
<td>The popularity of the upstream supplier brand</td>
</tr>
<tr>
<td></td>
<td>Operational performance ((A_{16}))</td>
<td>The past performance of the upstream suppliers operations</td>
</tr>
<tr>
<td>R &amp; D Capabilities ((D_7))</td>
<td>The ability to develop new merchandise ((A_{17}))</td>
<td>The ability of the upstream supplier to develop new merchandise</td>
</tr>
<tr>
<td></td>
<td>The ability to engage in joint R&amp;D ((A_{18}))</td>
<td>The upstream supplier has the ability to jointly develop new merchandise with retailers.</td>
</tr>
</tbody>
</table>

4.3. Results of Assessment of Dimensions and Attributes

This study uses fuzzy linguistic preference relations to determine the importance weights of influential dimensions (and their attributes) within the hierarchical structure and then to identify those that are key to developing long-term relationships between retailing firms and marketing strategic alliance partners. According to the linguistic ratings indicated by the 10 experts, the fuzzy linguistic assessment variables (shown in Table 4) can be transferred into the corresponding fuzzy numbers. Then, Eq. (1) is used to transform the corresponding fuzzy numbers into an interval scale \([0, 1]\), and the remaining values can be calculated by using Eq. (9), (10), and (11). Next, we used Eq. (12) to aggregate the linguistic ratings of the 10 experts and create a pair-wise comparison matrix, determined the weights according to Eq. (13), and defuzzified using Eq. (14). Table 5 shows the assessment results for the dimensions and ranks all of the dimensions:

\[
D_1(0.176) > D_2(0.164) > D_3(0.149) > D_4(0.133) > D_5(0.132) > D_6(0.127) > D_7(0.119)
\]
Table 4
Fuzzy Linguistic Assessment Variables and Corresponding Fuzzy Numbers

<table>
<thead>
<tr>
<th>Fuzzy Preference Linguistic Degrees</th>
<th>Corresponding Fuzzy Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrated Importance (DI)</td>
<td>(2, 5/2, 3)</td>
</tr>
<tr>
<td>Very Strong Importance (VSI)</td>
<td>(3/2, 2, 5/2)</td>
</tr>
<tr>
<td>Strong Importance (SI)</td>
<td>(1, 3/2, 2)</td>
</tr>
<tr>
<td>Moderate Importance (MI)</td>
<td>(1/2, 1, 3/2)</td>
</tr>
<tr>
<td>Equally Important (EI)</td>
<td>(1, 1, 1)</td>
</tr>
<tr>
<td>Moderate Unimportance (MUI)</td>
<td>(2/3, 1, 2)</td>
</tr>
<tr>
<td>Strong Unimportance (SUI)</td>
<td>(1/2, 2/3, 1)</td>
</tr>
<tr>
<td>Very Strong Unimportance (VSUI)</td>
<td>(2/5, 1/2, 2/3)</td>
</tr>
<tr>
<td>Demonstrated Unimportance (DUI)</td>
<td>(1/3, 2/5, 1/2)</td>
</tr>
</tbody>
</table>

Table 5
Assessment Results for All Dimensions

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Average</th>
<th>Weight</th>
<th>Defuzzification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment to cooperation (D_1)</td>
<td>(0.508, 0.616, 0.722)</td>
<td>(0.180, 0.176, 0.173)</td>
<td>0.176</td>
</tr>
<tr>
<td>Quality control systems (D_2)</td>
<td>(0.476, 0.570, 0.666)</td>
<td>(0.169, 0.163, 0.159)</td>
<td>0.164</td>
</tr>
<tr>
<td>Sales service (D_3)</td>
<td>(0.439, 0.520, 0.601)</td>
<td>(0.156, 0.148, 0.144)</td>
<td>0.149</td>
</tr>
<tr>
<td>Potential market (D_4)</td>
<td>(0.388, 0.464, 0.538)</td>
<td>(0.138, 0.133, 0.129)</td>
<td>0.133</td>
</tr>
<tr>
<td>Plant and production capabilities (D_5)</td>
<td>(0.376, 0.464, 0.541)</td>
<td>(0.134, 0.132, 0.129)</td>
<td>0.132</td>
</tr>
<tr>
<td>Brand image (D_6)</td>
<td>(0.317, 0.415, 0.525)</td>
<td>(0.113, 0.119, 0.126)</td>
<td>0.119</td>
</tr>
<tr>
<td>R &amp; D capabilities (D_7)</td>
<td>(0.313, 0.451, 0.589)</td>
<td>(0.111, 0.129, 0.141)</td>
<td>0.127</td>
</tr>
</tbody>
</table>
Based on the results shown in Table 6, when Company P develops long-term relationships with upstream suppliers, the first considered dimension is “the commitment to cooperation \((D_1)\)”; the second is “quality control systems \((D_2)\)”; and the third is “sales service \((D_3)\).” This finding indicates that Company P is most concerned that upstream supply firms operate on a regular schedule, be willing to engage in long-term cooperation, and share a consensus regarding cooperation. Company P is also concerned that upstream supply firms provide merchandise of certified quality and that they understand the laws and regulations of the industry.

### Table 6

**Assessment Results for the Dimensions and Attributes**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weights ((W1))</th>
<th>Attributes</th>
<th>Local Weights ((W2))</th>
<th>Final Weights ((W1 \times W2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment To Cooperation ((D_1))</td>
<td>0.176</td>
<td>Regular supply ((A_1))</td>
<td>0.352</td>
<td>0.062</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A common consensus regarding cooperation ((A_2))</td>
<td>0.344</td>
<td>0.061</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term vision of cooperation ((A_3))</td>
<td>0.304</td>
<td>0.054</td>
</tr>
<tr>
<td>Quality Control Systems ((D_2))</td>
<td>0.164</td>
<td>Quality certification ((A_4))</td>
<td>0.383</td>
<td>0.063</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sources of raw materials ((A_5))</td>
<td>0.317</td>
<td>0.052</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledge of laws and regulations ((A_6))</td>
<td>0.300</td>
<td>0.049</td>
</tr>
<tr>
<td>Sales Service ((D_3))</td>
<td>0.149</td>
<td>Ability to respond quickly to demand ((A_7))</td>
<td>0.509</td>
<td>0.076</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sales warranties and defect liability ((A_8))</td>
<td>0.491</td>
<td>0.073</td>
</tr>
</tbody>
</table>

(Continued)
### Table 6 (Continued)

**Assessment Results for the Dimensions and Attributes**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Weights (W1)</th>
<th>Attributes</th>
<th>Local Weights (W2)</th>
<th>Final Weights (W1×W2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Market</td>
<td>0.133</td>
<td>The market competitiveness of existing merchandise (A₀)</td>
<td>0.520</td>
<td>0.069</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expanding the consumer market (A₁₀)</td>
<td>0.480</td>
<td>0.064</td>
</tr>
<tr>
<td>Plant and Production Capabilities</td>
<td>0.132</td>
<td>Production ability (A₁₁)</td>
<td>0.363</td>
<td>0.048</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Variable production capacity (A₁₂)</td>
<td>0.338</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The integrity of factories and plants (A₁₃)</td>
<td>0.299</td>
<td>0.039</td>
</tr>
<tr>
<td>Brand Image</td>
<td>0.119</td>
<td>Reputation (A₁₄)</td>
<td>0.361</td>
<td>0.043</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The popularity of the brand (A₁₅)</td>
<td>0.330</td>
<td>0.039</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operational performance (A₁₆)</td>
<td>0.309</td>
<td>0.037</td>
</tr>
<tr>
<td>R &amp; D Capabilities</td>
<td>0.127</td>
<td>The ability to develop new merchandise (A₁₇)</td>
<td>0.521</td>
<td>0.066</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The ability to engage in joint R&amp;D (A₁₈)</td>
<td>0.479</td>
<td>0.061</td>
</tr>
</tbody>
</table>

As Table 6 indicates, the three most important attributes when Company P attempts to develop long-term relationships with upstream suppliers are “ability to respond quickly to demand (A₇)”; “sales warranties and defect liability (A₈)”; and “the market competitiveness of existing merchandise (A₉)”. These results show that Company P is most concerned that upstream suppliers can satisfy customer needs in time, are able provide customers with warranties after sales, and can provide merchandise that boosts market competitiveness.
5. CONCLUSIONS

This study proposes a model of marketing strategic alliances that can be used to develop long-term relationships in retail. This model not only has theoretical foundations, but also addresses the real practices of retailers seeking to develop and operate marketing strategic alliances. It encompasses in-depth interviews with a senior department manager and a senior project manager in the marketing department at a retail company (Company P). In contrast to traditional hierarchical analysis, which has a number of shortcomings (e.g., inconsistencies caused by the over-assessment of factors, cognitive vagueness, and issues with length analysis), this study uses fuzzy linguistic preference relations to determine the importance weights of influential dimensions (and attributes) in a hierarchical structure, and to identify those that are key to developing long-term relationships between retailing firms and marketing strategic alliance partners. Whereas many decision-making processes require multiple actors in the real world (including decision-making related to the development of marketing strategic alliance for retailers), this study proposes steps for group decision-making that will solve problems, based on the fuzzy linguistic preference relations method.

Using empirical evidence from a major retailer (Company P) and one of its upstream suppliers (Company C), this study finds that the three most considered dimensions are “the commitment to cooperation”; “quality control systems”; and “sales service.” It finds, further, that the four most important influential factors in developing long-term relationships with marketing strategic alliance partners are “the market competitiveness of existing merchandise”; “the capacity for joint development”; “ability to respond quickly to demand”; and “sales warranties and defect liability.”

6. ACADEMIC AND MANAGERIAL IMPLICATIONS

Previous studies of strategic alliances have focused on using a single theory or a set of assessment variables to explain or predict whether strategic alliances will achieve their long-term objectives. Moreover, scholars have often used transaction cost theory and the resource-based view as their theoretical foundation and have not attempted to predict whether strategic alliances will achieve their objectives using the theory of power view or the knowledge-based view to consider long-term relationship development. In contrast, this study uses
the theory of power and the knowledge-based view as the theoretical basis and creates a hierarchical framework for long-term partnership marketing strategic alliance development.

Based on the empirical results, this study suggests that upstream supply firms implement some remedial improvement strategies and policies to enhance their performance in important areas; namely:

- Operate on a regular time schedule
- Be willing to engage in long-term cooperation
- Reach a consensus with retailers regarding cooperation
- Provide merchandise of certified quality
- Understand the laws and regulations of the industry
- Satisfy customer needs in a timely fashion
- Maintain the market competitiveness of their merchandise

This study makes three important contributions to the literature and practice related to long-term marketing strategic alliance development. First, we use the theory of power and the knowledge-based view as the theoretical basis to create a hierarchical framework for long-term marketing strategic alliance development. Second, we overcome the shortcomings of hierarchical analysis by using fuzzy linguistic preference relations to determine the importance weights of influential dimensions (and attributes) in a hierarchical structure. Third, to solve group decision-making problems, we propose steps for group decision-making based on the fuzzy linguistic preference relations method.

REFERENCES


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