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Full Length Research Paper

An effective way to measure the performance of cooperative strategies with competitors in Taiwan's small business

Hao-Wei Yang[1]*, Kai-Fu Yang[2] Chung-Hsin Yang[3] and Chih-Yang Chao[2]

[1]Department of Marketing and Logistics Management, Chaoyang University of Technology, Taiwan, R.O.C.
[2]Department of Industrial Education and Technology, National Chunghua University of Education Taiwan, R.O.C.
[3]Distribution Business Group, Sinon Co., Ltd. Taiwan, R.O.C.

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Forming strategic alliances with competitors has become a heated issue not only in practice but also in academic research. Firms involved in the alliance should dedicate their knowledge, skills, technology, and other valuable resources to achieve collective goals and to create cooperative performance. Drawing from an intellectual capital perspective, this paper attempts to answer three major questions: How does a firm contribute its intellectual capital to be able to cooperate with its competitor? What are the elements of cooperative strategies with competitors? And, how does a firm measure cooperative performance? In this study, a strategic alliance led by a focal company in the supermarket industry in Taiwan was investigated. In order to collect qualitative data, the study conducted an in-depth face-to-face interview with nineteen CEOs in the alliance. They, together, have defined five key cooperative strategies and critical indicators for measuring cooperative performance. As well, the study also developed important intellectual capital which is necessary for implementation of those cooperative strategies. This practice-oriented study contributed a more complete exploration of intellectual capital, cooperative strategy, and performance measurement in practice as well as in research.

Key words: Intellectual capital, cooperative strategy, performance measurement, strategic alliance.

INTRODUCTION

The resource-based perspective highlights that competitive advantage comes from heterogeneous resources of a firm. Of all kinds of resources, intellectual capital is recognized as a key strategic asset for sustainable competitive advantages and value creation (Roos abd Roos, 1997; Marr et al., 2003, 2004). Not only cultivating internally, but also acquiring externally, will a firm accumulate its intellectual capital. Strategic alliance is considered a major source for a firm to access critical resources. As Dyer and Singh (1998) address that resources or capabilities may reside outside the firm, and are accessed or created through building relationships with other firms. Alliances offer the opportunities for firms acquiring the needed resources; meanwhile, firms build up their own resource endowment by entering into alliances (Mothe and Quelin, 1998). The interactions and learning experiences from alliances enable the firms to improve their capabilities and to expend their resource endowment (Hitt et al., 2000).

Although, alliances provide advantages for firms to access partners' resources and knowledge, firms involved in the alliance should dedicate their knowledge, skills, technology, and other valuable resources to create cooperative performance. As in the era of strategic alliances and networks, how does a firm contribute its

*Corresponding author. E-mail: jackyang@cyut.edu.tw. Tel: 886-4-23323000 # 7825. Fax: 886-4-23390072.

intellectual capital to cooperate with its competitor? What are the elements of cooperative strategies with competitors? And how does a firm measure cooperative performance? Based on an intellectual capital perspective and a strategic alliance concept, a case study was conducted to provide an empirical practice for answering these questions.

The study begins this article by addressing the theoretical concepts of intellectual capital perspective and cooperation with competitors. Next, the study describes the methodology, including the research setting of the focal company, the alliance, and the supermarket industry in Taiwan. Data was collected through in-depth interviews with nineteen informants from each company in the alliance. Finally, the study presents the qualitative results, demonstrating the intellectual capital for cooperation, component elements of cooperative strategies and cooperative performance.

THEORETICAL BACKGROUNDS

The perspective of intellectual capital

Intellectual capital, other than physical assets, is the key resource to generate economic rents. Some scholars have adopted different terminologies regarding intellectual capital to carry similar meanings, such as, core competence (Prahalad and Hamel, 1990), intangible assets (Hall, 1992; Sveiby, 1997a), strategic assets (Amit and Schoemaker, 1993), core capabilities (Zander and Kogut, 1995), absorptive capacity (Cohen and Levinthal, 1990), organizational memory (Walsh and Ungson, 1991), and knowledge assets (Bontis, 2001). Of them, intellectual capital has been mentioned widely (Edvinsson and Sullivan, 1996; Roos and Roos, 1997; Nahpaiet and Ghoshal, 1998; Baum and Silverman, 2004; Marr et al., 2004; Johannessen et al., 2005).

Consistent with resource-based view, the intellectual capital, proposed by Edvinsson and Sullivan (1996) is defined as a stock of focused, organized information (knowledge) that the organization can use for some productive purpose. He claims that intellectual capital is as the sum of human capital and structural capital, including customer capital. Roos and Roos (1997) define intellectual capital as both what is in the heads of organizational members (human capital) and what is left in the organization (structural capital) . Nahpaiet and Ghoshal (1998) address that intellectual capital refers to the knowledge and knowing capability of a social collectivity, such as an organization, intellectual community, or profession practice. Fernstrom and Roos (2002) defined intellectual capital as any intangible resources or transformation of those resources, which are under some level of control of the company that adds to the company's value creation.

Despite scholars have recognized the intellectual capital as the most important source for organizational performance, they propose various categorizations of intellectual capital. For example, Edvinsson and Sullivan (1996) define intellectual capital as knowledge that can be converted into value. They address that business knowledge generally is of two kinds: codified knowledge and tacit knowledge. In their categorization, intellectual capital has two major components: human resources and structural capital (including intellectual assets). Intellectual assets can be grouped into three areas: commercializable assets, customer-related assets, and structure-related assets. Spender (1996) combines two dimensions of explicit/tacit and individual/social knowledge to create a matrix of four different elements of an organization's intellectual capital. Spender uses the term "social knowledge" to differentiate the discrepancy between individual knowledge and collective knowledge. Conceptually, the term of "collective intellectual capital" is supposed to incorporate not only the inside-organizational knowledge but also the outside-organizational knowledge.

Svieby (1997a) develops a "family of tree" to classify the intangible assets, including individual competence, internal structure and external structure. Roos and Roos (1997) propose a "distinction tree", in which, intellectual capital is categorized as human capital, customer and relationship capital and organization capital (including business processes capital and business renewal and development capital). Further, Roos, Bainbridge and Jacobson (2001) categorize intellectual capital as human capital, organizational capital, and relational capital. Marr, Schiuma and Neely (2004) provide taxonomy of organizational assets. They classify organizational assets as financial assets, physical assets, relationship assets, human assets, culture assets, practices and routine assets, and intellectual property assets. Baum and Silverman (2004) propose alliance capital, intellectual capital and human capital. Baxter and Matear (2004) propose a model for analyzing intangible relationship value, which is classified into two groups: human intangible value and structure intangible value. Johannessen, Olsen and Olaisen (2005) depict a typology of intellectual capital, which is further distinguished into four types: human capital, structure capital, network capital and system capital.

Despite some differences and overlaps among these sets of categorizations, the broad domain coverage is basically the same. As can be seen in Table 1, first, scholars all mention about human capital and agree that nothing is more important than people. Human capital includes the competence, skills and intellectual agility of the individual employees. Similar categories related to human capital such as human resources, individual knowledge, individual competence, human capital and human assets. Secondly, Organizational capital, including process, systems, structures, brands, intellectual property

Table 1. Categories of intellectual capital.

Human capital		Organizational capital	Relational capital
EdvinssonandSullivan (1996)	Human resources	Commercializable assets, structure-related assets	Customer-related assets
Svieby (1997a)	Individual competence	Internal structure	External structure
Roos and Roos (1997)	Human capital	Organization capital (business processes capital, business renewal and development capital)	Customer and relationship capital
Roos et al. (2001)	Human capital	Organizational capital	Relational capital
Marr et al. (2004)	Human assets	Financial assets, physical assets, culture assets, practices and routine assets, intellectual property assets	Relationship assets
Baum and Silverman (2004)	Human capital	Intellectual capital	Alliance capital
Baxter and Matear (2004)	Human intangible value	Structure intangible value (organization, renewal and development)	Relationships
Johannessen et al. (2005)	Human capital	Structure capital and system capital	Network capital

and other intangibles that are owned by the firm but do not appear on its balance sheet. Similar categories related to organizational capital such as structure-related assets, structure capital, internal structure, practices and routine assets, intellectual property, business processes capital and business renewal and development capital assets. Finally, relationship capital represents all the valuable relationships with customers, suppliers and other relevant stakeholders. Similar categories pertain to relational capital such as customer-related assets, external structure, customer and relationship capital, relationship assets, alliance capital, and network capital. Therefore, in this article, the study adopts the three-type categorization to classify intellectual capital as human capital, organizational capital, and relational capital.

Cooperation with competitors

The issue of competition has been noticed by some scholars in the strategic management field (For example, Brandenburger and Nalebuff, 1996; Lado et al., 1997; Tsai, 2002; Madhavan et al., 2004). Competition manifests a strategy for “cooperation and competition” as well as for “cooperation with com- petitors”. Levinson and Asahi (1995) stated that as alliance has turned to be cross-industrial and cross-national mode, cooperative manners also reflect uncertainty and complexity of the global environment which forces firms to interact with each other in a both cooperative and competitive manner. Das and Teng (2000) argued that, even in an alliance, partners are direct or indirect, current or potential competitors. They still need to compete with each other for alliances resources, know- how and technologies from partners within the boundary of alliances and markets. Thus, the simultaneous existence of cooperation and competition between the partners is an important characteristic of strategic alliances (Das and Teng, 2000). Madhavan et al. (2004) propose two constructs to capture the motives for formation alliances: countering and clustering. The former is formation of alliances with the goal of reducing the value appropriated by a competitor, captures the competitive motive. Whereas, the latter is formation of alliances with the goal of combining resources from multiple partners, captures the co-operative motive. Kotabe et al. (2003) found that firms did benefit from knowledge transferring between network partners. Baum and Silverman (2004) propose alliance capital. They further differentiate vertical linkages from horizontal linkages of startups’ alliance capital. Upstream alliance links startups to sources of research know-how and technological expertise. Downstream alliance capital links startups to sources of complementary assets including distribution channels, marketing expertise and production facilities to commercialize of a new product. In contrast, horizontal alliances involve the exchange, sharing, or co-development of products, technologies, or services among firms engaged at the same stage in the value chain (Gimeno, 2004). Horizontal connections link firms to expand the economy of scale in homogeneous activities such as R and D, procurement, distribution and marketing. Inkpen and Tsang (2005) connect network perspective and knowledge transfer. They address that firms acquire knowledge from an alliance partner by

Table 2. The overview of major players in the supermarket industry in central Taiwan.

	Geographic coverage	Number of chain stores	Product differentiation	Pricing	Specific assets investment
Taiwan Fresh Supermarket	Central Taiwan	42	Fresh, CAS, agricultural pesticide residue test	Medium	High
Yumaowu	Central Taiwan	9	Fresh, Japanese style products	High	High
Won-Jou	Central Taiwan	28	Fresh	Medium	High
Px-Mart	Island-wide	528 (125 in central Taiwan)	Low-price products	Low	low
Welcome	Island-wide	146 (15 in central Taiwan)	Fresh, convenience	Medium	Low
See-Mei	Central Taiwan	18	Low-price products	Low	Low
Chang-Buy	Central Taiwan	11	Low-price products	Low	Low
Ocean-line	Central Taiwan	15	Low-price products	Low	Low

Note: The number of chain stores shows the figures in year 2009.

gaining access to the skills and competencies the partner brings to the alliance (Baum, Calabrese, and Silverman, 2000). Therefore, alliances provide opportunities to create re-deployable knowledge. New knowledge, especially knowledge from outside the firm, can be an important stimulus for change and organizational improvement. In many cases, the best partner of a firm in an alliance is its strong competitor. Therefore, cooperation with competitor can enhance the competitiveness of a firm.

METHODOLOGY

Research setting

The Taiwan supermarket industry was selected as the research setting. The study investigated a strategic alliance led by a focal company - the Sinon Company in Taiwan supermarket industry. The Sinon Company was established in 1955 and has extended its business from a single business unit to multiple business units, including agricultural pesticide, fertilizer, plastics, cement business, distribution group, restaurant, information technology products, imported house-keeping product, life insurance and baseball team.

The distribution group is the leading business unit. The Taiwan Fresh Supermarket, which belongs to the distribution group, was started in 1988. The Taiwan Fresh Supermarket operates by a chain-store business model and currently owns forty-two chain stores which all locate in central Taiwan. The Taiwan Fresh Supermarket has characterized it's competitiveness as follows: (1) establishment of an agricultural pesticide residue test center, (2) establishment of a food processing center, which is qualified as the "Chinese agriculture standard (CAS) and Premium Food Processing Center". So far in Taiwan, this center is the largest food processing center with ISO- 9002 certification, (3) establishment of a large distribution center, (4) development of the Sinon-owned brand products, and (5) adoption of the Point of Sale (POS) system and Electronic Ordering System (EOS).

In central Taiwan, there are eight major companies with chain-store business model in the supermarket industry. Table 2 shows the overview of these companies. In addition, there are approximated of twenty hypermarkets and fifty grocery stores. The geographic proximity, combined with the density of chain stores, reveals highly intensive competition in the supermarket industry in central Taiwan.

In order to acquire competitive advantages, the Taiwan Fresh Supermarket has formed a strategic alliance with thirteen other companies. One of the alliance partners is the major competitor of Taiwan Fresh Supermarket, Px-Mart, which owns five hundreds and twenty-eight chain stores island-wide. In addition to the horizontal linkages with four competitors, the vertical linkages incorporate the strategic partners from various industries, such as, the Meat Product Association, the Supermarket Association, the Software Association, two Information Technology companies, the Sinon Catering Division, the Sinon Agricultural Pesticide Supply Center, the Sinon's suppliers, and the other two Japanese companies (the Zen-Nippon Shokuhin Co., Ltd. and the Retail Consulting Organization for Strategic Marketing and Operation Inc.). Figure 1 shows the alliance and its major partners. Through the study, it was observed that the Taiwan Fresh Supermarket collaborates with not only the horizontal partners (competitors) but also the other non-horizontal partners.

Data collection

In order to collect qualitative data, the study conducted an in-depth face- to-face interview with nineteen CEOs and top managers, one from each company in the alliance. Of them, two informants were from Japanese companies and twelve respondents were from Taiwanese companies. Table 3 lists the informants and their position titles from each company. A semi -structural questionnaire with both Chinese and Japanese language version was used to collect data. The questionnaire incorporated intellectual capital, cooperative strategies and cooperative performance measurements that were derived from both theoretical and practical perspectives.

RESULTS

Intellectual capital for cooperation

According to the conceptual categorization, the study classified intellectual capital as human capital,

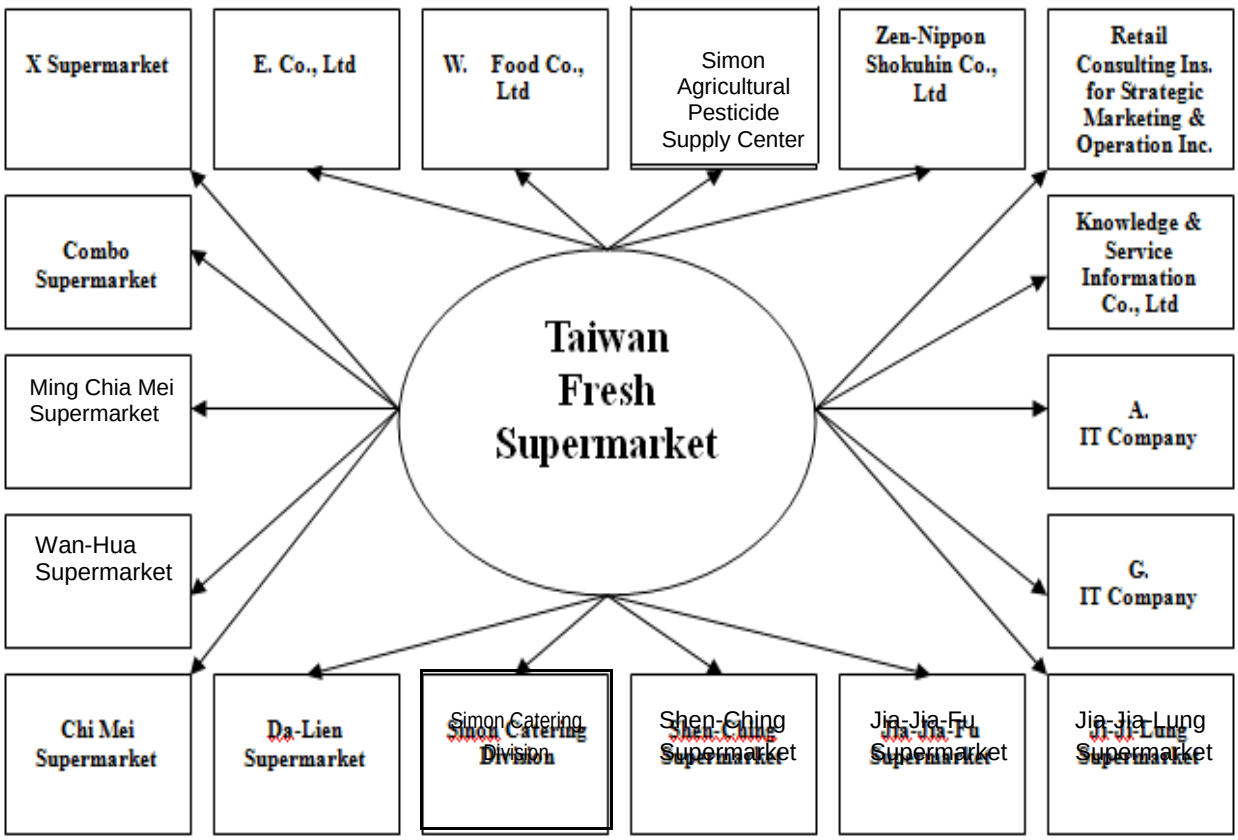

Figure 1. The alliances of Taiwan Fresh Supermarket.

organizational capital and relational capital. Based on the characteristics indigenous to the supermarket industry, the nineteen CEOs and top managers together identified the intellectual capital by various focuses, including production/procurement, marketing, distribution and delivery, chain store management, information technology, financial management, Human Resource Management (HRM), and Research and Development (R and D). Table 4 shows the detailed items of intellectual capital for cooperative strategies in the supermarket industry.

Key cooperative strategies and performance measurements

In the alliance, the nineteen CEOs together identified five key cooperative strategies, including co-procurement strategy, co-marketing strategy, co- distribution strategy, chain store co-management strategy and integrated information system The cooperative performance were measured and evaluated by these five key strategies. Performance indicators were categorized as quantitative and qualitative indicators. The quantitative performance was analyzed according to the financial and statistical reports, whereas the qualitative performance was evaluated through perceptual data ranging from 1 (lowest) to 7 (highest). In this study, the performance before and after the focal company joining the alliance were compared.

Co-procurement strategy and performance

The co-procurement strategy was employed by the alliance to enlarge the economy of scale in procurement and to control the purchasing costs and items. A co-procurement committee was formed and was composed of the representatives from the Taiwan Fresh Supermarket and its rival partners in the alliance. All the purchasing orders of alliance partners were collected and pooled through a shared information system. The committee, on behalf of the alliance members, negotiated with suppliers. All of the ordering items were delivered to the center, and were inspected and checked-in by the distribution center, which then transited to each alliance partners. In order to improve the efficiency as well as the effectiveness, the co-procurement committee has deliberatively selected 350 grocery suppliers and 100 fresh-food-product suppliers as the principle contractual suppliers. Figure 2 shows the elements of coprocurement

Table 3. Informants list.

Company	Position title
Taiwan Fresh Supermarket	CEO
Shen Ching Supermarket	Board chairman
Da-Lien Supermarket	CEO
Chi Mei Supermarket	General manager
X Supermarket	Vice CEO
Ji Ji Lung Supermarket	Store manager
Wan-Hua Supermarket	Store manager
Ming Chia Mei Supermarket	CEO
Sinon Catering Division	CEO
Combo Supermarket	CEO
Jia Jia Fu Supermarket	Board chairman
E. Corporation, Ltd (Supplier of Taiwan Fresh Supermarket)	General manager
W. Food Corporation, Ltd (Supplier of Taiwan Fresh Supermarket)	General manager
Sinon Agricultural Pesticide Supply Center	CEO
Knowledge & Service Information Co., Ltd	CEO
A. Information Technology Company	Vice chief of inspector
G. Information Technology Company	Group leader
Zen-Nippon Shokuhin Co., Ltd (Japan)	Minister
Retail Consulting Organization for Strategic Marketing & Operation Inc. (Japan)	Board director

Table 4. Intellectual capital for cooperative strategies in the supermarket industry.

Focus	Intellectual capital	
Production and procurement focus	Human IC	.Staffs' competences and attitudes in production and procurement
	Organizational IC	.Food processing center
		.Variety of fresh-food-product lines
		.Capability to access and purchase excellent-quality food materials.
		.Product (fresh foods) quality control (CAS, ISO-9002)
		.Cost control in production and procurement
	Relational IC	.Suppliers' network
		.Suppliers as strategic partners
		.Suppliers' relationship intensity
		.Direct contracts with farmers and fishers to supply fresh food products
Marketing focus	Human IC	.Staffs' competences and attitudes in marketing

Table 4. Contd.

	Organizational IC	.Reputation and image .Marketing expenses control .Marketing and promotion activities .DM design and press .Capability of increase customer visits .Customer intelligence and database
	Relational IC	.Customer members network .FSP(Frequency Shopping Program) .Public relations
Distribution and delivery focus	Human IC	.Staffs' competences and attitudes in distribution
	Organizational IC	.Distribution and delivery center .Company-owned transportation team .Cost control in distribution and delivery .The ability to distribute and delivery accurately and timely .The ability to shorten product turnover .The ability to decrease inventory costs
Chain store management focus	Human IC	.Chain store staffs' competences and attitudes .Employee productivity in chain store
	Organizational IC	.Training program for chain store staffs to open new stores .Increase in sales growth and sales profit .Cost control in chain store management .Purchasing Index (PI) monitoring system .24-hours opening .Home meal replacement services .Door-to-door delivery .Speed of register process .Safeguard plans for fire and emergency in chain store
Information technology Focus	Human IC	.IT staffs' technical competences and attitudes
	Organizational IC	.Automatically OPL (order point list) system .EOS (electronic ordering system) .EDI (electronic data information) system .ECR (efficient customer response) system .Expenditures reduction on hardware and software .Promotion activities via email system

Table 4. Contd.

	Relational IC	.Information exchange and connections with IT companies and associations .Suppliers connected via integrated information system
Financial management focus	Human IC	.Staffs' competences and attitudes in financial management
	Organizational IC	.Cash transaction system .Stagnant cash flow .Store operation budget
	Relational IC	.Relationships with financing institutions
HRM focus	Human IC	.HRM staffs' competences and attitudes
	Organizational IC	.Education and training routines and programs .Attraction and retention of high educated employees .Retention of senior employees .Well-trained staffs for opening new stores
R and D focus	Human IC	.Staffs' technical competences and attitudes in R&D
	Organizational IC	.Agricultural pesticide residue test center . Antibiotic and diazine test for fish and meat products .R and D in Brand-owned products .Merchandise curriculum vitae system
	Relational IC	.Relationships with R and D institutions

strategy.

Co-procurement strategy

Table 5 demonstrates the co-procurement performance. Due to the economy of scale in co-procurement, the average purchasing price decreased 0.3%, compared with the price before the Taiwan Fresh Supermarket joining the alliance. The figure also shows 0.1% decreased in average labor cost in procurement. The number of suppliers and the number of purchasing items all increased. Totally, the profit of co-procurement allocated from the alliance increased 2%. Moreover, the qualitative performance indicators show that the Taiwan Fresh Supermarket improved the standards in the formal procurement contract, which, in turn, makes the suppliers meet the demand of Taiwan Fresh Supermarket more effectively. As well, the Taiwan Fresh Supermarket got much more advantages from joining the alliance. For example, the Taiwan Fresh Supermarket gained more supports from its partners, possessed central position in the alliance, enhanced its competitiveness and created added values.

Co-marketing strategy and performance

The main purpose of co-marketing strategy was to provide variety of products and services for customers. The alliance members organized a co-marketing expertise team, which incorporated marketing experts from the Taiwan Fresh Supermarket and its major suppliers in the alliance. The co-marketing team is responsible for creating and initiating co-marketing campaigns, such as co-promotion plan, issue- related co-marketing, and DM design and press. Each marketing campaign will be announced to all the alliance members through a shared information system. Anyone who wants to join the campaign may sign up and report to the team. Then the team selects the promotion items and implements the

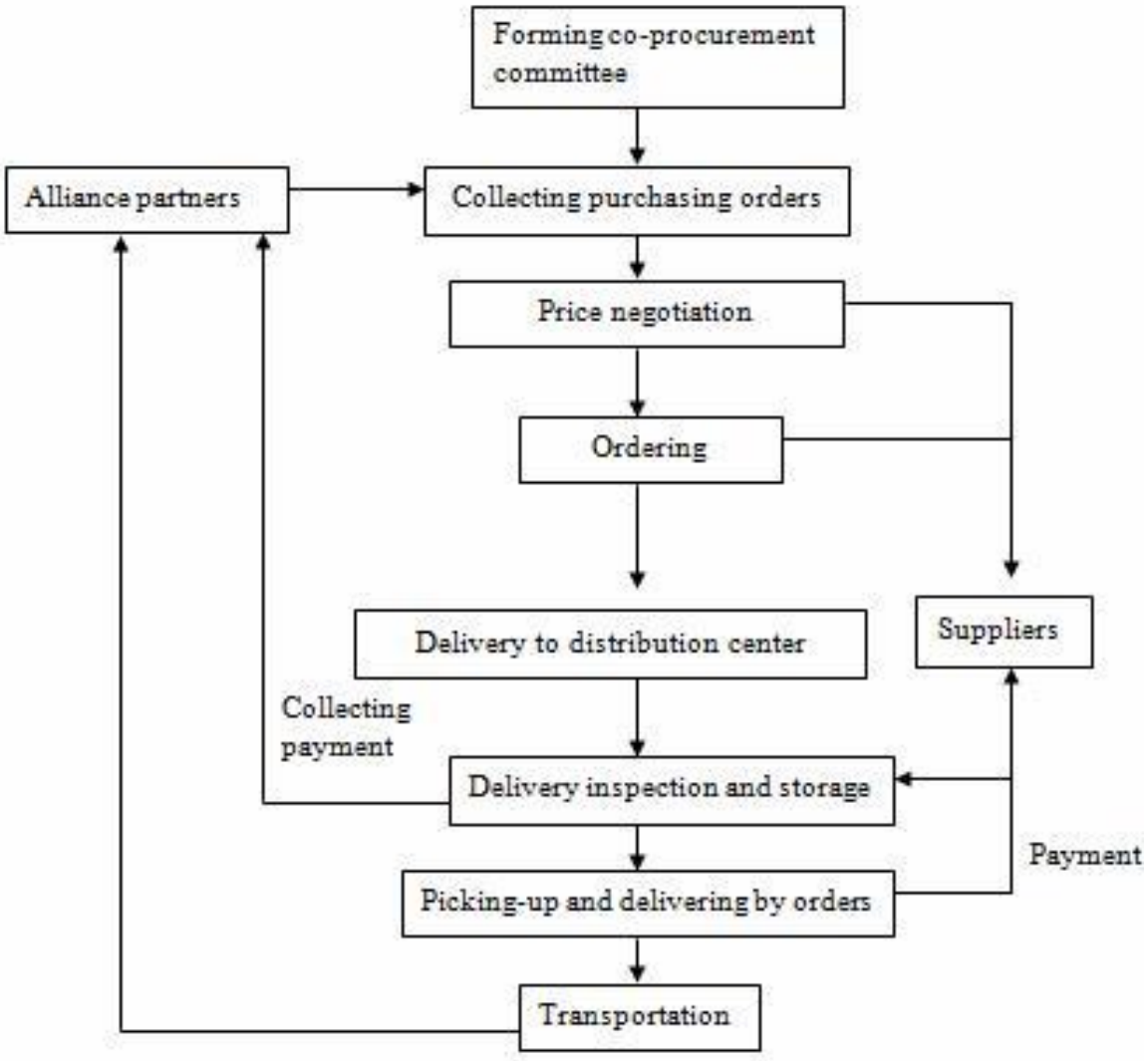

Figure 2. shows the elements of co-procurement strategy.

Table 5. Co-procurement performance.

Measurement indicators	Performance
Average purchasing price decreased (%)	0.3% decreased
Average labor cost decreased in procurement (%)	0.1% decreased
Number of suppliers (#)	20 suppliers increased
Number of purchasing items (#)	1,500 items increased
Co-procurement profit allocated from the alliance (%)	2% increased
The extent to which suppliers meet the focal company's demand	6-point
The extent to which the focal company improves the standards in the formal procurement contract	6-point
The extent to which the focal company gains supports in procurement operation from partners (especially the relevant associations in the alliance)	5-point
The extent to which the focal company possesses the central position in the	5-point
alliance The extent to which the focal company creates added values	6-point
The extent to which the focal company enhances the competitive advantage of the entire supply chain	6-point

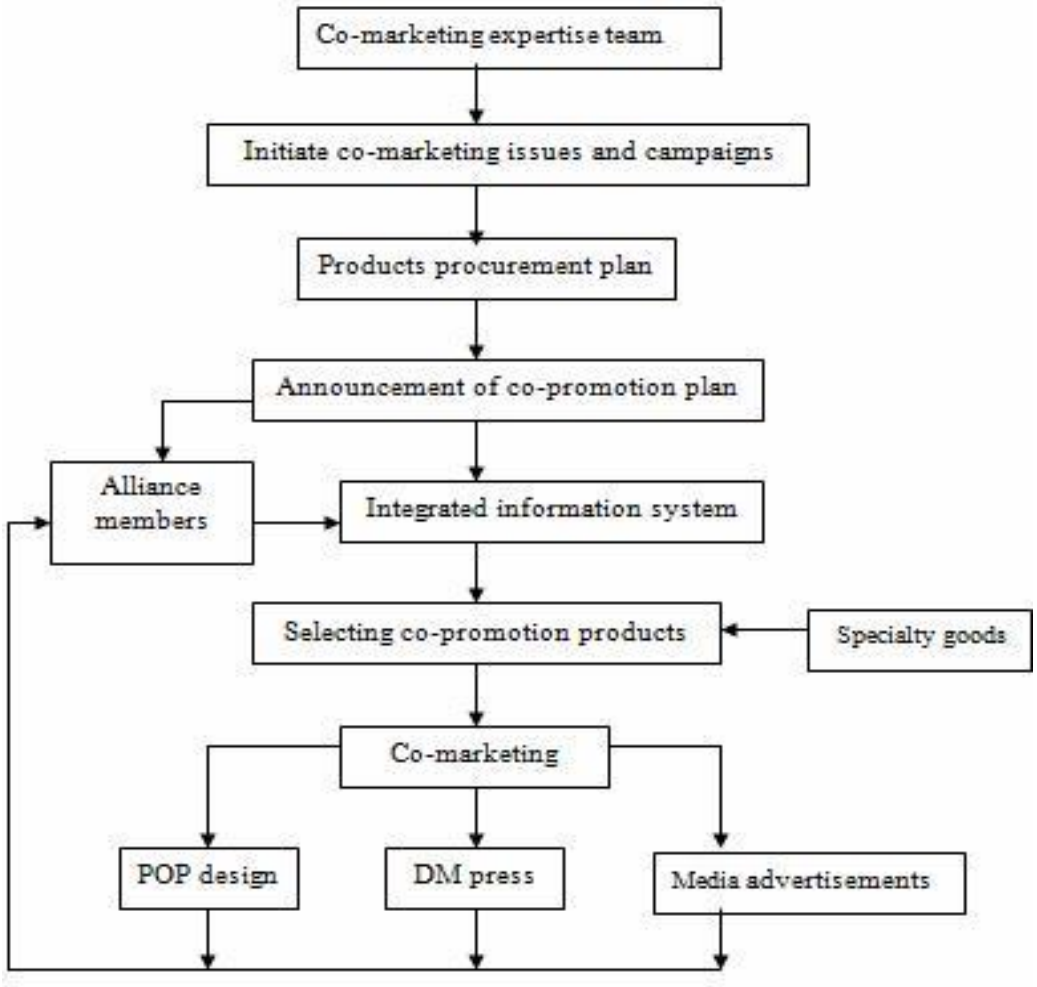

Figure 3. Co-marketing strategy.

Table 6. Co-marketing performance.

Measurement indicators	Performance
Number of customer visits	5% increased
Average purchasing amount per customer visit	2% increased
Average labor cost in marketing	0.2% decreased
Quick response to consumers' demand	6-point
Marketing promotion effectiveness	5-point
The extent to which the focal company increases the promotion frequency	6-point
The extent to which the focal company improves in product lines and product mix	6-point
The extent to which the focal company enhance its public relations	5-point

co-marketing activities, including Point of Purchase (POP)design, DM press, and media advertisements. Figure 3 shows the elements of co-marketing strategy.

Table 6 shows the co- marketing performance. As the quantitative performance can be seen before and after the Taiwan Fresh Supermarket joining the alliance, the performance in co-marketing reveals that the number of customer visits increased 5%, average purchasing amount per customer visit increased 2%, and the average labor cost in marketing decreased 0.2%. In addition, the qualitative performance shows that the Taiwan Fresh Supermarket improved its ability in quick response to customers' demand and enhanced its public relations. The marketing promotion frequency and

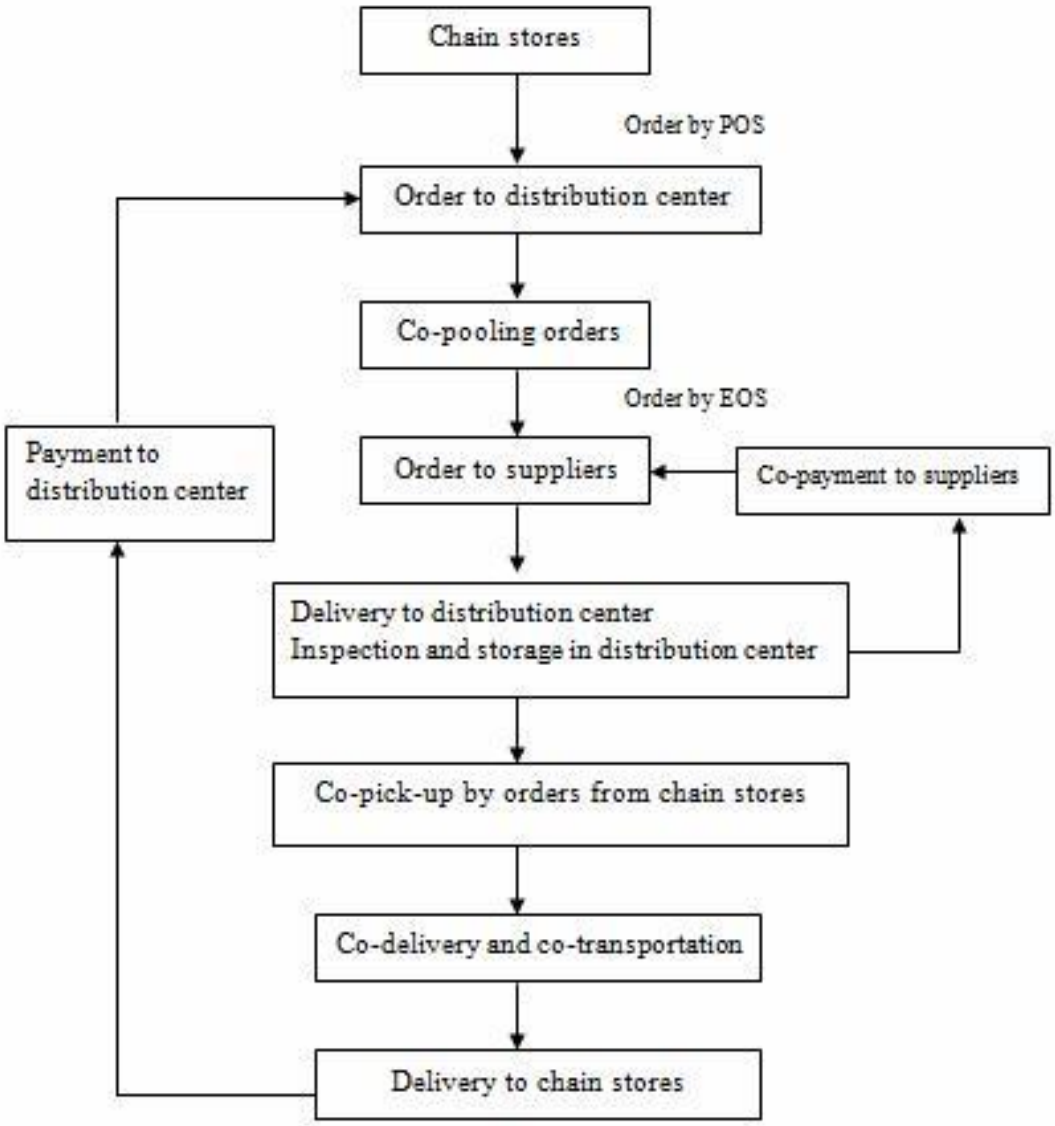

Figure 4. Co-distribution strategy.

effectiveness were all elevated.

Co-distribution strategy and performance

The Taiwan Fresh Supermarket invested in establishment of its own distribution center. Alliance partners joined the co-distribution for costs reduction, enlargement in economy of scale, and simplifying the process in distribution, delivery and transportation. All the chain stores ordered directly to the distribution center by POS system. Then the center pooled and ordered to suppliers by EOS. Packages with ordering items were delivered, inspected and checked-in directly to the distribution center, which then distributed and transported to chain stores. The distribution center delivered at least four times per day.

The chain stores of alliance partners have benefited from timely delivery, product turnover shortening, inventory costs reduction, ordering costs reduction and transportation costs reduction. Figure 4 shows the elements of co-distribution strategy. The co-distribution performance is shown in Table 7. The quantitative performance in co-distribution demonstrates the significant inventory costs reduction as 20%. This is benefited from the timely and standardized ordering system. As well, due to the enlargement of economy of scale in distribution, the company saved 3% in distribution and delivery costs and shortened product turnover as 2 days. In addition, the qualitative performance shows that the Taiwan Fresh Supermarket established its own food-processing center, distribution center, transportation team, which, in turn, enlarge the economy of scale in food processing,

Table 7. Co-distribution performance.

Measurement indicators	Performance
Inventory cost reduction	20% decreased
Distribution and delivery cost reduction	3% decreases
Product turnover rate	2 days shortened
Sales price decreased through negotiation with suppliers based on cost pricing	2% decreased
Effectiveness of separation distribution costs from purchasing costs	6-point
Standardized ordering system	6-point
Efficiency in quality control and inspection	6-point
Establishment and efficiency in the Sinon-owned transportation team and in food-processing center	6-point
Adoption of shared vehicle with multi-distribution delivery	6-point
Effectiveness of vendor concentration	6-point
Efficiency in ordering, procurement, distribution, and accounting procedure	6-point
Adoption of wireless remote terminator in picking-up system	Yes
Adoption of basket cart in uploading, downloading, and storage system	Yes

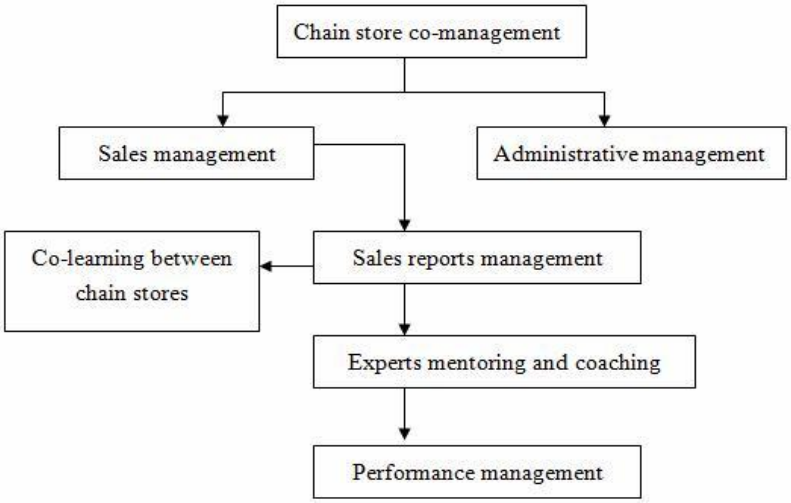

Figure 5. Chain store co-management strategy.

distribution and delivery. Moreover, the efficiency in ordering, inspection, picking-up, storage and accounting system were all improved through the co-distribution strategy.

Chain store co-management strategy and performance

The purposes of this strategy were set to decrease chain store costs, to increase sales profits and growth rate, to improve product layout and management, and to enhance chain store staffs' capabilities. The chain store co-management strategy was led by an expertise team. The alliance partners recommended senior staffs and experts who are well-experienced and professionals in chain store management. The co-management team was formed to increase the sales capability and to facilitate the co- learning atmosphere between and among chain stores. The team members are responsible for mentoring and coaching various kinds of chain store activities and plans, such as, chain store plan, merchandise display system, commercialized skills, promotion activities, customer service training, customer complaint resolution and performance evaluation.

The chain store co-management strategy includes sales management and administrative management. The former focuses on monitoring and follow-up in sales-related fiscal reports. The latter focuses on human resources development and training. In addition, several programs were implemented by the co-management team, such as, the safeguard plan, the motivation and compensation plan, and the efficient improvement program to decrease the ratio of lack-of-products and to increase customer visits. Figure 5 shows the elements of chain store co-management strategy.

Table 8. Chain store co-management performance.

Measurement indicators	Performance
Sales gross profit	0.7% increased
Sales growth rate	2.2% increased
Number of customer visits	3% increased
Growth rate of average purchasing amount per customer	2% increased
Attainment rate of sales target	5% increased
Chain store operating costs	10% decreased
Chain store average labor costs	0.2% decreased
Chain store utility and maintenance costs	15% decreased
Product turnover rate	2 days shortened
Expired products and default rate	50% decreased
Product returned Rate	15% decreased
Lost and stolen product rate	0.1% decreased
Percentage of fresh-food-product sales	5% increased
Discount rate	0.5% decreased
Ratio of waste-products	0.5% decreased
Ratio of lack-of-products	10% decreased
Employee productivity	5% increased per person
Number of trained staffs for opening new stores	30 persons
Qualified rate of employee's examination in service manner and professional capability	20% increased

The chain store co-management performance is shown in Table 8. As can be seen, the sales gross profit, sales growth rate, and the number of customer visits were all increased after the Taiwan Fresh Supermarket adopted the chain store co-management strategy. The operating costs, labor costs, and utility and maintenance costs for chain store management were all reduced. In addition, the expired products and default rate shows a significant 50% decrease and the product returned rate shows as 15% decreased. Moreover, the employee productivity increased 5% per person. Also, employees' service manner and professional capability were all enhanced by the co-training and co-education programs.

Integrated information system strategy and performance

Established by the Taiwan Fresh Supermarket, the integrated information system was technically supported by the Software Association and the other IT companies in the alliance. All of the alliance members shared with the integrated information system to efficiently manage some co-programs, such as, product barcode management, sales reports management, co- promotion campaign announcement, ordering system, payment system, product items management, and merchandise displaying space management. Due to the shared information system, alliance members can not only control the expenditures of hardware and software, but also access the information timely and accurately. Table 9 shows the integrated information system performance. The quantitative performance reveals a significant save of 30% in expenditures of hardware and software. Product turnover rate was shortened 2 days. Number of consumer complaints also significantly decreased 30%. To share with relevant information, total 350 cooperative firms connected with the Taiwan Fresh Supermarket through integrated information system. Benefiting from the efficiency of this system, the Taiwan Fresh Super-market is able to reach more customers through emails for promotion. In addition, the qualitative performance shows that the Taiwan Fresh Supermarket improved its application and standardization in information intelligence. The Taiwan Fresh Supermarket was also satisfied with the information exchange frequency with partners, especially the information exchange with the Software Association and other two information technology companies in the alliance. Moreover, the integrated information system made the Taiwan Fresh Supermarket more satisfactions with its Management Information System (MIS), Electronic Data Information (EDI), EOS and Efficient Customer Response (ECR) system.

Conclusions

Scholars do emphasize the importance of intellectual capital for value creation (for example, Roos abd Roos, 1997; Nahpaiet and Ghoshal, 1998; Roos et al., 2001; Marr et al., 2003, 2004). As well, some scholars do

Table 9. Integrated information system performance.

Measurement indicators	Performance
Expenditures of hardware and software	30% decreased
Product turnover rate	2 days shortened
Number of consumer complaints	30% decreased
Successful scanning rate of POS system	99%
Number of cooperative firms connected with the focal company via the integrated information system	350
Number of emails sending to customers for promotion information	1000 emails per month
The extent to which the focal company improves its application and standardization in information intelligence	6-point
The extent to which the focal company is satisfied with the information exchange frequency with partners	6-point
The extent to which the focal company is satisfied with the efficiency in MIS The	6-point
extent to which the focal company is satisfied with the exchange rate of EDI	6-point
The extent to which the focal company is satisfied with the transaction amounts of EOS	6-point
The extent to which the focal company is satisfied with the efficiency in ECR system	6-point

recognize the strategic alliance as a critical source of knowledge and valuable resources for generating better performance (for example, Levinson and Asahi, 1995; Brandenburger and Nalebuff, 1996; Lado et al., 1997; Das and Teng, 2000; Baum Calabrese and Silverman, 2000; Tsai, 2002; Kotabe et al., 2003; Madhavan, Gnyawali and He, 2004; Inkpen and Tsang, 2005). By investigating a focal company and its strategic alliance in Taiwan, the study found that cooperation either with a complementary partner or with a rival firm, did benefit from cooperative strategies. More importantly, the cooperative strategies need to be grounded in intellectual capital to perform cooperative value. In this practice-oriented study, nineteen CEOs and top managers, one from each company in the alliance, have together defined five key cooperative strategies. The necessary intellectual capital and critical cooperative performance indicators were demonstrated. From a practical perspective, findings from the study provide a reference for executives to understand the benefits from collaboration with competitors and to gauge cooperative performance, as far as the strategic alliance is concerned. Meanwhile, it is hope that this study did contribute a more complete exploration of intellectual capital, cooperative strategy and performance measurement in practice as well as in research.

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