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# The Relationship Between Supply Chain Management and Keiretsu

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The Supply Chain Management (SCM) concept has received much attention as a method for achieving improved customer service, better inventory management, and better overall channel management. Keiretsu, a type of Japanese business network shares many of the goals of SCM, yet is implemented much differently. This paper explores the similarities and differences between SCM and Keiretsu approaches. It also discusses broad changes that are required to make SCM a more viable competitive alternative among western firms.

Supply chain management has been receiving increased attention in the popular and academic literature as a means of improving customer service, reducing costs, and speeding time to market [1,2,3,4,5,6,7].

Supply chain management is an approach whereby the entire network - from suppliers through to the ultimate customers, is analyzed and managed in order to achieve the "best" outcome for the whole system. This comprehensive approach includes analyzing the level and location of supply chain inventories, managing information flows throughout the channel, and coordinating efforts to best meet the customer's needs. This is very different from traditional approaches in the U.S. and most other parts of the world, where individual functions try to optimize their results.

Increasingly today, the firm may try to optimize their results for the firm as a whole by specifically analyzing and managing the tradeoffs among internal functions. On the other hand, supply chain management goes beyond functional integration, to look at the integration of the entire network, or supply chain.

The concept of supply chain management is emerging, but is still relatively rare in an integrative, mature form.

When firms begin to implement a supply chain management philosophy, they may begin by managing various levels of the supply chain slowly, rather than attempting to influence all levels simultaneously [8,9,10]. Thus, like most change, the movement toward SCM is evolutionary, rather than revolutionary. Supply chain management has been characterized as a cross between traditional, open market relationships and full vertical integration [2,3,9,10]. As such, supply chain management represents an innovative way to compete in today's ever changing global economy.

Yet the concept of managing the entire supply chain is not a new one. It has been practiced for years in the retail sector, by powerful retailers such as Sears, and more recently Wal-Mart, K-Mart and Target. Supply chain management concepts are practiced via ownership in vertically integrated firms, such as General Motors early in its development [11]. Many aspects of supply chain management are referred to in the marketing literature as "vertical marketing systems" [12]. Supply chain management concepts are also being practiced by the Japanese via keiretsu relationships. Keiretsu are a complex web of

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interlocking relationships, many of which include equity interests.

Keiretsu have often been touted as a key reason for Japan's tremendous success in global competition [8,13]. The purposes of this paper are to:

1. Define and briefly describe keiretsu.
2. Compare and contrast keiretsu and supply chain management characteristics.
3. Discuss the current and future potential for supply chain management in competition, including barriers which prevent the growth of supply chain management.

### Keiretsu and SCM

This section of the paper begins with a brief explanation of keiretsu, followed by a discussion of the similarities between keiretsu and supply chain management. Differences between keiretsu and supply chain management are then explored.

### Keiretsu Defined

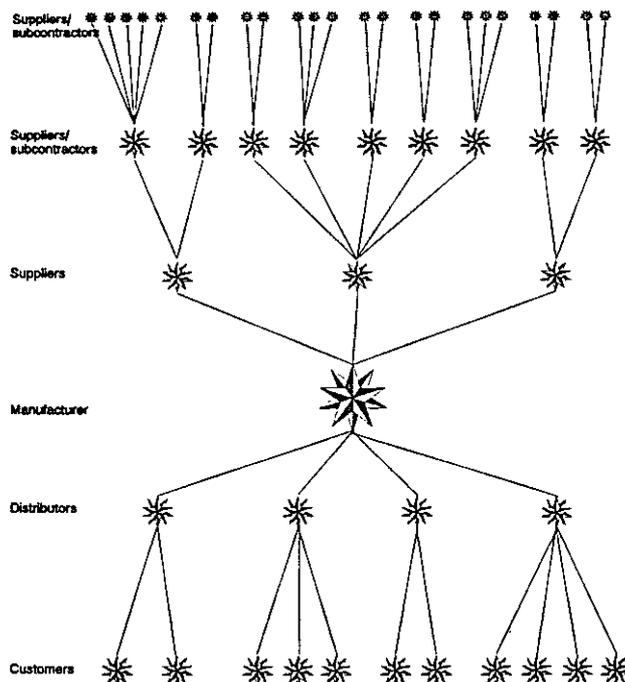
Keiretsu is a term used to describe Japanese business consortia which rely on cooperation, coordination, and joint

ownership and control to competitively position businesses and industries. While keiretsu are an organizational form, they also represent a methodology, a unique "Japanese way" of competing, which reflects Japan's culture, economic philosophy and industrial organization [14]. There are two basic types of keiretsu: (1) finance or banking and (2) supply.

The finance keiretsu provide low-cost capital to those firms with whom they are interlinked. Finance or bank keiretsu are networks of 20 to 45 major companies which all own a share of one another. These networks, centered around a bank, are more "horizontal" in nature. They share risk and focus on long-term planning, allocating capital to the most promising and strategic industries [15]. The supply keiretsu are networks of firms linked along the supply chain and led by a major manufacturer (see Figure 1). The CEO's of related companies meet regularly to discuss long-term strategy. These CEO's in turn meet with CEO's of smaller, but related customer and supplier firms, and so on to discuss strategy [16]. This paper will focus on supply keiretsu, because they are vertically joined like supply chain systems.

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**Figure 1**  
**Simplified Supply Keiretsu Structure**



Many of the keiretsu members own equity interests in each other. Further, many of the keiretsu member firms have common board members, providing additional control and unity of the keiretsu strategy. This process is known as interlocking directorates. Some of the benefits of this type of close, interwoven operation are risk reduction, security in operations through closed communication, joint ownership, and long-term commitment and vision [15,17].

*There appears to be a clear, power-based leadership structure in supply keiretsu.*

There appears to be a clear, power-based leadership structure in supply keiretsu. A large manufacturing firm has a group of core suppliers. These suppliers in turn distribute their work among many very small subcontractors. The major manufacturers at central levels in the supply keiretsu dictate the actions of the smaller suppliers in terms of price, quality, delivery, and may even control with whom they may conduct business [8,15,17]. These smaller suppliers in turn exercise a great deal of control over their subcontractors. There may be a very large number of small subcontractors. One well known and often cited example of a supply keiretsu is Toyota. Toyota has a substantial stake, and often direct control in its key suppliers. For example, Toyota owns 19% of Koito, their lighting supplier, 23% of Nippondenso, their electronic supplier, 21%

of Aichi Steel Works, 34% of Kyowa, their upholstery supplier, and 30% of Tokai Rika, their seat belt and switch supplier [18]. This is just a sampling of Toyota's vertical linkage. These linkages provide Toyota with a great deal of control, continuity and market power.

### Similarities Between SCM and Keiretsu

There are many similarities between SCM and keiretsu as indicated in Table 1. The elements explored in this section are based on a model developed by Cooper and Ellram [19]. In order for either SCM or keiretsu to be effective, a long-term strategy is required. Further, both approaches are characterized by mutual sharing of information, coupled with joint planning and development involving multiple levels both within the firm and in the supply chain. In addition, SCM and supply keiretsu require compatible philosophies among member firms, a reduced network of participants in the chain, and strong leadership to provide overall direction. The sharing of risks and rewards helps solidify the relationship, which seeks to increase the speed of operations while improving information and inventory flows. Each of these characteristics will be discussed in more detail below.

| Element  | Perspective   |
|--|---|
| Time Horizon   | Long-term   |
| Information Sharing and Monitoring                   | Critical to support long-term perspective                                 |
| Coordination of Multiple Levels in the Channel       | Critical to achieve benefits such as inventory reduction, other synergies |
| Joint Planning                                       | Required to support long-term coordination                                |
| Compatible Corporate Philosophies                    | Important for long-term coordination                                      |
| Reduced Supplier Base                                | Required for coordination, management and economies                       |
| Channel Leadership                                   | Required to coordinate efforts, provide direction                         |
| Sharing of Risks and Rewards                         | Helps strengthen relationship, builds trust and commitment                |
| Speed of Operations, Information and Inventory flows | Major goals of the system   |

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## Long-Term Orientation

Keiretsu are by nature a long-term proposition. The formation of keiretsu was encouraged by the Japanese government after World War II as a way to pre-empt the entry of foreign competition, while strategically positioning Japan's limited resources in key industries [15,20]. Keiretsu represent a major commitment of assets by a large number of firms to a specific business or industry. Similarly, SCM requires a long-term orientation to allow for formation and development of the supply chain, and to implement and execute competitive strategies within the supply chain.

## Information Sharing and Joint Planning

Due to the long-term orientation of the keiretsu, information is shared freely to promote the long-term health of the entire keiretsu. This information sharing includes sales, production schedules, new technology and long-term planning [21,22]. This concept of trust and information sharing has often been difficult for U.S. and other western and some eastern firms to master, due to cultural biases toward strong competition at many levels in business. However, if a SCM relationship is to succeed, there must be some degree of openness of information sharing and planning, to allow SCM members to anticipate the others' needs, and to properly plan and execute their own supporting strategy.

## Coordination Among Multiple Levels in the Firm and in The Supply Chain

By definition, keiretsu involve multiple levels in the supply chain, including customers, distributors, suppliers, and suppliers' suppliers. Similarly, multiple levels of employees within the firms participating in a keiretsu make contact with their counterparts at other keiretsu member firms to coordinate strategy, production, technology, distribution, and delivery. This approach is also required if a SCM system is to operate effectively as a team, maximizing the outcome for the whole team or chain, rather than the individual players.

Since many firms have been compartmentalized by function, this coordination within the firm, let alone outside of the firm, can be a very challenging

cultural change. Japanese firms encourage internal coordination in their physical structuring. There tend to be fewer walls and closed offices, promoting a physical openness, and an ability to know and see what others in the firm are doing. Thus, access to people in different functions and at different levels within the firm may be facilitated by Japanese firms.

## Compatible Philosophies

Due to their close working relationships and joint ownership and control, keiretsu members must have compatible corporate philosophies in order to function smoothly. For example, if the keiretsu leader is focusing strategy in a certain direction, such as expanding in Asian markets, the other keiretsu members must follow suit in order for the system to operate effectively. If that means inventory and cycle time reduction through JIT deliveries, other keiretsu members must be able to support these goals.

One might fear that common ownership could lead to complacency by suppliers feeling that they have a captive customer. However, that does not appear to be the case. If a keiretsu member becomes uncompetitive and cannot be "turned around," that member will be dropped from the keiretsu [8,15].

Similarly, SCM system members must share a common or at least congruent philosophy, such as continuous improvement, cycle time reduction, customer service orientation, and so on, to prevent conflicts and keep the chain moving in a common direction. Without common philosophies, the links in the chain will break down.

## Reduced Supplier Base

Keiretsu have a limited network of primary suppliers and distributors. These primary suppliers in turn direct and control the efforts of their suppliers/subcontractors. Thus, families of suppliers/subcontractors are managed by the supplier one level upstream, rather than directly by the firm leading the keiretsu. A reduction in the number of parties to be managed in the supply chain is very important for coordination, communication and risk sharing. Likewise, it is impossible to effectively manage and direct a supply chain with a very large member network. Coordination and communication become very time consuming and costly.

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## Leadership

Keiretsu are characterized by a strong, central leader, and a limited network of parties with whom the keiretsu participants conduct business. The leadership is important for providing overall direction, control, and a common vision to the keiretsu. In addition, the nature of the interlocking directorates, which is common at keiretsu member firms, reinforces the strong central leadership and control of keiretsu.

SCM likewise needs central leadership, a firm or team of firms which coordinates the overall strategy of the supply chain, and provides direction and control. Without such a vision, the supply chain will lack the focus and direction needed to be successful.

## Sharing of Risks and Rewards

Inherent in the keiretsu structure is the sharing of risks and rewards. As in the Toyota illustration, keiretsu members very frequently own large or small equity interests in other keiretsu members. Thus, they are financially tied beyond the bounds of an ordinary business relationship. If one does well financially, the other "owners" all benefit directly. In addition, they may benefit from sharing investments in the network or assets, and sharing related profits. While the manufacturers who lead the keiretsu may squeeze their suppliers' and contractors' profits, those who cooperate are rewarded by volume stability [15]. Much of the literature indicates that the manner and level of sharing is determined rather autocratically by the keiretsu. For example, when economic times get tough, keiretsu leaders simply "squeeze" their suppliers for price cuts, or drop them abruptly when volume demands decrease [8,15].

It is less common for supply chain members to share risks and rewards through equity ownership. They generally share risks and rewards through investments in joint assets to improve supply chain efficiency, such as EDI and bar coding systems, and shifting of inventory ownership and management. Further, supply chain participants may be rewarded by increased volume, and/or volume stability. Without common ownership, the risk and reward sharing is determined by negotiation and mutual agreement, based on relative power and market conditions.

## Speed of Operations

One of the goals of keiretsu is to speed up the operation of the channel. Speed is viewed in two ways. First, keiretsu strive to reduce their new product development cycle time through target costing, and getting keiretsu members involved in long-term planning for new products. This includes supplier involvement in design and development. Second, keiretsu reduce time to market through information sharing, strategic placement of inventory, and improved coordination.

Similarly, supply chain management systems strive to reduce time to market. This is accomplished by exchanging information rapidly, via EDI, and via improved communications and information sharing for inventory control. Based on the literature, it does not appear to be as common for supply chain management networks to increase speed to market through joint new product design and development [1,4,5,6,7,9]. However, the potential does exist for this joint development activity.

## Differences Between SCM and Keiretsu

The above discussion focused on the many similarities between SCM and keiretsu, and the slight nuances between these two competitive forms. However, there are also some fundamental differences which exist, as listed in Table 2. SCM and keiretsu have much different historical and cultural underpinnings and philosophies. SCM provides less control and participation is voluntary. There tends to be less commitment, less dependence, and less strategic coordination in a SCM versus keiretsu network. Further, there is greater security in information sharing in keiretsu. Each of these differences is discussed in greater detail below.

## Cultural Differences

Keiretsu and SCM systems have much different roots in development. As mentioned earlier, keiretsu were institutionalized after Japan's devastation in WWII. They were seen as a powerful tool to help strengthen Japan's economy and overall competitiveness. But the concept predates WWII. Only around 100 years ago, Japan had a feudal system.

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**Table 2**  
**Differences Between Supply Chain Management and Keiretsu**

| Element                           | Supply Chain   | Keiretsu  |
|-----------------------------------|--|---|
| Cultural roots                    | Counter to traditional western competition, driven by economic necessity | Congruent with traditional business relationships |
| Control                           | Less   | More  |
| Participation                     | Voluntary  | Ownership interest is common                      |
| Dependence                        | Less Commitment  | More dependent                                    |
| Strategic coordination            | Relatively low   | High  |
| Security of strategic information | More difficult to keep secret, control                                   | More secretive, controlled                        |

Like keiretsu, this system was dominated by a central force. In the feudal system, it was one man with ultimate power and control, a vertical hierarchy much like a keiretsu [8,14].

After the feudal period but before WWII, the Zaibatsu took control of Japanese industry. These were huge manufacturers. Like keiretsu, they were members of industrial groups which worked together to achieve competitive dominance [8,14,15]. Encouraged by the Japanese government after WWII, keiretsu are a natural extension of Japan's competitive order.

This history is in sharp contrast to the way in which businesses have developed and operate today in most parts of the western world. In the United States, strong competition among firms within an industry has been the norm. Competition has been encouraged through legislation which prohibits competitive collaboration which could restrain trade. Western governments do not have nearly as much direct involvement in business as does the Japanese government. Further, competition among a firm's suppliers has long been considered essential to keep suppliers vital and proactive in cost control and other improvements. Rugged individualism and survival of the fittest have been strong western business ethics. Thus, the idea of cooperating and collaborating come much more slowly, with a high degree of difficulty. The concept of putting a firm's fate in the hands of a central control to plan the future, programs, and so on is unthinkable. Yet, that is what keiretsu systems entail. Most western firms value their autonomy far too much. Thus, a tightly

controlled, keiretsu-like system will likely not become common-place outside of Japan.

#### **Less Control and Voluntary Participation**

As discussed above, participation in a keiretsu is generally not a matter of choice. Due to interlocking directorates and top management control a firm participates by ownership control rather than by negotiating the relationship in the free market. Once a firm or subcontractor becomes part of a keiretsu, "...it has lost its freedom" [8, p. 40]. Loyalty is expected and the firm generally will not be permitted to do business outside of the keiretsu. In SCM systems, company participation is more or less voluntary; firms must be persuaded to join and cooperate in a SCM system based on the benefits that such a system can offer them versus not participating in a SCM. For example, major manufacturers such as Sara Lee, Kodak, and others cooperate with retail chains like Wal-Mart and Target for a variety of reasons. One major reason is that with the cooperation of the retailers, manufacturers get better product promotion, shelf placement, and visibility. Thus, while cooperation may not be mandatory, it may provide some strong incentives. Further, these firms have many other customers. It would be a violation of U.S. anti-trust law to disallow suppliers from having other customers.

#### **Less Commitment and Dependence**

Many suppliers in keiretsu systems are totally dependent upon one customer for business: a single customer situation. The

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customer also may have a single or a limited number of first tier suppliers for the item that the supplier provides. Thus, there is a strong mutual dependence. The sales would not be easily replaced, nor would the purchased item be readily substituted by the customer. The commitment extends further than joint ownership, so that the firm's financial destinies are tied on an equity level. The dependence and commitment is further reinforced by the joint management and control of interlocking directorates, and the long time tradition of sharing long-term strategies and plans.

In a SCM system, there tends to be less commitment and dependence because, while the size of the supply chain network is reduced, there may still be multiple members performing the same or very similar functions. Beyond that, even in a situation where the SCM system consists primarily of single sources, there is less dependence and commitment than in a keiretsu due to the lack of equity ownership and, in most cases, interlocking directorates. Further, few suppliers have one customer upon which they are totally dependent for business. In keiretsu, which are supported by many small subcontractors, most of the small subcontractors have only one customer. Thus, the suppliers are more dependent than the keiretsu leader.

#### **Less Strategic Coordination**

At the heart of the success of the keiretsu system is on-going strategic coordination of the key players within the system. Because many keiretsu have existed since the early 1950s, they have had long standing relationships which allow them to develop strong group cultures, expectations, linkages and operating protocol. Such coordination allows for concurrent engineering which in turn allows the Japanese to get their products to market more rapidly than other nations, at highly competitive prices [8,21,22].

The concept of concurrent engineering, getting suppliers and other supply chain management members involved in strategy at its inception rather than informing them of decisions later, is very difficult for non-Japanese firms to grasp. Concurrent engineering violates many cultural issues and requires a high level of trust [22,23]. Yet,

without such involvement, SCM systems will not be able to reach their full potential in terms of technological innovation, inventory and cycle time reduction, and overall improved efficiency and coordination.

#### **Security of Information Sharing**

Keiretsu enjoy greater security in information sharing due to their structure. The nature of the interlocking directorates allows strategic information to be passed among keiretsu members in their secretive meetings [8,16,22]. The nature of this process and structure limits leaks of proprietary trade and strategic information not possible in other management structures such as SCM for two reasons: 1) Most boards of directors do not share common management; and, 2) Secret meetings of board members are illegal. In western firms, board meetings must be open, or at least have minutes to provide proper disclosure to stockholders.

#### **The Future Role of SCM in Competition: Changes Required to Make SCM More Effective**

The supply chain management approach should improve the competitive positions of the member firms in that supply chain management creates a competitive unit that spans critical channel functions. Clearly, keiretsu have proven successful in global competition. A recent study indicated that while keiretsu members tend to have lower profits than non-keiretsu members, they enjoy more stability in profits and growth [15]. This stability allows them to be more futuristic in terms of planning strategy, investment, and research and development. In turn, the investment and new product development allows them to continue to be strong and successful on a global scale.

#### **Beneficial Aspects of SCM**

The previous discussion was not intended to portray keiretsu as superior to SCM in every way. There are some features of SCM which can provide competitive advantages versus keiretsu. Further, cultural and legal barriers will likely limit the widespread growth of keiretsu outside of Japan.

One advantage of SCM is that participation is strictly voluntary. This fits

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western culture and legal systems. Further, it provides continued pressure to perform and seek mutual benefits. Parties have much freedom to enter and exit a SCM arrangement, unlike keiretsu [8].

Since SCM members generally have more than one customer, the suppliers are not at the mercy of the next level in the SCM system. While there may be power differentials, it is less absolute than in a keiretsu system. This has been cited as a reason that keiretsu systems may be weakening [8]. The multiplicity of relationships outside the supply chain creates more flexibility. As SCM members do business with parties external to the supply chain, much learning can occur. This may spur innovation, and provide an external incentive or sense of urgency to remain competitive. The entire industry, and ultimately the consumer may benefit from high levels of competition and innovation.

What is required for supply chain management to provide benefits similar to keiretsu? Several changes would be required as listed in Table 3. First there is the interpretation and enforcement of anti-trust laws. Second, and perhaps most important, is the adaptation of Western/U.S. culture to a more cooperative, long-term atmosphere as opposed to the competitive attitude often characteristic of channel member interactions. Third, there is a need to shift from an output to a process orientation. Finally, there is a need for rapid, accurate flow of information throughout the channel.

### **Predictable Enforcement/Interpretation of Anti-Trust Laws**

In the United States, anti-trust laws have not changed significantly for decades. However, the enforcement and interpretation

of those statutes has varied considerably among administrations. Uneven enforcement creates uncertainty in the competitive environment. Firms hesitate to concentrate their assets and form strong ties with other companies for fear of future repercussions.

For supply chains to remain competitive, some broad changes are recommended. Some changes are specific to the U.S. The U.S. has already seen the effects of government-forced dissolution of the U.S. telephone system. This opened up the market to foreign telephone companies who enjoy government backing or at least benevolent government attitudes. British Telecom and France Telecom are examples. These firms have continued to grow in their own markets and to expand while the Baby Bells have been fighting over market share and rebuilding their infrastructures. Japanese culture has a much different view of anti-trust matters than the United States. This is illustrated by the role and existence of the Japanese Ministry of International Trade and Industry (MITI). This governmental body plans a key role in working with businesses to help determine which sectors Japanese companies should focus on, establishing long term plans for industries, and providing a legal and financial structure which is very conducive to growth of those "chosen" industries on a global scale. Bringing industry leaders together to discuss competitive strategy is certainly in contrast to U.S. policy.

In the United States, one of the key roles of government in business has been to make U.S. businesses domestically competitive. One of the key acts in this area, the Sherman Act of 1890, prohibits any "combination, conspiracy or collusion" in restraint of trade. Thus, with the formation of

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**Table 3**  
**Changes to Make Supply Chain Management More Effective**

Predictable Enforcement and Interpretation of Anti-Trust Laws  
Change in Western Management Philosophy  
Process Orientation  
Channel-Wide Changes

***While there is nothing inherently wrong with a results orientation, traditional western management philosophy tends to focus on output without placing commensurate emphasis on the methods which produce that output.***

the Federal Trade Commission, the United States government has been much more concerned with "policing" industry, than with setting industrial strategy and targeting global growth opportunities. The keiretsu system incorporates banks and governmental agencies in its umbrella of supporters. Thus, keiretsu have been able to be more globally competitive, with financial backing to support expansion, while western firms fall behind. Without the assurance of consistent enforcement of antitrust laws, close SCM linkages will be risky, and "forbidden" by the legal departments of many U.S. firms.

In SCM systems there are notable exceptions to the idea of less commitment and dependence due to the lack of equity interest such as keiretsu. One example is Ford Motor Company. In purchasing a 40% interest in their window manufacturer, Excel Industries, Inc., coupled with an agreement to purchase 70% of their windows from Excel through 1993, Ford and Excel have established a very strong commitment and mutual dependence [17]. This has been possible due to the current *laissez faire* enforcement of anti-trust laws.

### **Western Management Philosophy**

Successful supply chain management systems assume a level of trust among the members, a long-term orientation to the survival of the supply chain, and a recognition of mutual dependence among the members. However, the individualistic perspective of many western and U.S. firms, and western and U.S. culture in general runs counter to high levels of cooperation and dependence.

For effective coordination and control of the supply chain, multiple benefits must accrue to all members of the channel to outweigh the potential disadvantages of reduced flexibility to change trading partners and forced shared goals [10,24,25]. The players must feel they are on a winning team to invest the time and money to coordinate their efforts.

### **Process versus Output Orientation**

Closely related to a required shift in management orientation from a short-term to a long-term orientation is the need to shift from a strong results or output focus to a focus which also considers process. Western

management tends to be very focused on the end result or the output of a system such as increased sales, reduced defects, or improved profitability. While there is nothing inherently wrong with a results orientation, traditional western management philosophy tends to focus on output without placing commensurate emphasis on the methods which produce that output.

For example, marketing/sales may create special deals and promotions to achieve this quarter's sales by "borrowing" from next quarter's sales, essentially "filling the pipeline" rather than creating new demand. In doing so, the results are achieved for today. However, the problem or goal will not be met for tomorrow, because the process that created the short-fall from the goal has not been changed. There have been many stories of U.S. managers creating such short-term successes, and then being promoted up or out of the company, leaving others to "fix" the problem or be blamed for lower current performance.

Some U.S. firms are beginning to reject the traditional deal structure of consumer channels. Firms such as Procter & Gamble have adapted an "everyday low price strategy," reflecting a more enlightened, SCM philosophy. As a result, Procter & Gamble's chairman was named the 1992 marketer of the year by *Brandweek* [26].

The approach to change and improvement advocated by Deming is an example of an approach which focuses on process in order to improve results. While Deming's methods are most frequently applied to production quality situations, the philosophy has applications in all aspects of business. Deming suggests that when performance falls short of goals, all personnel in the system should analyze the system to try to determine what problem in the system has created that deficit situation. Then, personnel should focus on improving and correcting the system so that the problem does not occur again [27]. This approach thus focuses on changes in process which will affect long-term solutions and changes in results.

### **Channel-Wide Changes**

There is also a need for rapid, accurate information and inventory flows throughout the channel to meet customer needs. There

are several aspects of many current channel operations which create significant, channel wide inefficiencies. As mentioned above, one example is the deal structure used in most consumer foods and health care channels. Sales people may offer special deals or promotions to retailers to provide their products with increased shelf facings, end aisle displays, being featured in an advertisement and similar benefits. A retailer may also approach a salesperson with an offer of such special treatment for their products, in exchange for a "deal," such as buy three cases, get one free, or a price reduction.

The salesperson, desiring to increase sales, may accept or propose a special promotion without considering the efficiency and cost implications. Thus, volume demand for the products "on deal" will increase. This will likely create a need for increased production. Increased production may create overtime, and expediting shipments of materials and packaging from the supplier. This may create higher transportation costs, as faster "premium" transportation is used to get badly needed materials and packaging to the manufacturing facility. The suppliers may have to expedite shipments from their suppliers, and run overtime, creating further inefficiencies. Finished goods inventory may also be diverted, reshipped from distant locations to the area where the special promotion is being run. Thus, goods are shipped and handled multiple times.

The desired result is to increase the firm's sales volume. However, the outcome might be that the retailer and consumer "stock up." Consumption may be increased slightly, but volume sold after the deal period will likely drop off versus non-deal period volume. So sales have increased slightly, but was this increase enough to offset all of the increased costs of channel inefficiency? Contrast this scenario with the efficient keiretsu structure, with stable volume, excellent planning and communications, and a focus on overall channel costs.

This brings out the next issue, which is that most firms simply do not know how much it costs the channel to operate in such an inefficient manner. Most firms do not even know how much it costs them, internally, to run a deal or a special promotion. Yet without such knowledge,

how can the supply chain be optimized? How can firms know whether they should offer a special promotion or where in the supply chain to position inventory? Thus, a change in a firm's internal and external information systems is required in order to effectively leverage a supply chain management structure and philosophy.

Firms need to know the true cost of doing business in the traditional paper-intensive manner compared with the potential costs/savings of being seamlessly electronically connected [24,25,28]. Often firms are not aware of the cost of such transactions, including the paper, postage, management time to follow up on orders or shipments, errors in data entry, to name a few [29]. However, many firms are beginning to adopt the activity based costing (ABC) concept. ABC provides a matching of costs with the activities that drive costs, rather than arbitrarily allocating costs [30,31]. Thus, more accurate decisions can be made.

## Conclusions

There appears to be a growing interest in moving from the traditional, arms-length or adversarial relationships among members of distribution channels toward a supply chain approach of managed channels. This is based on the growing interest in the popular and academic literature of the SCM concept. Antitrust laws and western management attitudes have limited the implementation of supply chain concepts. In contrast, the keiretsu approach bonds banks, governments, and networks of suppliers, manufacturers, distributors, and customers to form very competitive channels.

A supply chain management philosophy represents an innovative way to organize and manage a supply chain that has many of the characteristics and benefits of a keiretsu approach. However, SCM is a western adaption that is more congruent with western culture. For example, western culture stresses autonomy and independence. There has historically been a strong competitive pressure among suppliers and other service providers to obtain and retain a customer's business. Unlike the Japanese, firms tend to be wholly owned, vertically integrated or independent.

SCM retains some of the key characteristics of western culture, such as

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***A supply chain management philosophy represents an innovative way to organize and manage a supply chain that has many of the characteristics and benefits of a keiretsu approach. However, SCM is a western adaption that is more congruent with western culture.***

**...SCM represents a tremendous competitive opportunity for firms to enjoy many of the benefits of keiretsu, such as stability and efficiency, without some of the less attractive, potentially illegal aspects, such as joint ownership and interlocking directorates.**

financial and management independence, while modifying some of the adversarial characteristics, such as lack of communication and lack of joint planning. As such, SCM represents a tremendous competitive opportunity for firms to enjoy many of the benefits of keiretsu, such as stability and efficiency, without some of the less attractive, potentially illegal aspects, such as joint ownership and interlocking directorates. As global competition continues to grow, firms need to reexamine their channel alternatives and assess which forms of channel relationships will fit best with their long-term objectives. Supply chain management represents a potentially attractive alternative.

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