# Exploring the dynamics of cross-level value chain relationships

JANG-LI CHANG, YU-CHUAN LIN

***Abstract*—**Traditional organizational value-chain relationship research focuses on the binary, static and unidirectional organizational relationship. The dynamics of cross-level organizational value-chain relationships, now a characteristic of supply relationships, are not well understood. Drawing on depth analysis of a significant case we present a model explaining how relationships form and dissipate according to the relational benefits they bring to the downstream brand.

***Keywords*—**Coopettion, Cross-level value chain.

## I. Introduction

Studies on value chain management focus on upstream and downstream components in the same level. These studies present an explanation that is binary, static and unidirectional (see Figure 1). The organization would take the strategic action to respond the environmental change. (Lee, 2012; Skrlec, 2010; Pliknas, 2008) In practice, the traditional vertical value-chain relationship evolves. In the IT industry, for example, defining interaction upstream and downstream levels (i.e., cross-levels ) has become standard practice. In this paper we draw on the relationship between the famous cellar-phone and consumer electronics company A, and its touchscreen manufacturing partner T. These organizations appear to follow the traditional configuration of the value-chain relationship:

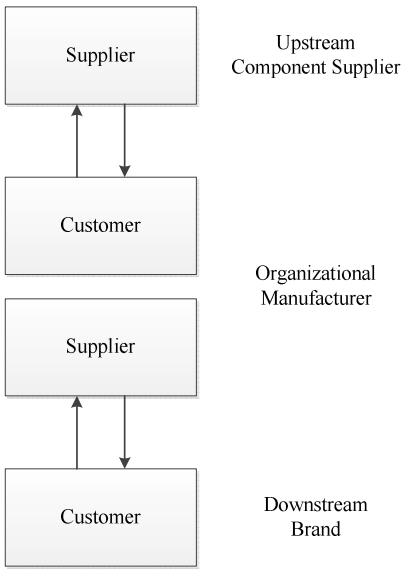


Fig. 1 Traditional value chain relationship management model

The supplier T (upstream component supplier),– manufacturing and assembly house F (the organizational manufacturer) and brand A (downstream brand).

The reality of operations between these organizations is characterized by a cross-level value chain relationship i.e., between the upstream component supplier and downstream brand. In this example a traditional value chain structure co-exists with the emergent cross-level value chain structure (see Figure 2). To maintain their competitive edge, downstream brands forgo organizational manufacturers and establish direct interactions with upstream component suppliers to create direct access to key resources that are essential to the brands' survival.

In this study, we aim to arrive at a theoretical explanation of how cross-level and traditional value-chain relationship coexist. So far this important issue is not examined on the literature on supplier chain partnerships, meanwhile that we aim to thoroughly examine the dynamically competitive and cooperative relationships.

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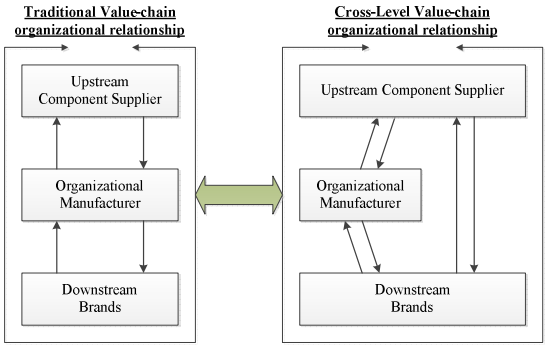


Fig. 2 Dynamic Value-chain relationship

In the next section we reveal that the literature on value chains lack theoretical explanation of this phenomenon.

## II. Literature Review

Value chains relate to a series of interconnected relationships between component suppliers and the customer. Management of value chains, therefore, focuses on integrating a series of continuous value relationships generated through sequential (e.g., Dutta, and Walker1992; Cannon and Perreault 1999; Wilson 1995), vertical organizational transactions. These vertical relationships are characterized as long-term and include establishing social relationships between brands and component suppliers (Macaulay, 1963; Saka, 1992; Ritter, 2007).

Structural analysis of the interaction and cooperation between organizations can be classified as value chain relationships and network relationship analysis. By using network relationship analysis researchers can understand the limitations in organizational structure and interactions between organizations alliances (Granovetter, 1973; Burt, 1992; Nohria, 1992; Wasserman and Fust, 1994). While value chain relationship analysis, emphasizes the vertical interaction of value chains, network relationship analysis focuses on the horizontal relationship between organizations; especially those in the same industry or community.

Analysis of value chain relationships focuses on a systemized understanding of resource allocation and information exchanges between organizations in continuous production activities based on vertical organizational interdependence. Current organizational value chain management strategies and mechanisms broadly fit one of two categories (Eisenhardt, 1985; Heide, 1994). In the first category are those organizations receiving priority for selecting partners and resources that support strategic targets (Ouchi 1980; Paolucci, Revertia, and Tonelli 2008). In the second category are organizations that design systems to reward and penalize particular actions (Williamson 1983; Rusli, Razak, and Dahian 2010). This strategy supports cross-organizational relationships in a way that increase the attractiveness of long-term relationships while reducing the appeal of short-term speculative behaviors (Eisenhardt, 1985). Organizational manufacturers often collateralize essential assets and upstream component suppliers are forced to accept this approach (Williamson, 1983). This has an adverse effect on the level of cooperation between upstream component suppliers and organizational manufacturers.

Prior research reveals limitations in our understanding of the cross level value-chain studying. In the value-chain studies, so far, focus on managing the series of "buyer-seller" binary relationships between vertical relationships in the value chain. It could not fit the current cross-level value chain relationship. So, for example, significant work attends to managing the binary relationship between brands and organizational manufacture. (e.g.; Hakansson, and Johanson 1994; Iacobucci 1996; Levy and Grewal 2000; Moller and Wilson 1995) The analysis also treats these binary relationships as unidirectional. It lacks of the research on the interaction between upstream component suppliers, organizational manufacturers and downstream brands. Very few studies examine the specific phenomenon of cross-level organizational value chains.

Analyses of vertical value chain relationships treats relationship between brands and manufacturers as static. In this study, we attempt explain the operation of a dynamically competitive and cooperative relationships between upstream component suppliers, organizational manufacturers and downstream brands. In the next section we propose a research design oriented toward developing a theoretical explanation of traditional and cross-level value chain relationships.

## III. Research Method

Since this study is an exploratory examination of dynamic cross-level interactions and dynamic involvement between integrative vertical value-chains it requires a qualitative approach. Our study design, case study, has the merits of incorporating a variety of methods while allowing a depth examination of the topic under study (Yin, 1994).

The value-chain organizations would include three levels, upstream suppliers, organizational manufacturing, and downstream brands in the same cellar-phone vertical value-chain as the different units in the same case. So, we plan to use the embedded multi units and single case studying method to perform this research.

Our study is housed in the cellar-phone manufacturing supplier chain that includes the downstream brand client, its organizational manufacturing supplier and key upstream suppliers. We collect data from multiple sources. Interviews were conducted with famous cellar-phone company , its organizational manufacturing and its upstream key material suppliers, In each case interviews were conducted with brand company's supplier management executive and manager, cellar-phone assembly and manufacturing operation executive

and supplier manager, and key company agency sales executive form three different perspective viewpoint , cross-level relationship , supplier chain governance and dynamic cooperative and competitive in the supply-chain. (as Fig 3).

Collecting data from multiple sources is integral to the case study method. Supporting data was collected from multiple secondary sources including annual reports, newspaper and magazine articles and internal company reports.

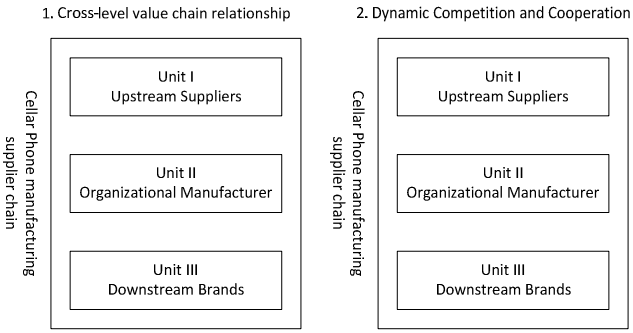


Fig. 3 Research perspectives for cross-level value-chain relationship

## IV. Discussion and Findings

We find insights into the cross-level and conventional value chain relationship. The downstream brand emphasized the relationship with the upstream supplier over that with the organizational manufacturing. This provides opportunities to communicate with upstream supplier more efficiency and to share the information more faster , the possibility of increasing the organization's market success. The brand, in the meantime, exerted pressure on the organizational manufacturer to main the relationship with the particular supplier relationship.

The supplier or manufacturer would be replaced once an alternative could be chosen that offered a higher level of value. The upstream suppliers hoped to develop both the cross level and conventional value chain relationship with the brand and manufacturing. This provided opportunities to increase the marketing strength of the brand while maintaining cooperation with the manufacturing, even while they are competitors, so as to meet their joint objective of successfully meeting the brand expectations on product shipments.

The supplier always faced the possibility of being replaced if manufacturing provided more value than them to the brands. Organizational manufacturing accepted the cross level and conventional value chain relationship coexisted as a means for them to access additional value from the supplier when the manufacturing could not support this. During the period of cooperation manufacturing learned from the supplier but was willing to replace the supplier once an alternative provided more value.

We investigated the interactions in the value chain, specifically, focusing on changes in the dynamic relationship between the downstream brands; organizational manufacturer and an upstream component supplier (see Figure 4). When a downstream brand, dominates a terminal brand market, it can provide an assembly factory with steady and sizable orders (see Fig. 4-b). The assembly factory procures and assembles components into a finished product that it delivers to a designated point. This is transaction between the downstream brand and organizational manufacturer is shown as Fig. 4-a. The traditional organizational value chain, involving binary bidirectional interaction between manufacturers and brands, is shown in Fig. 4-d. In this case, upstream component suppliers provide parts and components to organizational manufacturers (see Fig. 4-c).

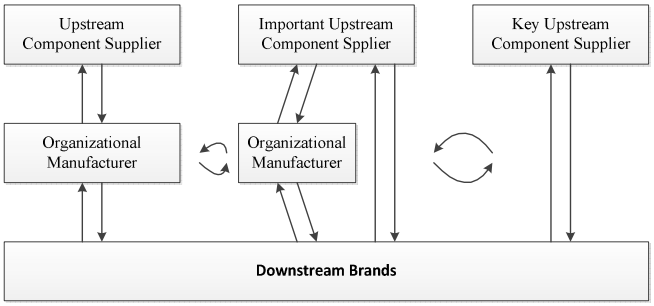


Fig. 4 Conventional and Cross-level value chain relationship management model

An organization must obtain resources from the environment and subsist and interact with its surroundings to survive (Pfreffer & Salancik, 1978). When an important spare part is a key resource for a product sold by a downstream brand, and cannot be obtained through an organizational manufacturer then the downstream brand must contact the key upstream component supplier to fulfill the order. In this case, resources (e.g., market control) provided by upstream component suppliers to downstream brands is more important When upstream component suppliers cooperate with downstream brands, they form business relationships directed towards assisting downstream brands in obtaining key resources i.e., a cross-level organizational relationship (see Fig. 4-e) While this cross-level organizational relationship functions the traditional relationship model of relations between upstream component suppliers, organizational manufacturers and downstream brands is also in place.

Alternative organizational value chain relationship management methods exist for downstream brands and upstream component suppliers (see Figs. 4-g and 4-h). The same is also true for upstream component suppliers. Upstream component suppliers emphasize their cross-level organizational value chain business relationships over those with organizational manufacturers. Meanwhile, upstream component suppliers maintain a traditional value chain relationship with organizational manufacturers and downstream brands, as shown in Figs. 4-f, 4-i, and 4-j.

The following propositions are derived from the model:

**P1: A cross-level organizational relationship merges when the upstream component supplier gives the downstream brand more efficient access to key resources than the organizational manufacturer.**

When upstream component suppliers possess resources that are crucial to the survival of downstream brands then upstream component suppliers establish cross-level relationships with downstream brands. During this time organizational manufacturers, in the context of a traditional value chain relationship, interact and learn from both the upstream component suppliers and also the downstream brand. This allows them to identify the skills and competitive advantages of upstream component suppliers and so increase their own key internal resources.

By these means the organizational manufacturers re-establishes the ability to efficiently provide valuable and competitive key resources. The benefit of the cross-level interaction decreases and the brand reverts to the conventional network or relational vertical value chain relationship model (see Fig. 2)

**P2: If the organizational manufacturer capability improves over time to the point where they provide more efficient access to key resource then the downstream brand will reinstate a traditional value-chain relationship.**

## V. Conclusion

Research on traditional organizational value-chain relationships focuses on the binary, static and unidirectional interactions between the upstream and downstream partners. This largely excludes explanation about the dynamics of cross-level organizational value-chain relationships in the context of cooperative and competitive organizational relationships.

This study offers the following advances on prior research:

1) We reveal how cross-level organizational relationships emerge within traditional value chain relationships. We also explain the type of interactions that characterize this relationship.
2) We reveal that while the cross-level value-chain relationship exists organizational manufacturers may go through organizational learning in the exchange of resources and information with both brands and upstream suppliers. When organizational manufacturers provide more valuable key resources than upstream component suppliers to downstream brands then downstream brands sever their cross-level organizational relationships with upstream component suppliers and restore the traditional organizational relationships among upstream component suppliers, organizational manufacturers, and downstream brands. Therefore, dynamically competitive and cooperative relationships exist among upstream component suppliers, organizational manufacturers, and downstream brands. The defining component is an organization's ability to provide valuable key resources.

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