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Mission Impossible: Vertical Collaboration in Ukraine

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Abstract

Food products are increasingly being produced in vertically coordinated networks. While one could argue that supply chain networks and their management are of greater interest in the developed countries, in-depth interviews with agribusiness experts provide evidence that the interest in supply chain management is even greater in the transitional economies. A study of food businesses in Ukraine reveals a number of challenges and barriers supply chain networks face in the transitional economies, the most significant of which are cooperation and coordination issues.

Keywords: agribusiness; chain management; cooperation; coordination; supply chain networks; Ukraine

Abbreviations:

CEEC - Central and East European countries
FDI - foreign direct investment
GLOBALGAP - Global Good Agricultural Practices
HACCP - Hazard Analysis and Critical Control Points
SME - small and medium-sized enterprise

Introduction

Before 1990, vertical coordination in Ukraine was largely achieved through a centrally planned economy. Today, the majority of transactions in agrifood chains are coordinated via arm's-length transactions, where firms often break existing contracts in order to gain a short-term advantage. In the absence of any effective legislation, contract enforcement is problematic. Nevertheless, foreign direct investment (FDI) is increasing. FDI can be found at the farm level, at the processing level, and in the retail sector. It is observed that foreign enterprises seldom imitate the business concepts of local firms; rather, they import their own. For the global retailers and food manufacturers, an essential part of their business is concerned with the production and selling of high-quality food products. In particular, retailers use fresh produce as a means to differentiate themselves from their competitors.

Several studies on the effects of FDI in Central and East European countries (CEEC) show that foreign investors often work hard to raise their suppliers' level of quality in order to meet their own global quality requirements (Gorton et al., 2003; Swinnen, 2005). Furthermore, underpinning many of the investors' business concepts is the need for efficiency and the elimination of all unnecessary costs and activities, which requires both internal and external efforts. In the last twenty years, concepts such as supply chain management, efficient consumer response, and total quality management have been developed to optimize interfirm relationships.

Such developments can be described as the vertical integration of food chains. By vertical integration, we mean the tightening of the procurement strategies leading to the development of vertically integrated firms or vertically cooperating hybrids. In this paper, we take a closer look at vertically cooperating chain systems or networks. The questions of how such chain networks have to be designed and which governance structure fits best have been addressed by Lazzarini et al. (2001) and Omta et al. (2001). As well, issues relating to the coordination of product and information flows have been analyzed in the context of supply chain management (Gunasekaran and Ngai, 2005). However, the literature on cooperation does not always analyze aspects of coordination and vice versa. Gulati et al. (2005) have shown that cooperation and coordination are both equally important in order to achieve successful collaboration.

The aim of our paper is to elaborate on cooperation and coordination in the context of supply chain management. In the following section, we introduce the concept of supply chain networks as strategic networks. We then outline the transformation that is occurring within the Ukrainian agrifood industry and the importance of FDI. Afterwards, we bring both aspects together and develop our discussion on vertical integration and the role of supply chain management in the transitional economies. We then present the

results of preliminary interviews and conclude by offering some implications for management and issues for further research.

Supply Chain Networks

Food products are increasingly being produced in vertical cooperating networks. A self-evident reason for the formation of vertical networks instead of single-line chains is the differing size of firms along the food chain. Striving for economic independence and protection against coercive market power and economies of scope constitute other reasons for collaboration. We use the term “network” to describe the specific properties of an exchange relationship, typified by long-term relationships in which formal and informal information-sharing and trust-building mechanisms are crucial (Zylbersztajn and Farina, 2003). In this context, networks address all the issues arising from the interorganizational relationships between more than two firms (Omta et al., 2001).

In order to narrow the discussion on networks, we refer to Burr (1999), who identifies four network types: (1) the spontaneous network, (2) the self-organizing network, (3) the project-oriented network, and (4) the strategic network. This typology is derived from the intensity of relationships, the coordination mechanisms, and the existence of a focal company. In the agrifood business, strictly coordinated vertical linkages are required to guarantee the consumer of the credence attributes on one hand (e.g., organically produced) and to gain cost advantages on the other.

Strategic networks are defined by various authors as “supply chain networks” or “netchains” (Lazzarini et al., 2001; Hanf and Kühl, 2004). Strategic networks can also be characterized as pyramidal-hierarchical collaborations (Jarillo, 1988). This requires the focal firm to manage or coordinate the network in a hierarchical manner. Within strategic networks, the intensity of relationships is high and recurrent interaction inferred (Burr, 1999). The focal firm is identified by the consumers as “responsible” for the specific food item. This can be the producer in the case of a producer brand or the retail firm in the pyramidal-hierarchical case of a private brand. Other network actors are dependent on the focal company because of enduring explicit or implicit contracts. However, as the focal organization itself depends on critical inputs from its suppliers, mutual dependence exists, thereby providing some countervailing market power (Medcof, 2001). Nevertheless, because the focal company is the core element of the supply chain network, it has the power to align the actions of network partners. Thus, the focal firm coordinates the network in order to realize strategic objectives.

Chain Management in Supply Chain Networks

Cooperation and coordination

Food supply chains consist of a number of consecutive stages. At each stage, the material and information flows for one or more independent firms need to be coordinated to ensure the timely arrival of inputs or products in the desired quantity and quality. Given the inherent variation in the quantity and quality of agrifood products, vertical cooperation between firms requires a great deal of coordination. Although cooperation and coordination are attributed to integration in the organizational theory, Gulati et al. (2005) argue that there are distinct differences between them. We explain these differences and their implications in detail.

Cooperation refers to the alignment of interests. Problems of cooperation accrue from conflicts of interests (Gulati et al., 2005). These conflicts arise because self-interested individuals optimize their own private benefits before they strive for collectively beneficial outcomes. Gulati et al. conclude that the problem of cooperation can be regarded as a problem of motivation. To overcome this problem, formal and informal mechanisms can be used. Formal mechanisms include the following: contracting, common ownership of assets, monitoring and sanctions, and prospects of future interactions. Informal mechanisms include identification and embeddedness.

Coordination refers to the alignment of actions. Coordination problems arise if actors are not aware that their actions are interdependent. In general, interdependency is created when decisions and actions by one partner influence the decisions and actions of partnering firms (Theuvsen, 2004). There are three types of interdependency: (1) pooled interdependency between firms competing in the same market, (2) vertical interdependency between firms operating in different markets but linked by sequential activity flows where the output of one is the input of the other, and (3) reciprocal interdependency between firms that complement each other or have reciprocal product and/or information flows (Lazzarini et al., 2001). It is often difficult to coordinate activities because the focal firm does not know how other actors will act. Thus, problems of coordination result from the lack of shared and accurate knowledge about the decision rules that others are likely to use and how one's own actions are interdependent with those of the others (Gulati et al., 2005). Again, there are formal and informal mechanisms to overcome coordination problems. Formal mechanisms include programming, hierarchy, and feedback (Thompson, 1967). Informal mechanisms to overcome the constraints of coordination are leadership, norms, culture, shared values and experience, trustworthiness, and a shared strategy (Hanf and Kühl, 2005).

Framework of chain management

Gulati et al. (2005) conclude that while cooperation may be achieved, coordination problems often persist. Thus, the alignment of interests and the alignment of actions must be simultaneously achieved in order to create a successful partnership.

The management literature on intrafirm coordination usually differentiates between two types of strategies—corporate and business strategies. This distinction is not sufficient for an adequate consideration of the multiple linkages that exist between interdependent organizations within a supply chain network (Bresser and Harl, 1986). Therefore, various authors have introduced the concept of collective strategies (Astley and Fombrun, 1983; Carney, 1987) as an instrument to deal with the variation in the interorganizational environment. Collective strategies aim to stabilize and dominate the interdependent task environment (Bresser and Harl, 1986).

In order to use collective strategies to overcome coordination problems, the focal firm, as the centralized decision-making unit in pyramidal-hierarchical strategic networks, must consider three different types of interdependency. Lazzarini et al. (2001) provide advice to exercise managerial discretion for sequential interdependency, to achieve process standardization for pooled interdependency, and to maintain coordination through mutual adjustments for reciprocal interdependency.

The cooperation problem of aligning the interests of individual actors in supply chain networks is addressed by partnering strategies. Partnering is a term that addresses issues associated with the design of relationships within a supply chain (Mentzer et al., 2000). Considering supply chain networks and the heterogeneity of the actor firms, the optimal mode of partnership is expected to vary widely along the chain. Thus, the task of the focal firm is to work out the design of the partnerships. In this paper, we employ Mentzer et al. (2000) typology, which divides partnering into strategic and operational. Strategic partnering is an “on-going, long-term, inter-firm relationship for achieving strategic goals, which deliver value to customers and profitability to partners” (p. 550). The aim of strategic partnering is to improve a company’s competitive position through the development of new products, technologies, and markets (Webster, 1992). However, strategic partnering should include exclusivity and nonimitability (Mentzer et al., 2000).

Operational partnering is defined as a “needed, short-term relationship for obtaining parity with competitors” (Mentzer et al., 2000, p. 550). An operational partnering strategy seeks to improve operational efficiency and effectiveness. Such a strategic orientation involves shorter time spans and less organizational resources. Therefore, an operational partnership is much easier to implement (and to reverse) than a strategic partnership.

Both cooperation and coordination must be integrated within supply chains. Duysters et al. (2004) have shown that collaboration must be analyzed

on three different levels: (1) the firm, (2) dyadic, and (3) the network level. Analyses at the firm level reveal that successful cooperation employs managerial constructs from single firms—e.g., alliance databases, joint business planning, and alliance managers. On the dyadic level, the design of the governance structure has a significant impact on performance. On this level, trust and commitment are particularly important in achieving coordination. Studies at the network level emphasize the role of social capital to enhance information exchange (Uzzi and Gillespie, 2002). Network performance is related to current ties and ties with potential partners. Thus, the focal firm has to develop a collective strategy that addresses cooperation aspects (partnering strategy) and coordination aspects (supply chain management strategy), allowing for the demands of the three different network levels (Hanf and Dautzenberg, 2006).

Agribusiness in Ukraine

Successful supply chain management depends primarily upon how appropriately cooperation and coordination issues are resolved. To shed some light on the way these issues can be addressed in the transitional economies, we analyze Ukrainian agrifood supply chains by describing each of the actors who participate: consumers, retailers, processors, and producers.

Today, the Ukrainian food system is undergoing major structural change with an increasing consumer orientation. In recent years, the consumers' requirements have improved with regard to the quality of food products, the assortment, packaging, and the way products are offered in the retail store. To some extent, the improvement in consumer requirements can be explained by an increase in personal disposable income and by the development of the retail sector. Retail companies provide end consumers with a range of offers, store locations, and quality of goods. Furthermore, ongoing competition within the sector sees retailers placing increasing emphasis on the need to fulfill consumer demands. Currently, modern forms of retailing (supermarkets, hypermarkets, and cash & carry) account for 45% of the total retail turnover in Ukraine. Almost 50% of this belongs to the top five retailers, with the greatest share (37%) belonging to the supermarkets (ZMP, 2006).

As the consumers' demands increase, it becomes increasingly difficult for a single firm to satisfy their demands. Instead, the whole supply chain must work together to meet these requirements. Obviously, it is more beneficial for retailers to work with large-scale suppliers (Swinnen, 2005). However, in Ukraine, most enterprises are small- and medium-sized (SME) businesses at both the farm level and the processing level. On the processing side, there is some evidence of consolidation, for the market shares of the ten biggest players in the meat-processing, milk-processing, flour-milling, and sunflower

seed-processing industries are 40%, 40%, 50%, and 70%, respectively, and these market shares are continuing to increase (Dragon Capital, 2006). While these sectors exhibit some backward integration into farm production, it is important to note that over 60% of gross agricultural output in Ukraine is produced by households (State Statistics Committee of Ukraine, 2006).

The Ukrainian agrifood industry includes more than 85,000 producers, about 22,000 food-processing companies, and about 60,000 food retailers. Today, the sector is internationalizing at an accelerating rate. FDI in the retail sector, the food-processing industry and agriculture accounts for 19%, 14%, and 3%, respectively. In 2004, nominal amounts of FDI increased in the retail sector twofold; in food processing, by 1.4 times; and in agriculture, by 26 times compared to 2001 (State Statistics Committee of Ukraine, 2004). It is noteworthy that the retail sector and food-processing industry are the most attractive sectors for FDI. There are some regional disparities in the scope of FDI with greater inflows into large urban centers.

FDI in the national agrifood industry is growing because foreign enterprises employ their own business concepts. Imported business models usually provide a means of competitive advantage for the multinationals. In order to successfully compete with them, local companies often use imitating strategies. Such developments in the retail sector are a classic example of spillover effects in transitional economies. In addition, the importance of brand management has substantially increased. Today, the largest players in the Ukrainian retail sector sell about 30% of their products under their own brands (Retail, 2007). By necessity, the development of such products requires well-organized supply chain networks.

Expert Interviews

In order to reveal the importance of vertical coordination in the Ukrainian agrifood industry, exploratory semistructured interviews with managers, academics, and government officials were undertaken. Interviews were conducted by phoning from Halle (Germany) in the period from April to July 2007. In total, 15 telephone interviews, with a duration of 20 to 30 minutes, were conducted. Interviewees were first informed about interviews via e-mail. After receiving their consent, the calls were made at an agreed time. The interviewees were chosen by their rank (persons in charge of and/or knowledgeable about the operation of supply chains) and affiliation (the buying and quality-management department of international retail companies operating in Ukraine, an international retail research institute, international standardization bodies, International Finance Corporation, international agricultural equipment company, international meat processor, international

confectionary company, buying department for a local supermarket chain, local dairy company, local agribusiness companies, and local beverage distribution company). The questions were grouped into five general blocks:

1. The level of perception of vertical integration by agribusiness actors. The overall aim of this group of questions was to explore the extent to which agrifood actors address vertical interfirm collaboration and coordination. The first objective was to define which common interfirm goals enable actors to work together. Adjacent questions on how agrifood chain actors work together, who initiates this work, and how actors perceive this to work were asked.
2. Cooperation mechanisms being used. Since the task of supply chain networks is to achieve certain goals in a strategically driven but divergent interfirm environment, the network members' interests have to be aligned so that they do not impede the fulfillment of this task. For that matter, a number of cooperation mechanisms exist. Questions in this block aimed to provide information about the tools employed to achieve cooperation in the sector. Formal and informal mechanisms were differentiated. Actual mechanisms used were explored, including the characteristics of their use (e.g., normal duration of contracts, type of sanctions being imposed, the level of general cooperativeness among actors).
3. Existing solutions to coordination problems. The objective of this group of questions was to explore how the actions of different network actors were aligned to achieve the network goals. The formal coordination mechanisms in use (e.g., quality standards and brands) and informal mechanisms (e.g., unofficial meetings and discussions) were explored. A description of each coordination mechanism was sought, with a focus on how quality within the supply chain was fulfilled (e.g., setting up of quality labs, introduction of international quality systems, contract specification including credit support, and input support) and whether it was fulfilled in general.
4. Constraints on vertical integration. Country-specific problems were revealed that hampered the introduction and implementation of supply chain management concepts. The issues of partnering, infrastructure, marketing, and quality were addressed.
5. Use of known supply chain management concepts by agribusiness actors in Ukraine. This block was represented by questions about the extent to which agrifood actors were informed about and aware of such business models as efficient consumer response, total quality management, etc.

Empirical Results

Based on the interviews, our findings provide an insight into the general pattern of vertical integration in Ukrainian agribusiness. The issue of chain quality is being addressed by foreign companies operating in the sector and by local export-oriented enterprises. This does not imply that the importance of supply chain management is undervalued by other actors, but it is perceived rather as a distant perspective. One reason for this is that most companies must first try to build basic infrastructure, including roads and warehouses, search for qualified labor, and provide transport, even for the most basic inputs. On the other hand, supply chain management practices are being installed by multinational retailers which follow the same strategic framework they use all over the world. Chain management by multinationals becomes apparent in rolling out global IT standards and supply chain procurement techniques. Such firms impose their own quality standards and possess their own quality control and distribution divisions. Examples of quality standardization include GLOBALGAP, ISO 9000, and HACCP. For instance, GLOBALGAP is being introduced by foreign retailers in cooperation with local universities and institutes who translate the standard and spread information about it. Another effect of such activities is that international retailers indirectly educate new managers who are currently in great demand. However, evidence of international quality standardization is still rare because of the atomistic structure of agriculture. Most agricultural suppliers do not focus on achieving even basic quality standards due to infrastructural impediments. Nevertheless, in some sectors (e.g., milk processing), companies have started to brand their products, implying that they recognize the importance of quality. Retailers are also assuring quality through branding, with foreign retailers using their international suppliers. Some are attempting to cooperate with local suppliers. Local companies are very proud to be suppliers to well-known multinationals. While they minimize risk by working closely with foreign companies, high levels of trust are evident in the relationship.

Generally, it can be said that the implementation of supply chain management concepts has been impeded by the lack of FDI, caused by the high risk and unfavorable institutional environment: bank loans are unsafe, corruption is present, and property rights are poorly protected. As a consequence, foreign companies that wish to invest are obliged to consider the short-term risks properly. As a result, there is conflict between the long-term orientation and the need to produce high returns on investments in the short term. To solve this dilemma, foreign companies are attempting to establish long-term relationships with their local suppliers and/or buyers. However, reliable partners can be difficult to find because of the high volatility of business duration—i.e., partners can unexpectedly exit the business. These peculiarities of Ukraine's transition economy lead to some implications for management as well as for research. We outline these in the concluding section.

Outlook on Vertical Coordination in Transitional Economies

Despite a number of institutional challenges, there is clear evidence that supply chain management is being introduced to Ukrainian agribusiness. Companies engaged in the accomplishment of this task must consider some specific features of this transitional economy. Primarily, they must establish appropriate infrastructure as the first step towards the achievement of supply chain quality. Potential issues to be resolved include the construction of access roads, provision for cooling, construction of warehouses, and the use of modern IT and quality standardization. Furthermore, the issue of qualified labor must also be addressed. The promotion of trustful relationships with local partners is of importance as this is able to minimize environmental risks.

Implications for research concern the question of how to successfully implement supply chain management practices in agribusiness. Although our study findings correspond with those of Gorton et al. (2003) and Swinnen (2005), the development of appropriate supply chain management mechanisms in the transitional countries requires more in-depth research including case studies.

Our analysis of agrifood supply chain networks in Ukraine reveal a number of challenges and barriers. Whereas supply chain networks are structural arrangements per se, the impact that they may have on the structure of agribusiness firms and the managerial implications for firms in transition has yet to be adequately disclosed. We believe that research into vertical strategic networks and supply chain management is of high importance in the transitional economies. The creation of a management system for a whole supply chain network is a tremendous organizational task that the focal firm must accomplish if network advantages are to be realized. This managerial task has to be carried out in the interest of all participants of the network. In this context, supply chain management has to take into account the three different levels at which the network operates. Nevertheless, we consider cooperation and coordination to be the core elements of successful supply chain management.

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