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## THE POTENTIAL HELD BY VALUE-CREATING NETWORKS – A STUDY ON THE ROMANIAN BEER INDUSTRY

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### **Abstract**

As organizations from all industrial sectors acknowledge their increasing degree of interdependence, complex business networks tend to replace traditional markets and vertically integrated organizations. In the case of the Romanian beer industry, the complexity of the communication processes and of the relationship between beer manufacturers, raw materials and equipment suppliers, third party logistic companies, shipping companies etc. provide the ideal premises for the development of networks focused on the logistic activities. The information and knowledge flow within the business network often precedes the physical flows, and collecting, using and sharing information and knowledge within the network contribute to value-creating and reducing inventories and logistic costs by integrating and properly exploiting the organizational competencies of all the members, which held important advantages not only for the respective organizations and the relationships between them, but for the whole industry as well.

### **Keywords**

value creation, network, beer industry, inter-organizational relationships, information and knowledge sharing

### **JEL Classification**

L14, L66

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### **Introduction**

In the current economy, the increasing importance of knowledge, the technological complexity and the global competition determined significant changes in the mechanism of creating economic value (Castells, 1996), which lead not only to the speeding the innovation pace and the shortening of the life cycle of most products, but also to the development of new market structures. In the knowledge-based economy, value is generated through the aggregated actions of multiple actors, which means that the classical theory of the value chain (Porter, 1985) is no longer sufficient for describing the complexity of the value-creating processes. Therefore, Porter's value chain, describing mostly the value-creating elements within a single organization, its suppliers and customers, gradually shifts towards the concept of value system (Rajala et al., 2004), in

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which business networks replace traditional markets and vertically integrated organizations. Frequently, companies tend to form extended enterprises which are part of a business model consisting of different cooperative forms, negotiate responsibilities, utilize mediating technology and share resources to achieve superior customer satisfaction and profitability of all members participating to value creation (Rajala et al., 2004). This so-called value creating network model emphasizes the central role of customer, and in general, builds up around him. As a result, every participant contributes and receives value in ways that sustain both their success and the success of the value net as a whole (Stabell and Fjeldstad 1998; Bovet and Martha 2000; Allee 2002) Consequently, companies are creating increasingly complex internal and external webs of knowledge and technological bonds. As the industrial network approach (Håkansson and Snehota, 1995) suggests, companies in a network are economic actors, which are inter-related through a web of resources and activities. Value is created in a network by actors who perform and control activities that are based on control over critical resources, and include social content by developing relationships with each other through exchange processes (Håkansson and Johansson, 1992; Axelsson and Easton 1992).

In the case of the Romanian beer industry, all the organizations involved appear to have every prerequisite for grouping into cooperation-based structures, negotiating responsibilities and sharing resources in order to achieve higher levels of customer satisfaction and individual profitability. These prerequisites include the specialization of organizational competencies (a good example being the raw materials suppliers and 3<sup>rd</sup> Party Logistic (3PL)), the complexity of the inter-organizational communication processes and relationships (due to the large number of organizations involved and the difficulty to coordinate all the operations), the need to improve the accuracy of plans and forecasts and, not the least important, the limited financial power of some of the actors, preventing them to initiate large projects or forcing them to give up on some important opportunities. Therefore, the beer industry in Romania can be regarded as an optimal ground for building value-creating business networks, focused on customer satisfaction. In this sort of a structure, every member contributes to the value-creating processes and gets a share of the outcome in a way that benefits both their individual profitability and the global profitability of the network. Therefore, in order to maximize the value created and their respective shares, the member organizations have every reason to tighten their informational and technological connections. In the beer industry, the main value-creating activities are manufacturing, supply, distribution, storing (packing included), also supported by shipping and marketing, while the actors involved are the suppliers of raw materials and equipment, the distributors, the beer manufacturers and certain specialized intermediaries. Due to the permanent interactions between those actors and to the continuous, cyclic and rhythmic nature of the beer manufacturing process, the communication between actors is complex and intense, even between competitor companies (such as different suppliers or different transporters and shipping companies). This requires a high level of trust between the network members, forcing them to share information and knowledge (for example manufacturers allowing their suppliers access to their operational plans in order to help the latter organize their deliveries at the optimal intervals or providing the customers and distributors with a means to observe the status of their orders etc.)The Informational Technology (IT) is essential for knowledge sharing between all the network members, shaping their individual and collective competitive behavior and allowing them to develop virtual places to contact each other, communicate and trade (such as e-marketplaces). In the

Romanian beer industry, there is a high level of IT usage, especially where logistic activities are concerned, but in order to allow organizations to enter a value-creating network, all the actors should have compatible IT systems and databases, so that they should be able to interact continuously and in real time. On the long term, the common history and experiences of the network members may lead to the development of new knowledge and competencies, specific not to each particular organization, but to the whole network.

The strategies developed by each of the organizations in the network should include a common long-term perspective and actions oriented towards mutual benefits, so that the risk of any of them adopting an opportunistic behavior is reduced. Also, there should be a system for sharing the outcome based on selective incentives, so that the members with a larger contribution to the network's global performances may get a larger share of the advantages provided by the network. This way, by measuring each member's contribution to the global performance of the network (for instance the quantity and value of the information and knowledge shared by a member or generated as a consequence of a member's actions), they may gain access to specific resources (usually informational ones), priority to certain transactions or financial incentives such as lowering certain costs or financial contributions. The information and knowledge gathered through the connections developed within the network would help the member organizations to reduce the informational asymmetry of the buyer-seller relationship, which means that usually transactions are affected by the fact that the parties involved possess incomplete, incorrect or uneven information. While public information is largely open to anybody interested, most economic information is only available to few, usually carefully selected organizations.

The relationships formed between the organizations in the network are an important source of information for all the parties involved, since the actors share not only day-to-day information on prices, volumes and standards (transactional info), but also information and knowledge usually considered to be confidential, such as ways to improve coordination. Moreover, the relationships between member organizations have plenty to gain from sharing information on the actions (present or planned) of other actors, especially in terms of trust and stability. Considering this, the grouping of the organizations in the Romanian beer industry into value-creating business networks would benefit not only the said organizations, but also the relationships developed between them and therefore the whole industry.

### **1. The impact of joining a value-creating network from the organizational point of view**

For an organization, joining a network means creating value through elements both tangible (cost reductions, shortening activities and processes) and intangible (knowledge gathering and creation, improving inter-organizational relationship and building trust, seizing new business opportunities, etc.)

#### *A. Improving activities and processes*

Currently, not just the competitiveness, but even the mere survival of many of the organizations in the beer industry depend on their capacity to keep up with the pace of innovation and technology in the field. For this particular industry, this may include implementing the latest Enterprise Resource Planning (ERP), warehousing and transport

management solutions, using robots and automatic manufacturing technology, and identifying the best ways to improve cost efficiency and environmental responsibility. But since suppliers are greatly scattered, geographically speaking, most of them outside the country borders, which makes direct contact and communication more difficult, and import companies, even though closer to the few large manufacturers, are hard to differentiate and with little financial power, keeping up with the latest technologies is a real challenge, requiring significant efforts. These efforts are not limited to accepting higher costs, but even more, they include the struggle to identify and select the right partners for every logistic activity. Therefore, the organizations in the beer industry need to display a high level of flexibility in their logistic activities, which means they need to simplify their processes and expand the use of IT in all logistic areas.

The first visible effect of joining a network would be an increased capacity of the organization to gather and process information, which is a major advantage, considering that the beer industry, given the large number of organizations involved in its logistics, is highly fragmented. The inter-action between suppliers, shipping companies, distributors, 3PL or 4PL (fourth party logistics) on one hand, and beer manufacturers, on the other, depends on the intensity and frequency of the information exchange, which often hinders or slows down transactions. A solution to this problem could be integrating all those organizations into a network with a dedicated e-marketplace, which would simplify and support the information sharing and contribute to the reduction of transactional costs by increasing informational transparency (crucial for allowing organizations to find and select the optimal offer with minimal efforts and time consumption).

Another important effect of joining a value-creating network and using its IT implements is observed on the internal communication processes and cooperation level within the member organizations. Many organizations, beer industry included, have to deal with ineffective data and information transfer between employees, often due to the overwhelming amount of information needed to be shared. By using the IT mechanisms that operationalize the network (such as the e-marketplace and the compatible software solutions that support the informational exchange within the network), all the online actions of an employee are registered in a history database that can be accessed by the those interested, no longer depending on detailed information provided by others in order to do their own tasks. This way, internal communication processes are simplified, requiring much less time, while the amount of information circulated is reduced, significantly lowering the informational overload.

However, there is also an important challenge associated to the resistance to change displayed by some of the actors, who might consider that joining a network and using its specific informatics and informational tools would only increase competition and negatively impact on their short-term performance. Even worse, some might consider that the new way to interact within the network would affect the existing long-term relationships. Adopting a new pattern to initialize and shape inter-organizational relationships brings substantial change for all the partners, and in order to accept and implement those changes, they all have to define and share the resulting benefits. More often than not, changing the way transactions are being made determine structural change for the organizations involved (such as designing new positions and departments or eliminating obsolete structures), which is bound to raise questions and criticism on the part of those affected. Therefore, the first step in the process of joining a value-creating network would not be the making of a dedicated e-marketplace, but the operationalizing of change

at the level of organizational culture and structures, especially through training and intensive information sessions.

#### *B. Cost reduction*

Most of the logistic operations performed by the organizations in the beer industry are repetitive (contacting potential suppliers and requesting for proposals, managing the material flows within warehouses and between all the parties involved, tracking and tracing orders etc.), and highly vulnerable to human errors and diminishing worker motivation and customer satisfaction. Reducing the number of repeats for those operations and removing unnecessary steps through operation automatization and information sharing is a perfect way to reduce operational costs associated to useless interactions and low productivity. Also, the use of the IT implements that make the network operational allows the member companies to reduce the time and effort invested in finding and comparing proposals in order to identify the optimal one, and consequently contributes to reducing the costs associated with those activities. Another advantage would be the higher level of transparency regarding prices, those being available and traceable for all the members of the network, which eventually leads to more intense competition between sellers and a cascade of financial benefits for the actors situated downstream in the network and above all, the end consumer. However, most companies agree that even though there are some costs associated to joining such a network and updating the software in order to meet compatibility conditions, the savings deriving from spending less time to find, test and contact potential partners and from improved inter-organizational communication processes overcome them by far.

#### *C. New business opportunities*

Besides the financial incentives, joining a value-creating network and a dedicated e-marketplace may improve inter-organizational connectivity, lead times and informational transparency. By using the specific tools of the network, the organizations in the beer industry would eventually expand their competencies on four separate dimensions:

- The *know-how* dimension – allows the companies to improve their experience and knowledge base, as well as the individual competencies of the employees;
- The *know-why* dimension – provides an opportunity to analyze the causes for variations of the demand for the end product (beer), or for the products and services needed for its manufacturing and distribution, as well as the significance of the changes in the behavior of the other network members;
- The *know-what* dimension – is the basis for process optimization and performance improvement along the supply chain;
- The *know-who* dimension – refers to the inter-organizational relationships within the network and the direct contact to the main decision-makers.

Since supply is highly fragmented in the beer industry, having quick access to a large array of different suppliers implies getting lower prices, products and services of a better quality and better adapted to the new trends in the field, as well as a chance to partner with renowned companies otherwise inaccessible. Also, the network can easily expand with little to no additional costs, considering that it benefits from the sharing of information regarding buyers and suppliers provided by the members. As for informational transparency, the network may develop track and tracing tools such as automatically sending all members notifications referring to the moment a transaction has been closed and in whose benefit, or

to the moment a potential buyer checks a proposal, so that informational asymmetry is significantly reduced and negotiation is based on more accurate information. All member organizations would benefit from those aspects, but the small companies are the ones who get the most out of joining the network, since they have the opportunity to partner with important actors on the market, they wouldn't get access to otherwise.

## **2. The impact of joining a value-creating network from the relational point of view**

By joining a value-creating network and accessing a dedicated e-marketplace, the organizations in the beer industry may expand their interactions on multiple levels, starting with information gathering and negotiation and ending with the post-transaction phase, when the main focus is on achieving a higher level of mutual trust. Moreover, the member organizations can better control their value-creating processes and monitor each other's contribution to the value system, which allows them in the end a more suitable distribution of the benefits resulted from the collective actions and the increased level of global performance of the network. So, if during the information gathering and negotiation phase the focus lies on informational transparency, communication speed and continuity, and the effort to improve the level of customer satisfaction, during the transactional and post-transactional phase the effects would be measured in terms of increasing the level of logistic processes efficiency, as well as in terms of initiating new partnerships and trust-based inter-organizational relationships.

A. *Supporting negotiation* translates into:

- Reducing transactional costs for the member companies (the costs associated to seeking new suppliers/customers, the cost generated by the information gathering, costs specific to the processes of negotiation, benchmarking and decision-making);
- The overall cost reduction due to increased transparency and suppliers competition;
- Better and faster communication among network members (online real-time communication overrides geographical and global time barriers);
- Increased quality of the available market information;
- Increased efficiency and customer satisfaction;
- Saving the time used for bureaucratic, repetitive actions, due to automatization.

B. *Improved efficiency of activities and processes* is the result of the:

- Increased speed and flexibility for the transactions between organizations;
- Real time informational flow – fast communication improves inter-organizational relationships and connects all actors within the network;
- Access to a dedicated e-marketplace – allows inter-organizational interactions by removing technological barriers, since the basic condition to access the IT implements of the network is to have the compatible technology;
- Reducing the whip effect by improving coordination between the organizations involved in performing a certain logistic activity or process or by coordinating the demand planning actions of all member companies;
- Decreasing the number of info transmissions by simultaneous messaging (for example automatizing the *request-for-proposal* procedures) and the number of communication errors due to human intervention;

- Electronic processing of transactions - causing cost reductions, increased productivity and global improvement of the order fulfillment intervals;
- Shortening the intervals between order placing and payment registration;
- Spending less time to control and monitor order specifications;
- Centralizing the relevant information for the network members and granting them full (24/7) access to them.

C. *Initiating new partnerships and improving the general level of inter-organizational trust* is another type of effects the network may have on the inter-organizational relationships between the members, reflecting upon:

- Extended areas of influence for the organizations willing to join the network, since it provides an opportunity to develop new relationships and gain access to new customers and supplier;
- Expanded customer databases for the suppliers in the beer industry, as well as suppliers databases for the buyers;
- Equal opportunities for all actors, since the request-for-proposals are automatically sent to all the members registered as suppliers for the respective product or service;
- Higher informational transparency leading to a higher level of protection against opportunistic behavior, and supporting trust between network members.

All those aspects considered, joining a value-creating network by the organizations in the beer industry brings a series of advantages from the relational point of view, such as:

- Increased negotiation power for buyers (especially the beer manufacturers, acting as main actors in the network);
- Better quality and customer service standards due to more intense competition between sellers;
- In the case of reverse auctions (frequent when it comes to purchasing complex equipment, manufacturing or bottling lines by the beer manufacturers), the buyer has the opportunity to select suppliers which can be easily replaced, without important costs;
- Higher willingness to cooperate among network members: for instance, a beer manufacturer can cooperate with several suppliers, one or more 3PL and shipping companies, as well as its distributors and companies providing marketing, financial or insurance services; also, cooperation can be observed between companies who would normally be competitors, but who can join capacities and competences in order to seize an important contract, which eventually leads to better coordination and reduces the whip effect;
- Reducing the technological differences between member organizations, which allows better communication and coordination and positively impact the whole industry;
- Reducing the number and impact of inter-organizational conflicts due to increased transparency and the existence of incentive distribution mechanisms.

### **3. The impact value-creating business networks on the industry**

Integrating the organizations in the beer industry into value-creating networks and using its IT implements allows them to quickly acknowledge the structural and strategic changes within the industry (rather frequent in this sector). While the economic environment

becomes more and more competitive, there is a growing need for inter-organizational coordination and collaboration. The information and knowledge sharing, the setting of commonly accepted standards (as in the case of Ursus and its distributors), building trust and insuring equity, as well as coordinating informational and knowledge flows is no longer a luxury, but a necessity. Usually, managers rely on their experience to react to the variations of the economic environment, but as the complexity of interactions increases and organizations tend to specialize and develop their competencies, mere experience is no longer enough to make them cope with situations they have never faced before. For the organizations in the beer industry, there is an acute need to increase the speed to react to the environmental stimuli and to reduce the communication latency (the interval between the moment a variation is perceived and the moment the information is sent to the decision-maker). A dedicated e-marketplace would allow the organizations in the beer industry to achieve this, which would eventually translate into cost reductions since there would be no more delays in acknowledging the reactions of the other network members and in gathering valuable information from the environment. For the entire network, collaborating to reduce the negative impact of certain variations of the components of the environment means being able to reduce lead times, inventories, running out of stock and disrupting the activities performed throughout the network. Also, it would allow the network to improve its global ability to respond to the end consumer's expectations, therefore avoiding errors and unnecessary costs (such as the case of the failed launch on the Romanian market of some products that, even if proven successful elsewhere, were not able to attract local consumers).

The main principle guiding any organization integrated in a value-creating network is to permanently struggle to maximize the global value created across the network, by:

- Clearly stating the values the network has to go by (mainly focused on information and knowledge sharing and avoiding opportunistic behavior)
- Aligning its operations and organizational culture to the network values.

For beer industry value-creating networks, the organizational culture would not be focused on radical and continuous innovation, but rather on operational excellency: the members have limited possibilities to fight competition through technological innovation, since there are a series of rather strict standards regarding beer recipes, which do not allow major changes of the manufacturing processes, but they can significantly improve the operational efficiency of the logistic activities they are specialized on. All the network members would therefore try to integrate the good practice models other members share into their current activity, improving their own knowledge bases and organizational competencies. The main focus would be on specific improvements of the quality and viability of products (including raw materials, packages, machines and equipment), the customization of warehousing, transport and marketing services, improving the material, financial and informational flows and the accuracy of plans and forecasts. The result would be the making of a common organizational culture for all the network members, focused on gradual evolution rather than on radical change.



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