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The Effect of National Culture on Supply Chain Collaboration

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Abstract:

Today companies are facing higher uncertainty, deriving from demand, supply and technology. Reducing supply chain uncertainty is of strategic importance for companies. Strategies used by companies to reduce uncertainty vary from building agile and flexible supply chains, keeping strategic stock, increasing resilience, modular design and so forth. All these strategies require coordination and collaboration. But collaboration is not easier. This research will analyze the effect of uncertainty and national culture on supply chain collaboration in the Albanian beer industry. Semi-structured interviews were conducted with the managers of the main Albanian beer

producers. A guide questionnaire was prepared. It had two main parts: supply chain uncertainty and supply chain collaboration. This study will show that the level of collaboration with the supply chain partners is at medium levels, according to the collaboration index. A successful collaboration requires information sharing, trust, commitment and work group. The Albanian culture does not have all these elements. This explains the medium level of supply chain collaboration. Although interest in supply chain collaboration is increasing, no such research has been conducted in Albania. The results of this research will be of high importance not only for the managers of the beer companies but also for the managers in other industries.

Key words: supply chain collaboration, uncertainty, Albanian beer producers, national culture

Introduction

Today supply chain uncertainty is higher. The main sources of this uncertainty are suppliers, technology and customers (Chen & Paulraj, 2003). Due to globalization and increase of internet use, customers require more choices, better prices, high quality and better post-sale services. These changes make more difficult the demand forecast. Technology is changing quickly, and if you do not catch the last trends, you may lose competitive advantage. And lastly firms have many suppliers located worldwide. The management of a global network of suppliers is difficult and the uncertainty related with quality and punctuality is high when you rely on global suppliers.

Reducing supply chain uncertainty is of strategic importance for companies. Strategies used by companies to reduce uncertainty vary from building flexible, aligned and agile supply chain (Lee, 2004), increasing resilience of supply chains (Sheffi, 2007), postponement, flexible supply base (Tang, 2006), and many others. All these strategies require strong collaboration with the supply chain members. Many companies acknowledge their success to the relationships with their suppliers and buyers (Myers, 2010).

Supply chain collaboration can reduce uncertainty, but not all the companies can collaborate successfully with the supply chain partners. Collaboration requires membership, trust, commitment and sharing information (Laskowska-Rutkowska 2009). Not all the national cultures manifest these elements.

The aim of this research is to investigate how supply chain uncertainty and national culture influence the extent of collaboration with the supply chain members. The research is focused in the Albanian beer industry because it is one of the most important industries in Albania. The consumption of domestic beer is increasing in Albania due to increase in quality and variety with a reasonable price (Chan- Halbrendt e Fantle-Lepczyk 2013). Also, the supply chain of the beer producers is a

global one and so they can benefit more from supply chain collaboration.

Based on the previous discussion, the following hypotheses are suggested:

H1: When supply chain uncertainty increases more supply chain collaboration is needed.

H2: Individualistic and risk awareness national cultures impose limits to supply chain collaboration.

The outline of the paper is the following: After the introduction section, there is a critical review of the relevant regarding supply chain collaboration, supply chain uncertainty, national culture and the relation of the last two with supply chain collaboration. Then the research method is explained. After the method section, the findings are discussed. Later, the limits of the study and recommendations for managers and future research will be presented.

Literature review

Supply chain uncertainty

Nowadays, supply chain uncertainty is higher, firstly because supply chains are more vulnerable. They have been always vulnerable, but today they are more vulnerable, as the companies are less vertically integrated, and their supply chain is located all over the world (Wagner & Bode, 2007).

Secondly, the global crisis of 2008 amplified the sources of supply chain uncertainty. We can mention sources like unstable trade and capital flow, currency risk exchange, uncertainty about the environment regulations and an increase of uncertainty regarding the decision of choosing suppliers as companies in developed countries are becoming more credible (Malik & Ruwadi, 2014).

Lastly, the current technology trends are increasing the supply chain uncertainty. The technology changes quickly, and companies need to be innovative, to introduce new products in

the market. As new products are introduced frequently, companies need to keep little inventory because many of the components will not be needed to produce the new products. To reduce inventory, they rely on global sourcing, on lean manufacturing and on just in time inventory management (Christopher, 2010), which require close collaboration with the supply chain members

Hendry, Simangusong and Stevenson (2011) argued that the main sources of uncertainty can be divided in three groups: uncertainty that come from the focal company (internal organizational uncertainty), internal supply chain uncertainty that comes from the relations with the supply chain members and external uncertainties that comes from factors outside the supply chain.

This paper is focused on the internal supply chain uncertainty. According to Chen and Paulraj (2003) internal supply chain uncertainty can be attributed to three sources: supplier uncertainty; demand uncertainty and technology uncertainty. Supply uncertainty is related with indicators of quality, timeliness and the inspection of supplier requirements. Demand uncertainty refers to fluctuations and variation in demands while technology uncertainty is related with the technological changes within the industry.

As mentioned above, firms implement different strategies to deal with uncertainty. Each strategy requires collaboration with all the supply chain partners. The next section will analyze this topic.

Supply chain collaboration

Supply chain collaboration has become one of the most important topic in the business area not only of its importance in supply chain management but because it also provides many benefits to the chain members. These benefits are more than just improved efficiency and effectiveness, including increased customer satisfaction (Myers 2010), improved profit and market share(Myers e Cheung 2010), reduced lead time and

improvement in innovation(Spekman, Kamauff Jr e Mhyr 1998). If collaboration brings all these benefits, why firms do not collaborate? The reason is the level of difficulty related with this process.

Supply chain collaboration is easier when you have the right partners, so an important aspect is the selection of the supply chain partners. According to Barrat (2004), supply chain collaboration means sharing joint objectives, trust, and respect, commitment and intellectual agility. These elements are considered by the companies when selecting the supply chain partners. Other elements include financial performance, past experience with them, reputation and many others (Duffy, 2014).

After the selection of the appropriate partners, companies must decide the elements of collaboration. Many consider supply chain collaboration as a unilateral process that focus on one element like information sharing, co- managed inventory, process coordination and workflow realignment (Lee, 2000). Simatupang and Sridharan (2005) stated that key elements of collaboration interact between them. According to them the key elements of collaboration included information sharing, decision synchronization and incentive alignment. Information sharing refers to the access in the personal data of the supply chain members. Decision synchronization is defined as the extent at which the supply chain members coordinate critical decision at the planning and the decision level. Incentive alignment refers to the sharing of costs, benefits and risks with the supply chain members. Based on these three elements of collaboration the authors developed a collaboration index that will be used in this research to measure the extent of supply chain collaboration.

Supply chain collaboration initiatives help to coordinate customer demand with supplier and manufacturer production plan, by reducing demand and supply uncertainty (Mc Laren, Head, & Yuan, 2005). Supply chain collaboration also can reduce technology uncertainty, as the continuous sharing of

information makes more visible the recent trends in technology (Boon & Wong, 2011). Concluding, the collaboration with the supply chain members can reduce uncertainty deriving from supply, demand and technology.

Supply chain collaboration can reduce uncertainty, but not all the companies can collaborate successfully with the supply chain partners. Collaboration requires membership, trust, commitment and sharing information(Laskowska-Rutkowska 2009). Not all the national cultures manifest these elements.

National culture

According to Hofstede, Hofstede and Minkov (2010) the main elements of a national culture are power distance, uncertainty avoidance, individualism, masculism, long-term orientation and indulgence. Power distance is the extent at which less powerful members of an organization except that power is distributed equally. Individualism is the degree at which people are integrated in the society. The societies with a high level of masculism are oriented toward personal achievement and rivalry while the societies with a high level of uncertainty avoidance are orientated toward planning. Indulgence refers to the level of control of desires and impulses by the members of a society.

The power distance is high in Albania. For this reason, the hierarchical structures are preferred. Albanian's people are collectivist, long term committed to the group they belong. These elements make difficult the hiring and promotion of people based on their capabilities and competencies. Albania is a masculine society. All the employees make the impossible to do the best, as promotion is based on their performance. The status you have in the company is very important. The Albanian people do not like uncertainty so they work a lot on planning, to avoid the unpredictable. Also, it is long-term oriented, making easier the adoption to the environmental changes. Lastly, Albanians are restrained in nature. Peoples

feel that they are restrained by social norms and they tend to be pessimist (Hofstede Center, 2015).

Summarizing, the Albanian people does not like collaboration as it is an individualist culture and it prefers to rely on planning rather than on collaboration to reduce uncertainty.

Methodology

The methodology used was semi-structured interviews with the managers of the Albanian beer producer companies. From the main five Albanian beer producers, only four become part of the study as the managers of one company did not accept to give information about the topics of the research. The persons interviewed were purchasing managers, sale managers and in one case the owner of the business. In some companies was interviewed only one person, while in another company two persons were interviewed. All interviews were conducted face to face, and the confidentiality of data was promised.

A guide questionnaire was prepared to support the semi-structured interviews. It has two parts. The aim of the first part was the measurement of supply chain uncertainty. It was used the study of Chen and Paulraj (2003). As mentioned in the literature review section they identified three sources of uncertainty: supply, demand and technology uncertainty. The authors for each type of uncertainty provided a list of items. The respondents were asked to give an evaluation from 1 to 5, when 1= strongly disagree and 5= strongly agree, to each item. Regarding supply uncertainty, a total score of 10 signifies that the suppliers fulfill all the requests and offer materials of consistent quality, so the supply uncertainty is low. An evaluation of 25 for the second dimension (in the case when the respondent evaluates with the maximum points all the five items) is related with high demand uncertainty. Lastly, high technology uncertainty relates with a total evaluation 20 (in the case when the respondents evaluate with the maximum points

all the four items). The scores for each source of uncertainty were compared with the maximum scores, to evaluate the level of uncertainty for the three sources of uncertainty.

For the second part, the collaboration index of Simantupang and Sridhran (2005) was used. The authors measured collaboration based on three dimensions: information sharing, decision synchronization and incentive alignments. The respondents were asked to give an evaluation from 1 to 5, when 1= strongly disagree and 5= strongly agree, to each item. The index score simply equals the sum of the aggregate scores of each dimension, assuming equal weight for each of them. Higher the index score higher is the collaboration between the supply chain members. Comparing the score of the collaboration index with the maximum score, I could evaluate if the level of collaboration is low, medium or high. The maximum score of the collaboration index relates with the maximum score for each dimension (the respondents evaluate five each item).

The guide questionnaire was first evaluated by academicians, and was tested in one of the companies part of the study. Some questions were improved and changed based on the feedback of the academicians and the result of the first interview.

The most relevant ethical issues for this research are: confidentiality of data, avoiding causing harm and lacking respect, informed consent and promise to provide the participant with a copy of the study.

Research findings

Table 1 presents the results related with the level of supply chain uncertainty.

Table 1: Level of supply chain uncertainty

	Demand uncertainty	**Supply uncertainty**	**Technology uncertainty**	**Total supply chain uncertainty**
Score	52	14	43	109

Maximal score	100	40	80	220
Evaluation of the level of uncertainty	Medium	Low	Medium	**Medium**

The results show that the level of supply chain uncertainty in the Albanian beer industry is at medium levels. The Albanian beer producers declared that the suppliers are reliable and they offer products of high and consistent quality. So, the uncertainty deriving from supply is low. It cannot be the said the same for the uncertainty deriving from technology and demand. They accepted that there are demand fluctuations, but these can be managed by keeping strategic stock in the inventory. Due to the high competition, you have to work hard to catch the last technology trends, to gain competitive advantage.

In table 2 are presented the result of the collaboration index.

Table 2: Collaboration index

	Information sharing	**Decision synchronization**	**Incentive alignment**	**Collaboration index**
Score	108	95	56	259
Maximal score	200	160	100	460
Evaluation of the level of supply chain collaboration	Medium	Medium	Medium	**Medium**

Even the level of supply chain collaboration is at medium levels. Albanian beer producers do not like to share information with the supply chain members but instead they argue that the sharing of costs and benefits with the supply chain members would benefit everyone in the supply chain. Some companies synchronize the decision-making process with their main clients, but not with suppliers because they share the same suppliers with the competitors.

Conclusions and implications

The new business environment is facing more supply chain uncertainty that can be attributed to three sources: supply uncertainty, demand uncertainty and technology uncertainty (Chen & Paulraj, 2003). The main source of uncertainty for the Albanian beer producer derives from demand while uncertainty from supply side is very low. Their suppliers always fulfill their requests and offer materials of consistent quality. The technology uncertainty is low, as we are not dealing with high-tech products. Why supply uncertainty is low while demand uncertainty is high? Based on the findings of this research I can argue that the suppliers of the Albanian beer producers are international ones, with a long experience and the beer producers always keep inventory of the main materials. These reasons explain why supply uncertainty is low.

In general the level of collaboration in the Albanian beer industry is at medium levels. Albanian beer producers do not like to share information with the supply chain members, but instead they argue that decision synchronization and sharing of costs and benefits with the supply chain members would benefit everyone in the supply chain. The first hypothesis of this research holds on. An increase in the level of supply chain uncertainty requires more supply chain collaboration.

The second hypothesis states that individualistic and risk awareness national culture imposes limits to supply chain collaboration. The Albanian culture is individualistic and with a high level of uncertainty avoidance. According to the collaboration index, the level of supply chain collaboration is at medium levels in the beer industry. The Albanian producers declared that more collaboration is needed to face the increasing uncertainty, but the national culture sometimes imposes limits. Even the second hypothesis holds on.

This research revealed that the level of supply chain collaboration is affected by the level of supply chain uncertainty and by the national culture. Not all the cultures facilitate the

collaboration process. Individualistic and risk awareness cultures make more difficult the collaboration with the supply chain members.

This study has a high practical importance for managers. Based on the conclusions of this research, I recommend to the managers:

Analyze the external environment: The level of supply chain collaboration depends on the level of uncertainty. Analyze firstly the level and sources of uncertainty and then decide how much to collaborate, because it is a costly and time- consuming process.

Analyze the opportunities and threats deriving from the national culture: Companies have different cultures that sometimes help them to engage easily in supply chain collaboration and sometimes impose limits. So it is suggested to understand who are the strengths and limits of your national culture. When you decide to engage in supply chain collaboration, you have to consider these strengths and limits.

Collaboration to detect the weakest link in the supply chain: Today many supply chains are global and complex, so it is difficult to monitor and manage them. If one part of the supply chain is weak, all the supply chain will be weak. The best suggestion for quickly discovering the weakest link is collaboration and continuous information sharing with all the companies in the supply chain. By collaborating with all the members in the supply chain, you can help them to meet your objectives and also you will know them better. Companies need to collaborate in normal times and especially in difficult times. If you exchange real-time information about demand and supply with your members in the supply chain, you will notice immediately if something happen to them and vice versa. A small problem can bring big problems, so it is better to discover and solve it immediately.

The main limit of this study is the focus on the focal firm. The research would have been more relevant if all the other supply chain partners would have been interviewed.

Further studies should consider this limit. Also, this study could be conducted in other industries to see if the results are the same.

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