FRAMEWORK FOR SUPPLIER FINANCIAL RESILIENCE EVALUATION

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Abstract

Responsible management and all-risks assessment is of crucial and key importance for every company. Harmonizing demand and offer is a real challenge for every business, yet it is even harder in today's very insecure and quickly changing environment. Suppliers and supplier chains are the backbone of global economy; customer requirements are practically borderless; product life cycles are diminishing faster than in the past; prices of commodities and currency fluctuations or natural disasters or terrorist acts may completely disrupt planning and production systems. All of the above calls for a better strategy combined with supplier resilience. The aim of the article is to draw up a draft framework for measuring the resilience of industrial suppliers from the perspective of financial strength.

Keywords: Resilience, financial strength, industrial supplier

1. INTRODUCTION

In contemporary business environment companies have to tackle a great number of new trends (e.g. [1]): globalization, outsourcing, centralization, IT-innovations, delivery of complex products and services, unstable demand, technological innovations and, last but not the least, impact on the environment on the environment. These trends significantly increase the requirements for choosing suitable suppliers and also the need to search for new concepts of management in the selection of suppliers.

Global supplier chains and transport networks form the backbone of the global economy, trade, consumption, and economic growth. Failures or outages or individual suppliers may show, in very simple terms, what a single hurricane or a whole season of hurricanes can cause to the nature. According to a survey conducted by Accenture, it has been established that disruption of a supplier chain may affect the prices of the affected company's shares by as much as 7%, on the average. The Global Economic Forum on Supply Chain Risk was first to begin to look for systemic risks and vulnerability of global supply. The initiative was taken up by the Global Economic Forum at the annual meeting in 2012 in Davos - Klosters with a study of the resilience supplier chains. [2]

Sever disruption of global supplier chains may occur not only due to country-specific risks and possibility of other risks. In this context, it is emphasized how important it is to abandon reactive risk management and focus on proactive risk management. Simultaneously with that report, the US government launched its strategy of securing the global supplier chain and invites all the participating parties to a dialog as to how to protect suppliers effectively. [2]

The aim of the article is to draw up a draft framework for measuring the resilience of industrial suppliers from the perspective of financial strength.

2. METHODOLOGICAL BASIS

2.1. Supply Chain Resilience

Supply chain resilience is the ability of a supplier chain to return to its previous performance in the event of a severe disruption, in other words, its capability to resist the external factors and effects of the environment. Figuratively speaking, resilience of a supplier chains may be compared to the resilience of a material as its ability to absorb impacts without permanent deformation. [3]

Severe disruption most often results in a significant decrease of production, sales, and economic results. According to the World Economic Forum (2012), there are five most important causes of severe disruption of supplier chains, namely: natural disasters, extreme weather conditions, conflicts and political unrest, terrorism, and sudden demand shocks. [2]

2.2. Choice of Suppliers

As cooperation amongst partners in supplier chains is becoming ever more intensive, it calls for a quality method of choosing suppliers. Thus, a significant part of strategic decision-making is the purchasing process. The time where choosing a supplier depended mainly on the price and quality requirements were minimal is gone for good. The search for future suppliers can be subjected to various criteria that ought to be adjusted to the role that the suppliers are supposed to play in the endeavor to provide competitive services to end customers. [4]

An indispensable part of decision-making about suppliers is proper selection of relevant criteria. This step ought to precede eventual preparation of tender proceedings - namely, each participant should be well acquainted with the assessment criteria. Selected suppliers should thereupon be evaluated retrospectively under similar criteria as well, on the basis of their actual performance. [4]

3. FRAMEWORK FOR SUPPLIER FINANCIAL RESILIENCE EVALUATION

There still remains an issue to settle - namely, how to measure the resilience of industrial suppliers. The starting point is a thorough analysis of each supplier‘s resilience subcapabilities, which include [5], [6]:

- Adaptability - ability to modify operations in response to challenges or opportunities.
- Agility - ability of an organization to respond rapidly to changes in demand both in terms of volume and variety.
- Anticipation - ability to discern potential future events or situations.
- Capacity - availability of assets to enable sustained production levels.
- Collaboration - ability to work effectively with other entities for mutual benefit.
- Dispersion - broad distribution or decentralization of assets.
- Efficiency - capability to produce outputs with minimum resource requirements.
- Financial strength - capacity to absorb fluctuations in cash flow.
- Flexibility - ability to change or react with little penalty in time, effort, cost or performance.
- Market position - status of a company or its products in specific markets.
- Organization - human resource structures, policies, skills and culture.
- Recovery - ability to return to normal operational state rapidly.
- Security - defense against deliberate intrusion or attack.
- Visibility - knowledge of the status of operating assets and the environment.

One of the most important supplier resilience subcapabilities is financial strength. The concrete indicators of financial strength and their importance can be assessed using the Analytic Hierarchy Process (AHP) devised by Saaty. The AHP makes it possible to analyze the problem of decision-making with the aid of a hierarchic system of weighed goals, criteria, and measurable indicators (see **Fig. 1**) [7], [8]. The objective of this process is to determine the given supplier's overall resilience, whereby the criteria are individual resilience subcapabilities (financial strength, in this case) that concrete indicators have to be defined for.

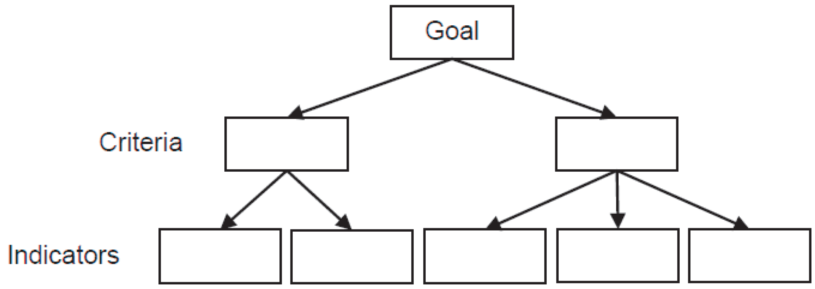

Fig. 1 Three levels of AHP hierarchy

The following can be considered main indicators for assessing suppliers' financial strength:

1. Liquidity indicators - measure company's ability to settle current liabilities
2. Activity indicators - measure company's ability to use its resources
3. Indebtedness indicators - measure the scope of not-own capital financing
4. Profitability indicators - measure the overall efficiency of the company's management
5. Company's market value indicators - measure the value of company's equity shares and assets

Tracking the financial health and monitoring suppliers is a demanding process. Symptoms of financial stress often emerge in a slow and concealed way. It is very difficult to distinguish indications or proofs up front, because many suppliers are in private ownership. This means that financial information may not be available to the public. Other suppliers may be divisions of larger enterprises where the results of individual operating units may be dispersed in the parent company's consolidated financial reports. Another difficulty is that analysis of financial data requires full comprehension of the "normal" financial health of companies in the certain sector, because the concept of "normal" financial health of individual industrial sectors varies.

On the basis of data obtained from suppliers, it is possible to set out the methodology of calculating the given supplier's financial health and their resilience to the environment. The output data of suppliers under scrutiny or the data received from them tell us about the status of the given supplier's financial strength.

Relevant assessment of industrial suppliers' financial strength by means of measuring their resilience can be done using the following methods:

1. Benchmarking of assessment obtained with other supplier.
2. Comparison of acquired values with maximum (ideal) and minimum financial strength values.
3. Classification of the evaluated supplier by pre-defined category (e.g., highly resilient, resilient supplier - cooperation needed to increase resilience, inadequately resilient supplier - substitute supplier).
4. Regular supplier evaluation supplier and trend analysis.

CONCLUSION

Evaluating suppliers and their resilience is a very complex and sophisticated process that requires constant input of relevant and above all available data on suppliers, as well as close collaboration between the company and its supplier. However, evaluating the resilience of suppliers is of key importance to companies, as the company's productivity and its ability to stay competitive even in distant future depend on it.

Future research will focus on devising a methodology for measuring and evaluating the overall resilience of industrial suppliers.

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