Designing a Performance Measurement System for Supply Chain Agility

For companies to stay competitive in today's volatile environment, supply chain agility has been pointed out to be a relevant focus area. However, no consensus regarding definition, constituents or measurement of the concept have yet been found.

To address the limited consensus, this report provides a summation of relevant literature on the topic of supply chain agility definition, constitution and measurement. It also presents a condensation of areas for measuring supply chain agility and a performance measurement system adapted to a case study company for measuring the concept.

The most mentioned capabilities of supply chain agility in literature are found to be responsiveness, flexibility, quickness and competency. Each of these capabilities could, in turn, be argued to consist of a number of sub-capabilities. An exception is the competency capability, where no common sub-capabilities are to be found in research.

For each sub-capability, relevant areas of measurement, extracted from research literature, could be derived and translated into metrics. This report presents a metrics hierarchy with an original number of 41 potential metrics for measuring the concept. Even though these metrics hierarchy has to be adapted to specific situations and companies in order to be fully useful, they point out relevant areas of supply chain agility measurement according to present research.

This report goes one step further and adapts the metrics hierarchy to a case study company, through empirical findings. The case study company is a large multinational company within the retail sector. The adaptation consisted of two main steps, including identification of good examples and challenges of supply chain agility, in order to find the most essential areas of measurement for the company, and validation, in the form of a workshop and a survey. The adapted metrics hierarchy finally consisted of a set of 19 metrics, grouped under the capabilities and sub-capabilities found for supply chain agility. The metrics hierarchy could, however, not function in isolation. It has to be accomplished by a supporting infrastructure in terms of information regarding the organizational levels at which to use the metrics, the data gathering for calculating the metrics, and the presentation of the metrics. These pieces of information form, together with the metrics hierarchy, a performance measurement system for measuring supply chain agility.

The approach of having a metrics hierarchy, based on constituents of supply chain agility and company relevance, as a constituent of a performance measurement system for measuring supply chain agility has not been found in previous research. This could, therefore, spark an interesting academic discussion.

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