

Chapter 97

Scenario Planning: Preparing the Future of Global Supply Chains

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ABSTRACT

A crystal ball methodology that foresees the future is probably one of the most sought-after tools by any organization operating in this ever-changing world. The ability to correctly navigate through uncertainties and drastic changes in the external environment is found to be limited when an inward perspective of the company is utilized. The measurement of performance indicator and the mining of usable information in a sea of big data, among other approaches, may provide limited results in guiding the company towards choosing effective strategic decisions that will sustain the company in the future. This chapter is an effort to pursue an alternative perspective in planning by using Scenario Planning, a group thinking process that encourages knowledge exchange and development of mutual deeper understanding of central issues important to the future of an organization. Applying Scenario Planning framework, a structured approach is elaborated to describe a replicable methodology for sensing critical uncertainties in the external environment. These uncertainties are then utilized as the foundations for creating scenarios, which are attempts at vivid visualizations of how the future may look like. In this research, the effectiveness of the methodology has been demonstrated on the supply chain of Clariant, a Specialty Chemicals Company headquartered in Switzerland, by developing three scenarios that are sample representations of a whole range of plausible futures. These scenarios are differentiated by combinations of high and low

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conditions of the three critical uncertainties identified: (1) Emergence of trading blocks, (2) Changing consumer needs/behavior, and (3) Changes in logistics infrastructure. These critical uncertainties are also used to further design a new breed of indicators that are used as ground-sensors to monitor which direction the future is heading to. In addition, Scenario Planning also provides a fertile platform on which organizational learning can organically grow. The steps used in the methodology forces users of the scenarios to challenge existing mental models resulting to a wider perspective and appreciation of the dynamics that surround and impact an organization in the future.

INTRODUCTION

It is a wonder how some of the greatest engineering and business minds in history were very wrong on their prediction of how the future will play out. The Walkman, the iPod and now the iPhone have revolutionized how music is now being consumed and distributed. It is ironic that Thomas Edison, the original inventor of the machine that plays musical sounds, failed to recognize the potentials of his own invention. Until now, companies are searching for that elusive crystal ball tool that will give them the ability to predict the future accurately.

The ability to strategically plan for the future is a key element in the success of Supply Chain Networks. Traditionally, forecasts have been used to guess how the future may turn out to be but in the long term, forecasts tend to be wrong. Alternatively, key performance indicators (KPIs) have provided organizations with an opportunity to visualize a ‘rear-view’ picture of what has occurred in past and is occurring in current operations. Alternatively, ‘side-view’ visualization could be done through complex analysis using deep dives into big-data made available through the use of advanced Enterprise Resource Planning (ERP) systems. This viewpoint can also be complemented by using traditional benchmarking comparative analysis within and across industries. Using these indirect vantage points of the state of an organization and its immediate environment provide limited guidance that will be useful for correctly and accurately foreseeing what is coming ahead.

This research attempts to develop a framework that will explore the possibility of developing a new breed of indicators that will provide forward-looking guidance which helps organizations strategize accordingly in response to the ever changing future company, industry, and market scenarios. Through the careful analysis of how these indicators evolve, organizations can be guided on the appropriate management direction and strategy that should be employed in order to remain profitable and competitive in their environments.

The sponsoring company of this research, Clariant, is a leading manufacturer of specialty chemical products catering to the business-to-business market. The company, firm in its commitment to excellence, has begun a long-term excellence initiative targeting a culture of continuous improvement. This initiative not only covers supply chain, as part of operations excellence, but also production, innovation, commercial and people excellence. These excellence initiatives are driven by a high level executive committee with a clear mandate to implement solutions consistently across all business units (BUs) and service functions, which in turn are expected to clear operational targets relating to mobilization and cost

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