Uncertainty Is Certain

Introduction

Tompkins Supply Chain Consortium defines “uncertainty” as the level of knowledge of the past and current conditions that allows one to describe the existing state and predict a future outcome. Anyone who claims to have a clear picture of the past and current state and thinks they can predict the future is wrong.

Gone are the days when only history was used to understand the future. Today, businesses have to plan for uncertainty. To get a better view of how much uncertainty is certain, the Consortium conducted a survey about uncertainty and its impact on supply chains. The findings from the survey are discussed in detail throughout this report.

As shown in *Figure 1*, supply chain leaders are more uncertain now than one or two years ago, and overwhelmingly so. The events of the past two years and the precariousness of the near future are making forecasting, budgeting, business planning, and other processes that are dependent on historical information a challenge.

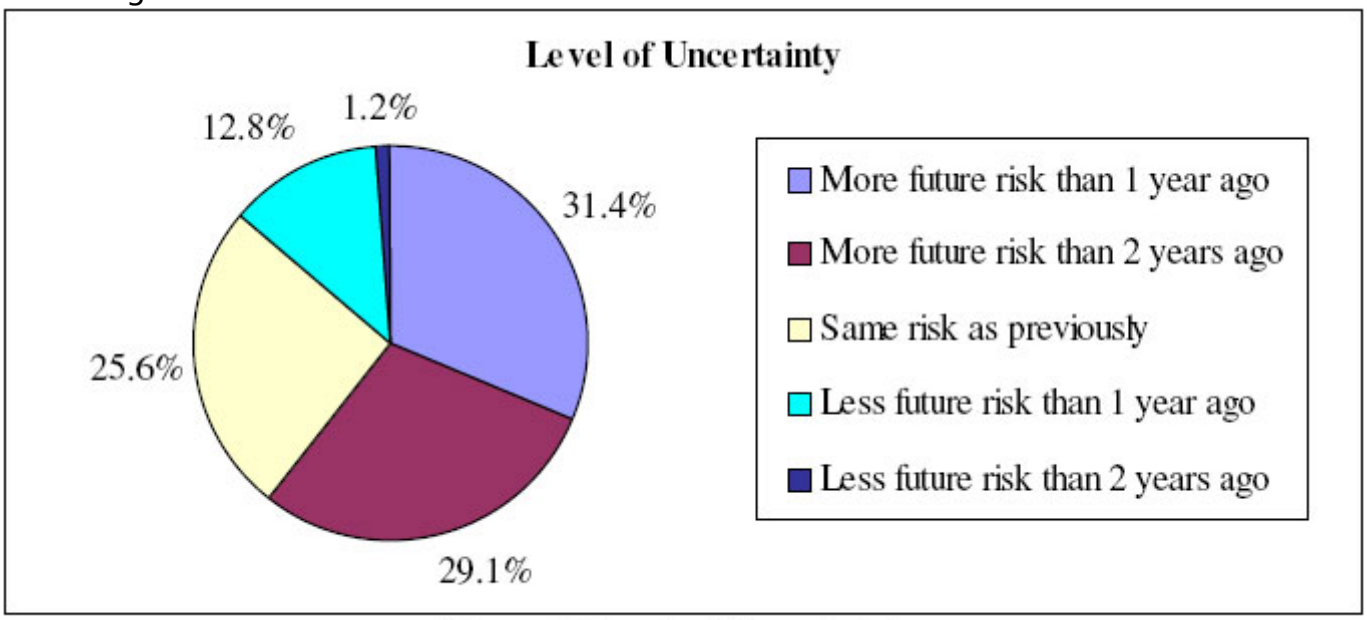

Figure 1: Level of Uncertainty

To provide a better understanding of how uncertainty is impacting companies today, results of the following questions are revealed throughout this report:

- What correlation exists between company size and uncertainty?
- What correlation exists between the scope of a person’s job and

uncertainty?
- What areas of the supply chain are creating the most uncertainty?
- What specific supply chain areas are respondents working on to reduce their level of uncertainty?
- How and to what extent is uncertainty impacting respondents' supply chains?
- How are respondents dealing with uncertainty in their supply chains?
- What solutions and innovations have been used to reduce uncertainty?

Uncertainty's Correlation with Supply Chain

To obtain a better understanding of the correlation between the size of a company and the extent of uncertainty that survey respondents feel about their supply chains, the Consortium has examined the survey data and finds that the mega companies clearly feel most uncertain (78 percent) compared to one or two years ago. Small and mid-sized companies are the least uncertain (54 percent and 55 percent respectively). Overall, the data suggests that the larger the company, the more complexity, which creates more areas for uncertainty.

There is also a connection between the scope of a person's job and the extent of uncertainty being felt. In this case, responses indicate that a broader scope of responsibility causes an increased level of uncertainty. Results show that 87 percent of individuals with global or regional responsibilities are more uncertain now than the previous two years.

On a scale from 1 to 5, respondents rank the areas of the supply chain that they are most concerned about being impacted by uncertainty. As *Figure 6* shows, planning is predicted to be the area most affected by uncertainty, followed by sourcing, sales and customer service, and transportation.

Supply Chain Areas of Greatest Concern	
Area	Weighted Score
Planning	3.59
Sourcing	3.33
Sales and Customer Service	3.22
Transportation	3.20
Manufacturing	2.91
Security	2.77
Distribution	2.66
Technology	2.49
Finance	2.43

Figure 6: Areas of Greatest Concern

The planning and sales areas are highly dependent on historical data and forecasts. With the last two years being uniquely difficult and impossible to predict, it is not surprising that planning and sales are high on the list. Sourcing and working with suppliers is also simple to understand, as the economy has made supplier relationships very difficult to maintain and a significant number of companies have gone out of business.

Planning for Uncertainty

In regards to which supply chain processes respondents are working on to reduce uncertainty, this section takes a closer look at the responses in the areas of planning, sourcing, manufacturing, transportation, distribution, sales and customer service, finance, technology, and security and government regulations. Detailed charts of all responses are located in the appendix.

Figure 8 shows the percentage of companies that are working on each area to reduce uncertainty. Topping the list of initiatives is the effort to understand and reduce the impact of government regulations, followed by forecasting as a planning function, major technology implementation, and two initiatives related to inventory management. All of these initiatives are strongly impacted by uncertainty, and when executed well, can be effective at reducing this anxiety.

Area	Initiative	Percentage of Respondents
Government Regulations	Government Regulations and Mandates	78%
Planning	Forecasting	74%
Technology	ERP, WMS and TMS	72%
Planning	Inventory Optimization	71%
Finance	Inventory Turns	65%
Sales and Customer Service	Service Supply Chain	62%
Sourcing	SRM	61%
Transportation	Transportation Network Design	60%
Transportation	Mode Optimization	60%
Distribution	Internal Distribution Process Improvement	60%
Sourcing	Data Exchange with Suppliers	58%
Distribution	Distribution Network Design	58%
Planning	Demand Planning Technology	56%
Sourcing	Supplier Metrics and Mfg Processes	55%
Technology	Planning Technology	55%
Manufacturing	Labor, Material and Energy Costs	54%
Transportation	Internal Transportation Process Improvement	54%
Manufacturing	Internal Mfg Process Improvement	52%
Sales and Customer Service	Changing Customer Practices	51%

Figure 8: Percentage of Respondents Working On Initiatives to Reduce Uncertainty

In order to gain a better understanding of how and to what extent uncertainty is impacting companies' supply chains, respondents rate each area of impact as high, medium, low or none. *Figure 9* through *Figure 12* present the data for uncertainty that:

- Adds costs.
- Increases lead-time.
- Decreases customer satisfaction.
- Reduces speed to market.

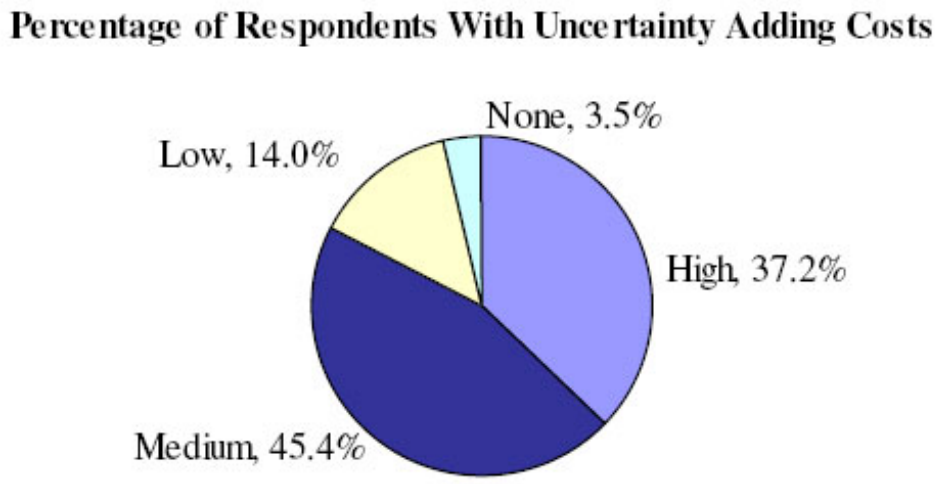

Figure 9: Uncertainty Adding Costs

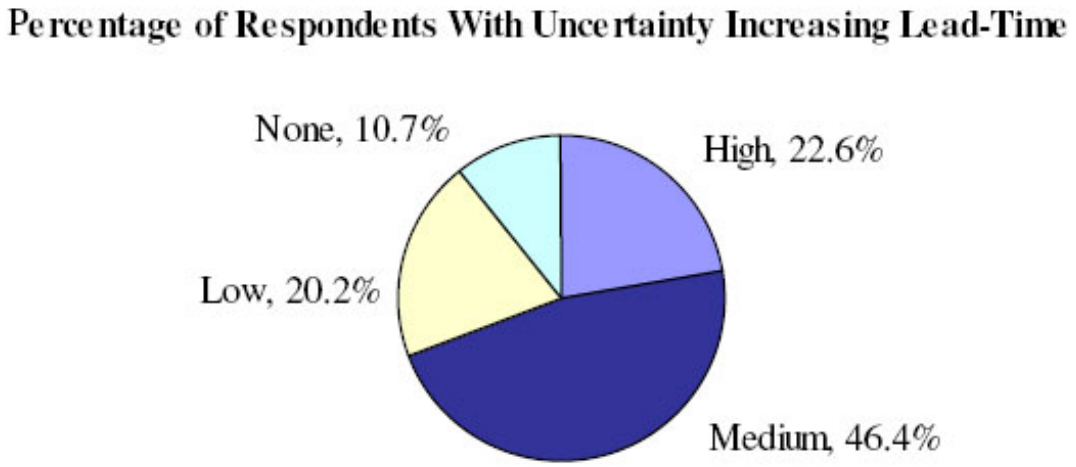

Figure 10: Uncertainty Increasing Lead-Time

Uncertainty was found to impact the supply chain the most in four ways:

1. Adding cost.
2. Increasing inventory levels.
3. Increasing lead-times.
4. Reducing speed to market.

Not understanding the past and present — which reduces the ability to predict the future for supply chain practices — clearly adds steps and time to the process, equating to higher costs.

Inventory levels and lead-times are increased to cover for the uncertainty of demand. Speed to market is impacted by increased inventory and the ability to make quick decisions about what products to put where in order to optimize efficiency and customer requirements.

The magnitude of the impact is very interesting with more than 37 percent saying that uncertainty is highly likely to add cost, and 45 percent rate the impact as medium. In general, 60-80 percent of companies indicate that there is a high to medium impact from a cost and time standpoint due to uncertainty.

Summary and Conclusion

This report highlights many findings from the *Uncertainty is Certain* survey. To summarize:

1. Supply chain leaders are more uncertain now than the previous two years by a wide margin.
    - The largest companies have leaders who are the most uncertain about future outcomes.
    - The leaders with global responsibilities are the most uncertain about their supply chains in the future.
    - In general, there is more uncertainty at the global and country level than others.
2. The greatest uncertainty is in the following supply chain functions: planning, sourcing, sales and customer service, and transportation.
3. Initiatives impacting government regulations and mandates, forecasting, technology application and inventory are the most often selected for reducing uncertainty.
4. Uncertainty impacts supply chain costs, inventory levels, lead-times and speed to market the most.
5. Survey participants have many ways of dealing with uncertainty and are employing a variety of specific solutions.
6. A majority of companies consider uncertainty in their strategic planning process in some way.

Uncertainty is certain for the majority of participants who took this survey. The

magnitude of their concern for the future of their supply chains and uncertainty's impact on important measures of success is a red flag for everyone in the supply chain field.

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