Wilson Perumal & Company's

Vantage Point

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Dynamic Scenario Planning

3 essential steps for effective strategic planning in an unpredictable environment

Get used to the unexpected

Disruption is not new – every industry has experienced seismic shifts at some point. However, these days something feels different. This Vantage Point investigates why disruption is becoming increasingly problematic, and what companies can do to manage it.

The first and most obvious factor is an increase in the pace of disruption. Consider how much the music industry has changed over the past few decades. In the early 2000s, the industry was rocked by digital music distribution in the form of Napster which broke ground for services like iTunes, AmazonMP3 and others. As CDs sat gathering dust in our homes, producers and labels were forced to adapt to consumer preference towards buying individual $0.99 songs rather than entire albums. Then, just as everyone adjusted to the new norm, along came Pandora, Spotify, Beats, Google Play and other music streaming services which offer most of those $0.99 songs for free.

Today the change is coming even more rapidly. Back in 2011, when the Central Bank of Switzerland imposed an artificial ceiling on the Franc, Goldman Sacs CFO Harvey Schwartz[1] called it a "20-standard-deviation move". One that the data said shouldn't happen again for millions of years. Yet only four years later, foreign exchange traders that made bets on those odds were filing for bankruptcy.

As these "highly unlikely" events are happening more and more regularly, a greater emphasis has been placed on refining our predictive abilities. This rapid rate of innovation and disruption has put many executives on their toes, anxiously monitoring competitors, consumers, technological innovations, and other indicators for signs of imminent change. Unfortunately, identifying an already-in-process disruption usually isn't enough to help a company survive it.

The second and less obvious change in disruption today is its unpredictability, and this is even more significant than its pace. It used to be that an industry could reasonably anticipate change. Technology moved slower, barriers to entry were higher, supply and demand drivers were few and well known, and the overall system was simply easier to understand. Thus, if you just knew where to look, changes could be seen coming with enough notice to react. This is no longer the case.

[1] Source: http://www.businessinsider.com/foreign-exchange-swiss-miss-2015-1

These developments highlight the fact that industries are now much more susceptible to change beyond the standard industry and function boundaries, and even beyond the scope of normal predictive monitoring.

A good example of this unpredictable market evolution is the portable GPS industry. In the early 2000s, devices from TomTom, Magellan, Garmin and others skyrocketed in popularity. Using traditional thinking, these companies would have expected disruption to come from a small challenger making inferior yet cheaper products and slowly gaining market share over time, or from competitors making ongoing improvements to their existing devices. They certainly did not expect mobile phones, a previously unrelated industry, to wipe away about 90% of their market value in a single year.[1]

Personal camera makers Nikon, Canon and Sony took a similar hit in the post-smartphone world with compact camera shipments declining over 75% since a 2010 high.[2] At that point of their decline, point-and-shoot cameras still delivered better quality photos than most smartphones. What these cameras didn't do is integrate with Facebook, Instagram, WhatsApp, or Twitter — social media applications which multiply the value of a photo taken on a connected phone compared to a standalone camera. How many executives do you think saw this coming when, just 10 years earlier, social media helped drive 100% YOY sales growth[3] for digital cameras?

These examples highlight the fact that industries are now much more susceptible to change beyond the standard industry and function boundaries, and even beyond the scope of normal predictive monitoring. The market's long-established methods for anticipating disruptive change seem to have some severe blind spots.

This failing is due to the exponential growth in potentially disruptive variables. Industries today can be disrupted not only by changes to direct inputs like consumers, competitors, regulation, etc., but also by factors several levels removed from those direct inputs. As the overall number of variables grows, normal predictive algorithms begin to fail. What we are observing, with more frequent and less predictable disruption, are the symptoms of an increasingly complex system.

1 Source: https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=garmin%20market%20value; https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=tomtom+market+value

2 Source: http://www.wsj.com/articles/SB10001424127887324251504578580263719432252

3 Source: http://www.dpreview.com/articles/6221381780/digicamshipments

Unpredictability in Oil & Gas

In March 2014, with the Ukrainian crisis looming, experts were saying US crude could easily surpass $110 per barrel. By December, the same experts weren't sure if it would stop falling at $50. Oil and gas companies scrambled to adjust annual budgets and operating plans, hoping that the newest expert's forecasted oil price would hold true. Many companies raced to cut costs, postpone projects, freeze hiring, cap wages, trim forecasts and reassure investors that the drop was only temporary.

The market may be wishing for a rise in prices, but dealing with the impact of rapid, unforeseen oil price increases can be equally damaging, leaving companies scrambling to secure financing, re-hire employees, and mobilize project teams, as we saw following the previous oil price plunge in 2008.

The long-term impact of price volatility has lead to a zealous focus on improving predictive capabilities. Significant resources have been poured into market analytics with the belief that if we can improve our ability to predict future prices, we can avoid the impact of volatility. Unfortunately, as the current crisis shows, these efforts have not been fruitful. There is a simple reason why. The oil markets have become too complex to predict. Due to the introduction of new, high-tech solutions for extraction, more countries and companies are participating in various forms of production than ever before…from oil sands to off-shore to fracking. Globalization has led to more widespread consumption, dramatically increasing the number of buyers in the market. Countless financial instruments and new technologies have been introduced for buying, selling, and hedging oil.

Previously, oil prices could be reasonably predicted based on the actions of a few key producers and the growth in demand of a few key markets. With more and more producing and consuming countries, the world markets are so interdependent that the ripple effect down to energy pricing has an uncertain number of variables. The key question is no longer what the price of oil will be at the end of 2015. Rather, the question should be whether our inability to predict variability is simply a capability gap that must be closed, or if the underlying factors driving price are largely unpredictable, and thus not worth the predominant focus?

If the world has changed, why have we not adapted?

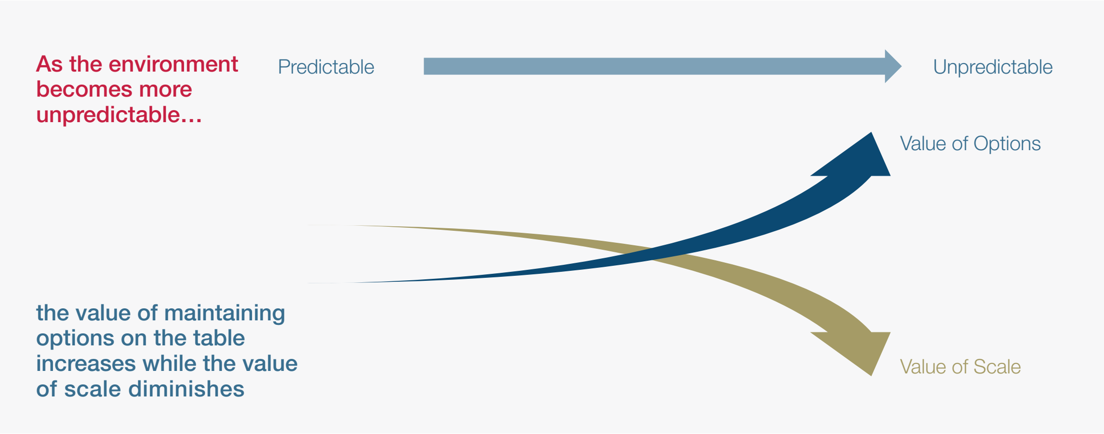
While the increased pace of change and disruption is nothing new to executives, many continue to strategize and plan as if this were not the case. They plan for a constant future and treat disruption as the anomaly, when disruption and uncertainty are actually the new norm. As a result, organizations continue to find themselves in a vicious cycle—investing time and energy to build a plan around someone's best guess of the future, and then scrapping the plan to play catch-up after the next disruption.

So why haven't companies adapted their planning processes to the new environment? The primary reason is a desire to achieve efficiency through scale. The industrial revolution taught us that scale was the shortest path to profitability and competitiveness, and for many years this was true. Achieving scale requires giving up options to focus on a single path forward so that resources can be assigned to execute the plan as efficiently as possible. However, in an age of rapid and turbulent change, seeking scale is at odds with maintaining the agility to react to volatile markets. In other words, the value of having options has changed.

Strategic options can be valued in the same way as any financial option, as explained by the Black-Scholes model for option pricing. The model tells us that two variables determine the value of an option:

- The value of any option increases the longer that option is available to you
- The value of any option increases as the ***volatility*** of the market increases.

Because markets are much more volatile then in the past, strategic options are more valuable then in the past. Therefore, a paradigm shift is needed. Rather than focusing all resources on a single path forward to achieve efficiency through scale, executives should seek to keep as many options on the table for as long as they can. This goes against most managers desire to minimize costs over the short term, and is likely why many companies have not adapted their strategy to the new reality.



The Value of Options in the Beverage Industry

The alcoholic beverage industry was once dominated by a few well-established players backed by significant marketing budgets. These companies influenced markets to concentrate demand onto a few select brands that they could produce efficiently and profitably at great scale. Central planning was well suited to this environment because there was very little variability in consumer preferences, and thus it was possible to forecast accurately.

Today those same players are struggling to adapt to a fragmented market that has moved away from mass-market brews to wine & spirits and craft beers. In the late 70s there were 89 breweries in the US. By 2013, that number jumped to 2,538. Large brewers never anticipated this shift and have been left with facilities built to produce large quantities of a few products while the market demands diversity. In addition to shrinking market share, legacy players are also absorbing higher costs due to overcapacity.

This difficult situation was driven by a mentality, led by central planning, that eschewed options and flexibility in exchange for lower short term costs. Brewers assumed that they knew where the market was headed, and that the market would not veer drastically from their assumptions. The world is just not that simple anymore.

Dynamic Scenario Planning

So how do you plan in an unpredictable environment where options potentially hold more value than scale? We found the answer in a surprising place: military combat.

Before the invention of long-range weapons, confrontation was fairly predictable. Opposing armies would gather in an open field and attack each other head on. With hand-to-hand combat, physical confrontation was the only option available. Thus if you knew the enemy's location, head count, and direction of travel; you could adequately predict their next move and strategize accordingly.

Modern military strategy, however, looks very different. Not only are there more attack options, but the landscape is far more dynamic given faster transportation and long-range weapons capability. Because of this, and despite dramatic improvements in intelligence capabilities, modern military strategy has shifted focus away from correctly predicting the enemy's next move, and instead focuses on establishing clear objectives, developing multiple options for achieving those objectives, and constantly monitoring the environment in order to take rapid, decisive action.

This is not a de-emphasis on planning but rather a different methodology for planning; one less concerned with predicting the future or selecting the single best course of action, and more concerned with creating a winning plan for every probable scenario, coupled with early detection triggers for rapid transition between different scenario plans. We call this Dynamic Scenario Planning or DSP.

This may sound similar to common planning practices like contingency planning, but it is drastically different in practice. DSP seeks to evaluate all scenarios and keep as many options available as possible, whereas contingency planning evaluates all scenarios, selects the most probable one, and after betting all chips on that plan develops an escape route in case that plan fails. Contingency plans are never expected to be used, whereas DSP acts in anticipation of likely scenario changes.

> When companies lose the ability to accurately forecast future disruption, their ability to plan is impacted.

Dynamic Scenario Planning requires three fundamental changes to the central planning process:

- **Focus on the objective:** The focus of planning should be on setting a clear objective and desired outcome, rather than on perfecting the plan to accomplish that outcome. Under a volatile environment, the method of achieving the objective may change at any time.
- **Give yourself options:** Use scenario planning to develop multiple Course of Action (COA) plans. Rather than having a rigid, singular plan based on an uncertain prediction of the future, scenario planning develops a basic COA for different scenarios to allow for faster reaction times and smooth transitions during times of disruption.

- **Monitor your environment:** Implement a system of metrics to monitor the operational environment and identify when a current COA is no longer suitable. For example, the Navy utilizes a system called JIPOE (Joint Intelligence Preparation of the Operational Environment). JIPOE uses various metrics to monitor the performance of the current COA along with any changes in the assumptions that led to the selection of that COA.

On the surface these may seem like minor changes. For instance, many executive teams constantly monitor metrics, but tied to a single plan the impact of those metrics is limited to measuring the progress of that plan rather than monitoring the assumptions that led to that plan. It's a subtle difference, but in practice they lead to substantially different results.

Additionally, developing effective COA's requires an accurate understanding of the inflection points for the "stair-step function" (fixed and semi-fixed) of your cost structure. For instance, if your operations scale up or down on every 1 million units, then your various scenarios should account for those inflection points. This requires a deeper understanding of your cost structure than what is captured on a plant / department level P&L report.

Finally, leaders must recognize that not all scenarios create the same opportunities. Your profit and operating efficiency will change with each scenario, and these differing results should be recognized in each plan. The goal is to create the best possible outcome for each set of circumstances.

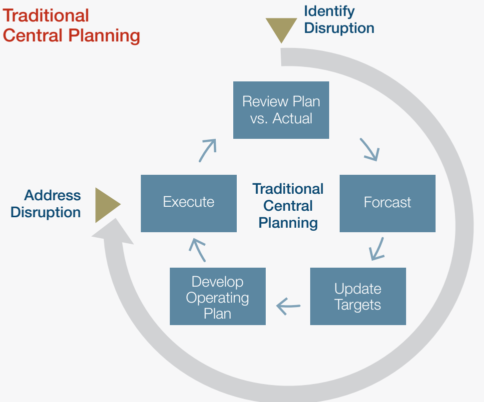
3 Important Differences

	Traditional Central Planning		Dynamic Scenario Planning
Focus	▶ Focus of planning exercise is to create the perfect plan	VS	▶ Start with establishing the objective ▶ Evaluate all possible risks that can prevent completion of objective ▶ Develop COA for each probable risk
Consideration of Options	▶ Select optimal scenario ▶ Scale up around selected scenario	VS	▶ Options viewed as highly valuable, often more valuable than scale ▶ Select optimal option for that moment, but keep other options on the table
Focus of Metrics	▶ Monitor completion of plan ▶ Monitor effectiveness of plan	VS	▶ Monitor completion of COA ▶ Monitor effectiveness of COA ▶ Monitor changes to assumptions that led to selecting COA

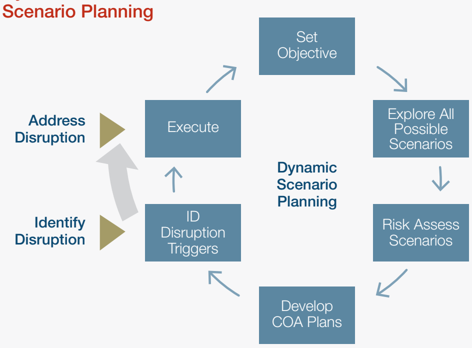
The differences between Traditional Central Planning and Dynamic Scenario Planning are seen in three specific ways:

1. In the time it takes to modify a plan following a disruption

Traditional Central Planning

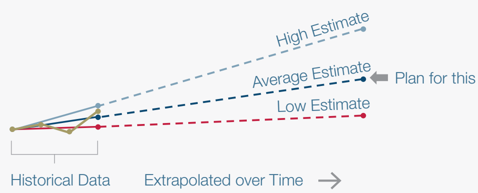


Dynamic Scenario Planning

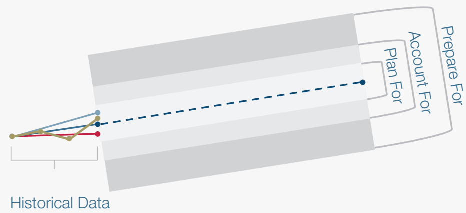


2. In the range of scenarios that you consider in your planning

Demand Forecast from Traditional Central Planning

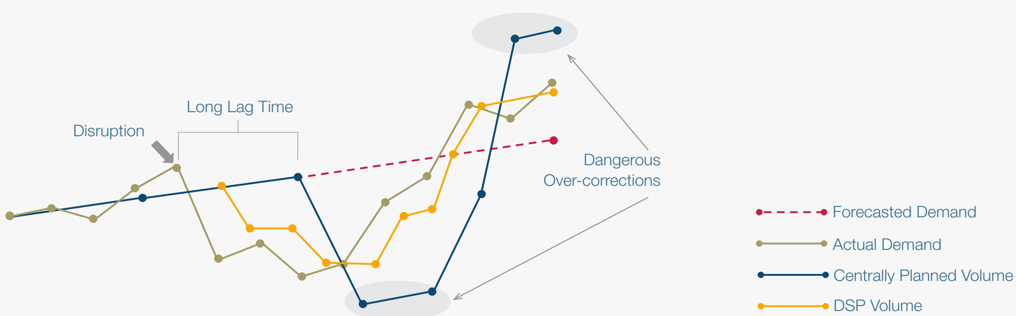


Demand Forecast from Dynamic Scenario Planning



3. In the ability to adequately respond to a disruption without overreacting

Actual Results of Centrally Planned Volume vs. DSP Volume



Dynamic Scenario Planning in Financial Services

Dynamic scenario planning is applicable beyond just Oil & Gas and other commodity-based industries; we have found it to be an especially valuable tool with our financial services clients as well. Changes in customer preferences, macro-economics, micro-economic trends, government regulations, and interest rate environments combine to make it impossible to predict what the future will hold. That is why understanding the sources of variability and building scenario-based Courses of Action to accommodate multiple potential eventualities is key to sustainable success in this space.

A recent client wanted to understand the impact of a changing interest rate environment on their business and how they should prepare for a dramatic change. A quick look at the industry, however, made it clear that interest rate changes were not the only potential threat to their survival. There were also dramatically increasing government regulations after the financial crisis, changing customer preferences and shifting macroeconomics. In the end, we developed a set of Courses of Action plans with prepared responses for a variety of potential changes in their operating environment, each with key triggers to indicate when the response was appropriate. This client is now prepared to quickly respond to changing conditions, and is not tied to a single plan dependent on correctly anticipating the future.

Ensuring Dynamic Scenario Planning yields the expected results

Of course, planning without effective execution is meaningless. Many companies have decision-making processes too cumbersome to allow rapid response to imminent disruption. Dynamic Scenario Planning requires appropriately dynamic operations. Dynamic operations are built with variability in mind. They shed unnecessary complexity in order to gain executional agility. They eliminate internal uncertainty and variability by using a management system that aligns the organization and allows for the constant refinement and improvement of their operational control. Just as importantly, Dynamic Scenario Planning requires fostering a culture where established norms are constantly challenged and where progress is prioritized over rank.

This is a dramatic departure from traditional central planning and business management. Some companies struggle adapting to disruption because they only have pieces of the puzzle. They may have the most advanced analytics system for monitoring their environment, but their plans remain the same regardless of the data. Others constantly change their plan of action in search of better results, but their lack of operational excellence limits their ability to execute any plan correctly and thus never achieves the results expected.

If your company finds itself scrambling to react to recent disruption, or if you are unsure of how to respond when the next disruption comes, your actions now will determine whether you survive, thrive, or fail. Do your planning process and subsequent decisions prepare you for disruption? Do you know where to look for early warning signs of change? And even if you do see the next wave of change coming, are you agile enough to swim with it or are you so slowed by complexity that no amount of warning will change where you will drift?

Dynamic Scenario Planning is merely the first step in changing the way we view and prepare for the future.

Contact us for more information on how to thrive in an unpredictable environment.

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About Wilson Perumal & Company:

Wilson Perumal & Company is a premier management consulting firm and the leading advisor on how to manage and capitalize upon the complexity of today's world. To learn more, visit www.wilsonperumal.com.

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