

# Budgeting for Brexit

Keeping supply chains competitive after Article 50



"I think the uncertainty is carrying a price. You have only got to look at what the British Bankers' Association ... and a very large number of firms are saying, and I would be very surprised if they were all making it up."

Andrew Tyrie MP

The finalisation of Britain's exit from the EU's single market looms over businesses in the near future. However even more daunting than the declining price of the pound, and the diminishing size of Toblerone, is the atmosphere of uncertainty in which companies of all sizes and descriptions will find themselves operating from Q2 of 2017.

Although a full Brexit is likely to take between two and ten years to complete, early market fluctuations and the unpredictability of so many factors has already begun to chafe investor confidence. The UK economy is reported to have slowed slightly in the months following the referendum result. According to data from the Office for National Statistics (ONS), growth in the three months to September dropped to 0.5%, down from 0.7% in the April to June quarter. This is better than the 0.1-0.3% predicted by economists, but all agree that until Article 50 is triggered and Britain begins renegotiating its EU trade agreements, nothing is set in stone.

So while big banks pontificate over relocating their head offices, and SMBs brace themselves for shifting economic conditions, business leaders across the board will be under pressure to remain unaffected by the pervasive air of panic. Instead, there will be greater emphasis than ever on data-driven decision making and agility to drive proactive step changes through organisations' supply chains.

This is where the new era of demand forecasting will play a role in helping businesses maintain global competitiveness, especially as they transition their current business models to new regulatory parameters.

In this document, we'll explore how a greater degree of accuracy has not only improved productivity within a diverse range of supply chains, but also helped a number of sectors improve their proactivity and responsiveness through enhanced integrated business planning. And we'll look at it all through the lens of increased volatility in a post-Brexit Britain.

# Data alone is not a differentiator

Regardless of how hard an exit Britain makes when Article 50 is triggered, companies from the full spectrum of industry will be looking for the step change in their profitability that will provide them with commercial certainty in the initial transition period.

With industries of all descriptions implementing increasingly advanced IoT analytics and measuring every modicum of customer behaviour from every possible angle, data is no longer a differentiator. It's how accurately businesses understand and use that data to predict market conditions, and prescribe effective responses, that decides their margin of competitiveness.

During times of extreme and unprecedented volatility, like that presented by Brexit, the ability of an organisation's demand forecasting to deliver tangible savings to the business will be truly put to the test. Forecasts that provide a reliable standard of accuracy can give businesses not just the confidence to proceed with their existing plans, but to also be proactive around new product launches and procurement strategies.

"There is probably a reasonable chance still of another cut in interest rates over the coming months... Although we can take some comfort in the resilience of recent data, the economy is clearly not out of the woods yet."

Andrew Tyrrie MP

When demand forecasting goes right, it can have a massive impact on operational savings, supply chain optimisation and inventory management. In his paper, *The Impact of Forecasting on Return on Shareholders's Value*, Dr. John Mentzer, one of the foremost authorities on supply chain management, proposes that improved forecast accuracy can deliver an increased shareholder value of 15% or more.

And when it goes wrong, demand forecasting [can make history](#). The art and the science of predicting demand to inform trading decisions, trigger orders or inform resource planning has changed over the decades. It's evolved from analogue, qualitative methods to sophisticated, digital, quantitative modelling— and mostly out of necessity. As volatility increases on all fronts, it is vital for organisations to explain as much of that volatility as possible to reduce forecast error. When volatility isn't understood correctly, errors occur. Both human and machine. Even minor inaccuracies, over time, could be the difference between success and failure.

In their whitepaper, '[Demand Planning Maturity Model](#)', SAS establishes the key characteristics of an organisation with a mature demand forecasting process. By this, we mean an organisation that has achieved a step change in their productivity through more accurate forecasting, and can turn volatility into opportunity. Their experts agree that mature demand forecast accuracy - and the correlating competitiveness of an organisation - relies on a holistic approach that integrates the following:

- **Understanding factors that affect demand**

Visibility at a granular level of what affects demand on a per product / per purchase basis, allowing organisations to better coordinate their supply and demand plans.

- **Appropriate automatic model selection**

Automatically finding and applying the most accurate forecasting technique for every level in the hierarchy (e.g. every product/location combination). This includes the ability to automatically forecast for events, promotions, competition activity, changes in the weather, etc. using automatic statistical analysis, rather than relying on subjective instincts. An effective model should be able to automatically adjust the forecasts when unexpected changes occur.

- **Effective scenario planning**

Simulate the impact of changes on key variables that can be controlled, (e.g. price, advertising, in-store merchandising and sales promotions), and as in this case, the external influences that are beyond control.

- **The ability to act at scale**

The ability to use all the data available, not just a sample, and then having the agility to leverage integrated business planning proactively.

- **Speed of innovation**

Understanding the impact that product innovations, changes to procurement and service delivery strategies will have on an organisation's existing portfolio or operations.

While excelling in any of these areas can contribute to providing a competitive edge, they will all need to be met to a higher degree to ensure organisations cope with the added economic and social volatility predicted in the second and third quarters of 2017.

# Four sectors, four outcomes, one forecasting tool

As with the practice of demand forecasting, we've found that the best lessons are the result of a critical analysis of past events. When considering the potential impact of Brexit across the spectrum of industry, it's worth considering the results of an improved demand forecast on four very different sectors.

## 1. Reducing dead inventories for retail and manufacturing

Immediately following Brexit, retailers' investments and debts will be affected with regards to banking, currency and financial market disruptions. There will be added volatility from trade agreements, import duties, shopper behaviour and pricing strategies. Relationships (and conflicts) between retailers and suppliers, like the recent ['MarmiteGate'](#) price row between Unilever and Tesco are indicative of this volatility. Finally, shopper behaviour could lead to the delay of larger purchases, like a new car or a computer, and spending cut backs across consumers' weekly budgets. The risks then of keeping dead inventory, and on the other side, of being subject to a stock out, are far greater than in the past.

It comes as no surprise that the world's biggest food company, Nestlé, has a vested interest in closely managing the supply chain and keeping inventories within tight limits and is proportionate with the size of its operations. Its sheer size makes planning on a global scale highly complex. Product categories, sales regions and an abundance of participating departments make their supply chain multifaceted and extremely complex.

Companies like Nestlé need demand forecasting that accommodates seasonal influences, weather dependency for a good harvest, swings in demand, retail trends and the perishable nature of many products.

"With a devalued British Pound and a UK economy facing recessionary fears, suppliers will need to double-down on unlocking value from the supply chain."

**Brexit's Impact on the British FMCG Retail Landscape**  
By Kantar Retail's UK and European Analyst Team

Their solution is a forecast environment with the scalability for small teams to cover large product portfolios and geographical regions. It also automates the selection of the appropriate statistical models, providing accuracy and efficiency. In a comparison between the conventional forecasting method and the new forecasting solution (for the most part using default settings) the results showed that Nestlé often matches and improves its current performance for the predictable part of the portfolio. This frees up valuable time for demand planners to focus on their 'mad bulls'- highly volatile products with high volume.

It's not just FMCG's and retailers who recognise significant savings through increased demand forecast accuracy. As consumers are more reticent to spend big on large purchases, so niche manufacturers will also seek ways to make their supply chain leaner, while using customer service as a differentiator.

Wistron, a leading original design manufacturer (ODM) for information and communication technology, uses a parts optimisation solution to forecast parts demand with greater accuracy and to improve inventory transparency. As a result, the Taiwan-based company gains greater efficiency and, ultimately, more revenue.

Service parts account for much of the business group's revenue. It is customary to provide service parts for consumer electronics for at least 39 months after a product goes off production. For commercial electronics, the period extends up to seven years. In certain circumstances, when a product line phases out of the market, forecasting parts demand can be difficult. Overestimates could lead to overstock and waste; underestimates might trigger customer complaints.

While the previous system could only import data from limited service locations, the new solution allows users to monitor inventory across a global network of service points. Wistron manages inventory flow and sends purchasing or inventory allocation suggestions to planners around the world.

As part of Wistron's goal to reduce inventory while improving customer service, the manufacturer understands the importance of influencing consumer behaviour. When offered steeper discounts, for example, shoppers tend to purchase new instead of paying for repairs.



“If I don’t buy enough (electricity), I have to pay whatever the market price is at the time I need to buy. If you have excess, you have to sell it for whatever price you can get.”

David Hamilton,  
Manager of Load Forecasting  
ODEC

## 2. Lowering energy rates for 1 million customers

If the UK government is unable to preserve membership in the Internal Energy Market, and fails to secure any mitigating bilateral agreements within the EU, then the cost of electricity stands to increase dramatically. This is, in part, because the UK’s electrical supply stands to lose access to market coupling and balancing services as a result of being excluded from the IEM.

While oil and gas will still continue to be priced according to market circumstances at a global level, within the UK, the energy mix could alter significantly. The decision from EDF in France to continue backing the somewhat controversial Hinkley Point nuclear power station is indicative of the political undertones inherent in this new mix.

While the impact of Brexit is largely believed to be minimal with regards to the energy sector on the whole, electricity suppliers in particular are no stranger to immense volatility in the factors that drive demand.

The Old Dominion Electric Cooperative (ODEC) provides an example from the United States of how increased accuracy in demand planning can mitigate some of the unforeseen risk of providing a reliable supply of electricity. ODEC provides wholesale power to 11 not-for-profit distribution cooperatives in Virginia, Maryland and Delaware that serve 1 million member customers in the rural and suburban portions of those states. ODEC owns power plant assets, and also seeks to purchase power. For energy purchases, the cooperative must contract months in advance. This is complicated by the fact that the electricity cannot be stored. One wrong decision about the weather or local energy needs, and ODEC is at the mercy of the spot market.

Access to the leading forecast server allows Hamilton’s department to use the most sophisticated forecasting models and techniques available. These include exponential smoothing models, ARIMAX models, unobserved components models, intermittent demand models and dynamic regression – plus user-defined models. These support system analysis, hedging models, financial forecasts, and future resources for energy and demand.

With this solution in place, ODEC can now quickly adjust for changing conditions. Forecasts take half the time to build, so unforeseen changes – like a cooler summer or colder winter – can be quickly worked into a forecast.

They can understand each cooperative’s individual market while also aggregating data for a big-picture look. Individual market snapshots help ODEC choose where to buy power from. An aggregate look helps plan for power needs five, 10 or 20 years down the road. While being able to factor in multiple data sources from retail sales to population trends along with daily weather information that goes into such detail as wind speed and cloud cover.

This leaves the small utility in a less vulnerable position and better prepared to manage capacity without reinventing their processes or shuffling their internal resources.

“Being in the EU helps us attract billions and billions of pounds of investment in our energy system and supply chain. Taken together, this investment helps support 660,000 jobs in the U.K.’s energy sector. Does anybody really think all of that investment would continue if we left the EU, and with no extra cost?”

U.K. Energy Secretary Amber Rudd  
From her March 2016 address

### 3. Keeping the country connected

All-in-all, the impacts of Brexit on telecoms may be fairly minor. UK customers may once again be subject to roaming charges within the EU once Brexit takes place, and there is an expected skills shortfall in the tech sector at large. Rob Bratby, Telecoms Partner at TMT law firm Olswang, expects limited changes in terms of regulation, as European telecoms regulatory rules were heavily influenced by the UK anyway.

However, the demands placed on national bandwidth by the rise of the gig economy, international virtual teams and remote working practices within the UK are likely to impact local telecoms' ability to anticipate demand for services beyond the initial regulatory upheaval.

Telefónica O2 Germany for instance, need early, precise forecasts to respond to market saturation and margin pressures.

In the past, the company used a system composed of local SPSS single-user installations that were not networked. "We used it to create analyses and forecasts for our corporate management and planning," explains Thorsten Kühlmeyer, Head of Analysis at Telefónica O2's Business Intelligence Center (BIC). "However,

the pressure from the competition and the demands from management meant continuously shorter update cycles – our existing solution was just not up to the task."

Moreover, the single-user solution made it difficult to collaborate. And the available portfolio and forecast methods no longer met the increased demands for a business analytics solution. "The inquiries we receive from the strategic environment differ greatly, and most of them are extremely time-critical," says Kühlmeyer. The results of those inquiries support corporate planning and management decisions.

The telecommunications company sought out a solution that allows analysts and power users to access data that is consolidated and stored at dedicated sites across the company and analyse it to expose hidden connections and dependencies.

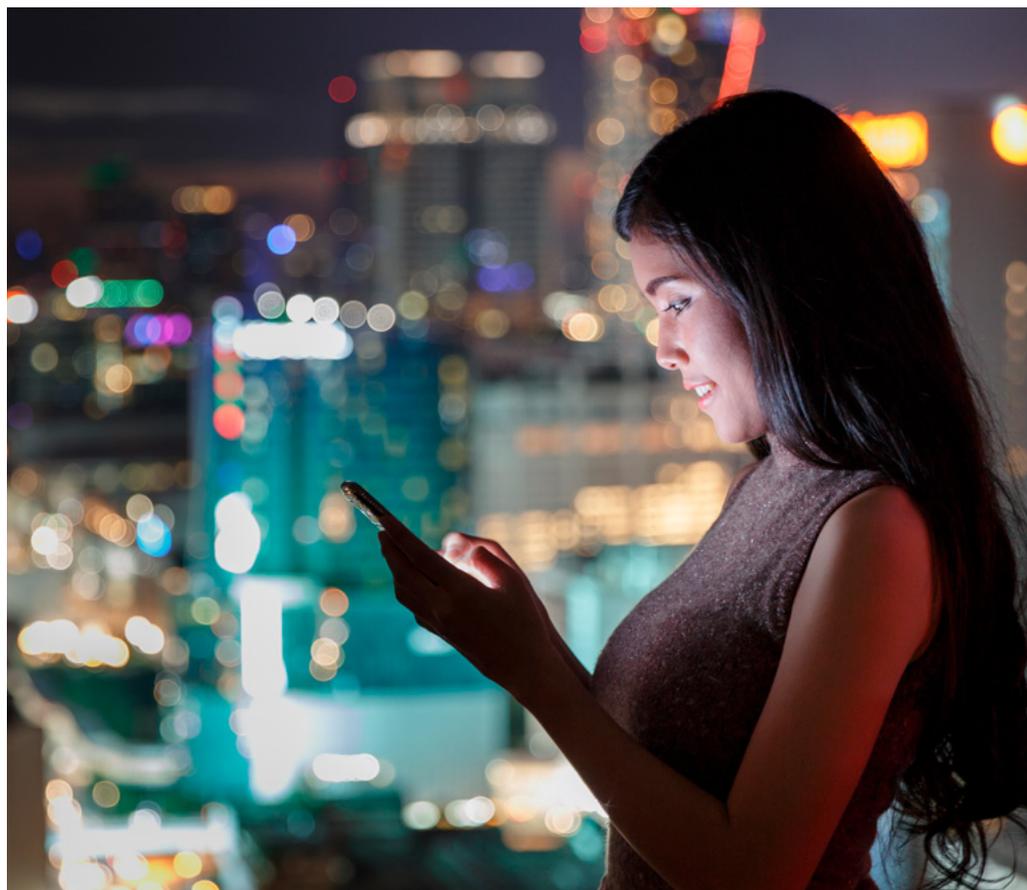
"We were able to enhance the precision of our forecasts considerably," says Kühlmeyer. "Before, we were achieving approximately 80% for last-minute sales forecasts. Today, we are right 98% of the time."

"We have the potential to maintain a digital economy by simply continuing to develop and sell across borders, after all the internet has no borders so it has to be turned to our advantage"

**James Gray**  
Founder of GrayStone Strategy and the former Vodafone employee involved in launching several of the network's virtual operators

"We have become much faster, thanks to the uniform central data layout we now use – three times faster than before, to be precise."

**Andreas Gimber**  
Senior BIC Project Manager  
Telefónica O2 Germany





#### 4. Relieving pressure on the public sector

The European Union has been an on-going source of funding for local authorities. This money is not built into annual budgets funded from Central Government or local taxes, which allows local authorities to fund projects they would otherwise be unable to deliver. In addition, there are European Regional Development Fund and European Structural Fund grants that many councils receive and which funding will need to be replaced in the meantime.

But the demand deficit in the public sector extends beyond funding and procurement, and into human resources.

“(Leaving) means a huge administrative and legislative change because of all of those rules and laws and directives that have been implemented over this last 40 years.”

**Gus O’ Donnell**  
Former Cabinet Secretary

In the UK, the model for care is built on getting EU citizens to work in care centres and hospitals. Nurses are a key example. There is a clear shortage domestically, resulting in the health service recruiting Europeans to fill the gap. Any economic shocks or significant shifts in migration patterns would throw the public sector’s predictions about future public service requirements into flux. This would make it extremely difficult for local authorities to plan essential provisions such as school places, or for NHS trusts to shape their primary care facilities. These predictions rely on detailed population, movement and demographic projections in each region.

Inspiration or managing a public sector supply chain can be found across the Pacific in Singapore, where libraries span the island and are popular social spaces for families, students and individuals.

Singapore’s National Library Board (NLB) uses advanced analytics to make sure none of its 2 million registered patrons walk away empty-handed. The NLB uses demand-driven forecasting to know precisely which books, new and old, to stock at each of its 25 public libraries.

“We want to provide our library patrons access to literature from around the world and meet their unique reading needs,” says Colin Seow, the NLB’s Manager of Resource Management. “Using international sources, we bring together a flourishing, vibrant and up-to-date collection of new and existing titles.”

“Our librarians’ experience combined with our expertise in analytical insights have increased our ability to make acquisition decisions with greater accuracy.”

**Colin Seow,**  
Manager of Resource Management  
National Library Board

Demand forecasting ensures materials stay up to date, relevant and engaging. The staff makes better procurement decisions through guided forecasting based on past data and statistics. The solution analyses NLB’s loan data to generate unrestricted, rolling forecast numbers for both new and existing titles and for unmet demands when patrons left empty-handed. Each forecast is calculated using statistically optimised parameters to provide up-to-date projections.

For its forecasting processes, the NLB identified and quantified factors that could affect demand analysis, including loans, book categories, renewals, reservations, authors and titles. The solution is commissioned across NLB’s libraries. It is fully automated and pulls data from different systems, allowing NLB staff to provide acquisition and collection-planning recommendations with greater precision.

# Greater accuracy means collaborating with confidence

The successful post-Brexit supply chain will be one that can not only accurately forecast demand, but effectively shape it in collaboration with the broader business. Businesses will need to integrate their ability to understand demand volatility with their ability to align demand with supply. These have been traditionally siloed operations, but they will need to increasingly work interdependently to optimise forecasting and responses.

The businesses included in this document have seen, on average, a 5-7% revenue increase through optimising and enhancing the collaborative planning process, and by investing in industry-leading demand forecasting software that guarantees a 90% accuracy rate. To provide context for this, although many companies consider the forecasting accuracy to be 'good to excellent', many national retailers actually operate with a 50-60% demand forecasting accuracy rate – only marginally better than a coin toss.

Using advanced analytics as part of the Integrated Business Planning process is the best way to create an agile supply chain, that can react quickly to new information and be proactive in its operations. But ultimately, this collaboration needs to be mandated throughout the organisation.

Ruth Jackson, a supply chain expert for SAS says, "The key to delivering a step change in results is allowing technology to provide a reliable demand forecast. One of the hardest things to overcome in supply chain efficiency projects is to change people's perceptions and gain their trust for statistical forecasts. People with 20 years' of industry experience can add huge value when it comes to demand forecasting, but unless they are seeing an accurate statistical demand forecast, they will have an inherent mistrust in the numbers, and will either revert to their previous, manual forecasting methods, or will 'fiddle' with the forecast models, and possibly reduce the accuracy that way."

These business planners, she says, need to consider how demand sensing and demand shaping techniques can complement their business knowledge, allowing for much stronger collaboration through the entire business by converting forecasts into proactive decisions, actions and innovations that add value.

"A forecast, even one with a 99% accuracy, is only as good as the actions that are taken from it," she concludes.

With uncertainty set only to increase in March 2017 as Article 50 is finally triggered and the official Brexit begins, the eyes of investors will be on the companies and departments who can manage this volatility and grow their capabilities in the UK. Hopefully these organisations can create demand forecasting success stories that our American neighbours can follow as they face their own uncertainties.

For more information on the demand forecasting solutions mentioned in this article, please visit [www.sas.com/uk/forecasting](http://www.sas.com/uk/forecasting)

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