INTELLIGENT FOOD PLANNING:

Strategies for Staying Ahead in
Disruptive Times

HOW IS YOUR BUSINESS USING SMART TECHNOLOGY TO MANAGE SUPPLY CHAIN COMPLEXITIES?

Compared with previous industrial revolutions, Industry 4.0* is developing exponentially instead of at a linear and methodical pace. Every industry, especially the food supply chain, is being disrupted by technology that has the potential to transform how we approach systems of production, distribution, management, and governance.

The primary focus of today's economy is on improving how customers are served, but often, consumers have very little appreciation of how the global supply chain works. Even in times of crisis, such as an economic downturn or a global health pandemic, enterprises have to navigate increased interdependencies and the pressure of rising costs while meeting customer demands. With smarter technology, we are getting data and analytics that we need to transform how food products and services are being managed and optimized.

By embracing "intelligent agile" management of business operations and capacity planning, businesses in the food supply chain can achieve a competitive level of efficiency, automation, and optimization.

* Industry 4.0 refers to a new phase in the Industrial Revolution that focuses heavily on interconnectivity, automation, machine learning, and real-time data.

Considering the speed at which innovation and disruption are taking place, businesses that are capable of agility will gain a competitive edge. Now more than ever, the food supply chain needs a level of transparency and efficiency that allows them to manage complexities. The COVID-19 pandemic exposed vulnerabilities in the food supply chain and suddenly, the urgency of optimizing capacity planning has been greatly amplified.

The food supply chain industry is eager for a solution that not only prepares them for Industry 4.0 but one that enables them to weather times of structural disruption. DELMIA Quintiq is a highly-configurable planning and optimization application that supports fully integrated business planning (IBP) across S&OP, production planning, and scheduling. An exact fit to each operation, without workarounds, using business-specific KPIs and optimization ensures that planners realize a whole new level of capability, driving costs down and delivery schedules up.

FIVE FOOD SUPPLY CHAIN CHALLENGES
TO SOLVE IN DISRUPTIVE TIMES

New legislation, a global pandemic, and other worldwide events have accelerated the speed at which things are changing for the entire food industry. These are the key challenges that need to be addressed now more than before:

1 Unpredictable demand

Demand from retailers and supermarkets drives how the production process goes. But in times of disruption, demand changes according to what consumers believe are important to stock up on. Food production companies find that this results in a shortage of some items, whilst other ingredients that are normally in high demand may go unused.

2 Disruptions in transportation/ shipping

The impact of travel restrictions, COVID-19, and governmental regulation like Brexit have caused short supply of trucks and containers, resulting in rising costs and delays in shipping. It's critical for food production businesses with multi-site setups to have well-managed shipping and logistics.

3 Managing labor and production on a tactical and operational level

Businesses have to plan to have the right people in the right place in production processes. But with pandemic regulations, headcount limits, people falling sick and their replacements scarce, operational and workforce planning are more difficult.

4 Cost and quality expectations remain the same

Despite disruptions that cause a rise in the cost of raw materials, clients like retailers and supermarkets expect that the products delivered remain the same in terms of quality and price. At the same time, commitments to sustainability have to be managed.

5 Managing a complex enterprise in structurally disrupted times

A fast-changing business landscape means that a multimillion-dollar enterprise with detailed planning needs, requires technology that enables the fast evaluation of different optimized scenarios, allowing companies to be 'intelligent agile'. Planning needs to be executed in minutes, not hours, with careful analysis of the costs of change. For example, many manufacturers changed their SKU ranges to maximize output which had significant impact on production setup.

OPTIMIZING CAPACITY PLANNING IN DISRUPTIVE TIMES

Historically, enterprises have always managed processes like manufacturing, logistics, and service-related operations by breaking down groups of planners into smaller subsets. These groups have made do with the confines of legacy tools like spreadsheets, and that isn't the optimal strategy to overcome the kind of challenges that arise in a structurally disrupted world.

Now, newer technology is driving and enabling a more integrated approach to solving those challenges while managing genuine exceptions. In food supply chains, the real value in capacity planning technology is having the ability to see and model scenarios across the entire network. From raw material suppliers to production sites and plants, to distribution centers, an enterprise that can proactively run predictive scenarios instead of only being able to react when something happens, will be able to stay ahead of the most critical challenges in food supply chain.

Changing how we solve these puzzles means changing the way we think, operate, and generate business value. To do so successfully can drive out double-digit percentage costs of operations.

HOW COMPLEXITIES AFFECT FOOD PRODUCTION: AN EXAMPLE OF PANCAKES AND WAFFLES

To put the challenges of food production and supply chain into perspective, we'll examine an established food company that specializes in frozen breakfast foods like pancakes and waffles.

Each product they make has its own fixed recipe, which is followed to create the delicious products that customers love. The recipe ensures the company provides optimum quality. However, it does not allow for any recipe flexibility. The recipe does not tolerate substitute products, hence does not account for unforeseen circumstances such as seasonality, increased prices, or expiring inventory.

By using intelligent capacity planning, you can build scenarios that enable better-informed decision-making and mitigate excessive costs.

For example, a recipe may require fresh milk, but delivery was postponed. The fixed recipe would dictate that production is delayed or halted until fresh milk arrives. This delay can lead to increased overheads, as well as expiring inventory or fluctuation in prices. By the time the milk arrives, other ingredients, such as eggs, may have gone bad and the cycle repeats.

The solution is to have a variable recipe, where eggs can be substituted with other ingredients. Applying this level of detail to hundreds of recipes with hundreds of combinations exponentially increases that difficulty. Even simply maintaining all the alternative possibilities, regardless of quality, is a difficult task. When considering alternatives, things like flavor, texture, and moisture levels must be taken into account.

Being able to correctly use variable recipes is important, but what's equally critical is managing the complexity of variable inputs, changing costs, and fluctuating inventory.

Capacity planning solutions enable manufacturers to be better prepared at every stage of a product's life cycle from design through planning, production, and logistics. These solutions enable possibilities such as:

✓	Digital forecasts from market intelligence to determine which trends will be most profitable
✓	Planning and optimizing entire supply chains digitally
✓	Full visibility and control over what happens throughout the supply chain
✓	Optimizing the workforce for improved availability and productivity
✓	Logistics planning that covers inter-site, last-mile distribution, and reverse logistics

THREE PILLARS OF SUCCESS:
INGREDIENTS TO ENSURE A SUCCESSFUL IMPLEMENTATION OF INTELLIGENT CAPACITY PLANNING

The adoption of supply chain management technology has seen accelerated growth in recent years due to the value it adds to business strategies. Total worldwide revenue grew by *14% or 8.6 billion/€10 billion in 2017, and is expected to reach ** 26.5 billion/€30.6 billion worldwide by 2027.

Getting a project scope correct is critical, but in the launch of most projects, the focus is heavily directed at the technical implementation, leaving the other 'softer' but equally critical activity streams less attended. Even with the right technology, a perfectly-executed project will still struggle or even fail. In fact, ***75% of IT projects tend to fail, and according to Gartner, failure includes missed project goals, mismatched expectations, going over budget, and missed deadlines.

To ensure that IT projects in your enterprise are headed in the right direction, sufficient attention must be given to what The Logic Factory (TLF) has identified as the three supporting pillars of success.

1 2 3

MANAGE BUSINESS CHANGE

When a project becomes too technology-centric in terms of delivery, business stakeholders do not feel ownership or trust the system, and then challenge the output; resulting in poor plan compliance causing optimization potential to be lost.

To make significant gains in business value, there must be significant effort in collaboration. Difficult discussions must be had, redundancies identified, legacy systems upgraded, and historical processes retired. Changing business practices may be uncomfortable and difficult for some, hence education and encouragement are essential to ensure that new systems are embraced and properly implemented.

Planners should be fully engaged in the design and testing of what will be their new system. Plans for relieving key planners from day-to-day operations should also be detailed. Too often we see projects struggle because people cannot get sufficient time away from their day job to devote to the project.

Source:
*   https://supplychaindigital.com/supply-chain-2/supply-chain-management-software-spending-grows-dollar122bn
**   https://www.prnewswire.com/in/news-releases/supply-chain-management-market-size-to-reach-usd-37-41-billion-by-2027-valuates-reports-899554470.html)
*** https://www.projectsmart.co.uk/most-it-projects-fail-will-yours.php

1	**2**	3

BE DATA READY

An intelligent, integrated planning system should be a single source of truth with stable, real-time availability and a mission-critical system for driving business goals.

At the start of an optimization project, data needs to be checked, cleaned, and missing data added to make sure feasible plans are created that can be executed by the business. Data is rarely perfect, but it must be of sufficient quality and availability that robust and effective plans can be made and executed.

Knowing whether all the data needed is available, where it is maintained and that multiple copies of the master data do not exist is critical or will lead to delays or errors in implementation. For example, employee-based data required for workforce planning being maintained in two different HR systems would lead to discussions and issues in data ownership and duplications.

A data-ready approach means that 'data' becomes a phase in an implementation project so that the project does not progress until the data is approved. Alternatively, 'data' becomes its own stream in the project with a dedicated, assigned team and expert.

| 1 | 2 | 3 |

MEASURE VALUE

If you do not execute what you plan, then the business value that could be gained from a great plan goes to waste. Stick to the defined KPIs that deliver the business goals and support planner buy-in to the solutions. Planning measures that fully support the business goals must be defined before the start of the project—if planning KPIs are not fully aligned with business metrics, the planning output could have an adverse effect on the business when executed.

Setting expectations helps get the project off the ground, but the value must be realized and ideally, exceeded. Business stakeholders should be assigned to support this process and work with the project implementation team to quantify these benefits as a key part of project success. With increased transparency and accountability, stakeholders are able to track the benefits of capacity planning on the bottom line.

THE LOGIC FACTORY APPROACH

We understand the challenges of the food supply chain in tactical and capacity planning and in cost-effective operational scheduling. Our successful experiences in implementing supply chain optimization solutions and delivering long-lasting value to customers in the food industry is due largely to our strong focus on the "three pillars of success."

The Logic Factory helps companies to increase their bottom line by 5-10% with increased delivery performance and resilience by implementing a proven food supply chain planning and optimization solution. We have worked successfully with clients to implement and manage DELMIA Quintiq software applications for over 10 years, and we are a DELMIA Quintiq platinum partner.

WHY DELMIA QUINTIQ SOFTWARE?

DELMIA Quintiq software is designed to provide an exact fit to each individual business to optimize operations. Each project has its own challenges, wherein every case the technical delivery of the software is only one piece of the project. The Logic Factory has the highest qualified DELMIA Quintiq consultants in the industry that support you through the entire project life cycle from getting ready, through project execution, and long-term support

The Logic Factory helps companies to increase their bottom line by 5-10% with increased delivery performance and resilience by implementing a proven food supply chain planning and optimization solution. We have a stellar track record in helping customers solve complex food supply chain puzzles, resulting in the highest customer satisfaction feedback.

READY TO GET STARTED?

Intelligent Food Planning combines the industry expertise of The Logic Factory and the power of DELMIA technology to deliver a solution specifically designed for Food & Beverage manufacturing.

We've proven that optimization technology adds value for various customers: efficiency and effectiveness can be raised with multiple percentage points.
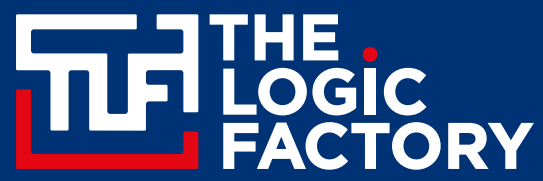
If you are interested in finding out more about Intelligent Food Planning, contact us via

info@thelogicfactory.com

CERTIFIED DELMIA QUINTIQ IMPLEMENTATION PARTNER

Logo source: https://thelogicfactory.com

THE
LOGIC
FACTORY

thelogicfactory.com