CAMELOT
**Management Consultants**

# How to Shape Your Future Supply Chain

## Omnichannel in Full-Assortment Grocery Retail

Thought Paper

# Preface

Changing customer and store requirements as well as an increase in digital sales channels are putting pressure on end-to-end supply chains of full assortment grocery retailers. Current grocery retail supply chains were designed as much as 70 years ago, based on the handling and throughput of large volumes. Today, this foundation is shifting rapidly towards much smaller delivery quantities, reduced response times, and more frequent delivery.

It is essential for supply chain managers to exactly understand how these disruptive market developments impact their supply chain and what needs to be done to keep meeting the increasing demands on the supply chain in the future. This thought paper explains the current market developments and highlights the three guiding principles for future-proof grocery retail supply chains.

# Five Trends Are Shaping the Grocery Retail Industry

In the past, supermarkets used to be planned with similar sizes and attributes, following the principle of a "standard" supermarket. Often, they were built close to rural development areas with sufficient space and parking possibilities for family shoppers. The corresponding supply chain setup focused on the handling and throughput of large volumes. In the last few years, we have observed five major trends that are increasingly challenging this traditional picture:

## 1 Demography

The average household size in Europe is declining, with now on average 2.3 persons per household versus 2.8 in 1980.[1] Single-person households in particular saw an increase of 18.7% between 2010 and 2019, whereas households with children decreased by 10.8%.[2] That means demand is changing towards smaller package sizes or fewer packages per customer, a smaller overall shopping basket, as well as more pre-prepared meals with limited shelf life.

## 2 Urbanization

In Europe, the number of people living in cities is expected to grow towards 83.7% by 2050. With increasing urbanization, space in cities is becoming more scarce and disproportionately expensive, making it difficult to find adequate space for conventional supermarkets. Furthermore, mobility is changing. For example, in Paris less than 10% of the population own a car. Therefore, people are losing the ability to transport bigger shopping baskets over a larger distance.[3]

## 3 Customer expectations

New digital offerings such as Amazon Fresh and Amazon Pantry add to customer choice on the one hand and increase their expectations of shipment offerings on the other hand. Customers demand real-time transparency, including for product availability. Going forward, there is a need for personalization ("segment of one"), while at the same time the customer expects a consistent experience along all touchpoints.

[1] https://www.eea.europa.eu/data-and-maps/indicators/household-number-and-size/household-number-and-size
[2] https://ec.europa.eu/eurostat/statistics-explained/index.php/Household_composition_statistics
[3] https://knowledge4policy.ec.europa.eu/foresight/topic/continuing-urbanisation/developments-and-forecasts-on-continuing-urbanisation_en

## **4**  Product lifecycles

Technological advancements have made it much easier to undertake new product launches. New marketing tools combine signals from diverse marketing channels (e.g. Instagram, eCoupons, Twitter), bringing together a broad customer audience. This information then gets transformed rapidly through marketing into specific product offerings. On the one hand, this leads to "pop-up" products: products with an extremely short lifecycle, sometimes as little as a couple of weeks. On the other hand, we can see products customized to local demand that go on sale only in specific areas.

## **5**  Direct-to-consumer

Fast-moving consumer goods manufacturers are connecting directly with consumers in order to provide a unique customer experience, collect actionable data about consumer behavior, and get direct responses to product changes or new product launches. Platforms such as Bringg or Onfleet allow them to offer fit-for-purpose last-mile deliveries through third parties and customer data collection. This exerts heavy pressure on existing retail supply chains.

# How Are Grocery Retailers Responding to the New Situation?

We mainly see two strategic responses from full-assortment grocery retailers to the new market trends: convenience stores and e-commerce. Both have a fundamental impact on the supply chain.

## Convenience stores

Convenience stores need rather little space, averaging 100 m$^2$, while conventional mid-sized supermarkets operate on around 1,200 m$^2$. They are typically positioned much closer to their customers, mainly in densely populated areas serving the daily needs of their neighborhood and being accessible by foot. A typical convenience store operates between 1,200 and 2,500 SKUs (mid-sized supermarkets have around 12,000), leading to a comparably higher number of SKUs per m$^2$. For the supply chain, an increase in smaller stores means more points of delivery with less demand per SKU. This could lead to issues of shelf life and shelf space when sending standard minimum order quantities (e.g. full box). Furthermore, these small stores have special delivery requirements as they are in many cases not reachable by bigger trucks and have limited capacity for shelf refilling and backroom space if supply peaks occur.

## E-commerce

E-commerce is expected to grow by 66% in Europe in the five years leading up to 2023, not taking into consideration the Covid-19 lockdowns and the resulting boost in online shopping.[4] In basic terms, two key types can be distinguished:

▶ **Delivery from store or store pickups**
Delivery from store or store pickups allow for rapid geographical expansion as the existing store network can be utilized without a need for huge investments. On the downside, the threat of stockouts is larger as the purchase and picking of goods is time independent, leading to frustrated customers. Furthermore, stores are not created for efficient online picking, but for the shopper experience, which compromises operational efficiency.

▶ **Dedicated fulfillment centers**
Dedicated fulfillment centers are built especially for e-commerce. Dedicated pickers or automated processes ensure smooth and efficient product handling in non-public, picking-optimized so-called "dark stores". In order to cover the usually massive investments in hard- and software, a sufficient sales threshold needs to be reached.

▶ **A hybrid of these two types**
A hybrid of these two types is the third option. In certain stores, we can see that part of the space is detached and used as a dark store. In these areas, products with a high turnover dominate. Articles in these areas may be picked manually or even automatically. In any case, there is an efficiency increase with in-store operations for e-commerce articles in these areas. Problems with stockouts for articles outside this area remain. Furthermore, sufficient space is a prerequisite to provide such an area.

One of the biggest challenges for e-commerce in the end-to-end supply chain is how to deal with stockouts. Typically, retailers initiate e-commerce with deliveries from stores. From our perspective, in-store stockouts are not acceptable for e-commerce customers. Sooner or later customer expectations will lead to the need to open a dark store.

In contrast to brick & mortar sales channels, it is challenging to steer customer demand, as e-commerce does not have tools such as positioning or dynamic price reductions (for end of shelf life). Hence new ways need to be found to sell off excess stock online. Short shelf-life products such as dairy are otherwise at constant risk of being thrown away in dark stores.

4  https://www.igd.com/articles/article-viewer/t/igd-online-global-growth-of-163-predicted-by-2023-adding-257bn-to-food-and-consumer-goods-industry/i/21745

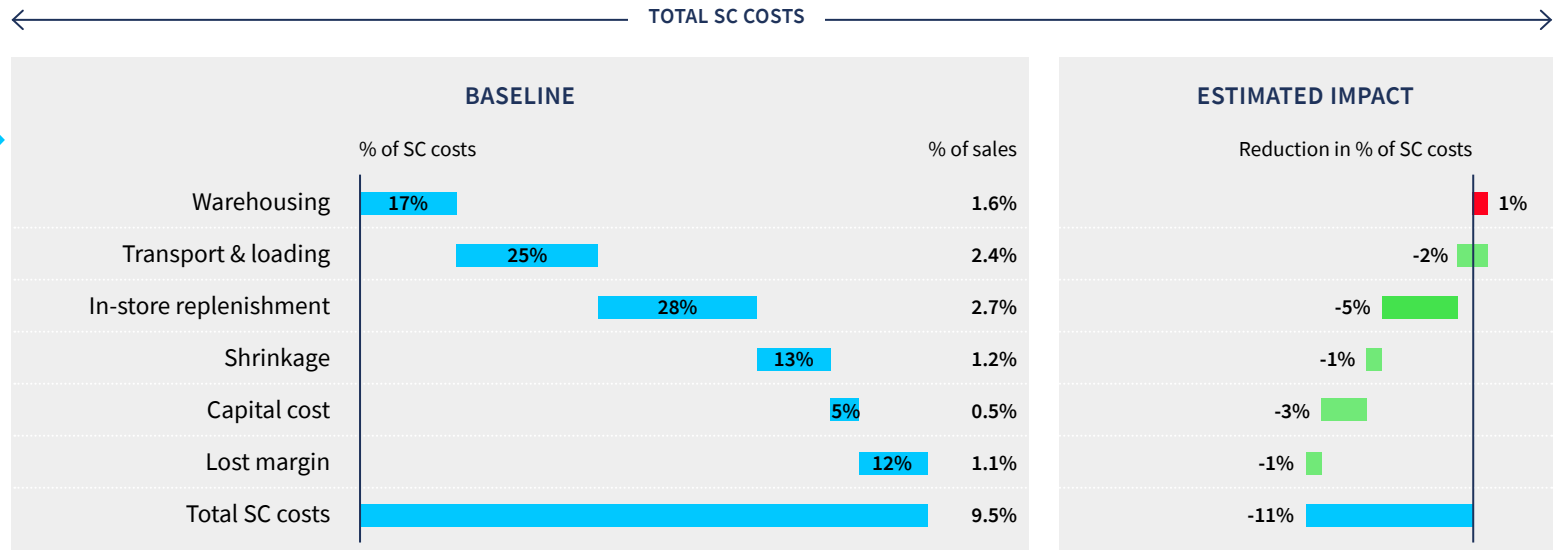# End-to-End Alignment of the Supply Chain Is Key

When designing grocery retail supply chains, the focus should not only be on core logistics functions such as warehousing and transportation. The most important enabler of an effective and efficient supply chain is to look at it from an end-to-end perspective. This can be strongly underlined by the cost situation. Supply chain costs account for about 9.5% of sales revenue. More than 50% of supply chain costs are directly related to in-store operations such as shelf refilling, and can only be optimized through specific warehouse or transportation operations.[5] Based on numerous projects in this field, we see an average cost reduction potential of about 11% in the end-to-end supply chain, depending on current supply chain maturity levels. As the existing supply chains are not set up for the new market developments and therefore imply even higher total supply chain costs, the benefits will be disproportionately larger considering the expected growth scenarios for e-commerce and convenience stores.

Saving potential in end-to-end supply chains:

## 11 %

### Exhibit 1 – Total End-to-End Supply Chain Costs

TOTAL SC COSTS

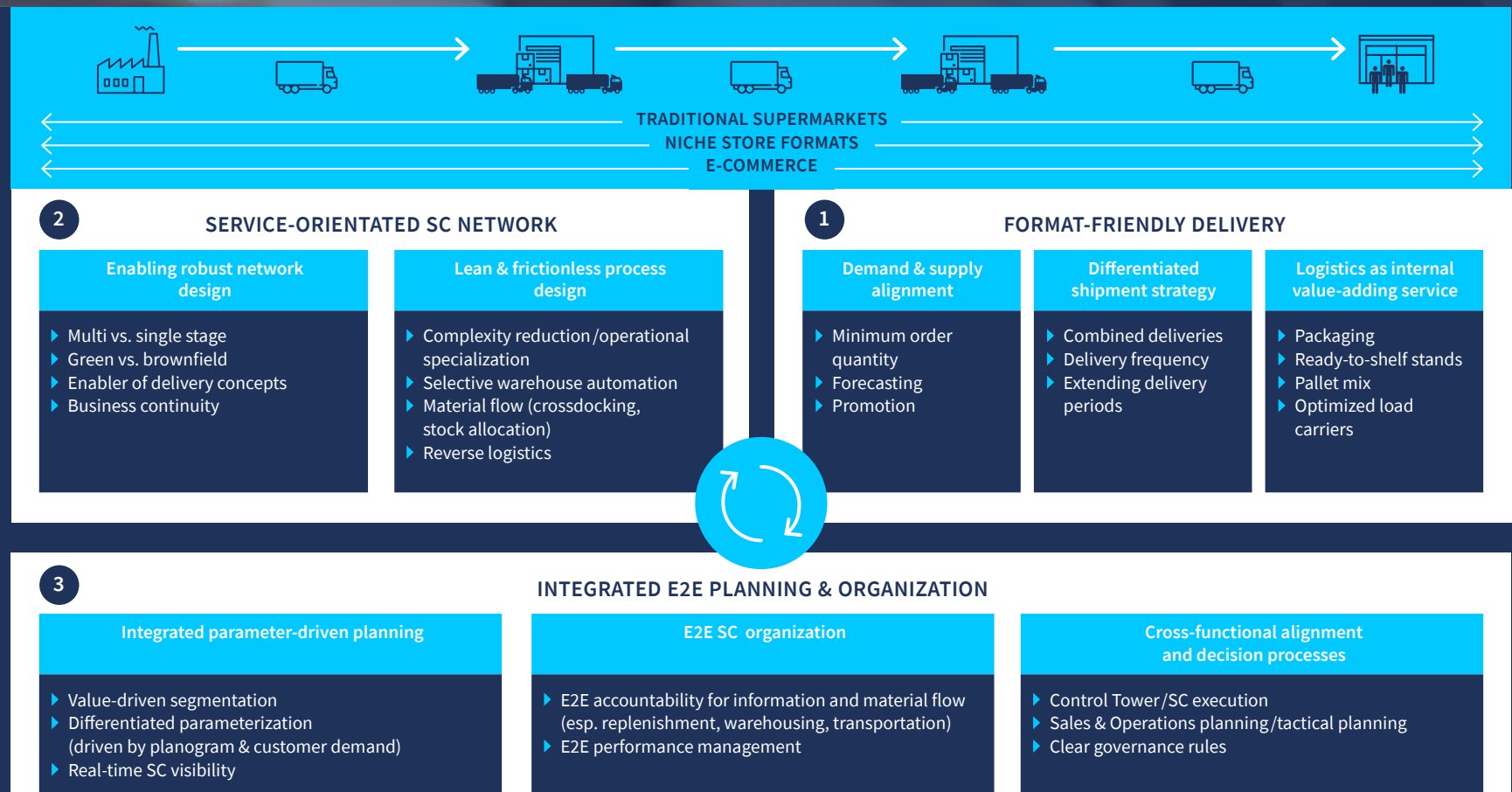| BASELINE | % of SC costs | % of sales | ESTIMATED IMPACT Reduction in % of SC costs |
|---|---|---|---|
| Warehousing | 17% | 1.6% | 1% |
| Transport & loading | 25% | 2.4% | -2% |
| In-store replenishment | 28% | 2.7% | -5% |
| Shrinkage | 13% | 1.2% | -1% |
| Capital cost | 5% | 0.5% | -3% |
| Lost margin | 12% | 1.1% | -1% |
| Total SC costs | | 9.5% | -11% |

▸ > 50% of the SC costs are related directly to store operations
▸ Overall supply chain benefits of 11% expected which amount to 1 point increase of EBIT
▸ Highest benefits are to be seen in in-store replenishment

[5] CAMELOT benchmarking database

# Three Guiding Principles for Designing the Future Grocery Retail Supply Chain

How can companies exploit the full potential of their supply chain in terms of customer satisfaction and cost competitiveness? According to our project experience and the latest trends in supply chain research, retailers should approach end-to-end supply chain design holistically, focusing on three guiding principles:

## Guiding Principles for Future Grocery Retail Supply Chains

TRADITIONAL SUPERMARKETS
NICHE STORE FORMATS
E-COMMERCE

### 2 SERVICE-ORIENTATED SC NETWORK

**Enabling robust network design**
- Multi vs. single stage
- Green vs. brownfield
- Enabler of delivery concepts
- Business continuity

**Lean & frictionless process design**
- Complexity reduction /operational specialization
- Selective warehouse automation
- Material flow (crossdocking, stock allocation)
- Reverse logistics

### 1 FORMAT-FRIENDLY DELIVERY

**Demand & supply alignment**
- Minimum order quantity
- Forecasting
- Promotion

**Differentiated shipment strategy**
- Combined deliveries
- Delivery frequency
- Extending delivery periods

**Logistics as internal value-adding service**
- Packaging
- Ready-to-shelf stands
- Pallet mix
- Optimized load carriers

### 3 INTEGRATED E2E PLANNING & ORGANIZATION

**Integrated parameter-driven planning**
- Value-driven segmentation
- Differentiated parameterization (driven by planogram & customer demand)
- Real-time SC visibility

**E2E SC organization**
- E2E accountability for information and material flow (esp. replenishment, warehousing, transportation)
- E2E performance management

**Cross-functional alignment and decision processes**
- Control Tower/SC execution
- Sales & Operations planning/tactical planning
- Clear governance rules

## 1    Format-friendly delivery

Format-friendly delivery is the starting point towards an end-to-end supply chain design. From our perspective, the journey starts with demand patterns. It is important to align store demand and supply in the best possible manner to reduce inventories, enable efficient store operations, and reduce shrinkage. A frequent delivery pattern is needed not only for products with high demand, but also for low-demand products which require a certain freshness or have limited shelf life.

For some SKUs, supply might exceed demand with normal delivery quantities (e.g., supplier package, inner package). In these cases, it is important to find suitable solutions (e.g., piece picking) to balance supply and demand again.

Finally, logistics should become a value-adding service, meaning that the impact on stores should always be considered when optimizing logistics operations. One example of this is to have a close match between the warehouse layout and the store layout. If the warehouse layout was optimized independently of the store, a pure solution for efficient warehouse picking and pallet stack ability would be the result. By taking into account the store layout, pallets would be compiled directly for different store areas, thereby reducing sorting costs in the store.

## 2    A service-orientated supply chain network

A service-orientated supply chain network is the essential enabler for a successful grocery supply chain. As it takes significant effort and time to shape a network structure, it is often not ideally aligned with the much faster changing retail business environment. In the past years, retail logistics underwent a fundamental change to modernize and readjust its footprint. New sales channels, more volume, and a higher complexity have to be considered while typically gradually redesigning the network in a brownfield setup. Several parameters are crucial when undergoing a strategic network assessment. They can be differentiated into two categories: structural and process parameters.

Structural parameters focus on the high-level physical layout. The starting point of a design assessment is the current setup and the extent to which existing assets can be remodeled. Another essential matter is the number of stages the network needs to be comprised of. The main drivers of the network stages and functions are the business strategy, assortment characteristics, turnover, and the sales network. Based on the configuration of these dimensions, unique scenarios can be designed, which reflect the needs and topography the company operates in. Process parameters consider the up- and down-stream flow of goods. One key element is reducing complexity and ensuring manageability of all processes. This view is necessary to understand which functions and the level of performance a network must provide. Additionally, several indirect functions can also be linked to the network layout, such as inventory management, warehouse automation, returns handling, etc.

The main challenge is to identify a solution which does justice to all design elements and therefore offers the performance, robustness, and cost-efficiency that is needed in retail logistics.

## 3 Integrated end-to-end planning and organization

Setting up integrated end-to-end planning and organization is a key prerequisite to successfully drive the abovementioned measures and realize the attached benefits. First of all, this requires the implementation of an end-to-end supply chain operating model with accountability for end-to-end information and material flow (i.e., from supplier to the point of sale) in one hand. Secondly, a regular tactical alignment and decision framework—we call it Sales & Operations Planning—needs to be established to facilitate structured collaboration between all stakeholders along the supply chain (especially sourcing, supply chain/logistics, sales channels, and finance). And last but not least, the operative planning of the supply chain needs to be done in an integrated way driven by actual demand from the market side. This is achieved via segmented, data-driven, and frequently updated parameterization, which feeds modern planning systems and drives replenishment.

## Conclusion

Given the pace of change in the grocery retail industry, modern supply chains need to constantly progress to provide the best service for customers. Hence, (re)designing the supply chain is not a one-off activity but an ongoing strategic endeavor to secure and grow the market position as well as stay relevant to customers.

## CAMELOT Management Consultants

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