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# A white paper about:
Visibility

Establishing visibility throughout the Supply Chain makes it possible to track a product from raw material to consumption. This provides improved control, overview and opportunities to optimize the customer's convenience and experience. The fundamental principle of visibility is to identify what information is relevant and then on this basis to create a shared "language" for all parties involved in the Supply Chain.
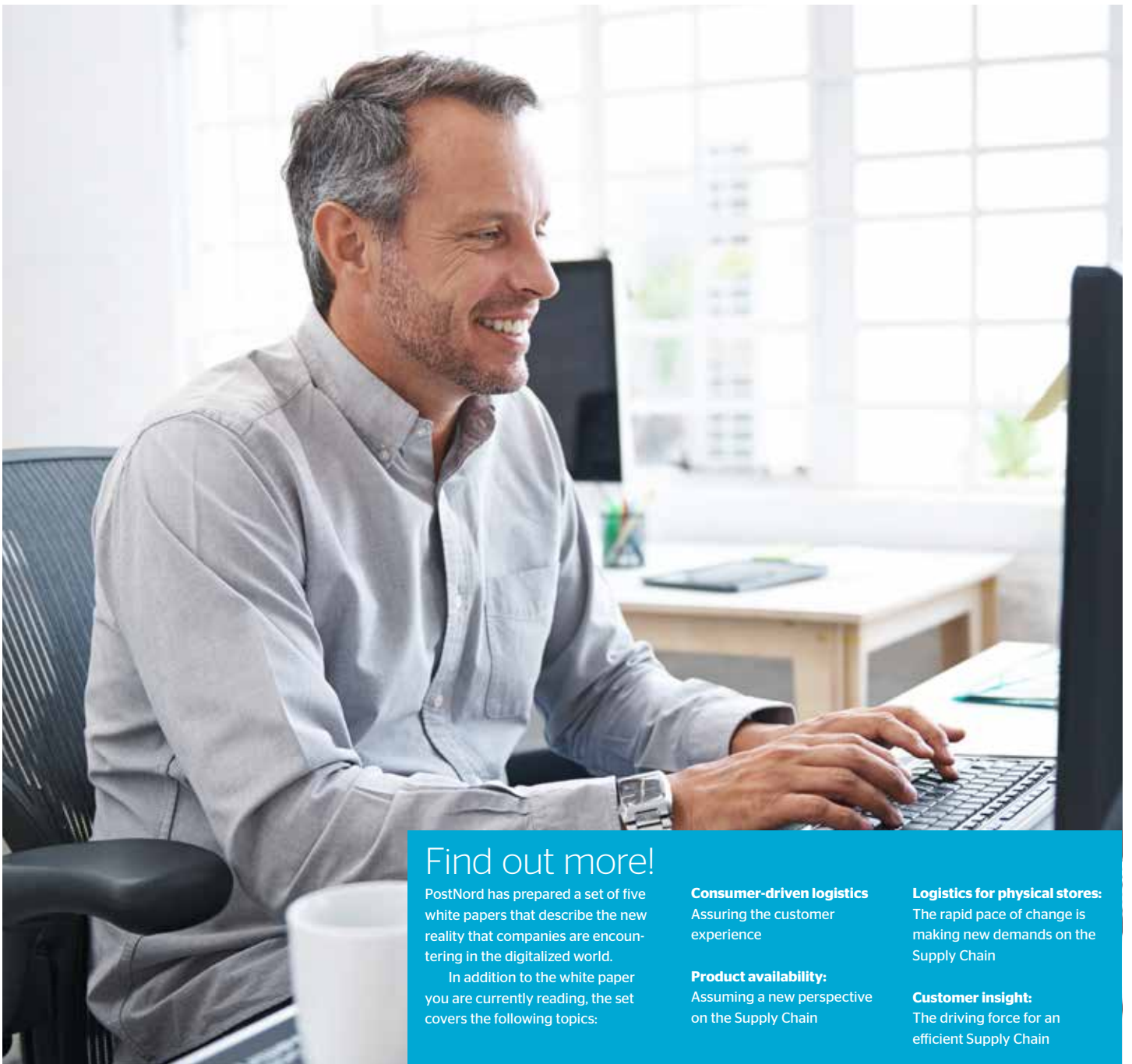
Find out more!

PostNord has prepared a set of five white papers that describe the new reality that companies are encountering in the digitalized world.

In addition to the white paper you are currently reading, the set covers the following topics:

Consumer-driven logistics
Assuring the customer experience

Product availability:
Assuming a new perspective on the Supply Chain

Logistics for physical stores:
The rapid pace of change is making new demands on the Supply Chain

Customer insight:
The driving force for an efficient Supply Chain

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Visibility: Generating overview and control in the Supply Chain

Digitalization is one of the most significant business trends of our era. For example, it is creating completely new conditions for companies to maintain an overview of, and to manage, their Supply Chain. Data are collected and structured, measurement points are set up, and mission-critical flows are highlighted. In this way, visibility is created across the entire Supply Chain and a product can be traced from raw material to consumption – which naturally translates into superior control and overview. Non-conformances can be identified quickly and dealt with proactively. From an external perspective, improved visibility paves the way to optimizing the customer's convenience and experience.

95%
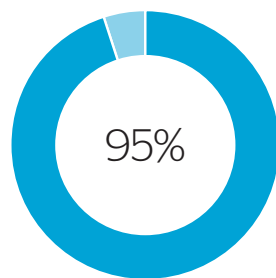
Almost all companies consider visibility to be highly important to their capacity to act quickly …

38%
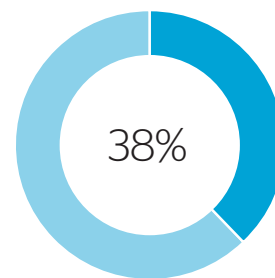
… but only slightly more than 1/3 of them think that they fully live up to the requirements made.

Source: Lora Cecere: Supply Chain Visibility in Business Networks

Consumers have seized power
Old logic dictates that customers traditionally sought out products. The reverse applies today, however, where products have to seek out customers. Consumers are now rapidly changing the rules of the game for all traditional retailers and e-retailers who want to run a successful business. The selection available is increasing dramatically. According to a report from the World Economic Forum, consumers can already choose between more than a billion different products on the global marketplace. In parallel with this, customers are making increasingly stringent demands for faster deliveries, greater transparency and more convenience – and they also want their purchases to be exciting and inspiring.

Consumers are increasingly acquiring power over the purchasing process. At the same time, loyalty to specific suppliers is on the decline. This increase in consumer power is making a series of new requirements, especially with regard to the Supply Chain/logistics. In order to retain customers, suppliers must act more quickly and more flexibly, be innovative and utilize the new opportunities that technology is opening up.

A fresh, new perspective on the Supply Chain
Change on the market is moving quickly, and it is merciless. This insight must be matched by internal insight that completely new demands are being made on how companies work with their Supply Chain. It has to be reconstructed step by step, and at a rapid pace, to ensure it matches a world in a constant state of flux. The traditional internal silo thinking within the company is now history. All work in the area of the Supply Chain must be based on an outside in perspective, based on the motto that "the customer is always right."

It is a question of organizing the logistics setup to ensure it becomes customer-driven. Important

areas to focus on include product accessibility, ensuring the opportunity for visibility throughout the delivery process, how retail logistics are organized, and the capacity to benefit from and act on customer insight. This white paper focuses specifically on the concept of visibility. The problems and opportunities in other areas are examined in three separate white papers.

The two dimensions of visibility

What is meant by visibility? According to PostNord's view of the issue as a whole, visibility refers to the capacity to track a product from raw material to consumption. The better the visibility, the greater the opportunities to generate overview and control of your Supply Chain, and to predict non-conformances at an early stage so as to be able to take actions to remedy them.

The external dimension plays a dominant role. The way the company acts must be relevant to consumers, and must be based on their convenience and experience. They want their orders to be completely visible from the moment they have placed the order to the time when they are holding the item in their hands. Many of the services that were previously considered premium – for example, being able to track a delivery in real time on a smartphone – are viewed as more or less standard today.

The internal dimension must reflect the customer's reality. This means that the company must firmly control its production orders, purchase orders, stock balance, physical stocks, stores, the goods and the package, and must have ready access to and communication with whoever is delivering the package. This applies irrespective of where in the logistics chain the item may be – on a boat, in the store, or in a truck returning it to the supplier. In consequence, conventional retailers and e-retailers must build up their Supply Chain in such a way that it provides full visibility from the time the product is manufactured to the point where the customer is holding it in his/her hand – and even chooses to return it.

Seven important pieces of advice about generating visibility

Digitalization and technical solutions are creating completely new conditions for meeting the requirement for visibility, both internal and external. Start-ups looking at their business with open eyes and minds are generally perfectly placed to build their operations up on the basis of this new reality. The process is more complicated for established companies, as it demands an injection of innovation and means that old structures and processes have to be reviewed and remodeled. At first glance, this may look like a revolution, but it should primarily be considered an evolution taking shape step by step as technology progressively creates new openings and opportunities.

The following section of this report presents some fundamental advice about creating a Supply Chain that lives up to today's – and tomorrow's – demands for visibility.

ITEM 1:
Create a shared view internally

Visibility has become something of a buzzword. Many people are talking about it, but the situation is confusing because different players have a different understanding – and use a different definition – of what the concept actually entails. This is an aspect Lora Cecere looks at in her report entitled Building the Network of Networks: Some Insights. She makes the point that companies often have an inherent and intuitive understanding of visibility and its importance. This applies in particular in the B2C interface to consumers, where almost everyone understands the requirements that are made today, and those that will be made in the future. However, when it comes to the method of generating visibility throughout the Supply Chain, there is great confusion about the concept; it is in this area that there is much work to be done.

The major challenge here has to do with the ability to get IT systems to communicate with each other in a way that allows data to be structured to present practical uses. This naturally applies both internally, where different departments often function as independent silos, and externally toward suppliers, agents, transport companies, and in different partnerships.

Generating visibility in digital interfaces has to do with bringing together a number of different perspectives and, by extension, different platforms. For this to succeed, everyone must appreciate the importance of this aspect and what it involves. Everyone must work toward the same goals.

ITEM 2:
Clarify the business benefits

For the concept of visibility to establish a bridgehead at a company, it must be promoted and understood at management level. This understanding must be directly linked to the business benefit that can be generated by the company working actively with visibility. There are numerous surveys that support the link between improved visibility and improved business benefit. In particular, the American business guru Lora Cecere has highlighted this link in several reports.

By generating visibility in real time in every link of the Supply Chain, companies can rapidly improve their capacity to act quickly, reduce capital

costs and improve risk management. A manager of the leading software company E2Open has expressed the benefits as follows:

"We are noticing how increasing customer expectations to product accessibility and speed of delivery are powering developments in commerce. In order to live up to these requirements and, at the same time, optimize stock holdings throughout the Supply Chain, conventional retailers and e-retailers must focus on visibility and optimization. For example, it has to do with accelerating the opportunities for stock visibility and demand planning, by switching from monthly to daily forecasts. This can be done via Artificial Intelligence, which uses a range of recognition methods to analyze data – from the point of sale, for example, or the effects of weather conditions and social media – so as to predict demand and volumes with a higher degree of accuracy.

By working in this manner, our conventional retailers and e-retailers have succeeded in cutting stocks by an average of 30–40 percent in every link of the Supply Chain."

– Shawn Lane, Vice President, Sales and Marketing, E2 Open

ITEM 3:
Reinforce the role of the logistics manager in the company
Surveys have shown that deliveries of goods have a direct impact on SCI/NPS (Satisfied Customer Index/Net Promoter Score). Logistics can no longer been viewed as simply a transport service – it now constitutes a key part of the customer experience as well. As such, it is a mission-critical element and an increasingly important competitive advantage and criterion for success.

The reasonable conclusion to draw from this is that logistics issues must be elevated to management level in any company that wishes to be successful. Adding the logistics manager to the management team helps integrate logistics issues naturally and seamlessly into business decisions. For many companies, they are quite simply driving forces behind the strategy.

PostNord has interviewed 657 logistics managers employed at the biggest retail companies in the Nordic region, asking them how they work with logistics, how they view development and what they consider to be the biggest challenges. A key question had to do with how logistics is prioritized at companies that are experts in the area in comparison with other players, and what emphasis was placed on logistics internally within the organization. The survey reveals that 68 percent of companies that are experts in logistics have logistics represented in their management teams – whereas only 49 percent of other companies do. This points toward a clear trend.

Bringing the logistics manager into the management team creates a natural forum for interaction between different departments such as finance, marketing, sales, customer service and logistics. This helps tear down walls between the different departments and allows relationships to be built up on equal terms – thus reinforcing the competitiveness of the company.

ITEM 4:
Think digital rather than analog
According to a recent survey involving 337 company managers in 20 countries (GTNexus: The Current and Future State of Digital Supply Chain Transformation), only 15 percent of them believe that the majority of the information that refers to their entire Supply Chain is available to their organizations. In contrast to this, the survey reveals their hopes that over half this information will be accessible

Traditional thinking	Digital networking
Inside-out processes	Outside-in processes
Focus on creating effective internal organizational silos	Focus on building value networks
Use of primarily historical transaction data • Manufacturing processes • Business system • Linear optimization	Use of all available databases • Design of new processes that allow this • Unstructured and structured data • Open sources
Focus on utilizing available facts	Focus on creating relevant and intelligent facts
Standardized processes	Autonomous, flexible processes

Source: Lora Cecere – Building the Network of Networks: Some Insights.

within five years. There is thus a large gap between what is "possible" and what is "wanted."

Why is this? The likely explanation is that the conventional way of thinking is still strongly and deeply anchored in the organization. Perhaps not primarily because there is a lack of willingness to think along new lines, but more because people are not completely ready to make the intellectual leap of development required to switch from an analog to a digital mindset. The presentation on the previous page illustrates the change that is currently under way.

The leap may appear large, but it is important to remember that it should be accomplished step by step rather than in a single bound. This requires close interaction between both internal and external players. Building up partnerships in this way will prove crucial to success. The starting point is to get everyone to see the big picture rather than their own situation. Alone is never a position of strength in the field of Supply Chain issues.

ITEM 5:
Make sure that the information is accessible

Visibility is based on the capacity to organize relevant collection points for data at strategic locations in the Supply Chain. Many retailers and e-commerce companies have already made a lot of progress as regards to the last mile. Players are skilled at real-time updates and using information when it comes to the final link in the long Supply Chain. However, to generate real and overarching visibility, it is necessary to be able to move back through the chain – ideally all the way to the actual production phase.

The more measuring points – i.e. information collection points – you can set up, the better overview and control you will have, along with correspondingly greater opportunities to spot non-conformances in time and take measures to remedy them. The ability to achieve this demands a close working relationship between all parties involved in the Supply Chain. And this must be set up from an overarching

customer perspective: how are we to work together in the Supply Chain and share information so that we become our customers' preferred choice? This naturally requires some give and take.

The starting point is that all information, in principle, is already there. All that is required is for the Supply Chain owner to identify what information is needed, start to collect it, and then make requirements on suppliers and systems so as to create a shared "language" and the interfaces required. One way is to work with the support of APIs (Application Programming Interfaces). These APIs are essential to the capacity to collect and assess information in real time, and then to convert it into relevant decisions that benefit the customer and/or your own organization – your own network of stores, for example. Making sure that facts are laid out on the table helps eliminate opinions and subjective perspectives.

Improving visibility simultaneously boosts control, which creates opportunities for relevant communication with all parties involved in the journey. Additional improvements for fast decisions in the Supply Chain can be made by introducing new tools such as Artificial Intelligence (AI). The reason why AI is becoming necessary is that it allows access to huge volumes of data concerning historical information. On this basis, and using a number of pre-defined data points, the likelihood of non-compliance occurring can be calculated using Machine Learning. It is also possible to predict which units are running the greatest risk of non-compliance. In this way, the individual organization can receive timely warning signals that something like that "will probably happen." This information opens the door to improved security, or can help improve deliveries and allow you to work with more active communication in relation to the end customer, the warehouse or the store network.

ITEM 6:
Prepare a plan for implementation

A fully functional Supply Chain can only be based on a clear customer promise and a clearly estab-
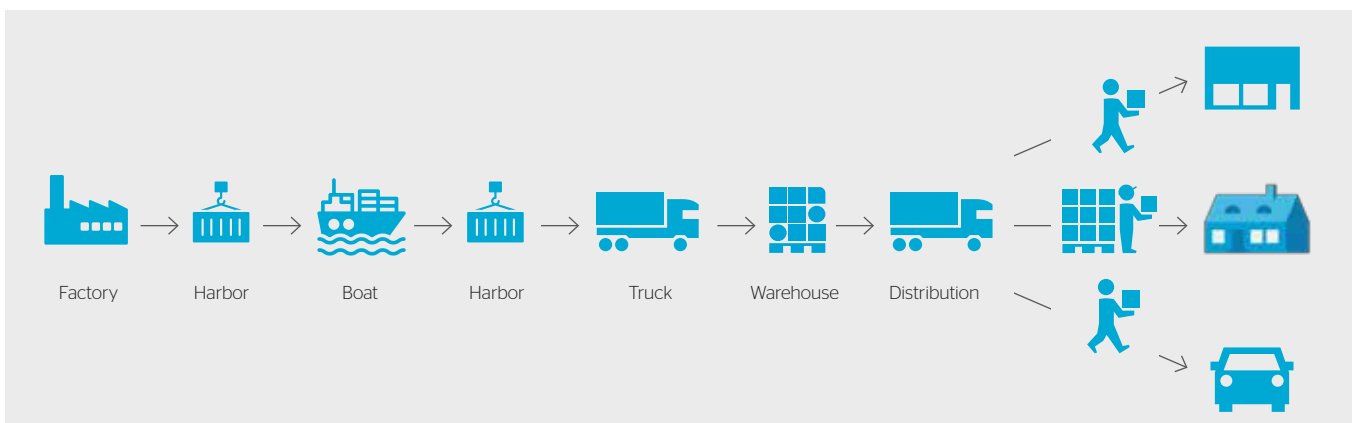
Visibility has to do with being able to follow a product every step of the way from manufacture to arrival at the end customer. The more information collection points you can set up, the better your opportunities to spot non-conformances in time and take measures to remedy them.

Factory   Harbor   Boat   Harbor   Truck   Warehouse   Distribution

lished strategy. If the strategy is not clear, then the role of logistics in the business will not be clear either. In this context, working professionally with visibility is absolutely mission-critical. Improved visibility translates into greater opportunity for control and governance. It also improves opportunities to take a proactive approach.

Visibility must therefore be a fixed point on the agenda, and must build on working relationships based on new digital possibilities. The most realistic plan is to work backwards through the Supply Chain – from customer to production. Doing this work step by step allows you to acquire experience and build up networks with suppliers. There are no shortcuts or ready-made solutions. Large companies often have the resources – both HR and financial – to handle this. They are generally also strongly placed to negotiate with their partners/suppliers. Smaller companies do not enjoy the same strong position and must therefore find other ways to move forward. One way is, of course, to focus on working with partners/suppliers who have visibility as a key concept.
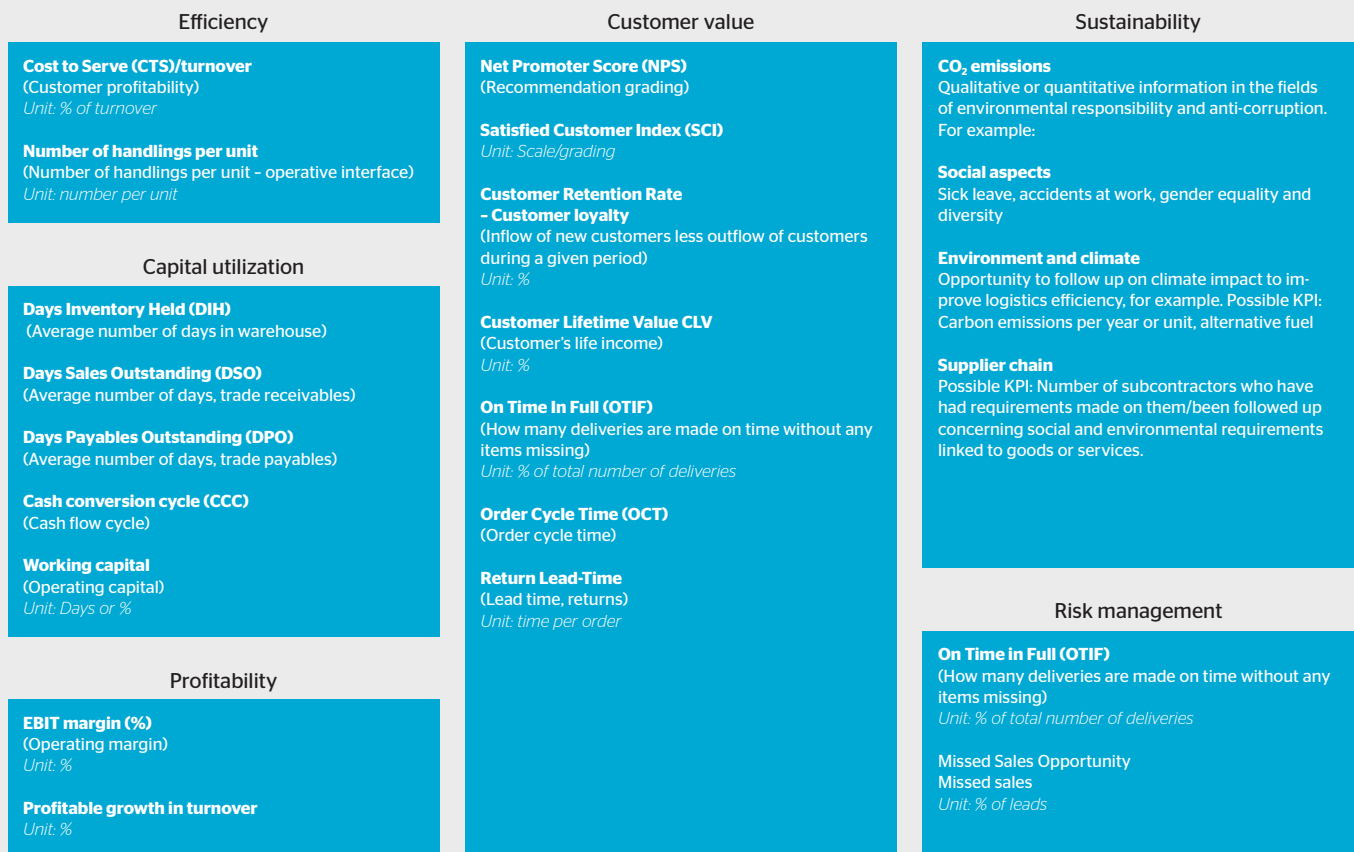
ITEM 7:
Use KPIs as governing instruments
Introducing and actively using KPIs (Key Performance Indicators) lays down conditions for clarifying how the Supply Chain is functioning in relation to the stated goals. KPIs also send out clear signals about when changes have to be made, allowing companies to operate proactively and develop their Supply Chain so that it aligns with customers' expectations.

A fundamental aspect is an insight about the overarching importance of logistics for product accessibility and the customer experience. On the basis of this platform, relevant KPIs can be formulated that make it possible to trace developments within the most important areas. Visibility is a key factor here because it governs so many other parameters. KPIs are thus not reserved exclusively for logistics staff; they constitute a management issue that demands consensus at the highest corporate level. Using KPIs properly helps avoid sub-optimization and reaching misleading conclusions at function level.

Which KPIs should a company use? There is naturally no "one size fits all" answer to this question; it has to be answered individually. Here is a summary of the different measurements that can be introduced to measure performance in different disciplines. What is important is to make sure KPIs are really used in a professional manner. They should be introduced at a pace adapted to the development taking place in the Supply Chain. Action and measurements must go hand in hand.

Efficiency

Cost to Serve (CTS)/turnover
(Customer profitability)
Unit: % of turnover

Number of handlings per unit
(Number of handlings per unit – operative interface)
Unit: number per unit

Capital utilization

Days Inventory Held (DIH)
 (Average number of days in warehouse)

Days Sales Outstanding (DSO)
(Average number of days, trade receivables)

Days Payables Outstanding (DPO)
(Average number of days, trade payables)

Cash conversion cycle (CCC)
(Cash flow cycle)

Working capital
(Operating capital)
Unit: Days or %

Profitability

EBIT margin (%)
(Operating margin)
Unit: %

Profitable growth in turnover
Unit: %

Customer value

Net Promoter Score (NPS)
(Recommendation grading)

Satisfied Customer Index (SCI)
Unit: Scale/grading

**Customer Retention Rate
– Customer loyalty**
(Inflow of new customers less outflow of customers during a given period)
Unit: %

Customer Lifetime Value CLV
(Customer's life income)
Unit: %

On Time In Full (OTIF)
(How many deliveries are made on time without any items missing)
Unit: % of total number of deliveries

Order Cycle Time (OCT)
(Order cycle time)

Return Lead-Time
(Lead time, returns)
Unit: time per order

Sustainability

CO$_2$ emissions
Qualitative or quantitative information in the fields of environmental responsibility and anti-corruption. For example:

Social aspects
Sick leave, accidents at work, gender equality and diversity

Environment and climate
Opportunity to follow up on climate impact to improve logistics efficiency, for example. Possible KPI: Carbon emissions per year or unit, alternative fuel

Supplier chain
Possible KPI: Number of subcontractors who have had requirements made on them/been followed up concerning social and environmental requirements linked to goods or services.

Risk management

On Time in Full (OTIF)
(How many deliveries are made on time without any items missing)
Unit: % of total number of deliveries

Missed Sales Opportunity
Missed sales
Unit: % of leads

By using KPIs actively in different areas, companies can proactively develop their Supply Chain.
Summary of the most important measurements within different disciplines.

Summary:

Visibility refers to the capacity to track a product from raw material to consumption at activity level. The better the visibility, the greater the opportunities to generate overview and control of your Supply Chain, and to predict non-conformances at an early stage and take actions to remedy them.

At the end of the day, it is a question of the conventional retailer or e-retailer having the capacity to maintain an effective overview of the complex network of manufacturers/partners/suppliers/distributors in such a way as to meet the specific requirements of the customers. One challenge in this regard is the inability of different IT systems to communicate with one another. It is a matter of having a digital rather than an analog starting point. It is a matter of seeing visibility as a mission-critical tool. And above all, it is a matter of elevating these issues to management level by making the logistics manager a part of the company management team.

The starting point is that all information, in principle, is already there. All that is required is for the Supply Chain owner to identify what information is needed, start to collect it, and then make requirements on suppliers and systems so as to create a shared "language" and the interfaces required. One modern way to generate visibility is to use APIs. These are essential to the capacity to collect and assess information in real time, and then to convert it into relevant decisions that profit the customer and/or your own organization – your own network of stores, for example. Using AI to diagnose non-conformances more quickly makes it possible to give customers an early warning.

KPIs can be used to maintain a constant check on the company's Supply Chain to make sure it is functioning as intended. KPIs also provide indications of when changes have to be made, and provide an incentive for proactive measures.

Sources:

Over and above the sources cited in the text, the following specialists have contributed input:

Arne Andersson,
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PostNord Insight

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