Measuring service level

FROM PRODUCER TO CONSUMER

ECR SVERIGE
EFFICIENT CONSUMER RESPONSE

Introduction

This publication is a revised and shortened version of the publication Measuring Delivery Service published by ECR in 2006. The text has been updated, simplified and modernized based on the current situation and the use of concepts that constitute current practice. The original publication contained several options and proposals for measuring methods that today do not feel relevant or useful to any great extent. Readers interested in a broader account and discussion about measuring concepts and methods are referred to the original publication.

Executive summary

Title: Measuring service level from manufacturer to consumer

Measuring service level is the result of a working group appointed by ECR Sweden. It outlines dimensions and guidelines for measuring of service level for companies in the supply chain.

The best possible service is not necessarily the right service. The right service level is a function of agreements between the parties in the supply chain and consumer expectations. Continuous service level improvements become possible through measuring and comparing service level with what was originally agreed upon.

This publication is an instrument for companies that want to work together to improve the service level to become more efficient, faster and fulfil the consumer expectations at a lower costs. For this purpose, two dimensions are recommended. These are based on Quantity and Time.

Measuring service level

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Measuring service level throughout the supply chain ultimately aims to give consumers good access to goods in stores.

The right level of service is not the same as the highest possible service. It's a function of factors that the parties in a supply chain have agreed on, and of the expectations of the consumers. By measuring and comparing the level of service with what has been agreed between parties, priorities can be set for relevant action points and continuous improvements.

Measuring the level of service includes suggestions for metrics for monitoring the level of service. The aim is to establish a common starting point for the parties' measurement, information exchange, evaluation of performance and efforts to enable the right level of service. All with the aim of meeting the consumer's expectations better, faster and at the right cost.

The right level of service is a function of quantity and time. Two measurements are recommended to facilitate the dialogue between the parties. These basic measurements focus on quantity and time.

Measuring the level of service, which is a recommendation, has been developed in close collaboration between the various representatives of the Swedish grocery industry, initiated by ECR Sweden.

Measuring the level of service is available on ECR Sweden's website **www.ecr.se,** where updates will be posted.

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About service level measurement

Part of a business agreement is stating and agreeing on mutual expectations and requirements for level of service.

The basis for the reported metrics is that an order results in a delivery.

Why should service level be measured?

By having the parties involved in a supply chain (producers, wholesalers and retailers) measure, monitor and make improvements to the service level, you can achieve the right availability of goods on the store shelf. The right availability refers to a supply chain that both meets consumer expectations and is cost-effective.

In the relationship between customer and supplier, it is important to have a dialogue about which service level should apply. The service level should be neither too high nor too low. If it's too high the cost will be too, and if it's too low, it can result in backorders and lost sales. The right service level is therefore the key word. The higher the demands placed on the service level, the more important it is that the parties have understood why this is important. Reliable forecasts regarding regular sales and for campaigns make it easier and cheaper to maintain the right service level.

What should be measured?

The total service level can consist of both quantifiable and non-quantifiable factors. Examples of quantifiable factors are that the delivery arrives on time, that the quantity delivered corresponds to the quantity ordered and is of the right quality. A starting point for this is that an order corresponds to a delivery. Non-quantifiable factors include customer service, poor quality or deficiencies in goods reception procedures.

When choosing metrics for the service level, the quantifiable basic metrics recommended here should be used first and foremost to be able to focus on different causal areas. The goals for the metrics are a matter for the customer and supplier to agree on. The basis for the reported metrics is that an order results in a delivery

Where should measurement be done?

The person who orders goods has expectations on the supplier and vice versa. In the flow of goods from producer to store shelf, there are many customer-supplier relationships where the level of service needs to be measured to ultimately provide the consumer with the right service at the right cost. Therefore, the level of service needs to be measured between all parties through the entire flow of goods. The end goal is for the products to be available to the consumer and that no out-of-stock situations occur.

The level of service is usually measured on an overall level but can also be measured for example for a product category or for high- and low-frequency items. Chosen service level measurements should be available to both parties in a supplier-customer relationship. Therefore, it is important to measure the same thing, in the same way and with comparable measurement units to be able to prioritize and take action to create improvements.

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Service level basic measurements

The basic metrics Right Quantity and Right Time each have different underlying causes and different needs for action in the event of deviations from the agreed values.

Right Quantity

The Right Quantity is a common measurement of service level and the one that is often used when asking **"What service level do we have?".**

Ordered Quantity refers to the quantity that the recipient originally wanted, within the framework of the applicable business agreement between the parties.

The Right Quantity is preferably measured both when the goods leave the sender and when they arrive at the recipient. The measurement refers to what was delivered at the first delivery.

Backorders and cancelled orders or incorrectly delivered goods and qualities constitute a deviation in terms of the correct quantity. If a few units arrive too early or too late, this is measured using the basic measure of correct time. If an order is not placed due to a longer period without delivery possibility announced by the supplier, a deviation from actual need arises. However, deviations may be followed up outside of the regular measurement

The right amount is calculated as follows and expressed as a percentage:

$$\frac{\text{Delivered quantity}}{\text{Ordered quantity}} = \textbf{Right quantity \%}$$

Right Time

The Right Time metric measures the reliability of delivery time, i.e. punctuality. On-time delivery of an order is measured based on whether the delivery has taken place at the agreed time or within the agreed time window. The delivery is considered received when it has either arrived and been reported to the recipient or is made available to the ordering party at the agreed location.

The right time is calculated as follows and expressed as a percentage:

$$\frac{\text{Quantity delivered on time}}{\text{Total quantity ordered}} = \textbf{Right quantity \%}$$

It is not enough however to have one of these metrics under control. The service level is a function of the whole. For the basic measurements reported above, it is a great advantage to use the same unit for quantity. This gives the deviations a better proportionality.

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Components of service level measurement

Whether a recipient is satisfied with the level of service depends on how well requirements and expectations have been discussed and agreed upon.

Business relationship

Whether a recipient is satisfied with the level of service depends on how well requirements and expectations have been discussed and agreed upon. Both parties should have insight into the entire flow of goods and information and an understanding of both the opportunities and the challenges that may arise along the goods' path from producer to consumer. Through continuous cooperation and open dialogue, the right level of service can be offered at each stage, resulting in the consumer's expectations being met better, faster and at the right cost.

The basis for a business relationship is often general terms and conditions of sale and delivery. The business relationship can develop into a partnership where specific conditions have been agreed upon for lead times, forecast exchange and order routines.

Regardless of the conditions that apply, the parties need to agree on factors such as:

- **what measurements to use**
- **what facts are needed for agreed measurements to be applied**
- **how information about campaign forecasts and product range changes (new launches, sales forecasts and phasing out) should be exchanged**
- **where measuring should be done (for example, at the point where the delivery has arrived and been reported to the recipient)**
- **when the exchange of measurement results will take place**
- **how analysis and evaluation should be carried out**
- **how actions for improvement should be implemented and followed up**

Quantity unit

For measurements where the customer and supplier are to be able to exchange results, it is necessary to determine which units of quantity are to be used. Which unit of quantity to choose for an internal delivery service measurement is a company issue. In bilateral measurements, however, the parties must agree on which unit of quantity is to be used.

Depending on the nature of the transaction and the type of goods, the parties can agree to use, for example, consumer packaging, outer packaging or pallet. Order lines and value are other suitable units.

In the flow of goods and information from the supplier, via, for example a distribution centre, to the store, the most common order unit is the outer packaging of the item. This means that the outer packaging unit can be a useful unit of quantity that the customer and supplier can agree to use for the joint measurement of the service level.

The closer the goods in the flow from the producer are to the store shelf, the more relevant it is to use the consumer packaging unit of quantity, as this unit represents the customer encounter in store. Using the outer packaging as a unit of quantity does not consider the consumer encounter. Value is another option for comparing service level outcomes.

Examples of units of measure:

- consumer packaging
- value
- outer packaging
- retail packaging
- delivery unit
- package
- store packaging
- secondary packaging
- pallet
- SKU
- order lines
- volume
- weight

The advantage of this is that it provides a measure of the economic impact of service level. However, it should be noted that if you mix items with a high value with items with a low value, the results may fluctuate from time to time depending on which items have been delivered.

Concept of time

The concept of delivery time, when the delivery should reach the recipient, can differ between different types of products, business terms and depending on what the parties have agreed upon. An agreement may state that delivery should be at the recipient's disposal within a so-called time window, for example Tuesday at 3:30 PM plus/minus 30 minutes. Deviations in the timing are then measured based on these conditions. For goods transported by boat from a distant country, the delivery time can be specified to a specific week. The agreement between the parties should also state which lead times apply and what these include. Some companies include time from when the order is placed until the delivery reaches the recipient, while others only calculate the actual transport time.

Improvement methods

Good cooperation between all parties in the flow of goods from producer to store is a prerequisite for offering consumers well-stocked store shelves. Like the choice of metrics and the targets for them, the analysis of the results is also a bilateral issue that should be part of an established partnership and agreement between supplier and recipient. To achieve a sufficiently good level of service over time, both parties must be transparent with information and prepared to contribute with action to improve the process. It is more important to note trends over time than to look at temporary results. Negative trends are warning signals that, after analysis and an action program, can help restore the correct level of service. Follow-up with regular measurements and joint analyses should be an integral part of the business relationship as a continuous process to ensure that the actions taken produce the desired results.

Analysis of results

When analysing the results of service level measurements, it is important to consider several factors that can affect the measurement results and make them less relevant. Here are some examples of such factors:

- the starting point for the reported measurement figures is that an order results in one delivery. Therefore, it should be considered whether an order is to be delivered on several previously agreed occasions
- incorrect outcome in the measurement can occur when an order is placed for new items before they are available for delivery according to agreement, or for items that have been discontinued and where this has been announced. An example could be seasonal items that are only available for a shorter period
- some items, such as display packaging, may have longer lead times than regular range items. If this is not considered when ordering, this may affect the outcome of the Right Time measurement
- if an item deviates in quality or if the outer packaging is damaged in the distribution chain, all included consumer packaging is considered not delivered further in the distribution chain
- if an order line is cancelled by the supplier due to a shortage but is reordered without goods being available for delivery, the total registered shortages may be greater than the actual need and may give an incorrectly low measurement result for Right Quantity. These shortage notes may also affect the demand forecast
- if the supplier announces that an item is not available for a certain period and the buyer waits to place a new order until the item is available for delivery again, this is captured in the measurement and therefore gives an incorrect, and too high, outcome for Right Quantity
- if the customer approves a substitute/replacement item, this should be considered when evaluating the measurement
- rapid increases in demand that are outside normal purchasing patterns or orders that deviate significantly from the forecast should be discussed especially when evaluating the measurement results
- campaign volumes that have not been agreed upon between supplier and recipient may result in incorrect measurement results
- administrative or system errors that result in extraordinary order volumes may create incorrect outcomes

ECR (Efficient Consumer Response) Europe was started in the late 1990s. The background was that new findings in the supply chain showed that the grocery trade and its suppliers could meet consumer needs better, faster and more efficiently by cooperating on industry-wide and competition-neutral issues.

Additional factors that contributed to the ECR movement gaining momentum were improvements in information technology, increased competition, globalization and the new larger European market that made it possible to move goods and services across national borders. At the same time, consumer demand developed to focus on more factors than before, such as a better range, ease of access, quality and product safety.

All these factors led to a fundamental change in the way the industry worked. The traditional division between suppliers on the one hand and trade on the other, changed. ECR has contributed to, and continues to contribute to, removing unnecessary costs in the supply chain. This increases the benefit for consumers. The effects have been significant for the industry and the ECR approach continues to yield positive results.

ECR is about creating a holistic view of the entire value chain along the way of the goods from subcontractors, producers and retailers to the consumer. Benefit for the consumer is ECR's guiding principle. All work aims to increase the efficiency of the flow of goods and information and to create added value for the consumer.

ECR Sweden is run in project form and the organization is divided into three groups:

- Retail Demand, which focuses on the sales side, for example through training
- Retail Supply, which strives to improve and streamline logistics processes
- Foodservice, which streamlines restaurant and wholesale collaborations

ECR Sweden's mission and goals are to:

- Disseminate knowledge about ECR to all players in the Swedish grocery industry
- Provide a competitively neutral platform for dialogue and cooperation, with consumer benefit as the primary goal
- Take initiatives and participate in industry activities within the ECR scope and carry out investigations and projects when competitively neutral conditions exist
- Conduct training courses under the name ECR-Academy for staff on different levels in industry companies

ECR Europe was started in 1994. Two years later, ECR Sweden was founded by DLF (Dagligvaruleverantörerna) and SvDH (The Swedish Grocery Trade). For more information, see www.ecr.se and www.ecr-community.org/

DLF, Dagligvaruleverantörerna (The Swedish Grocery Suppliers), is a trade association for companies that sell groceries to retailers, restaurants and large-scale catering in Sweden. DLF and its subsidiary DLF Service AB create the conditions for an efficient, innovative and sustainable grocery industry by conveying business-relevant knowledge, offering inspiring and developing meeting places, and running and developing efficient industry companies.

www.df.se

Svensk Dagligvaruhandel (The Swedish Grocery Trade) is the trade association for the grocery trade in Sweden. Members are Axfood AB, City Gross Sverige AB, Coop Sverige AB, ICA Sverige AB, Lidl Sverige KB and Livsmedelshandlarna. The grocery trade is an important part of the food chain and The Swedish Grocery Trade works to ensure that the industry takes active and joint responsibility on competition-neutral issues. Together with DLF (Dagligvaruleverantörerna), The Swedish Grocery Trade owns several companies whose task it is to streamline processes in the grocery industry. It is also a way for the industry to take responsibility for, among other things, recycling of packaging materials and food safety through increased traceability.

www.svenskdagligvaruhandel.se

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