



**Whitepaper**

# IMPLEMENTING FILL OR KILL BUSINESS SCENARIO IN SAP

Essential Guidelines when selling Fast Moving  
Consumer Goods or Over-the-Counter medicines

This document is written for SAP project managers and SAP consultants who have participated in a full implementation cycle.

***Bold italic texts*** are references to technical SAP objects such as field names and values.

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## What characterises a Fill or Kill process?

The term 'Fill or Kill' (FOK) is introduced by traders in the stock market to identify the option to buy or sell financial products immediately or not at all. A similar requirement is also becoming more popular in the Fast Moving Consumer Goods (FMCG) industry and Pharmaceutical industry.

FOK products have in common that they have to be sold quickly at relatively low cost. Also the high volume of sales orders makes it essential to avoid the need to handle backorders in case of stock shortages.

Companies operating in the FMCG business are selling products such as:

- food (i.e. fruit, vegetables, milk, cheese, meat)
- drink (i.e. wine, mineral water, liquors)
- personal hygiene (i.e. soap, detergents, perfumes)

Pharmaceutical companies are also interested in the FOK business scenario for their over-the-counter (OTC) medicines. These medicines are available without the need for a prescription like:

- relief for pain or itches
- prevention of tooth decay
- managing migraines

Irrespective of the industry, the shipment must be created in time to meet the requested delivery date of your customer. Therefore on-time delivery is more important than complete delivery.

Also note that companies need to transform themselves to meet the expectation of 'same day delivery'. The customer expects delivery on the day when the order was placed, when taking into account an agreed pre-defined cut-off time.

To summarise, the characteristics of a FOK business scenario are:

- on-time delivery is more important than complete delivery, therefore:
- deliver all products that can meet the requested delivery date, and
- close all remaining open sales order items to avoid backorder processing.

**The FOK business process is not facilitated in the standard SAP ECC6 system.**

Therefore a custom made solution is required.

This document offers a suitable and scale-able industry independent solution that can be implemented while there is no standard SAP resolution available.

## Current standard SAP functionality

Let's take a closer look of the order fulfilment control that is currently available in the standard SAP ECC6 system.

As the rules for order fulfilment may differ for each customer, this is controlled in the shipping tab of the sales area specific customer master data.

The screenshot shows the 'Shipping' tab of the SAP customer master data configuration. Under the 'Partial deliveries' section, the following settings are visible:

- Complete delivery reqd by law
- Partial delivery per item:  Partial delivery allowed
- Max. partial deliveries: 9
- Unlimited tol.
- Underdel. Tolerance: 0.0
- Overdeliv. Tolerance: 0.0

Here an overview of the possible standard SAP controls available:

SAP functionality		Remarks
Complete delivery for the entire sales order	<i>KNVV-AUTLF = 'X' KNVV-KZTLF = 'C' KNVV-ANTLF = blank</i>	An important FOK characteristic is to deliver stock on the day requested by the customer, therefore any delay in processing the entire sales order or specific sales order items is not allowed. Therefore this control mechanism is not suitable for FOK.
Complete delivery for a specific sales order item	<i>KNVV-AUTLF = blank KNVV-KZTLF = 'C' KNVV-ANTLF = blank</i>	
Unlimited subsequent deliveries for the sales order item	<i>KNVV-AUTLF = blank KNVV-KZTLF = 'D' KNVV-ANTLF = blank</i>	You can distinguish a FOK scenario by the fact that there is only one delivery for the entire sales order. Therefore the need for subsequent deliveries is not in scope.
Create a delivery when there is stock confirmed for the sales order item	<i>KNVV-AUTLF = blank KNVV-KZTLF = 'A' KNVV-ANTLF = '1'</i>	The concept of a partial delivery for a sales order item would meet one of the requirements of the FOK process, but the sales order items remain open as long as there is a difference between the order quantity and confirmed quantity. You would need to match the order quantity with the confirmed quantity to close the sales order item, but that interferes with the ability to accurately calculate the 'complete delivery' Key Performance Indicator.
One partial delivery allowed for the sales order item	<i>KNVV-AUTLF = blank KNVV-KZTLF = blank KNVV-ANTLF = '1'</i>	
Create only one delivery for the sales order item	<i>KNVV-AUTLF = blank KNVV-KZTLF = 'B' KNVV-ANTLF = blank</i>	

## Proposal how to implement FOK in SAP

Apart from the operational handling and reporting of sales orders, also the management reporting is essential. So do not only focus on the SAP ECC6 system when offering a solution for the FOK business scenario. You need to be able to supply an external reporting system the data it requires to calculate Key Performance Indicators such as on-time and complete delivery. Therefore a suitable resolution must take into account both operational and management reporting requirements.

Also it makes sense to anticipate that customers may want to switch between FOK and standard SAP order fulfilment control. Any resolution should allow activating or de-activating FOK in existing sales orders.

The following test scenarios need to be taken into account when developing custom made solution to facilitate FOK business scenarios:

- Stock is immediately available for all sales order items;
- No stock is immediately available for any sales order item;
- No stock is immediately available for some sales order items;
- Stock requirements can only be partially met for all sales order items;
- Stock requirements can only be partially met for some sales order items;
- FOK is manually switched on for an existing sales order with open items;
- FOK is manually switched off for an existing sales order with open items.

The following events require intervention:

- Create sales order
- Change sales order
- Create outbound delivery

In addition, you can also create a special program to be executed as a background job, dedicated to close open FOK sales orders when necessary. This can be scheduled prior to interfacing data to an external management reporting system.

It is likely that SAP will introduce FOK functionality by adding a new parameter for the field 'partial delivery per item' in the shipping tab of the sales area specific customer master data. As master data is used to propose default values, this value can also be manually changed when creating or changing the sales order document.

It is not advised to introduce a new value option for this field. Instead, use a specific customer group code to control FOK and control partial delivery to define that only one delivery is allowed for the sales order item [**KNVV-AUTLF = blank; KNVV-KZTLF = 'B'; KNVV-ANTLF = blank**].

First, irrespective of the solution, it is advised to create specific order reason codes to identify why specific sales order items could not be delivered to the customer. These codes will be very useful when you contact the customer, as well as informing management why a delivery has not taken place.

The primary focus for introducing FOK will be the closure of open sales order items. This is normally done by matching the order quantity with the confirmed quantity (= the quantity reserved for delivery). This approach is similar to the handling of outbound deliveries, as post goods issue is only possible when the delivery quantity is matched with the confirmed picking quantity.

Changing the order quantity will trigger an entry in the sales document change log. However, this information is difficult to retrieve when interfacing to an external management reporting system. Therefore it makes sense to store the 'sales order quantity at sales order creation' in a custom made field. Then it becomes easy to identify a FOK sales order item closure due to insufficient stock availability by verifying the current order quantity versus the order quantity at sales order creation.

So where to store the sales order quantity at sales order creation? Several options are available, but extending the sales order item table with the 'sales order quantity in base unit of measure at order creation' (**VBAP**) seems the logical choice. The data becomes easily accessible when collecting information for operational and management reporting.

When adopting the method of extending the order item table, it is advised to always store order quantity at order creation when saving a new sales order, irrespective whether FOK is requested for that specific customer.

Also you can retrospectively fill this field for existing sales orders by interpreting the entries in the change log.

It is also wise to verify whether you can close open FOK sales order items when saving a sales order in change mode. This is particularly useful when the FOK indicator is manually changed while changing the existing sales order.

When switching on the FOK indicator, then verify whether sales order items need to be closed by matching the order quantity with the confirmed quantity.

When switching off the FOK indicator, then update the order quantity with the original sales order quantity.

You can use sales order reason codes to identify what change has been made to the sales order.

Of course be aware that the sales unit of measure can differ from the base unit of measure. So a quantity conversion may be necessary.

A FOK sales order must only have one delivery. Therefore it makes sense to verify this requirement when creating an outbound delivery. It is advised to close open sales order items when FOK is identified for those sales orders for which a delivery already exists.

In addition, you may even want to close sales order items when no delivery exists for the FOK sales order when the proposed delivery date exceeds the customer requested delivery date. This depends on how strict you want to implement FOK business scenarios and the agreement made with customers.

Again, sales order reason codes can be used to highlight why changes have been made to the sales order items.

To summarise, the following system adjustments are advised:

- Create special sales order reason codes to report internally (i.e. management) and externally (i.e. customer) why a sales order item has been closed.
- Use a specific customer group to switch on/off the FOK process.
- Extend the sales order item table with an extra field to store the sales order quantity in base unit of measure at order creation.
- Add code that is activated when saving a new sales order to store the sales order quantity in base unit of measure in the extended sales order item table;
- Add code that is activated when saving an existing sales order to open or close sales order items based on the FOK indicator.
- Add code that is activated when creating a new outbound delivery to verify whether subsequent delivery creation is allowed when verifying the FOK indicator in the sales order.
- Add a new program that is scheduled in the background in regular intervals (i.e. every 15 minutes) to open or close sales order items based on the FOK indicator. Although not mandatory, it avoids the need for repetitive manual intervention.
- Add a new program to update existing sales order items with the order quantity in base unit of measure at order creation. This is only required when you introduce FOK in an existing system.

## Other considerations when implementing FOK

Split your customers using the ABC analysis, whereas your 'A' customers are identified as loyal strategic consumers. It would make sense to allocate stock for these high priority customers to ensure that they get preferential treatment while allocating stock to sales orders. See SAP 'product allocation' functionality for more details.

When you offer your customers a scaled discount or rebate based on the received order quantity or value, and then ensure that this discount is given even though your company is not able to meet their demands. For example, when you agree to give an extra 1% discount when the customer orders a Full Truck Load, then still offer that discount in the invoice when stock shortages only allows a Less Truck Load. This can be controlled in SD Pricing by using custom made user exists.

Please contact Isard Haasakker when you have specific questions or remarks regarding the content of this white paper.

If you are planning to implement the recommendations in this white paper, please inform Isard Haasakker as he may be able lend a helping hand.