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Navigating Tariffs in Sales Order Processing With Product Segmentation

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Abstract

This article explores the vital role that tariffs play in international trade and their broader implications for the economy. Tariffs, which are taxes imposed on imported goods, can significantly raise the cost that consumers must pay for these products. This cost increase is just one aspect of a range of trade policies countries can implement to regulate trade and protect domestic industries. When a tariff is enacted, payments are made to the customs authority of the specific country imposing the tax, representing a critical step in the importation process. If tariffs are not managed effectively, they can lead to substantial cost increases for businesses, potentially eroding profit margins. Furthermore, tariffs can introduce additional lead time for goods to be cleared through customs, causing delays in production schedules, and impacting the overall supply chain.

Navigating these challenges efficiently is essential for companies that rely on imported goods. This article will discuss how technology, specifically the implementation of Enterprise Resource Planning (ERP) solutions, can aid businesses in managing sales orders effectively and minimizing the adverse effects of tariffs. By integrating ERP systems, companies can enhance their visibility into pricing, streamline their operations, and adapt more swiftly to changes in trade policy, ultimately safeguarding their profitability and efficiency.

Keywords: Tariffs, Supply Chain, SAP ATP, Product Segmentation, Country of Origin, Sales order, Order fulfillment

I. INTRODUCTION

Tariffs are regulatory measures to limit the volume of imports into a country. In essence, they impose additional charges on goods and services purchased from foreign nations, elevating their price point for domestic consumers. This price surge makes imported products less appealing in comparison to similar domestically produced items.

It's important to recognize the broader implications of tariffs on international trade. When a country implements a tariff, it not only impacts its own economy but also sends ripples through the exporting nation. Consumers within the tariff-imposing country may choose to reduce their intake of imports due to the increased costs associated with the tariffs. This change in purchasing behavior can significantly affect the demand for goods from the exporting country.

However, if domestic consumers decide to purchase the more expensive imported products despite the tariff, it demonstrates a strong preference for those goods, often because of their unique qualities or brand recognition. In such cases, the tariff effectively raises the overall expense that consumers in the exporting

nation must bear, as they may have to adjust their pricing strategies to remain competitive. This dynamic illustrates the complex interdependence between countries in the realm of trade and consumer behavior.

a) *Managing Tariffs during Sales order Processing*

2) *Effectively managing sales order processing is crucial for the optimal handling of tariffs, which can have significant financial implications if not managed correctly. Understanding the intricacies of our product offerings, the methods of production, and the origins of each component used in manufacturing is vital. If we lack knowledge about the country of origin for either the final product or the individual components, we risk facing substantial tariff-related challenges and potential penalties.*

To manage tariffs efficiently, the relationship between where a product is produced and to whom it is sold must be tightly integrated. In the following section, we will delve into how technology can play a pivotal role in this process, enabling us to navigate tariff complexities more effectively.

Every organization typically employs an enterprise software solution to streamline supply chain operations and process customer orders. This document will outline effective supply chain strategies utilizing SAP's product segmentation techniques. By implementing these strategies, we can ensure that we deliver the right products to the right customers while adeptly managing tariffs. Additionally, we will focus on committing to inventory levels that align with customer needs, especially in scenarios where tariff amounts are significant, thereby safeguarding our financial well-being and compliance.

a) *Country of the Origin is the Key*

During the extensive trade war between the United States and China, both nations have significantly increased tariffs, resulting in substantial disruptions to global supply chains. Many companies have begun relocating their manufacturing operations to third-party countries, with Vietnam emerging as a popular destination. This strategic move is aimed at circumventing the tariffs imposed by both the U.S. and China, effectively reducing operational costs, and maintaining competitiveness in the global market.

However, a critical question arises: what qualifies a product as being “made in Vietnam” compared to one labeled “made in China” or “made in the USA”? For instance, if a product's raw materials are sourced from China but the final assembly takes place in Vietnam, can it still be legitimately classified as “made in Vietnam”?

To resolve this question, we must delve into the nuances of determining a product’s country of origin. Understanding the specific regulations set forth by both countries is essential. In the United States, Section 232 trade measures target goods that are deemed to be “originating in China,” necessitating a precise classification to avoid punitive tariffs. Concurrently, the Chinese State Council Tariff Commission's documents, such as TAC [2018] No. 13, specifically focus on goods “originating in the United States.” Therefore, navigating the complex rules governing the country of origin in both nations is crucial for manufacturers and importers alike to ensure compliance and to ascertain the rightful labeling of their products in the global marketplace.

Understanding the Concept of “Country of Origin” in International Trade

In the realm of international trade, the term “country of origin” refers to the economic nationality of a product, indicating where it was produced or manufactured. This designation plays a crucial role as it can significantly influence how imported goods are treated in different nations, aligning with the respective

interests of those countries. Various factors come into play when assessing the country of origin, such as admissibility into the market, application of preferential tariff rates, eligibility for specific trade programs, and compliance with marking requirements. Additionally, it can determine whether retaliatory tariffs are applied based on anti-dumping measures, countervailing duties, and other trade protection strategies. A notable example is the imposition of tariffs ranging from 15% to 25% during the U.S.-China trade conflict, reflecting how country of origin designations can shape trade dynamics.

To enforce these differentiated tariff treatments and trade measures, customs authorities must accurately ascertain the country of origin for imported goods, adhering to the specific rules established by the importing country. Accurately determining origin is not merely a procedural formality; it serves as the foundational basis for implementing effective tariff treatments and various trade restrictions that a country may adopt.

It is important to note that no singular, globally recognized treaty governs how countries determine the origin of products. Consequently, each nation enacts its own rules that dictate origin classification. Generally, these rules can be categorized into two primary types: preferential and non-preferential. Preferential rules are applicable under the framework of free trade or preferential bilateral and regional trade agreements, which dictate whether a product is entitled to certain special tariff concessions. In contrast, nonreferential rules come into play when a product does not meet the criteria for such preferential treatment.

The additional tariffs that were applied during the U.S.-China trade war exemplify nonreferential treatments; thus, this discussion will primarily focus on the intricacies and implications of nonreferential country of origin rules. This delineation is crucial for understanding the broader context of trade policies and their impact on global commerce.

What Is the Country of Origin Rule in the U.S.?

Under the Tariff Act of 1930 and corresponding regulations, for goods that are “wholly obtained” (grown, produced, or manufactured) in a single country of origin, the country of origin of the goods is that single country. For goods that are manufactured in, assembled in, or use materials originating in more than one country, the country of origin of the goods is the last place in which the good was substantially transformed into a new and distinct article of commerce. A “substantial transformation” is defined generally as working or processing that results in the creation of a new and different article of commerce, having a name, character or use different from those of its components.

Specifically, the U.S. Customs and Border Protection (CBP) considers the following factors in the substantial transformation determination:

1. the character/name/use of the finished article.
2. the nature of the article’s manufacturing process, as compared to the process used to make the component parts or materials used to make the product.
3. the value added by the manufacturing process compared to the value imparted by the component parts or materials.
4. whether the essential character is established by the manufacturing process or by the essential character of the component parts or materials.

The country-of-origin determination is very fact-specific. The CBP relies on a body of court decisions, CBP regulations and agency interpretations to determine the country of origin of imported products.

Unless specifically exempted, every article of foreign origin (or its container/package) imported into the U.S. must be marked in a manner that will indicate to the ultimate purchaser of the article's country of origin. The CBP determines the origin of all imported goods and may refuse to release the goods for any improperly marked goods.

b) Product Segmentation in SAP

SAP's S/4 HANA platform introduced an innovative feature known as Segmentation, which was previously available in specific Industry Solutions before the advent of S/4 HANA. This article delves into how Segmentation can effectively be utilized to monitor product revision levels, enabling the segregation of inventory for each distinct revision.

In the B2B landscape, it is common practice for a product to receive a new identification—such as a new part number or material number—when there is a significant change affecting its form, fit, or function. However, in cases where only minor modifications are made—those that do not impact these fundamental attributes—customers may choose to implement a revision level instead. This often includes stipulations that dictate the non-interchangeability of these product revisions.

To address this specific business requirement, SAP's Segmentation feature within S/4 HANA presents a compelling solution. It provides the capability to assign revision levels effectively and to track the implications of these revisions across the entire supply chain. This includes essential aspects such as inventory management, demand forecasting, and supply chain planning, allowing for seamless integration throughout the logistics processes spanning sales, procurement, manufacturing, and inventory management.

By leveraging Segmentation, businesses can ensure precise tracking of inventory based on revision levels, thereby improving accuracy in fulfilling customer specifications and enhancing overall operational efficiency. This comprehensive approach facilitates better decision-making and strengthens the alignment between product offerings and customer requirements in a dynamic market.

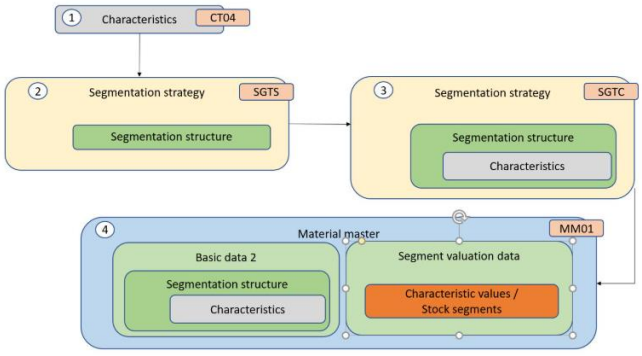

Fig. 1. Process of setting up Segmentation in SAP

Create a new Segmentation Structure with the Characteristic(s) created above. This allows the system to link the characteristic(s) to the Segmentation function. Segmentation is flexible based on the characteristics that can be created/customized depending on the unique business requirements. You can

add multiple characteristics if necessary. For each of the characteristics, the blank value can be made as an acceptable input.

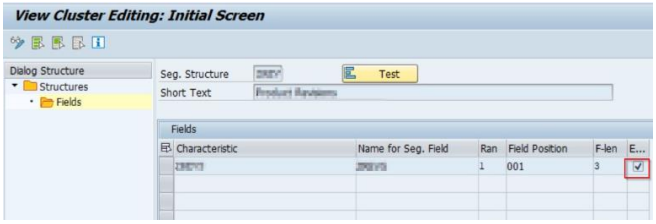

Fig. 2. Segmentation Structure in SAP

c) Product Segmentation with SAP Available to promise

The modern supply chain landscape recognizes that a 'one-size-fits-all' approach is insufficient to meet the specific objectives related to sales targets, profitability, and customer satisfaction. Today, the same product might be offered at varying price points, service levels, or quality specifications, depending on the target customer segment, geographic region, or sales channel.

For instance, a product may be priced higher when directed toward certain customer demographics or geographical markets. Consequently, when an order is received, it is crucial for the system to conduct availability checks that consider these various segmentation attributes. A case in point is when an order is placed online; the available-to-promise (ATP) quantity for that order might differ from ATP for sales orders initiated through traditional (non-internet) channels, even when they pertain to the same product.

Addressing ATP in SAP ECC or APO GATP poses challenges, especially with this type of product segmentation. To mitigate conflicts over stock allocation, companies often resort to establishing separate organizational structures—such as distinct plants or storage locations—ensuring that inventory designated for internet sales remains safeguarded from orders made through other sales channels (or the other way around).

In my experience with a particular customer who opted against implementing separate organization elements like distinct plants for product segmentation, we explored a solution that utilized the Parameter-dependent ATP Safety Stock (PASS) functionality available in APO. This approach was successfully prototyped and subsequently implemented, enhancing product segmentation based on the sales channels.

With SAP's advancements, the Advanced ATP (AATP) functionality introduced in the S/4HANA 1709 release significantly improves this segmentation process. To illustrate, consider the scenario where products are divided based on their sales channels—specifically, Internet sales versus non-Internet sales. A screen capture from the CO09 transaction in the S/4HANA 1709 release highlights the stock levels for product FG20. It reveals that there are 25 units allocated for the Internet channel (labeled as INTC) and 15 units designated for the non-Internet channel (denoted as NONC), totaling 40 units available for product FG20 within the same plant (Plant 1010).

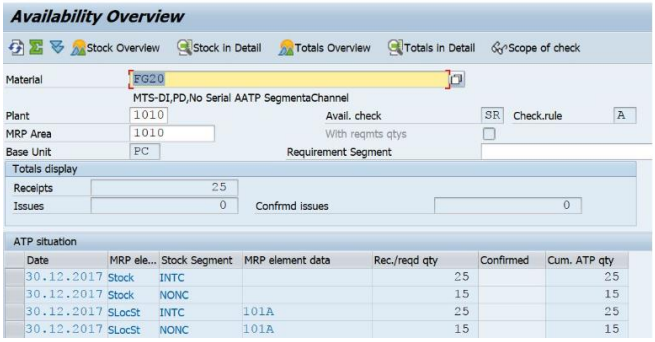

Fig. 3. Availability overview depiction in SAP

ATP: Understanding Pool Segments and Check Levels

This node is essential for managing valid requirement segments within the Available-to-Promise (ATP) framework. It allows you to define various segment pools utilized during availability checks. When performing these checks, the system evaluates the available stock and anticipated future receipts to determine product availability.

You can set specific check levels for the segment values assessed during the ATP process for each segment pool. This granularity enables businesses to tailor the availability checks according to their unique operational needs and priorities.

Rules Mapping	Matching Rules Supported (Yes/No)
1:1	Yes
M:M	Yes

Importantly, it's worth noting that the same segment cannot be maintained across different pools; each segment must remain unique to its respective pool. This restriction helps minimize confusion and ensure that availability checks are conducted seamlessly without overlaps. Overall, this feature enhances inventory management efficiency by providing clear visibility into available segments and their respective check levels during ATP checks.

II. SEGMENTATION WITH ATP TO IDENTIFY COUNTRY OF ORIGIN.

Segmentation refers to the systematic approach of categorizing materials based on specific criteria or characteristics that reflect their unique properties. This method allows businesses to maintain a singular material master record while organizing materials according to different quality levels, assorted geographical origins, or other relevant factors.

Features of Segmentation: Segmentation encompasses two primary types of segments:

Requirement Segments: Requirement segments are designated to materials that are part of various requirements, such as Sales Orders, Planned Independent Requirements, and Stock Transport Orders. By utilizing requirement segments, organizations can effectively categorize and manage their material needs according to particular parameters, enabling a tailored response to demand fluctuations and enhancing overall inventory control.

Stock Segments: Stock segments methodically distribute both existing and anticipated stock. These segments are critical as they are linked to tangible physical stock and procurement proposals. This means stock segments apply not only to current inventory but also to future commitments such as planned orders, production orders, purchase requisitions, and purchase orders. By employing stock segments, companies can better align their stock levels with operational demands and streamline their procurement processes.

Overall, segmentation in material management supports more efficient organization, precise tracking, and strategic planning, which are conducive to improved supply chain performance.

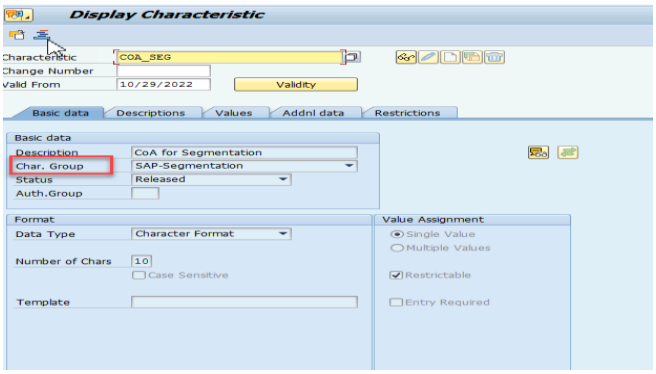

Fig. 4. Characteristic Group used as SAP-Segmentation

The segmentation strategy plays a crucial role in determining how different segments of requirements are allocated to various stock segments. By examining the following illustration, we can better understand how supply elements, such as inventory, are linked to demand elements, particularly sales orders. In this integrated system, every time a customer inquiries about a product's specific country of origin, or when restrictions are preventing certain countries from obtaining products sourced from specific countries, the system is equipped to manage these complexities. This is achieved through a systematic pegging mechanism that aligns stock segments with corresponding demand segments, ensuring that inventory availability and customer requirements are seamlessly connected and easily managed.

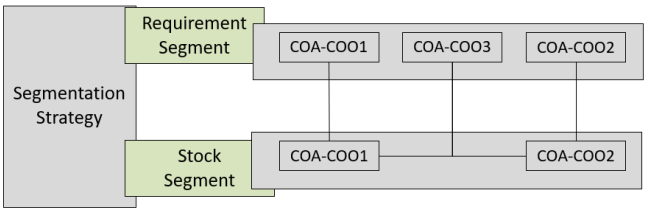

Fig. 5. Strategy between Demand and Supply Segment

➢ Segment Check Level Guidelines:

Blank Segment Check – No Segmentation Applied:

In this scenario, segmentation is not utilized. Availability assessments are conducted based on information sourced from various elements, including the plant, specific storage locations, batch stock, and the combination of batch stock and storage location. This approach ensures a comprehensive review of inventory availability without segmentation constraints.

Segmentation Check Level = 1

Under this segmentation check level, the management of issues, receipts, and inventory associated with stock segments A1 and A2 is streamlined. All transactions and stock levels pertaining to segments A1 and A2 are consolidated and recorded under a unified stock segment identified as A1A2. This mapping creates a more efficient tracking and reporting system, allowing for better visibility and management of inventory flows within the defined segments.

Segment Check Level

You must maintain the Segmentation Structure and Segmentation Strategy for a material. The segmentation structure is automatically selected when you enter a segmentation strategy for stock segment A1A2. The segmentation structure and strategy can be changed in the change mode if documents do not exist in the system. The tool supports the maintenance of condition records for the following transactions: Sales Order, Purchase Orders, Purchase Requisition, Planned Order, Production Order, Stock, Outline Agreement, and Planned Independent Requirements.

When a sales order is entered and the "available to promise" function is activated during the order commitment process, the demand element—specifically the sales order—defaults to a designated demand segment. This demand segment is intricately linked to a particular stock segment, ensuring every stock element is associated with this configuration. As a result, during order entry, the system consistently recognizes this demand.

Furthermore, based on the established tariff rules, the system confirms the quantity of the sales orders in accordance with the criteria defined by these rules, identifying which stock fulfills the specified conditions. It is crucial to emphasize the importance of rules pertaining to the certification of the Country of Origin (COO). The system meticulously checks these regulations to ensure compliance and proper processing of the sales orders.

BENEFITS

1) Enhance Supplier Relationships:Proactively identify and establish partnerships with trustworthy suppliers who have a proven track record. Focus on those who can consistently deliver quality products within shorter lead times. This strategy is crucial for navigating an ever-changing market landscape, as it enables better cost management and fosters collaboration in adapting to fluctuations in demand.

2)Achieve a Balance Between Cost and Carbon Footprint: Develop a sophisticated digital twin of your supply chain network that simulates various scenarios. This model allows for detailed analysis and trade-off assessments between cost-efficiency and sustainability goals, empowering decision-makers to understand the implications of their choices on both the bottom line and environmental impact.

3) Refine Assortment Planning for Optimal Product Mix:Conduct thorough analyses of customer preferences, demographic data, and the competitive landscape in each market. By leveraging this information, businesses can tailor their product offerings to suit local tastes and needs, ensuring that the right mix of products is available at each location to drive sales and customer satisfaction.

4)Implement Tailored Replenishment Strategies for Stores:Automate the replenishment process using advanced inventory management systems that analyze real-time sales data. This approach ensures that each store is stocked with the right products precisely when they are needed, minimizing the risk of stockouts while keeping inventory costs in check, thus enhancing operational efficiency.

5) Improve Transportation and Logistics Efficiency:Employ advanced analytical tools and machine learning algorithms to optimize transportation routes and select the most efficient modes of transport. This initiative aims to reduce both fuel consumption and operational costs while simultaneously lowering carbon emissions, contributing to more sustainable logistics practices.

6)Bolster Risk Management Practices:Develop a comprehensive risk management framework that systematically identifies potential supply chain disruptions, including geopolitical tensions and natural disasters. By establishing contingency plans and mitigation strategies, organizations can safeguard the continuity of operations and ensure resilience in the face of unforeseen challenges.

CONCLUSION

This article aims to provide a comprehensive guide to understanding the tariff implications involved in the sales order processing workflow. It emphasizes the significance of order commitment, a crucial factor in ensuring reliable delivery timelines and enhancing overall customer satisfaction. By adhering to all relevant tariff regulations and country of origin criteria, businesses can assure their customers that their commitments are not only reliable but also compliant with necessary legal requirements.

Throughout this article, we will explore how to effectively navigate the complexities of tariff compliance during the order commitment phase. This includes a detailed examination of the various tariff requirements that may affect product shipments, as well as strategies for mitigating potential issues that could arise. By optimizing the order commitment process, we aim to ensure that customers receive their products in a timely manner while fully meeting their specifications and expectations.

Moreover, we will discuss best practices for integrating tariff management into the logistics and supply chain operations, ensuring that every stage, from order initiation to final product delivery, aligns with both customer needs and regulatory standards. This proactive approach will help streamline the entire order fulfillment process, ultimately leading to enhanced customer trust and loyalty.

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