Enhancing Fashion Supply Chain Management with SAP EWM Integration: A Focus on Industry Solution AFS

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Abstract: *In the dynamic landscape of fashion retail, efficient supply chain management is crucial for success. The integration of SAP Extended Warehouse Management (EWM) with the Apparel and Footwear Solution (AFS) industry solution offers a tailored approach to meet the unique demands of the fashion industry. This paper explores the benefits and challenges of integrating AFS with SAP EWM, highlighting how this synergy optimizes inventory visibility, distribution processes, and ultimately enhances customer satisfaction.*

Keywords: SAP, Extended warehouse management (EWM), Industry specific (IS) Apparel and Footwear Solution (AFS)

1. Introduction

The fashion industry operates in a fast-paced environment characterized by ever-changing consumer demands, seasonal trends, and short product life cycles. In response to these challenges, fashion retailers seek advanced supply chain management solutions to streamline operations, reduce costs, and improve agility. SAP Extended Warehouse Management (EWM) emerges as a comprehensive platform capable of addressing these needs, particularly when integrated with industry-specific solutions like Apparel and Footwear Solution (AFS).

AFS, which stands for Apparel and Footwear Solution, is pretty much self-explanatory. SAP AFS specifically caters to the needs of the Apparel and Footwear Industry within the Consumable Products sector. It's built upon SAP Core but incorporates additional features tailored to address the unique challenges of the apparel and footwear sector.

Here are the key capabilities of SAP AFS:

Size Handling: SAP AFS enables the handling of sizes through grids, allowing for efficient management of various size dimensions.

Product Categorization: It allows products to be categorized based on common features such as the country of importation or the quality grade, facilitating organized product management.

Seasonality Management: SAP AFS provides functionality to effectively manage seasonality, ensuring timely adjustments to meet demand fluctuations.

In the apparel and footwear industry, the precise handling of materials according to size is a distinct requirement. AFS Grid Functionality plays a crucial role here, functioning in three dimensions, where three different variable values are necessary to maintain the grid. For instance, if a consumer requires products labeled with specific size (L), side seam length (25), and collar size (16 ½), AFS Grids can accommodate this by independently maintaining the values of these variables. When combined, these variables form a unique combination, such as L-25-16 ½. Implementing this approach significantly reduces data volume and complexity. Additionally, SAP AFS extensively utilizes Categories to categorize products with similar characteristics. For instance, after thorough quality checks, products can be graded as A-Quality and B-Quality, each with differing market values and consumer demands. Using categories in SAP AFS allows for efficient management of demand and supply by allocating products to appropriate categories.

In the realm of apparel and footwear trade, Seasonality stands out as a crucial aspect, often influencing decisions significantly. It serves as a pivotal factor in adjusting product characteristics according to seasonal variations. For instance, visual elements like color or labeling might undergo changes with each season. In this context, AFS Seasonality emerges as a vital tool, enabling seamless adaptation to seasonal shifts. While Seasonality holds particular significance within the Sales and Distribution (SD) module, its impact resonates throughout the entire supply chain. AFS facilitates the maintenance of Size and Category combinations with seasonal settings, offering a practical solution for handling and managing extensive industry-specific data efficiently.

SAP Extended warehouse management (EWM) is an integrated software platform designed to optimize warehouse and distribution processes. It offers features such as advanced warehouse management, labor management, slotting optimization, and real-time inventory tracking. On the other hand, AFS is an industry-specific solution tailored for fashion and footwear companies. It provides functionalities for managing complex product attributes, sizes, colors, and styles, along with specific processes like allocation, replenishment, and multi-level variant configuration. This paper explores integration possibilities of SAP AFS with SAP EWM and highlights the benefits and challenges that offers to AFS Customers.

2. Literature

SAP Apparel and Footwear (SAP AFS) stands as the tailored SAP e-business solution crafted explicitly for the apparel and footwear sector. It emerged through collaboration with esteemed industry

pioneers to meet the distinct needs of this domain. The solution's development primarily centered on elucidating industry-specific processes utilizing the SAP e-business platform. This platform, comprising a suite of solutions and services, fosters effective collaboration among employees, customers, and business partners, empowering seamless interaction regardless of time or location [1].

The apparel and footwear industry operates within a highly demanding landscape, where companies face continuous challenges in a dynamic global business environment. They grapple with relentless pressures on pricing, costs, and lead times. Trends emerge suddenly, necessitating swift adjustments. With a blend of domestic and offshore production contracts alongside global procurement processes, companies navigate intricate value chains that can prove inefficient and challenging to monitor.

Moreover, the industry contends with rapid fashion changes, often occurring without warning. Seasonal fluctuations, an abundance of design variations, and limited insight into volatile demand contribute to forecast uncertainty, leading to issues such as stock shortages and costly markdowns. In essence, companies within the apparel and footwear sector must adeptly manage these complexities to thrive in such a fast-paced and ever-evolving market [1].

SAP Extended Warehouse Management for Fashion empowers customers within the fashion industry who utilize the SAP Apparel and Footwear Solution (AFS) to streamline their warehouse operations through a top-tier warehouse management application. AFS, a robust and fully integrated solution co-developed by SAP and industry leaders, caters to the present and future needs of the apparel and footwear industry. SAP EWM for Fashion seamlessly merges the strengths of SAP Industry Solution (IS) AFS into Supply Chain Management EWM. It comprises a package of standard EWM solutions integrated with SAP IS AFS, offering an optimized solution for managing warehouse operations tailored to the unique requirements of the fashion sector [2].
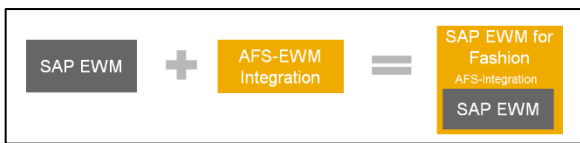

Image Source [2]

Prerequisite SAP Components & Releases:
SAP SCM (EWM) 7.01 and above
ERP AFS 6.5 SP1 and above

In summary, SAP EWM for Fashion offers the following advantages when integrated with SAP AFS:
1) Seamless integration of AFS master data into EWM.
2) Seamless integration of AFS transaction data into EWM.
3) Efficient management and tracking of logistics execution processes at the SKU level.
4) Flexible, automated support for processing various goods movements and managing stocks in a warehouse at the Batch (SKU) level.
5) Comprehensive labor management, slotting optimization, advanced optimization techniques, and

advanced connection to automation—all within a single solution.
6) Out-of-the-box Material Flow System integration for managing fully automated warehouses [2].

SAP opted to utilize batch management within the standard ECC for integrating fashion master and transactional data from AFS to EWM. While this decision required fewer alterations, it may not always be ideal. This approach has its advantages as SKU management aligns closely with batch management in ECC. However, it can also present limitations since an SKU isn't inherently a material, potentially restricting the scope of actions that can be performed. Additionally, the incorporation of batch management introduces added complexity to the process, which may pose challenges in certain scenarios [3].
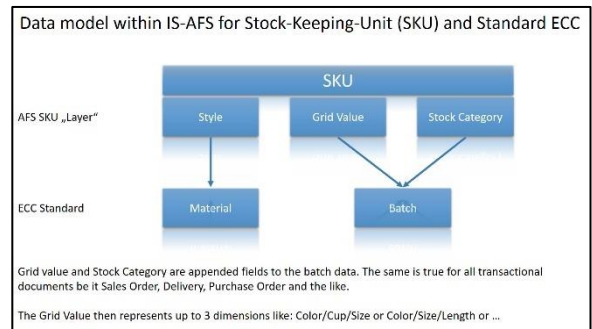

Image Source [3]

The underlying concept of this model is to ensure that common attributes at the style level are centralized within the material master and associated objects, thus avoiding redundant data entry. Meanwhile, SKU-specific details, such as grid variations or stock categories (which encompass packaging specifics, country-specific variations, or distinct stock types), are managed as batch master characteristics using SAP's classification system. This approach enables efficient data management, allowing for the representation of diverse SKU-specific information while maintaining consistency and minimizing duplication at the style level [3].

During the distribution of AFS master data to EWM, attributes specific to SKUs (such as Grid Value, Stock Category, Season, Collection, and Theme) are mirrored into EWM as batch characteristics. Additionally, attributes like SKU weight and volume are also replicated. This information is stored as batches and batch characteristics within EWM, enabling their utilization in various warehouse processes such as picking or put-away strategies.

Furthermore, the EAN (European Article Number) information, which permits multiple EANs per product, is also included in this data transfer, ensuring comprehensive product identification within the warehouse environment [2].
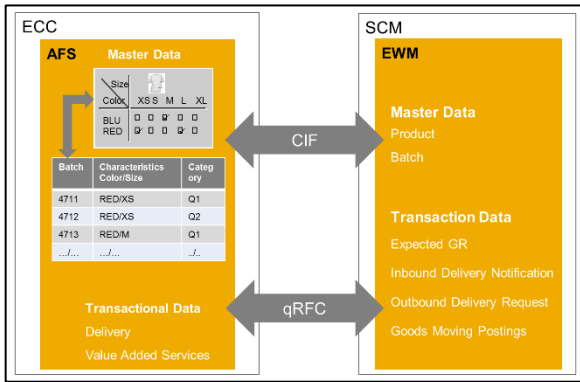
Image Source [2]

At the delivery level, both the SKU (batch characteristics) and the AFS Value-Added Services (VAS) information are copied from IS-AFS into EWM. This data serves as the foundation for conducting VAS activities within EWM, thereby offering tangible additional value to customers. During goods receipt and issue postings in EWM, the standard AFS-VAS billing process is initiated via the AFS delivery in AFS, ensuring seamless integration between the two systems and facilitating accurate billing for value-added services provided [2].

3. Benefits of Integration

Enhanced Inventory Visibility: Integration of AFS with EWM provides real-time visibility into inventory across warehouses, distribution centers, and stores. This visibility enables accurate demand forecasting, inventory planning, and allocation, thereby reducing stockouts and overstock situations.

Streamlined Distribution Processes: By leveraging AFS capabilities for managing complex product variants and EWM functionalities for warehouse optimization, fashion retailers can streamline distribution processes. This includes efficient picking, packing, and shipping of orders, leading to faster order fulfillment and improved customer satisfaction.

Optimized Space Utilization: EWM's slotting optimization features combined with AFS's product attribute management enable efficient space utilization within warehouses. This optimization reduces storage costs and enhances warehouse throughput.

Improved Compliance and Traceability: Integration ensures compliance with industry regulations and standards while enabling end-to-end traceability of products throughout the supply chain. This is particularly important in the fashion industry, where product authenticity and compliance with safety and sustainability standards are paramount.

4. Challenges and Considerations

Complexity of Implementation: Integrating AFS with EWM requires careful planning, configuration, and testing due to the complexity of fashion-specific processes and product variants.

Data Synchronization: Ensuring data consistency and synchronization between AFS and EWM systems is critical for accurate inventory management and order fulfillment.

User Training and Change Management: Adoption of integrated systems necessitates adequate training for warehouse staff and other stakeholders to ensure seamless transition and utilization of the new functionalities.

5. Use Case

Arezzo & Co is a leader in footwear, handbags, and accessories in Brazil. Accumulating more than 41 years of history, currently sells over 9 million pairs of shoes and accessories a year. It has four recognized brands – Arezzo, Schutz, Anacapri and Alexandre Birman – with products that stand out for quality, design, comfort, and innovation.

Recognizing the need to integrate their information in a single, consistent, and secure database and ensure information credibility and traceability, Arezzo & Co saw in SAP AFS the opportunity to have an integrated platform that would allow raising the level of corporate governance and adopt the best practices in the company's processes. This project was among the three best SAP projects awarded by ASUG Impact Awards 2015.

Scope: The implementation scope contemplated a range of innovative SAP solutions (AFS, EWM for fashion, Vistex, GRC Inbound with grids and POSDM). One of the project's main challenges was to raise awareness throughout the company on the scope of the project, managing expectations and changes to work in an environment integrated to SAP.

6. Benefits

1) Possibility of decentralized warehouse management using the EWM solution.
2) Automation of receipt of goods and freight using the GRC standard solution (Inbound).
3) Adaptation of this GRC solution for AFS, to use 3 levels instead of 2 levels (standard).

7. Conclusion

The integration of SAP EWM with AFS offers a tailored solution to address the unique challenges faced by fashion retailers in managing their supply chains. By combining advanced warehouse management capabilities with industry-specific functionalities, organizations can achieve improved inventory visibility, streamlined distribution processes, and ultimately, better customer satisfaction. However, successful integration requires careful planning, robust implementation, and ongoing optimization to realize its full potential in driving operational efficiency and competitiveness in the fashion industry.

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