



Cartonization: A Multi-Phase Customization on WM for Enhancing Packaging Decisions

Executive Summary

With international trade mushrooming and supply chains expanding around the world, third-party logistics providers have taken on an increasingly important role for multinational manufacturers and retailers. Manufacturers need absolutely reliable sources of supply. Retailers need flexible links to suppliers with low-cost production. These suppliers are often in remote regions. At the same time, retailers need rapid delivery channels for an ever-expanding distribution network of consumers. Simultaneously, burgeoning prosperity and intensifying competition for new markets is putting more and more pressure on supply-chain managers to get the job done and find competitive advantage. While process improvements are considered as prime tools in fostering the supply chain performances, operations excellence has recently created a significant niche in this domain.

The client is a major third party logistics solutions provider in North America, providing integrated global supply chain management solutions in transportation, warehousing, customs brokerage, freight forwarding, and import and export consulting services. As a part of operations excellence initiative, the client required a solution to automatically and feasibly allocate cartons to items. The requirements are to proactively assign cartons to the items in the order, thereby optimizing the usage of different cartons, minimizing wastage and to integrate this automatic workflow with the existing warehouse management system.

Business Requirements: Reducing Shipping Cost

With humongous number of orders undergoing different operations like receiving, cross docking, picking, and shipping, it becomes a daunting task to manage the third party logistics chain. One of the key functionalities in such an environment is packaging or cartonization of orders. Items/merchandises comes in different shapes and sizes. And it would be highly uneconomical to try and pack every order in same type of carton. Thus one needs to have a tool which would help the business in making smart packaging decisions. Also such a tool might help in forecasting the labor required, raw materials for carton required and shipment size/container required.

The client approached **ITOrizon** with such an expectation. The team of **ITOrizon** studied the operations of the client. In addition to delivering a customized module integrated in the present warehouse management system, **ITOrizon** also came up with numerous operational changes which facilitated the workflow in the warehouses.

Meticulously Crafted Solution

Upon initial study of the problem statement, the team quickly came up with an idea to group the items based on its ability to be packed. There are some item which cannot be packed because of its odd shape or some other attribute and thus are excluded from this module. However, the team observed that there were many items whose dimensions were not accurately recorded in the database. Thus the team came

up with a multi-phase idea to implement the project as discussed below.

Building dimensional attributes for items:

In the order import user interface, a new design change is made which would follow a logical flow and update the records of the items only in the case where there is a missing or faulty record.

Pre Cartonization Module:

The team designed a module which helps in planning the labors and raw material usage of cartons based on bulk infusion of orders into a high level logic of cartonization which takes into account volume, weight and dimensions of the item.

Actual Cartonization:

In this module, the orders/waves go through a complex logic which checks the volume, weight,

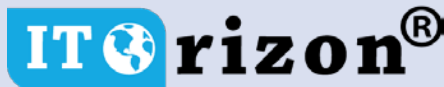
dimensional fit and cross-dimensional fit of items in a carton. The module returns a carton number assigned to each item along with the number of cartons needed. This module does an excellent exception handling regression.

Numerous real time scenarios are replicated to test the proper functioning of the logic and all the modules have been successfully implemented at the customer level.

Benefits of Proposed Solution

Along with agile and intuitive decision making, this module also translates into benefits like better labor and raw material planning, faster customer service, and increased efficiency. While reduction in shipping cost, labor cost and cartons purchase cost are direct derivation of benefits harnessed, reduction in penalty charged by carriers is an indirect manifestation. Putting a number to the above benefits, will break even the investment within a quarter of a year.

About ITOrizon



HIGH IMPACT PROFESSIONAL SERVICES

ITOrizon is a Global Services Company which combines industry expertise with technical innovation, to enable our clients to achieve their Omni Channel, Digital Business and IT Objectives.

ITOrizon focuses on Supply Chain Management, Enterprise Resource Planning, Enterprise Order Management, and Digital Business. With years of Industry expertise across various verticals, we bring the latest Gartner and other Industry analysts' research to recommend the best of breed solutions and processes to our customers. In addition to our consultative approach, we specialize in very selective software

vendor packages and technology platforms to be that SINGLE trusted partner to our customers in their business and IT journeys. ITOrizon's Core Value is "Customer Satisfaction" and its guiding principles are "Constant Dialogue", "Concrete Action", "Continuous Improvement", and "Care, Quality and Transparency."

For Further inquiries please contact

ITOrizon Inc.
1000 Parkwood Circle
Suite 950
Atlanta, GA 30339
USA Direct: +1 770 971 8411

Engage@itorizon.com