Label Printing in Supply Chain Management

Why you’re not receiving labeled units and how technology can help save your supply chain

White Paper

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Executive summary

In the recent years, supply chain management has seen lots of technical and process improvement. Enterprises of all sizes increasingly reach for international markets in their supply and sales, and the supply chain is becoming an increasingly important business process.

Lowering of supply chain costs, inventory investments, and the increase of traceability and quality assurance all impact the supply chain directly. In order for the supply chain to be an effective operation, the accuracy and consistency of unit data is of paramount importance. This increases the pressure on an old obstacle of supply chain systems, incoming shipment labeling and handling. The new market requirements are forcing enterprises to reevaluate their data entry and traceability standards. At the end of the line, their issues are usually traced back to the inability or unwillingness of the supplier to label his shipments to a standard needed by the enterprise.

The paper will present an analysis of the vendor labeling issue and present a technical solution to this persistent problem. It will present a quantum leap in the evolution of label printing and a comprehensive overview of how focusing on the supplier will drive the reliability of supply chain data in the future.
Understanding the Core Issues and Past Reactions

In the recent years, most enterprises which ship or receive goods struggled with the issue of unit labeling. Standard compliance, traceability, and accuracy of information all became serious issues as the IT infrastructure evolved enough to support accurate digital records of warehousing, shipments, stocks, and transfers.

Every enterprise has its own specific Supply Chain Management system which serves their needs. However, there is an endemic problem most SCM systems have with incoming information, information on logistical units which enter their supply chain. Although most of us would prefer to think that our problems are unique, it is possible to identify some common core issues that are present in most SCM issues. This can be done by looking at the ways that hundreds of enterprises attempted to correct the issue in the recent years.

Focusing on the most elusive problem, that of incoming data and logistical unit labeling, we can identify two primary approaches to ensure comprehensive labeling of all incoming shipments.

Position of power

This approach is available to the greatest retailers and corporations in the world, which can completely dictate terms to their suppliers and customers. Their economic influence removes the issue of partner resistance, and only leaves the issues of costs, knowledge, ROI, and technical capability.

In the recent years, many of these powerful players evaluated their SCM practices and decided that a systematic standardization was needed to reduce error rates and improve efficiency and traceability.

Giant projects were launched all across the world, faced with the task of evaluating the improvements that could be achieved with standardization and the measures which should be undertaken to reach these goals. The measures focused primarily on:

- Pressuring suppliers with contract penalties to label according to an international standard
- Developing one's own standard and delivering the description (usually a 35+ page technical document) to suppliers, demanding conformity
- Developing their own software tool which includes the in-house standard and delivering it to suppliers to use

Most companies start at the 1st phase, where they remain for some years, typically during their initial growth period. Soon, simply pressuring suppliers proves ineffective, they move on to the 2nd phase as seen in this example by Volvo.

The enterprise schedules and budgets a massive project of establishing a standard labeling and shipping process they would use to introduce logistical units to their supply chain. Most suppliers conform to the physical and packaging requirements, processes they’ve been managing for years. However, the unit label requirements are hard to comprehend, much less apply for about half of their suppliers. Too many new elements are introduced into their
manufacturing process, such as bar code and data standards (often multiple on one label), new or different hardware, new software, and new label designs. As a consequence, the share of non-compliant shipments remains so high that the system is rendered completely ineffective. Very few enterprises manage to move on to the 3rd phase. Developing a custom tool to distribute and support around the world can only be afforded by the largest corporations which ship vast numbers of units.

**Power balance**

This approach is imposed on the companies who can't use their market position to assert their dominance over suppliers. They're usually left pleading their suppliers to subscribe to some standard of labeling. The largest suppliers usually label their shipments according to a standard they apply to most outgoing shipments, and the enterprise adapts to it. Others may not label at all, and no amount of persuasion seems to shake them. This is the situation most enterprises find themselves in.

The most persistent enterprises come up with ingenious systems to convince their suppliers to conform to their labeling wishes, and some manage to get as many as 60% of their suppliers on board. Sadly, a change in barcode standards or industry standards which changes the labeling template or process can never be applied to the whole supplier channel again. Having gone through the process over many years, the danger of another change being needed soon after makes this process impossible to repeat. The system is therefore locked into a cage of deteriorating incoming labeling, still features many gaps, and there seems to be no relief on the horizon. This is why a fundamental change in the approach to supplier labeling is needed, one that moves the system closer to the needs of the supplier.
Parsing Common Denominators

An inspection of how enterprises have approached, handled, and benefitted from different attempts to organize their incoming data through consistent label printing leads to expected results. There are two primary categories of supplier resistance: traditional change resistance and technical resistance.

**Process change resistance**

Traditional rejection of appeals to label shipments is often blamed on costs, but in the recent years, very few suppliers can actually argue that they can’t afford to implement a labeling system. Indeed, there are costs which the supplier is not willing to endure, but these are mostly costs of educating and training staff, implementing a new work process to their shipping system, both of which are much bigger issues than the cost of hardware and software.

The supplier simply cannot see a tangible benefit which would outweigh these costs, and there are few things the enterprise can do. Even providing the supplier with the needed hardware rarely has a significant impact, unless the labeling process itself is addressed.

**Technical resistance**

Some suppliers are simply not able to conform to a logistical label standard. They have no appropriate printing hardware, their IT skills are far too basic to choose a software platform to design and print labels, and they have absolutely no knowledge of bar code and data management standards.

These suppliers are one of the key reasons for the failure of the “technical specifications” approach mentioned above.
Overcoming Resistance
Having narrowed down the supplier resistance to shipment marking to two primary categories, the enterprise is left with the task of overcoming it.

Overcoming Change Resistance
Overcoming general resistance to change relies on the reduction of the difference between the total costs of the system and the benefits provided by it. The benefits themselves are incredibly hard to affect, and the only obvious benefit that the suppliers tend to see is in their customer no longer badgering them about labels every other week. Clearly, the focus should be directed at the costs of the system:

- Staff training
- Process implementation
- Software and hardware costs

Staff training is most effectively impacted by form-based solutions. These are solutions which present the operator with a single screen where he enters or selects a few values and variables. Much a simple e-mail site, the operator should only see the settings that he is supposed to make, making additional training unnecessary or at least minimal.

Process implementation is best tackled by the enterprise itself. If the supplier is not willing to handle labeling processes at all, the enterprise may set up an online system which the supplier’s printing operator accesses directly. This completely removes the issue of implementation costs and leaves the enterprise in direct control over the design and content of labels they wish to receive.

Software and hardware costs can also be assumed by the enterprise. An online solution which is centrally operated by the enterprise removes the need for printing hardware, as a simple office laser printer is capable of producing the most basic of labels. A basic thermal printer can be leased by the enterprise as well, if the environment demands somewhat more robust labeling. Furthermore, when label design and printing is handled by the enterprise’s central application, there is no need for a front-end installation on the supplier’s machine.

Overcoming Technical Resistance
A centralized online solution directly addresses the needs of suppliers struggling with the technical theory of label printing. The enterprise can fully manage the design of their incoming labels and the data to be included on them. This means that the supplier does not need to learn about standards and various technical requirements, but can simply print labels as if he were printing any other document.
Conclusion

In the past years, we have seen an astonishing number of different attempts by enterprises to manage their incoming logistical unit labeling. Most of these attempts had the misfortune of focusing either purely on the processes and business-pressures or purely on the technology, ignoring the human factor involved.

Additionally, there were no dedicated solutions available for this issue on the market. The enterprises which correctly identified the issues and solutions for their incoming label printing issues were forced to invest immense resources in developing custom solutions.

As a result of repeated requests from our user base, Euro Plus has decided to tackle the issue head on and design a solution which addresses the problem of incoming labeling in supply chain management. It has combined the various aspects of resistance as listed in previous chapters and developed a general solution which addresses both the technical needs of our customers and the system which minimizes the human change resistance of their suppliers.
Appendix

Additional Resources

Additional documentation is available, detailing the individual NiceLabel products and industry solutions. As any detailed documentation of these processes also depends on the individual solution, the examples and workflows in specific documentation are based on NiceLabel products and the NiceLabel methodology of enterprise-level label printing performance and automation. The documents are available at http://www.nicelabel.com/Learning-center.

General NiceLabel resources

- NiceLabel Web site Learning Center
- NiceLabel Tutorials
- NiceLabel Technical FAQ
- NiceLabel Technical Support site
- NiceLabel forums
## Technical Contacts

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