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Editorial

Trends in Packaging Supply Chain Processes
03/01/03

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The whole business of building, buying, and integrating software applications has gone through a more dramatic change in the last several months than it has in all of the last decade. Now that the retail and technology industries are settling down toward some stability from the fluctuations of the last couple of years, some clear trends are starting to emerge.

In this changing landscape, the role of the technology executive in retail and CPG enterprises has become all the more important. As businesses start looking at return on assets, software applications bought and built are being evaluated much more carefully. The less-than-pleasant experiences with the inadequacies of packaged software and difficulties in implementation have caused companies to turn inward to determine the best approach for operational effectiveness and growth.

Despite the genuine advances made in packaged applications deployment to solve supply chain problems, general opinion appears biased against this approach today for many key end-to-end supply chain processes. Where

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Editor's Note:
Next month, Ram Viswanathan will examine how in the future, retailers can achieve enterprise-level formalization of processes to ensure the success of development of applications and deployment of packaged solutions.

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the requirements are well-defined, solutions targeted at a particular process niche, and a controlled environment made available, there has been some success. However the success rate for deployment of complete supply chain solution suites has been dismal.

One conclusion from these experiences is that the success of packaged supply chain applications involves a nice balance of standardization and differentiation. In spite of commonalities of processes across companies, there are deviations significant enough to challenge an implicit assumption in the economics of packaged applications, namely re-use and standardization of code.

Successful packaging and deployment of applications (and by extension the success of software companies) is as much a function of general acceptance of a so-called ‘best practice’ as it is of the IP that the company creates and wants to protect. If in the process of ‘configuring software’ to suit a customer’s needs the cost incurred either by the software company or the customer exceeds a threshold, the model starts to breaks down.

The relative success of first-generation enterprise application packages such as SAP is partly due to the fact that they addressed more commonly understood business transactions such as purchase orders, invoices, and dispatch advices, which are easier to get agreement on and therefore easier to standardize.

However, processes that tie together demand planning, supply planning, sourcing, and price optimization have not reached significant levels of maturity and standardization across companies in any industry, let alone across industries.

The initial success of packaged solutions that used innovative approaches to supply chain planning to solve very specific problems has been followed by a painful period of realization by customers and software firms of the difficulties of implementation, when the approach was extended to solve larger end-to-end problem domains, with lesser specifications and higher variability.

Supply chain behavioral variables and therefore the approach that needs to be followed to optimize supply chains are so different between companies that by the time ‘customization’ (or ‘configuration’) of software is finished, the commonality between any two implementations is minimal.

Costs incurred in the total implementation have often exceeded what it would have taken for companies to build a customized application in-house. Many companies are getting good at the mathematics of planning and optimization and adapting these techniques to develop applications.

For the software firms, the challenges of unstable implementations and the costs they have had to absorb on many of them have eroded the comfortable margins they once enjoyed. In most places where comprehensive supply chain reengineering has been attempted using packaged suites, it has led to failures.

Work needs to be done in the understanding of processes at the atomic level and their codification and formalization, similar to the standards that have been developed in the areas of transaction management that led to the development and maturity of EDI standards.

(***Retail Systems Alert*, March 2003**)

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Editorial

Trends in Packaging Supply Chain Processes - Part II

04/01/03

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In last month's column, we reviewed how atomic-level business process definitions would drive future application and software development. We will continue that analysis here and point to specific steps a company can take as the enterprise application computing paradigm shifts.

In semi-formal and semi-defined business processes, the opportunity for re-use and repeatability reduces as these processes are manifested in software applications.

Complicating this landscape is that enterprise shelves are full of different packages that companies bought hurriedly during the tech boom and are lying unused for various reasons – lack of a clear business case, complicated configurations, interdependencies with other applications and in some instances, sheer lack of any meaningful functionality!

A parallel trend that developed during this time is the emergence of low-cost application builders, often with a robust offshore factory/infrastructure, whose value proposition goes somewhat like this: "We will build what you

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need, exactly to your specifications, for a fraction of the cost you would pay as package license. By the way, we will also dedicate resources for maintenance of the code at a cost that is much less than the typical maintenance fee for the software."

This is a tough argument to counter, given the flexibility and performance assurance that this model offers and the maturity that the model has reached. In fact, many software firms have changed their basic business model to function more as a virtual application development shop for their customers. In this respect, the differentiation between such "software firms" and the "service" model-based application builders has become quite blurry.

What do enterprises do in these circumstances? The scenario calls for companies to start with an analysis of enterprise goals. This will in turn drive the business processes that need to be defined to support these goals. An enterprise-level formalization of processes is the next step.

Finally, an evaluation of technology enablers needed to support the business drivers will determine the approach to application development and packaging. The process consists of the following steps:

1) Take inventory of technology and software assets held – bought and built;
2) Analyze the capabilities of these assets;
3) Re-establish the needs and priorities of the business;
4) Map the capabilities of assets with the new set of priorities;
5) Evaluate the availability and practicality of standards where available – both for processes and technologies;
6) Develop a return on investment model for any incremental spend to leverage the most of infrastructure and assets currently held;
7) A selective determination of additional software and/or development spend; and,
8) Develop a model for a continuous measurement of return on investment.

Such an analysis might well lead to the consideration of a reversal to the approach of custom-building applications, at least temporarily while things become more stable.

For the foreseeable future, ideally a combination of software components and service capabilities (both to build and operate applications) will be needed by enterprises.

As atomic-level definitions become available either through industry-wide standards efforts or through the introduction by process/software vendors, these definitions will be manifested in the form of Web services.

As these become available for use, a new enterprise-computing paradigm might very well emerge where such services will reside on a widely distributed network. These services can seek each other out and accomplish complete and complex business processes. In the months and years to come, we will see:

(a) Definition and availability of these services.
(b) Registration of these services in industry registries.
(c)Business models for the purchase and use of these services.
(d) Definitions of complete business processes using this model at the enterprise level.
(e) Maturity and robustness of the model.

Enterprise processes will get accomplished through peer-to-peer connections between several widely distributed, highly available services.

We are witnessing the first interesting major turning point in the evolution of a relatively young enterprise software industry. Specifically, within the current vast landscape of supply chain software vendors, several companies are investing in and coming out with newer ideas and products in areas such as pricing, merchandising, assortment planning and supply planning.

The success of these offerings and the firms behind them, will be a function not only of the marketing and sales efforts by these firms and the potential to command a premium because of a well-differentiated software asset, but the ability to effectively address the above trends.

Of the various areas that supply chain software firms are targeting, visibility, data synchronization and collaboration continue to be viewed as opportunities in spite of their crowded, somewhat non-differentiated nature – mainly because these continue to pose challenges for the enterprise.

Even in an area such as integration, which one would think is saturated with everything that can be said on the topic, companies are betting on newer approaches. Price optimization, merchandise planning, promotions management, assortments and inventory tracking (RFID) are examples of areas where a differentiated set of solutions offers interesting possibilities for premium-based services.

Scientific retailing is starting to attract the attention of a number of companies. Another area that offers opportunity for innovation is the creative combination of planning with operational execution. It is one thing to develop optimal prices for revenue and profit optimization. It is another thing to reflect this at the store shelf in a timely manner to actually achieve the results. Real-time planning will be a key area of focus for retail

enterprises.

Technology has changed the retailing industry as well as the consumer experience and it will continue to do so. But in the immediate timeframe, enterprises have to get their processes and data in order, to be prepared for the next round of innovation.

(***Retail Systems Alert*, April 2003**)