



How will Manufacturers of Flexible Packaging Materials Achieve Operational Efficiency under Dynamic Market Pressures?

A QAD Leadership White Paper for the Global Manufacturing Industry

CONTENTS

Introduction	3
Product time-to-market only uses the express lane	4
On-time delivery is table stakes	4
Taking traditional KPIs beyond the path to better and on to the heights of best	5
Next-Generation Business Solutions Offer a Path to Operational Excellence	6

MANUFACTURERS OF FLEXIBLE PACKAGING STRESS OPERATIONAL EXCELLENCE AS KEY BUSINESS DRIVER

INTRODUCTION

Flexible packaging in the form of pouches, envelopes, free-standing bags and other innovative formats is the fastest growing portion of the packaging market.

Flexible packaging is replacing traditional boxes and other rigid packaging for many food, beverage and consumer goods due to its convenience, potential cost reduction and eco-friendly possibilities. The underlying flexible packaging product itself is in a near constant state of redesign with development of new materials, reduction of material thickness, improvement in closure technologies and increased consumer-centric features. At the same time the customer for flexible packaging requires a constant change of product configuration in terms of size and associated package image.

The Flexible Packaging Manufacturing (FPM) environment often acts like a make-to-order production environment that rarely delivers the same product twice. The manufacturing of Flexible Packaging materials is characterized by rapid engineering product development cycles and constant customization of as-delivered permutations of these products. There is continuous competitive pressure to deliver new permutations and flexible packaging product life cycles have been condensed into shorter and shorter time frames.

Operational efficiency is an imperative under these dynamic demands. Potential market share increase and improved customer support, however, cannot be achieved based on just traditional belt-tightening techniques. The next generation FPM will need to operate as a consolidated and collaborative entity at peak efficiency.

FPM's are well aware of certain barriers to a more optimal state:

- **Untapped capacity is a lost order** – every non-productive hour of machine utilization could be turned into the service of another customer order
- **Inventory feels like an anchor** – inappropriate raw material and finished goods inventory levels impact cash flow and inhibit investment, and are often enemy #1 of the CFO
- **Underperformance on client deliveries** – DIFOT impacts the ability to grow organically with critical customers and restricts aggressive pursuit of new customers

None of these challenges are hidden and FPM's have made major effort to improve operations. Various parts of the organization have assigned their boldest and brightest minds to address these challenges and have made progress. Many FPM plants execute on razor thin margins and on the back of daily operational heroism. Every plant has initiatives that target reductions in changeover time intended to increase production capacity. Every plant has an anti-inventory zealot running between piles of material and questioning its existence. Customer service has racked and stacked delivery KPIs so often that Jenga is jealous of the attention.

None of this is ill-advised effort. In many cases, however, these isolated departmental efforts produce favorable initial impact. However, jumping through hoops efforts generally have diminishing returns over the long run. They can even have counter-intuitive effects. For example, reduced change-over time can be an empty accomplishment if the machine sits idle waiting for the correct raw material that is unavailable due to strict inventory mandates.

MANUFACTURERS OF FLEXIBLE PACKAGING STRESS OPERATIONAL EXCELLENCE AS KEY BUSINESS DRIVER

A growing number of companies are exploring next-generation business solutions that promise to strengthen operational performance at the enterprise level. In the next section, learn how FPM's share common challenges and are positioning themselves to thrive in the coming years by capitalizing on a more integrated approach. Certain market drivers and trends threaten to make status quo approaches to flexible packaging manufacturing unprofitable and unsustainable.

PRODUCT TIME-TO-MARKET ONLY USES THE EXPRESS LANE

FMPs target food, beverage and consumer packaged goods manufacturers. These FPM customers execute in a B2C world that changes continuously based on seasonal demand and consumer expectations. "New and improved" is an everyday requirement. Correspondingly, the associated packaging of consumer products is an important element in keeping these products flying off the shelf.

More than ever there is only one product development cycle that allows an FPM to beat the competition. The FPM must offer their customers immediately available innovative packaging options. Lead times for new concepts and revised package imagery are measured in days and not months.

Many FPMs have expanded globally in order to deliver to the large consumer based customers regionally. This compounds the challenge of time-to-market pressure for the FPM. Not only does the FPM have to bring new materials and variations to market for a customer, but also has to deliver these products from a number of its own diverse manufacturing sites. It is a challenge to deliver the next innovative dog food package to a major customer. That challenge increases dramatically

when that customer has ten regional dog food factories across the globe. The FPM must deliver the same core product from its regional manufacturing centers and, of course, each of the FPM's plants has a different set of physical equipment. The translation of product expectation to global manufacturability all at the speed of consumer demand requires a cultural revolution in terms of collaboration and the systems that support that enterprise coordination.

ON-TIME DELIVERY IS TABLE STAKES

FPMs work to an unwavering expectation of delivering on-time and in-full for every customer order. The FPMs' customers cannot deliver their respective products without packaging. Dog food without a pouch or bag is hard to ship and makes a mess.

This unwavering requirement to have the packaging product available exactly when the customer requires it challenges the FPM to balance delivery with inventory management. The ideal scenario is to complete a customer's order just prior to the expected delivery date. This allows for on-time delivery and minimizes carried inventory of product while reducing the need to handle the material more than once.

The risk of missing a customer delivery date, however, can make an FPM anxious and drive it to schedule production that includes a buffer of time between production completion and promised delivery date. This has the obvious effect of increased unshipped inventory. This also increases the potential risk of product waste due to last-minute customer changes. The image on the dog food package is obviously unique to a single customer. If that customer dictates a change in the image or even in the quantity after the FPM's production, there is a risk that packaging finished and ready to ship no longer

MANUFACTURERS OF FLEXIBLE PACKAGING STRESS OPERATIONAL EXCELLENCE AS KEY BUSINESS DRIVER

matches the customer's expectation and is waste. There are no other customers for that material. Customer-specific inventory must be managed to minimize this risk. All of this coordination of risk is done while balancing the imperative to deliver on-time, every time.

TAKING TRADITIONAL KPIS BEYOND THE PATH TO BETTER AND ON TO THE HEIGHTS OF BEST

Many manufacturers have instituted KPI metrics intended to establish baseline performance levels and monitor efforts for improvements. Individual KPIs are often championed by one segment of the organization and most often do result in incremental improvements. The focus on individual KPIs within sub-segments of the organization, however, often fail to recognize the interaction between distinct business groups and processes.

For example, there are manufacturers who have focused on inventory levels as a cost driver to the near exclusion of other metrics. The inventory KPI initially shows an improvement and the overall macro level of inventory is reduced. The struggle comes later to further reduce inventory or even evaluate what the proper inventory levels should be in subsequent phases of the project. As stated before, inventory control must be balanced with the ability to deliver to expected customer service levels. Despite what some CFOs may believe, there are healthy and proper inventory levels that are above zero.

How should an FPM balance customer service levels with inventory management? The production planning or scheduling function is typically resourced with seasoned professionals that have long and intimate relationships with their respective plants. These resources also have

long experience in what can go wrong and how to minimize risks through hedges. The individuals have a sense from anecdotal experience and gut feelings how to sequence the production orders through the plant. The general schedule is bulk loaded based on known customer orders and the rest is finessed through intuition and magic. The schedulers are famous for pulling an order out of the fire or finding a way to make the impossible happen for a customer. These individuals are often recognized as critical and even legendarily essential. There can be very real angst and desperation during any extended vacations of these heroes or as they approach retirement age. These specialists do a fabulous job and deserve recognition for their efforts. Nonetheless, as the scale of global production increases exponentially and the dynamic nature of customer demand becomes exaggerated, it has become impossible to expect this intuitive magic to be sufficient.

There are FPMs embracing changes through the use of advanced tools that often behave counter-intuitively to achieve major improvements. In one recent project an FPM declared a temporary hiatus on driving to continuously lower inventory levels.

Alternatively, the FPM focused on having the correct materials within an agreed upon inventory macro level. They decided to focus on true forecasting and demand planning and shift from the bulk loading and magic. They historically did not have a forecast accuracy KPI. Historically they really didn't have a forecast beyond a spreadsheet printout with a never ending set of changes marked in red pen. Within six months they found that their forecast accuracy was above 90% and the monitored inventory levels remained well in check.

MANUFACTURERS OF FLEXIBLE PACKAGING STRESS OPERATIONAL EXCELLENCE AS KEY BUSINESS DRIVER

Although overall inventory did not reduce substantially, the FPM did find that a well-communicated forecast made it much clearer which raw material inventory contributed to customer service levels and which were hedges. Well managed inventory had become an asset in customer performance and not just a cost to be eliminated. The tools and the culture of collaboration across planning and manufacturing are the keys to driving business improvements to true best in class.

NEXT-GENERATION BUSINESS SOLUTIONS OFFER A PATH TO OPERATIONAL EXCELLENCE

Top performers in the FPM sector are embracing an enterprise level approach to operational excellence. They have increased inventory turns by right-sizing inventories while maintaining customer service levels. Some have dramatically increased capacity utilization allowing for the support of incremental orders and thereby growing market share for their products. What does an enterprise level approach encompass?

- **Future-facing insight.** You should have a window into your supply chain and your demand chain in order to plan ahead and act decisively. Rather than be surprised by process breakdowns, you should anticipate them and prevent them. Rather than be blind-sided by events, you preempt them or influence them. You should be able to strengthen decision-making.
- **Full-spectrum suite of applications.** A cloud-based ERP solution built for manufacturing should incorporate demand planning, supply planning, quality management and full mix of financial capabilities. Collectively, these modules should enable you to gain full control of your manufacturing processes. You can avoid risks and continuously improve and modernize

your operational processes, and ensure you are fully aligned with your business strategy and objectives.

- **Promote and enable collaboration.** The rapid changes of product mix, customer demand and resource constraints make collaboration between the organizational groups of the manufacturing entity an imperative. There is a shift from periodic “catch up” production meetings used to reconcile departmental views to the shared understanding of the current state and the unfolding plans. The velocity of shared knowledge dramatically changes the competitive nature of the manufacturer as a business.

This is the reason executive decision-makers like you are moving beyond the status quo in terms of existing operating approaches. Next-generation manufacturing ERP/operational solutions promise to deliver profitable and sustainable growth while meeting your objectives around operational excellence. The modern manufacturer now has an opportunity to:

- Optimize, streamline and modernize business processes
- Adapt to the ever-increasing competitive pressures in a global environment
- Gain greater visibility into both internal and external aspects of the supply chain
- Balance KPIs to move from better to best in class

Your Strategic Assessment: To find out how you can obtain an assessment that clarifies where you stand today on operational efficiency, contact a client advisor at QAD. With decades of manufacturing and supply chain experience, we can clarify your path to operational excellence and help you build the effective enterprise.



QAD Inc.

100 Innovation Place
Santa Barbara, CA
93108 USA
Tel: + 1 805 566 6100
www.qad.com