

Designed for Manufacture – thinking thoroughly for product success*Support the critical path, don't be the critical path*

It is too easy to forget that all the wonderful innovations we see on retail shelves are the few successful products and packages out of sometimes hundreds of proposals. From a pool teeming with ideas a single product is selected to become the company's next market success – but now it must be brought off the drawing board so that it can be produced and packaged. Every company has their own process to develop a packaging system; some are more successful than others. This is our system.

1 - Quantifying the Business Case

The first step in your process after internal ideation should include a review of your business goals to see what operational requirements are realistic. Many times we ask for solutions, and create RFQs, based on our pre-existing set of ideas. These ideas exist for good reason; more often than not they've worked well in the past. However, an outside opinion might look at your challenge a little differently and ask:

- Do you have under-utilized capacity that can be exploited?
- Does your RFQ ask for 600 CPM when 400 will do?
- Will further automation today save you money in the future?
- Have you considered the impact of proper staff training?
- Is renting or refurbishing an existing machine the better solution for you?

So before you ask for budgetary estimates or a CAD drawing of an idea clarify what you really need to do before reaching the objective. Map the processes, quantify the capabilities, and then overlay the objective. Increasing ROI is all about decreasing the "I" required and increasing the "R" you can achieve from it. Avoid recapitalizing something that will not deliver a return, certainly if it is already being accomplished comfortably.

- The business case should set the stage for concepting rather than concepting determining the feasibility or priority of the business case.
- Use appropriate tools and processes to quantify the gaps between current capability and the business objective in terms of skills, processes, and equipment systems.

- The gap can be understated or totally inaccurate if the focus is strictly on equipment.
- If the business case is properly quantified then you can do four things:
 - Realize what internal decisions will be required to achieve success (begin to bring the worlds of Marketing, Engineering and Operations together early).
 - Create a much more accurate order of magnitude for time and cost (lower contingencies).
 - Understand how difficult it will be for your team to adopt the required changes.
 - Identify non-capital improvement opportunities that can begin immediately whether the project is ever authorized or not.

This process allows you to issue more definitive specifications which enable:

- Reduced Risk (lowers the contingency),
- Greater apples-to-apples competition and thus better pricing,
- More time to focus on your own internal requirements for technology adoption.

2 - Collaborate Early with Packaging Machinery OEMs

Early collaboration harnesses the opportunity to tap into a mine of new ideas, knowledge and relevant past experience by engaging packaging machinery OEMs earlier in the New Product Development (NPD) process – to save time and money. However, typically packaging machinery OEMs are approached after all the packaging decisions have already been arrived at! Rather than being involved from the beginning, packaging machinery OEMs are given a project and asked to package the product at great speed and high reliability. By this convention, new products may be sub-optimal, the development process too long and expensive, and capital equipment decisions hastily arrived at.

Packaging machinery vendors should be engaged ... before the machinery is considered and finalised. Flying in the face of convention an early collaboration approach brings the following benefits: better products with more unique characteristics, lower development costs with shorter development timescales and better capital asset decision-making. Early collaboration cuts down the risk associated with materials variability, sensitivity around product / pack functions versus desired quality (which directly affects machine requirements), and manufacturing process complexity. Another enormous advantage is that such an approach inherently requires a partnership rather than a mere supplier-buyer relationship, building confidence and promoting good business practices.

- Select a company with a proven track-record of NPD who will stimulate idea generation and cross-sector learning.
- Seek a firm that could develop into a long term partner. Someone willing to learn your business and help you maintain your competitive advantage.

- Engage a company that has been in business for a while. Young companies are great for enthusiasm; however, unless they are staffed with experienced people they will not have that list of past hits & misses more established companies benefit from.
- Look for a global company; these are often best able to leverage resources and to anticipate cultural issues.

3 - Taking Ownership of your New System – Organizational Preparedness

There is no such thing as “Turn Key” if you are ultimately responsible for your own profits or losses. The best technical systems can fail if you are not prepared to take ownership and a mediocre system can still succeed if you are ready to own it. Realize that a bad start up:

- makes everyone look bad: OEM's, Engineering, Marketing, Operations.
- creates a negative cultural perception of a system that will dictate its performance for years.
- can destabilize the accumulated experience and knowledge base in the organization.

Nobody wants to stick around after things have become established as bad except for the folks with nowhere else to go (is that who you want left?).

Many times no assessment is done to determine what process and technology leap is required to meet operations goals. If it is assessed, opportunities to increase production and reduce costs might be missed because of a reluctance to implement change, or an erroneous calculation of risk.

Taking ownership means that at a very early stage all of the indirect project team members and support functions required for a successful project are identified – as are any gaps between goals and capabilities. Any particular support function that is not aligned with the business case and the project requirements can undermine an otherwise well-planned project. If training is needed, it is best to not assume that it simply “comes with the OEM”. Typical training programs are inadequate to meet the expectations of world-class operations. While many companies expect to spend 1% of total expenditures, 3 to 5% is more realistic if the gap between goals and capabilities is to be filled. Demand professional training and invest in it; it will pay back.

Sometimes you will need to outsource. Look around. Do you have the staff to accomplish your business goals? Are they trained for it? You either have the resources and skills required or you do not. If you have them then don't buy them again, if you don't have them then be prepared to pay a significant fee for someone to provide theirs.

Build a team that includes as much of your internal group as possible. It might make sense, and be easier to do, to take properly skilled people from existing assignments as they know your business and

have established relationships. Then again, don't over do it – or under do it as the case may be. Find the best project management you can get, whether they are internal or external.

A well-designed system will not run at optimal performance if it is not operated by well-trained staff. Staff who *understand why* a process is just so are better able to improve productivity than staff who simply *know how* a process unfolds.

- Look at your entire organization, from the operators to the cleaning staff, from quality to maintenance.
- Always try to develop internal staff first, however, if necessary, approach external skilled people to ensure that your business goals are met.

Our advice is designed to guide your thoughts when leading a project through your organization. As a final tip, remember that professional project management processes can help:

- Broaden organizational alignment and commitment to the business objective.
- Create layers of support plans that keep the main project from falling in the cracks.
- Guide the operational group to take the baton from the technical group and thus take ownership.
- Navigate a steep ramp up that is sustainable and protected against skill attrition.

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