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AN INTRODUCTION TO THE IT APPLICATION PARK FOR FOOD MANUFACTURERS

Or, a little ditty about Jack and Diane

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INTRODUCTION

Any business runs on an interconnected set of IT platforms that plan, direct and record all the transactions necessary for a business to run. This set of platforms are a business' application park.

Figuring out which platform should control which business function is no easy task especially with the jumble of acronyms – ERP, WMS, BI and more – that make up the landscape.

This e-book provides a primer on the modern application park to help de-mystify fundamental concepts and help executives better understand the critical IT investments they must make in their business.

IN THE BEGINNING...

Out of college, high-school sweethearts Jack and Diane started a small business making ice cream novelties that they sold at farmers' markets and county fairs. At first, they saw it as a fun interlude before they had to get real jobs and settle down in a bustling Indiana city.

However, people loved their products and soon enough they sold out whenever they put up a stand. Encouraged by the early response, they decided to move production from their kitchen to a storefront where they could open every day and increase production volumes.

The store took off and within months, a foodservice distributor offered to carry their ice cream novelties so that restaurants in the region could offer them on dessert menus. Suddenly, Jack and Diane had a multi-million dollar business that was rapidly expanding in the retail market.

Jack was the creative mind behind the varieties and flavors. Diane ran the books. Success was taking its toll; with a business built on spreadsheets and QuickBooks, they ran into problems.

CHALLENGES:

› Well-meaning production staff had a hard time following Jack's recipes to the letter

› The production manager developed an elaborate set of rules and spreadsheets to plan production that no one else understood

› The buyer had a hard time forecasting their packaging and raw material requirements based on the production schedule

› No one had a very good picture of what inventory levels were

› They invested over a million dollars in a packaging line but felt they weren't getting maximum use out of it due to production scheduling mishaps

› Lot tracking consisted of a log book penciled in every time they ran production

› Diane and her bookkeeping staff spent hours tracking receivables and payables

› While more cash came in than went out, Jack and Diane had no clear idea of why or how

Like many business owners, the couple cobbled together a system but it had its limits. Unless they invested in their IT application park, growth would come with chaos that led to, at best, diminished profitability and at worst, outright losses.

ERP: THE FOUNDATION OF YOUR APPLICATION PARK

Food production businesses share basic business functions captured in the table below.

General Ledger	Fixed Assets	Purchasing	Sales	Receiving	Payroll
Budgets	Financial Reporting	Production Planning	Forecasting	Manufacturing	Customer Relationship Management
Accounts Payable	Accounts Receivable	Production Scheduling	Inventory Control	Shipping	Reporting Business Intelligence
Item Master	Vendor Master	Customer Master	Bill of Materials	Transportation	EDI

In the case of a smaller business, it is likely that almost all of these functions have very little system support outside of core accounting requirements.

Once scale demands that a business move many of these functions to a single platform, the first place to begin is with an ERP. **"ERP"** stands for Enterprise Resource Planner, a term invented a generation ago for a software system that supports a complete range of business functions. Increasingly, these systems are marketed as **"business management software."**

**The process of selecting an ERP for your business should follow these phases:**

1 Map out your business and, for each of the functions mentioned above, carefully define your requirements. Distinguish between current and ideal practices and try to adhere to standard methods when possible.

> ### START THE CHANGE MANAGEMENT PROCESS EARLY
>
> *A new ERP potentially means major changes for your staff. Begin early to assess how ready your workforce is for an implementation and start planning for the additional resources you'll need to manage the change.*

2 Build a Request for Proposal (RFP) that describes your business and your goals for implementing an ERP. Itemize your requirements by function as well as your technology and service needs.

3 Issue your RFP to qualified ERP suppliers, either directly to software providers or through certified partners to those providers.

› A qualified ERP supplier is a company whose client base looks like you. They have solved the functional dilemmas specific to your kind of business and their user base will likely be lobbying them for developments that you'll want as well.
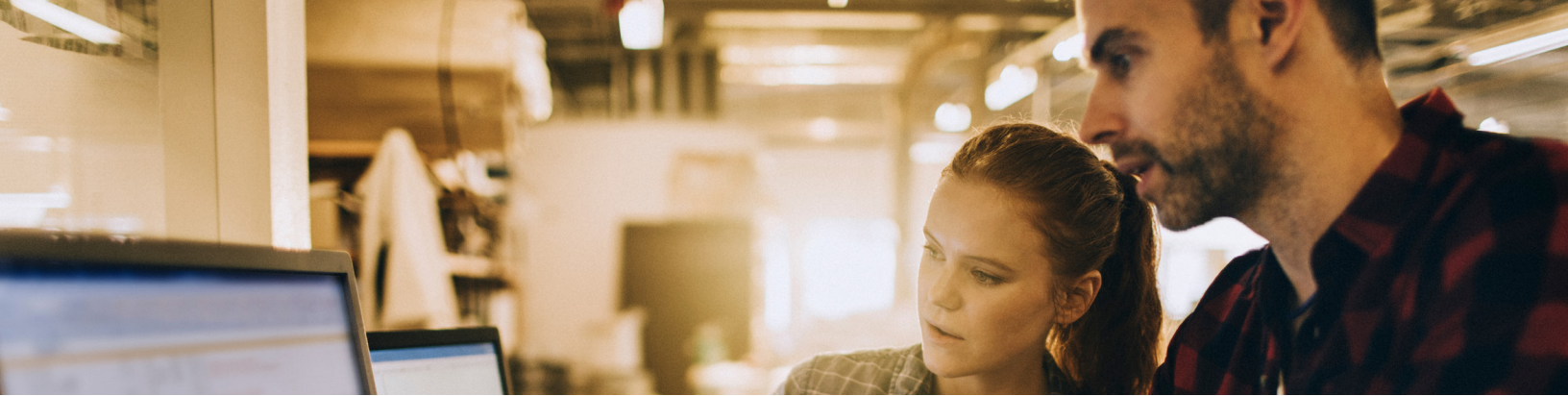
WHY USE A CERTIFIED PARTNER

Certified partners are trained by the software vendor in the proper ways to develop, configure and implement your system. They have access to the latest versions of the software, and their developers are available if a problem arises. Certified partners are in close contact with the software company and may even have input into what features go into future releases.

4 Develop a scoring system that allows you to compare the proposals. Make sure that you look at the total cost of ownership including hardware, implementation costs and at least 5 years of support and maintenance.

5 Invite a short-list of providers to present a full-day software demonstration. Script out the demonstration and use your own data so that the software mimics, as much as possible, the real-life conditions of your business.

6 Talk to both IT and business references and try to visit a company comparable to you who already uses the software. Due diligence will help give you a good sense of the software and potential partners.

7 **When making a final selection, keep these two lessons in mind:**

> The partner is as important as the solution

> The implementation team will have the greatest impact on a successful outcome

When Jack and Diane decided it was time to invest in an ERP, Diane researched potential solutions, wrote a thorough RFP and engaged several companies for evaluation. Eventually, she invited two finalists to come in for full-day demonstrations.

One of the finalists brought the project manager who would be assigned to lead the implementation. As that project manager engaged Jack and Diane in discussions around how the software would be configured to match their business, Diane knew this was the winning bid. The project manager clearly understood the full range of issues they would encounter during implementation and used recent project histories to explain how the team would succeed.

BEYOND ERP: WHY AND WHEN THE APPLICATION PARK EXPANDS

Jack and Diane successfully implemented their ERP. The buying team was able to eliminate inventory waste by making better purchasing decisions. Production ran smoothly and employees systematically followed Jack's recipes. Diane's bookkeepers stayed on top of growing accounts receivables. Diane herself was able to steer Jack away from some of the more complicated novelties he invented, which, while delicious, didn't generate enough sales to warrant the overly finnicky manufacturing processes they required.

However, new opportunities brought new challenges. On the sales side, a major retailer wanted to ink a deal that would grow revenues by 50% overnight but would include 12 new private-label items and many new vendor compliance requirements. This would mean more raw materials and packaging complexity to manage. At the same time, Jack figured out a way to package ice cream novelties to ship via common courier cost effectively in response to customer demand for an online store. The company would now be managing many sales channels – their own retail stores, foodservice, wholesale and online.

Jack and Diane knew they needed to increase control over material flow through their operation and carefully manage outbound operations to avoid the chargeback penalties that came with the new retail account. Diane investigated implementing the advanced warehousing functions of the ERP and considered adding a standalone warehouse management system (WMS).

Diane zeroed in on key material flow functions *(highlighted in orange):*

General Ledger	Fixed Assets	Purchasing	Sales	Receiving	Payroll
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While they had been using their ERP to manage material flow much better than before, Diane knew there were on-going issues that she wanted resolved including:

> Paperless direction and recording of inventory transactions

> Real-time receiving and inventory

> Quality Assurance functionality of inbound goods that could systematically assign a "hold" status to product

> System-driven picking of raw materials to execute work orders with some key ingredients like sugar available at all work centers and replenished on a min/max basis

> Lot control and traceability to enable quick recalls

TRACEABILITY UP AND DOWN YOUR SUPPLY CHAIN

Jack and Diane needed to track not just the lots produced but the lot numbers of the raw materials that went into each finished goods lot. A recall could come from their own facility or a vendor's, and they wanted to be able to identify the affected items without having to recall an unnecessarily large amount of product.

> With multiple outbound channels, picking operations were becoming very complex and Diane already had a sense that their finished goods warehouse was not very productive

MATERIAL FLOW: ADD A WMS OR DEPLOY ERP FUNCTIONALITY?

Like Jack and Diane, food manufacturers inevitably encounter the question of whether to add a WMS or deploy more functionality in their existing ERP. It is tempting to opt to deploy the ERP's functionality as then there remains only one vendor responsible and integration should not be an issue. However, it isn't as clear cut in practice.

Some ERPs have added warehouse features but cannot provide the depth of functionality available in a stand-alone WMS. These ERP warehousing applications may lack complexity in sales order allocation and release, which can have a big impact on productivity. They usually have limited hand-held device and voice capabilities, and cannot manage lot tracking up and down the supply chain.

In recent years, some ERP suppliers have gobbled up WMS providers and bolted these solutions onto their ERPs. In theory, integration has been completed but this is not always as seamless as advertised. Any modifications that a food manufacturer has already made to their ERP could potentially complicate an out-of-the-box integration.

A common pitfall that food companies encounter when deploying their ERP's warehousing functionality is addressing functional gaps with custom modifications. Countless food companies across North America have nickel and dimed their way into vastly expensive WMS solutions by building modification on top of modification to their ERP. These expensive, Frankenstein systems are a ticking time bomb in terms of future upgrades.

To avoid that pitfall, Diane knew she should treat the WMS question as a new investment regardless of whether she deployed her ERP's WMS functionality or a stand-alone system. She invited her ERP provider to be part of the selection process.

KEY WMS FUNCTIONALITY FOR A FOOD PRODUCER:

> *Receiving*

> *Quality Control on Raw Materials and Packaging*

> *Pulling Raw Materials and Packaging for a Work Order*

> *Consuming Raw Materials in a Work Order*

> *Returning Raw Material Balances & Determining Yield*

> *Producing Finished Goods*

> *Quality Control on Produced Goods*

> *Storage & Picking of Finished Goods*

> *Shipping*

> *Inventory Control*

> *Lot Tracking & Traceability*

> *Recall Reporting & Compliance*

Diane opted for a stand-alone WMS and summarized her decision with the following table:

	ERP's WMS Functionality	Stand-Alone WMS
Cost Issues	Similar license, maintenance and support costs	
	Average Hourly Rate of $210 for implementation	Average Hourly Rate of $185 for implementation
Integration	WMS module result of company acquisition. Mature integration with several comparable deployments in the field.	Many integrations completed with this particular ERP. Client references running on the ERP attest to negligible integration issues.
Functionality	**STRENGTHS:** manufacturing execution support **WEAKNESSES:** limited configurability of picking jobs to support multiple distribution channels	**STRENGTHS:** similar to ERP's WMS module; also advanced configurability in tailoring picking operations to various distribution channels. Significant picking productivity gains available.
Client References	Good references. However, none contended with the same level of complexity in finished goods distribution.	Excellent references, two of whom operate on the same ERP with comparable complexity.
Implementation Team	Project Manager had less than 6 implementations completed.	Project Manager had led dozens of implementations including 2 of the client references.

The above table is not to suggest the stand-alone option will always be the right choice nor will the reasons for making that choice be the same. It merely illustrates that as you reach the limits of your current application park, you should always evaluate stand-alone, best-of-breed options against new features available within your ERP.

10 YEARS LATER:
APPLICATION PARK EXPANSION

Jack and Diane saw tremendous growth through retail and direct-to-consumer shipping. The business eventually moved into a 150,000 sq. ft. production and distribution facility.

Like that earlier decision to purchase a best-of-breed WMS, the company continued the rigorous process of evaluating its options when it hit a limit in its existing application park. For transportation and business intelligence, it opted to go best-of-breed.

Eventually, the company's application park looked something like this:

General Ledger	Fixed Assets	Purchasing	Sales	Receiving	Payroll
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ERP	WMS	TMS	B.I.

Diane saw her application park as an investment, just like equipment or buildings. She budgeted for maintenance and upgrades, and watched for ways to improve the systems as the business changed. She joined local user groups for each software application to stay up-to-date on where the technologies were headed. With this involvement, she took full advantage of new features as they came on the market, maximizing her investment over the long-term.

Please share this with your team as well as with all the players in your value chain and join in the discussions on our blog and LinkedIn page.

We'd all like to **hear your opinions** and learn from one another's experiences. After all, in a world filled with noise, the only way we can win is to cut through the clutter and invest time and effort in **making real connections.**

CONTACT US

Schedule a **Discovery Call** to talk about your goals & define your needs

Learn More about becoming a client

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