ERP for the SMB

2011 Solutions

By the ChainLink Team

About ChainLink Research

ChainLink Research, Inc. is a Supply Chain research organization dedicated to helping executives improve business performance and competitiveness through an understanding of real-world implications, obstacles and results for supply-chain policies, practices, processes, and technologies. The ChainLink 3Pe Model is the basis for our research; a unique, multidimensional framework for managing and improving the links between supply chain partners.

For more information, contact ChainLink Research at:

719 Washington Street, Suite 144, Newton, MA 02458.

Tel: (617) 762-4040. Email: info@clresearch.com Website: www.clresearch.com

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Executive Summary:

ERP for Small and Mid-size Businesses are Unique

What makes an enterprise solution—ERP—different from other technology offerings? Today there are so many software categories that users can often be confused about what they need to buy. This is especially true for small and emerging businesses that are on a growth curve and are struggling with many IT decisions.

Your ERP choice should be made according to your core business strength: Look for the best-in-class capability for the most critical element of your business. In this report we will align these core needs to the capabilities of the ERP solution provider.

Today, the enterprise has the on-premise vs. cloud (SaaS) choice. The economic advantages of cloud solutions are just too powerful to ignore. And buyers are not. Our research at ChainLink is showing a huge upswing in SaaS/On-Demand interest and adoption in most enterprise software categories. SaaS or cloud has been a hard concept for companies to accept: the idea of 'off-premise storage' of enterprise data. But with the current economy and a new generation of buyers who take all things on the web as 'normal,' this market will only grow. So, we will indicate the cloud vs. on-premise choices in the report, as well.

Growing into ERP

For many readers, you may be contemplating your first ERP purchase. Or you have an ERP, but it just is not the right fit for your growing business needs. This report addresses both of these concerns.

Small business is the true engine of the economy. And as the business grows, small-business owners naturally turn to technology to enable future growth. Mid-size businesses, on the other hand, have operational challenges: often M&A's and cross-functional integration challenges that lead them to rethink their current technology portfolio. So at each stage, the challenges and complexities of the business drive new, fundamental thinking about the technology required to run the business.

Businesses differ significantly by industry and segment. And based on your industry, the correct (or incorrect) investment in technology can have a major impact. For example, you may be a publisher and require superior composing and graphics software. Or you may be an etailer, requiring a commerce website to market and take orders. These types of businesses may have no 'backend,' i.e. require no manufacturing or logistics software, since they might outsource those functions. Conversely, you may be a custom manufacturer with a few big clients. You can use a simple billing system (since you may have only a handful of customers), but need a manufacturing system to keep your operation efficient to stay ahead of your competitors.

ERP for the SMB

In this report, we will we cover the above issues and explore how to think about your requirements for an ERP, and align the ERP providers based on these needs.

So leave the social and sales pressures behind, and take your time to know who you are and where you are going before plunging into one of the *most important decisions you will ever make* for your business

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The Small vs. Mid-size Business

Small business managers have to be self-reliant and versatile. They are leaders, marketers, accountants, sales people, and manufacturers; as well, they often are the custodians, making sure the lights are turned out at the end of the day. They may also be the IT manager. Often, they are all those people rolled into one. But as the business grows, they may take flight from some of these tasks and hire focused experts to create the teams and processes to support the growing business.

Today, businesses have many options about how they fuel growth. They can outsource many non-core tasks such as payroll, website hosting and development, manufacturing or logistics, and even sales. Yet, at the core there is an information base that is required to keep the operation running. Cash management, customer record keeping, employee records, and purchasing tend to be activities even the smaller companies conduct.

Not All Businesses Are Created Equal

Businesses differ significantly from industries regarding the business model and the service options they use. And, as previously stated, based on your business, your investments in technology can have a major impact on your business. Your industry, your company size, and the complexity of operations all differ. We often think of larger businesses as being more complex. But a small business can be complex—and global—from day one. In our own business, we have global customers and global personnel, so our multi-channel communications—video and web conferencing, constant emails, instant messaging, smart phones, and content shareware—are probably the most important technologies for our business. QuickBooks services our A/R and A/P. It differs significantly from a start-up solar energy company that requires product design teams around the world, for example. They may also need the same multi-channel communications as we, but they also need product design/CAD systems and project accounting software. Their core or center is quite different, in the end.

These few examples make an important point—that the road to ERP is not straightforward. And for many young or small companies, technology purchases may seem daunting, so they purchase the minimum, putting off larger purchases for the day they feel more flush with cash.

The Pressures of Growth

Small businesses, if they are well run, tend not to have too many cross-functional issues, since the people wearing many hats have constant communication. All that changes, of course, when businesses start to grow and that 8:30AM, 15-minute, day-starter coffee meeting to check in with one another becomes a thing of the past. One day, sooner than you think, you will need to make the entire company work in an integrated way, and the information management activities become burdensome without better technology. Or the transaction level grows too big, and you need to seamlessly scale or you implode. Various bellwether numbers are out there as to when the *scale or shrink* inflection point comes along. Some say it is around $10 million in sales.[1]

Many experienced managers are not interested in the scaling pain, and opt for ERP much sooner. And many companies told us they want to avoid the disruption of technology implementation later on[2] and implement earlier.

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1. Our board member, Paul Miller, gave us this number, and I have seen it ring true as many of our clients grow and go through many growing pains. And our direct career experiences confirm this.

2. Recently we did a webinar with **Jesse Menczer**, CIO of DiscounTechnology (you can hear Jesse on YouTube here) where he told us that he made his ERP decision early to avoid scaling issues, but more importantly, to avoid a huge disruptive change just to install software. So the driving force varies based on circumstances and CEOs' foresight and confidence in their future success.

ERP for S's or M's?

ERP for the SMB turns out to be a pretty big space. A $3M label converter is a very different business from a $200M food manufacturer, yet we are calling both of them SMBs. And the software in the ERP for SMB space of one provider may be designed for and a better fit at that entry level of a $3M distributor; whereas another package may be designed to handle the complex activities of a $200M manufacturer (and probably much larger firms).

Figure 1 below represents a graduated view of how the S (small) or M (midsize) Bs (businesses) may see the software provider market. Obviously, the distinctions in the chart are generalities. But they provide a framework in which to think about, "Just how complex is my business? Where is the need for automation? Where is the high velocity, the need for scale, and real-time data to support operations that cannot be provided by spreadsheets?"
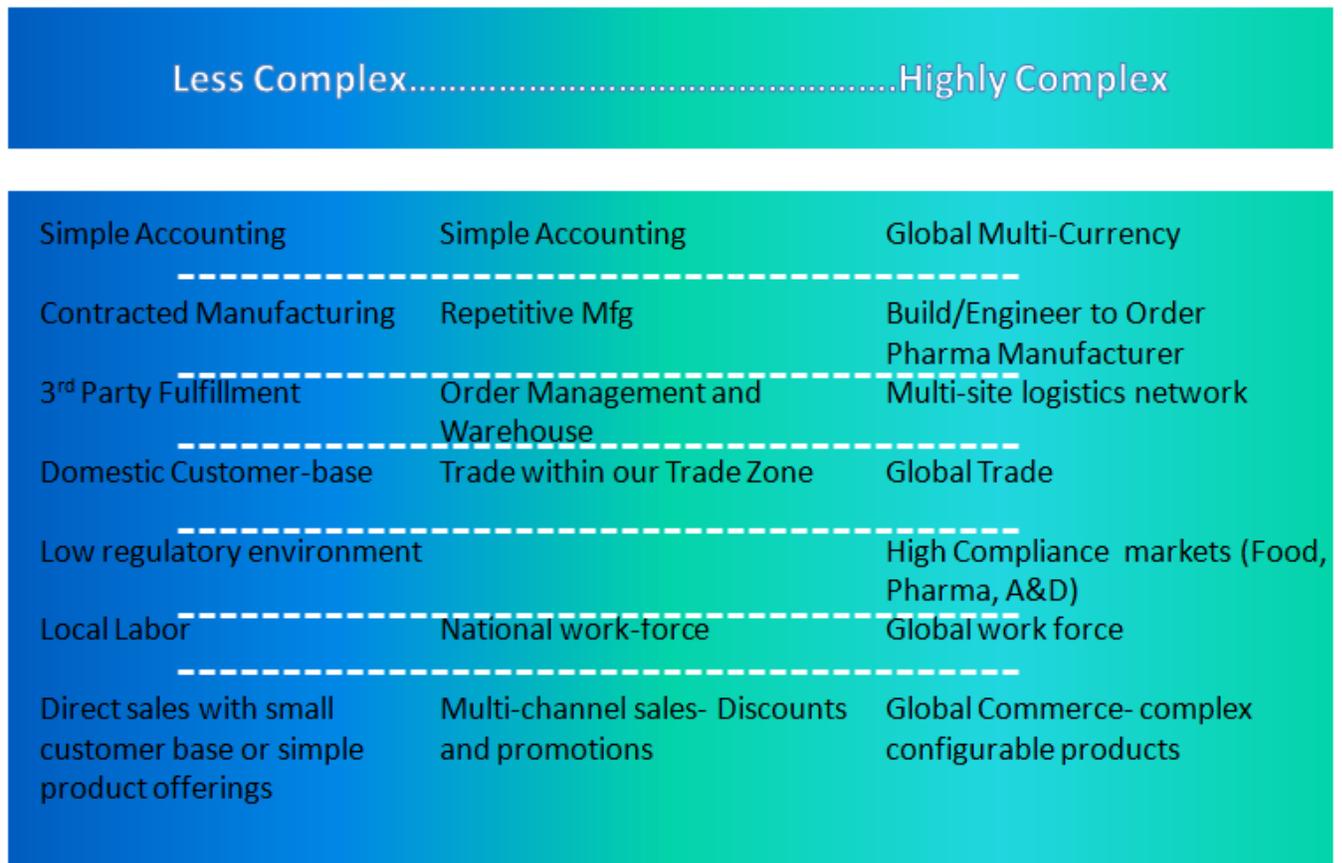
Less Complex..Highly Complex

Simple Accounting	Simple Accounting	Global Multi-Currency
Contracted Manufacturing	Repetitive Mfg	Build/Engineer to Order Pharma Manufacturer
3rd Party Fulfillment	Order Management and Warehouse	Multi-site logistics network
Domestic Customer-base	Trade within our Trade Zone	Global Trade
Low regulatory environment		High Compliance markets (Food, Pharma, A&D)
Local Labor	National work-force	Global work force
Direct sales with small customer base or simple product offerings	Multi-channel sales- Discounts and promotions	Global Commerce- complex configurable products

Figure 1: Business Complexity

Whether you are a small services company that has graduated from QuickBooks, or you just received that huge capital investment from an innovative joint venture to create a new high-tech nano-manufacturing facility or a new biotech research center, your needs are quite different. So understanding the velocity and volume of the business; what is most critical to managing the business and, therefore, must be invested in; as well as where growth and operations are likely to put pressure on the business, are all important to your thought process.

Following the crowd just doesn't make sense.
For example, when another business goes for deep ERP with a global financial module for multi-currencies, but your customers are just down the road, it is clear that your needs are quite different. Or using a Project Management and engineering software module for your manufacturing when you are a repetitive manufacturer may not be wise. On the other hand, if you are an engineering and construction business, that PM module may be a critical module for you. Of course, you may go the route of best-in-class software purchase just because of this issue: you need the best in the market to manage your core and are willing to deal with a few more software life cycle issues to get it. In fact, businesses such as distributors predominately do go that route—best of breed—for the logistics software (WMS and transportation) due to this very issue.

So, let's look at the issues of complexity and how ERPs support them.

ERP Complexity

We look at the complexity of a business across their 3Pe's™—Policy, Process, Performance (metrics) and Enablers (technology). We use the term enablers because, today, firms can utilize third-party services or cloud platforms to access technologies. Complexity in this case is a managed service provided by a third party. It can still be quite complex, although the complexity is outsourced.

As more policies or rules are attached to a process, software becomes more important in creating a successful transaction. Today, in fact, the plethora of compliance requirements thrust upon the enterprise—whether from trading partners, industries, or governments—is quite burdensome. The software should assure that your transaction and activities are in compliance.

Performance methods (assuring that manufacturing equipment is producing the exact measure, temperature, or time for the 'bake of product'); pricing; and financial management (whether the investment decision will meet your ROI goals) all should be automatic guides, embedded and enabled by the software.

As you can see, all this can get very complex. So let's look at various functional areas of the business.

Manufacturing

Manufacturing is still one of the most challenging operations to run. Its complexity can range from simply snapping plastic components together, to making toys, to building a Boeing Dreamliner.

The range of product complexity and manufacturing methods is extreme. At one end of the spectrum, (see Figure 2) the whole process can be outsourced, leaving all the manufacturing execution work to others. As we move up in complexity to repetitive manufacturing (items such as pens or cigarettes), once the manufacturing is set up, the same process is done over and over again. Of course each activity has nuances, but the underlying software required to operate this can be quite 'light.' Often there is no tracking or data collection of any kind during the process. Inventory in—finished goods out.

As we move into multi-stage products, whether discrete, process, or mixed-mode, the manufacturing systems begin to add complexity. Deep bills of materials, recipes, and control points at each stage in the manufacturing process are needed in the software. Changes in ingredients; machine settings; personal skills required to operate certain machines or access materials such as controlled substances or hazardous materials; and routing products from stage to stage, all need to be managed and included in the management system.

Regulated products have deep data management and reporting elements as well.

Less Complex...............................**Manufacturing**.............**Highly Complex**

Mode	Outsourced Mfg	Repetitive	Light Assembly	Process Mfg/ Blend and Batching	Build/ Engineer-to-order
What's Required	Demand/MPS	MPS	MRP	Recipe Management	Bill of Materials
					Constraint-based Scheduling
	Collaborative Plan	Replenishment Planning		Capacity Planning	Postponement
Integrates to	Contract Mgmt	Distribution	Sales/Order Mgmt	Costing/Volume Targets	Sales/Order Management
	Procurement	Purchase Orders - …..Often Pull/Replenishment from Suppliers………….			Design/PLM Systems
				Compliance	Project Management
					Labor Management Costing

Figure 2: Manufacturing Complexity

Layered on top of this is the planning: What is the actual product demand? What are the buffers for inventory and additional surge capacity in terms of people and equipment? And then we layer on the performance, financial decisions, and integration with the manufacturing process: What are the financial goals in terms of volumes, costs, profits and other performance targets that we expect from this process?

You see the point. Obviously, the software for these instances would be quite different, depending on the circumstances.

Manufacturing Industry Sectors' View of Complexity

Today, with so much outsourcing, businesses are often isolated from the complexity of the manufacturing process. But even in such circumstances, the complexity of the product and its supply chain is still a front and center concern. Figure 3 shows some of the major ERPs for the SMB and their manufacturing positioning.[3] But first, let's look at a few industry requirements:

- *Aerospace and Defense*—Each aircraft or ship is a custom-built product. Each has a unique and very complex bill of materials, and each needs lifetime tracking of all the parts that went into the final product. With aircraft this is the law, so record keeping must be linked to the parts catalogue, procurement, and manufacturing systems. Based on the design standard, each aircraft has its own design and project plan. Testing, quality, and certification are also essential.
- *Industrial and Construction*—Design specifications, project planning and management, and labor costing and management are part of each project. They all need to roll out into a cost-accounting and billing system that assures that each customer's project is on-time, on-budget, invoiced correctly, etc. Often in

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3. Note: This just highlights strengths in an industry. It does not mean that they may be a fit for your firm. That decision depends on what functions are to be automated.

large construction projects, logistics management systems unique to the construction industry are part of the application package.

- *Automotive*—Here, Build-to-Order is a major consideration. Though manufacturers do produce big lots of standard models, many customers are looking for customization. Integrating from dealers' ordering systems through to final delivery is a wonderful thing (when done well).
- *Pharmaceuticals*—Compliance, Compliance, Compliance! Besides the complexities of manufacturing and cold chain controls, this is a highly regulated industry. FDA and global trade requirements dominate. Many of the systems used in this industry are domain-leading categories such as laboratory systems or cold chain logistics systems. Maintenance and cleaning of equipment and facilities, as well as special labor-management modules, access control, etc., are all part of the manufacturing environment.
- *Food and Beverage*—similar to Pharmaceuticals, but with critical recipe management added. Recipes can change from day to day. And with food traceability compliance requirements, even small changes to a batch of cookies need to be recorded and managed for quality, and in case of recall.

Now contrast these industries with a light assembly facility, say, a toy assembly business. Making dolls is no child's play, but it is not as heavily regulated as the above mentioned industries, and, therefore, may not require the same type of ERP system. Inventory management is still important here. You need all the correct parts, so that the right and left arms and legs and proper clothes are ready for assembly. Bins of parts are released from the stock room to the bench or floor where the items are assembled.

Most environments like this will have an MRP system and keep track of order volumes, daily production numbers, and inventory. Often there are kanban bin systems. In China, at a contract manufacturer, this may be done on paper or spread sheets until the final cartons are loaded, counted, bar-coded and shipped. Often these firms also need Vendor Managed Inventory (VMI) to support their customer demand.

	BlueLink	Cincom	CDC	Infor	NetSuite	Plex	SYSPRO	Visibility	Description
Manufacturing Focus									
Production Planning and Scheduling	○	●	●	●	●	●	●	●	Master Planning, MRP, and Shop Floor Scheduling
MES/Shop Floor Execution	○	◔	●	●	●	●	●	●	Manufacturing data collection and control
Quality Management	○	●	●	●	●	●	◔	●	Data management and analysis across the Value Chain
Maintenance	○	○	●	●	●	●	○	●	Predictive Schedule and Maintenance for facility and equipment
PLM	○	●	●	●	●	●	●	●	Product Management, Product Life Cycle Management, Product Data Management, Development Collaboration, Project
	Mixed Mode Manufacturing	Food and Pharmaceutical	Process		Industrial Manufacturing	Mixed Mode Manufacturing	Engineer-to-Order		

Figure 3: Manufacturing Industry Segment—ERP Providers' Focus

Complexity in Sales and Marketing Models

Marketing, Sales, and Channels is a complex world of diverse relationships:

- Market Reach—through a myriad of marketing opportunities and marketing programs that include both direct and indirect communities: media, mobile channels, social networks, web directories, events, joint partner activities, as well as promotions with trading partners and retail channels.
- Sales/Customer Relationships Management—diversity in sales models, from B2B to web-based B2C models, which include complex modes of selling, often called multi-channel; also includes management of the sales professional, including goal setting and compensation models.
- Channels—a rich assortment of third-party partnerships and models of selling through them. Although some companies sell exclusively direct, the importance of channel automation cannot be overlooked.
- Service Management/Services—often performed by a rich network of distributors, third-party service experts, and often logistics companies. In addition, retailers such as Sears, Best Buy, Home Depot, Lowes and many others manage third-party networks and need warranty systems as well as dealer network management and logistics.

Today, the business is ever more impacted by these complex networks of trading partners, so a monolithic approach for ERP won't work.[4]

Sales and Marketing—Getting More Complex All the Time

As globalization and virtualization grow in strength, businesses cannot afford to ignore the many business opportunities and the challenges of engaging in trading partner relationships. From the first decision to engage in a partnership through a successful execution, the flow of real-time information to understand, manage, grow, and preserve market success is critical.

It All Begins with Marketing

Marketing today has become a technology and data-driven function, managed through a rich array of sources and information channels. Creativity may still be alive, but 'customer engagement metrics' from web sites, mobile devices and social media (analyzed for market tastes and trends), are the way to marketing executive's heart.

Opt-in numbers, audience, demographics, wallet size and loyalty metrics rule. Data and linking the data to the lifecycle of customer interest, promotions, and campaign success is so important, that many firms have given up the traditional marketing methods of old—TV advertising and Sunday circulars.[5] Marketing Automation has become a critical element, though strategies vary based on B2B vs. B2C businesses. (Read Marketing Automation—What It Is and What It Should Be.) Promotions are used to create traffic and attract new customers and to reward those loyal to the brand.

All this data is translated into demand plans for markets and products. For those who sell through retailer channels, the need for merchandising based on customer analytics such as demographics and specific clusters of customer groups is critical. That data is used to support enterprise activities ranging from product design to supply chain and sales.

Today, ERPs are in the early stages of understanding and adapting to this complex world (see Figure 4).

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4. In fact, some providers are trying to move away from an ERP corporate identity.
5. Soap operas were invented to market home cleaning supplies to housewives, using daytime TV commercials. Firms like P&G have cancelled this type of advertising. We now have retailers such as Michaels that only put coupons on the web, not in newspapers anymore.

	BlueLink	Cincom	CDC	Infor	NetSuite	Plex	SYSPRO	Visibility	Description
Sales and Marketing									
Marketing Automation	○	◑	◑	◑	◑	○	○	◑	Demand Generation, Analytics, Customer Engagement
CRM	●	◑	●	●	●	●	●	●	Customer Data Management
Ecommerce/Multi-channel Sales	◕	●	●	◕	●	◕	●	●	Web-based Customer Driven Order Management, Multi-Channel Architecture for multi-partner selling
Sales Force Management	◕	◕	●	●	●	◕	●	◕	Sales Force Lead Management and Compensation
Channel Partner Management	○	●	●	●	●	○	○	◔	Channel Marketing, Partnership Management
Order Administration Management	●	●	●	●	●	●	●	●	Ordering, Configuration, Administration and Credit Check, Order Promise Date, Integration with Shipping
Call Center Management	○	●	◕	◕	◑	○	◕	●	Telephony, Routing, Scheduling, Analytics, Integrates with Customer Data Base and other applications
Demand Forecasting	◕	●	◕	●	◔	◕	●	●	Sales Product Forecasting
Integration with POS Systems	◕	●	○	○	●	○	◕	○	Captive or 3rd Party Integration and analysis of POS data
Merchandising and Assortment Planning	○	○	○	○	◕	○	○	○	Strategic and Micro-Merchandising, Assortment to Allocation
Trade Promotion Management	○	○	●	○	◕	○	●	◔	Budgeting, Deal Management, Tracking and Settlement, Analytics
			eCommerce Leader	eCommerce Leader					

Figure 4: Sales and Market Support in ERP

Sales/Customer Relationship Management

This is a mature area for the ERP market.[6] In fact, a few ERP firms got their start as ecommerce and sales force automation firms. Or they acquired CRM leaders and incorporated their solutions into their own offerings.[7]

Here, complexity centers on dealing with multi-channel sales, and many firms still have not come to terms with the challenges this poses. Multi-channel sales require firms to have a high level of integration with their trading partners. They also require complex fulfillment capabilities to assure that everything: order taking, administration, successful delivery, and installation of products (often done by third parties) works together.

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6. NetSuite
7. Oracle, thus the ongoing war between Larry Ellison, founder of Oracle, and Marc Benioff of Salesforce.com

Further, the special circumstances created by multi-channel pose challenges in sales, as prospects shop the channels and do find variety in the offerings, add-ons, promotions, and price. Sales transactions and compensation based on channels, and various sales campaigns can challenge a firm's internal sales management ability to deal with all the complexity.

Sales force automation has gone social and mobile, integrating sales professionals with all the data about their customers: personal sales information, meetings management, and sales administration, as well as post-sale activities such as customer satisfaction surveys and new sales opportunities such as upgrades and extensions. Sales is a very human-to-human business function and technology needs to reflect the communication style— mobile and social—that is the standard M.O. of the sales professional.

Channels

Today, interconnectivity with channels traverses marketing, sales, supply chain, service management, and human resource training programs. Underpinning these outbound processes are revenue management and pricing. Most firms have growing networks of channel partners and along with that, more complex relationships that potentially encompass the total sales life cycle—product, packaging, pricing, markets served, and aftermarket. In addition, well run partnership programs include sales and service training, visibility to supply chain operations/inventory management, and special compensation agreements.

Technology that supports these various functions includes both web-partner automation solutions (read about marketing and partner automation systems) as well as the ERP sales inventory systems. Although much technology exists in these two platforms, the implementation rate of marketing automation is low (though its growth rate is high). But as we talk to users, we find that they are increasingly turning to channels for sales growth (read about sales and channel priorities for 2011 here). Ultimately, that will lead to greater usage of channel and marketing technologies.

The Channel View
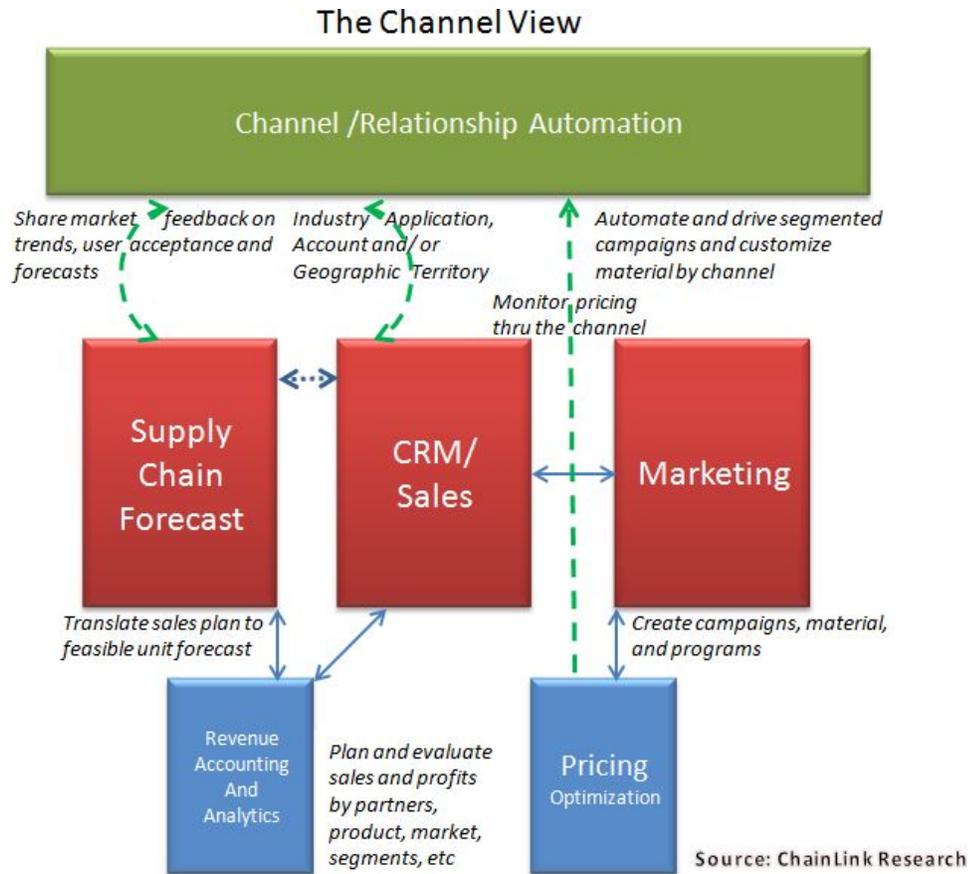
Figure 5: Channel Model

Read the full article on Collaborating with Channels.

Service Management and the Supply Chain

Successful service management today incorporates integration between multiple enterprises and customer processes, but often is outsourced to distributors or third-party service partners. Creating a physical and data-optimized set of integrated processes (often called Total Life Cycle Management or Service Life Cycle Management), in which firms think about service management from the point of view of supply chain design, product design, as well as customer service execution is a substantial challenge. Even enterprises that have been working internally to integrate this life cycle have big data and workflow problems, which are exacerbated by outsourcing.
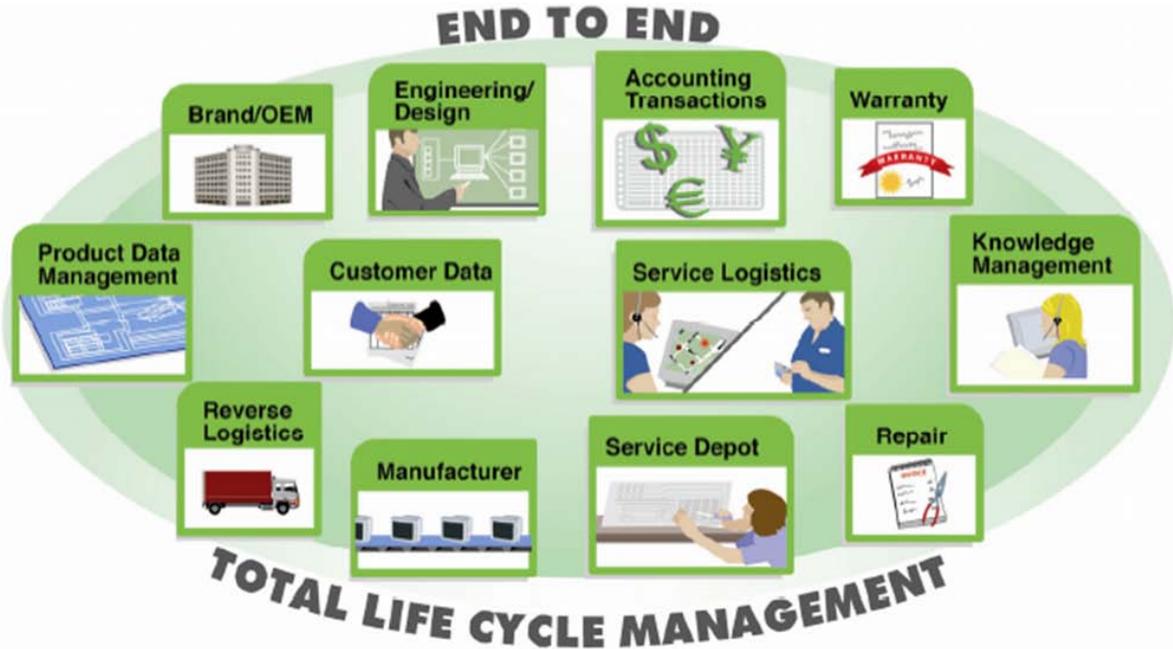
Figure 6: Service Integration and Execution

Service execution is all about optimizing the service experience. It includes inventory planning, logistics, customer-direct ordering of consumables, service-professional labor/skills management, and call center performance as well as employee decorum/customer satisfaction.

To be successful, integration across third-party services and enterprise processes is essential. Here again, ERP may have call centers and great enterprise inventory, but building a service supply network might be out of reach for some ERPs today. We will talk more about that topic in future chapters.

Partnering across the Supply chain

Success in market/customer-facing processes requires cohesive cross-functional data and enterprise workflow as well as successful integration with a great variety of partner systems. Within the enterprise, a data-centric approach is required. Externalized processes increasingly are managed through third-party platforms. Enterprise systems need a way to map to these platform providers to ensure the data synchronization required to manage, in real-time, moment-by-moment customer interactions.

End-users making ERP choices need to take these critical processes into account and determine what is most critical for their business. In addition, they need to determine which providers will offer not only great internal technology for the enterprise, but also best provide the bridges required to integrate to third-party platforms such as EDI, or Marketing relationship/web partners, or other third-party services. In the past, many firms thought that supply chain—the supply or procurement side—was the sole domain for these platforms, but going global and going channel means leveraging sales and market platforms like never before. So now, third-party or SaaS platform integration is also on the sell-side, not just the supply-side. Your systems need to provide you with these 21st century capabilities.

Conclusion on Complexity

One consideration which requires a moment of honesty for organizations when selecting software is whether they will ever use some of the higher order software in their own environments. There are many examples of companies that put together large requirement wish lists, but fail to implement all the modules. Buyer excitement can lead to 'more is better' during the evaluation phase, but it can add cost and complexity and bring a project in late, later and latest! Post-implementation users grumble about data entry without a payback. "Why do we have those fields if we don't use them in managing the business?" is often high on end-users' dissatisfaction list. And then software is not used or work-arounds are done. An un-automated business process may be clumsy, but the rigors and requirements of a system may not be appropriate or all cultures.

Contrarily, you might grow into using the more advanced, complex capability, so make sure that your purchase is not an all or nothing deal. Initially,[8] if you only need a function or two within the module, make sure you can implement that portion[9] without having to take on a large scale implementation. Many cloud-based ERPs have tackled this issue by single instance software: they upgrade and you get it all and can implement new modules easily, minimizing the user activities required to 'go live.'

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8 We have been shocked by some big ticket software deals that lack future upgrades built in. Buyer be savvy!
9 New software tends to allow this, since the architectures are based more on Service Oriented Architecture (SOA).

ERP Providers for the SMB

So who are the providers we have been mentioning in this report? Today, there is quite a range of ERP providers, so we will dissect their positioning. Figure 7 shows a list of the providers in this space. Some providers are differentiated by small vs. medium businesses; we will look at how they specialize by industry and other variables. This table covers on-premise and cloud solutions, as well as having a business complexity focus. As we discussed in earlier articles, it's imperative that you are clear about the most complex and critical aspects to be automated within your business.

ERP Provider	Highlights
BlueLink	Growing into ERP? Then BlueLink might be just the solution provider for you. With its roots in accounting for the emerging enterprise, BlueLink has taken the logical path into inventory management and distribution. BlueLink can support a growth strategy by getting you started with an enterprise financial solution to which you can add modules as you grow.
CDC	With a strong suite in the process industries, CDC has a strong globalization focus in their solutions. CDC boasts a global customer base and supports highly regulated processes for industries such as Food and Beverage, Pharmaceuticals, and Chemical production, through their supply chains, to include traceability, importing and distribution.
Cincom	With a long history of serving the enterprise, Cincom is one of the longest standing independent ERP players out there. Years at the job means lots of code to support business processes. Still, Cincom has invested steadily in their products over the years. Cincom can support the mid-size enterprise, but has many large customers.
Infor/Epicor	Infor is the shopping mall for ERP, but their purchase of Epicor this year gives them a cloud solution, at last, for the SMB. Infor's portfolio includes Lawson, Baan, SSA, Ask products, Adage, ERP SyteLine, and more, as well as many functional special solutions in asset tracking, supply chain, etc. Infor positions their ERP portfolio according to company function and size, for example: ERP Visual for 25 to 1,000 employees or ERP SyteLine for 75 to 5,000 employees.
Harris Data	A unique approach to the core ERP system, Harris Data's ERP is customer-centric. Unlike most other ERP that are finance- and accounting-centric, Harris Data has the enterprise data model centered on the customer and has all the connectivity to customer-support processes. Beyond their technology, their own corporate culture reflects this philosophy. They have remarkable customer retention stats and evaluate their own performance based on how successful they are at achieving the customer's goals. Unlike other on-premise ERP's, they charge extremely low or no annual service fees, and provide perpetual upgrades as new releases come out.
Microsoft	Microsoft Dynamics AX and Dynamics NA. AX has its roots in Great Plains software—strong accounting/distribution-centric, with NAV more focused on manufacturing. With the Microsoft development engine, integration to MS products, and a strong partner network, MS continues to be a lead player in the SMB sector.
NetSuite	Emerging from its CRM roots, NetSuite, a cloud solution, offers strong capabilities for distribution-centric businesses. But beyond the S and M, NetSuite can boast many top tier Fortune 1000 customers in its portfolio. Leveraging their cloud solution, NetSuite has a strong partner network of cloud-based solutions partners in mobility, supply chain, services, etc. NetSuite was the first cloud ERP, and has learned a lot about supporting real time/uptime across the globe for mid-size businesses. Today, they boast the largest install base of cloud ERP customers. NetSuite has a global partner implementation and consulting base. (More on NetSuite here.)

Plex Systems	Don't let the SMB category dissuade you if you are a large manufacturer. Plex is a deeply focused manufacturing solution with a stellar cloud offering for L, M, and S players. Strong manufacturing-process-centricity allows Plex to handle multi-stage manufacturing. Plex also has a strong customer social network and advisory group for peer-to-peer sharing and development of solutions.
SAP	Though known for the mega-enterprise solution, SAP has invested heavily and is gaining ground with its solutions in the mid-market. SAP Business One (on-premise), Business By Design (cloud/on-demand) and SAP All-In-One, (more targeted at mid-size, but growing enterprises who need complexity w/o complex implementation, i.e. *R3*). SAP, like Infor, has targeted these solutions based on company size and growth. As you grow, you can add-in without purchasing a totally new ERP.
Sage	SAGE Group is one of the largest software firms in the world. A portfolio of several ERP solutions, with focus. Sage Accpac ERP is a multi-industry package aimed at the small to mid-size enterprise; whereas their Sage ERP X3 is for mid- to large-size firms. Sage MAS90, another product, is targeted for more manufacturing-centric businesses.
SYSPRO	With global implementation partners, Syspro can handle highly complex business challenges, yet retain the ease of use and implementation required by the SMB market. Syspro's customers are in manufacturing—both process and discrete, and Syspro supports their global business management needs with a strong global financial model. (See more on Syspro here.)
UNIT4	With solutions for the mid-market and up, UNIT4 recently announced their cloud solutions. One of the major complaints in post-implementation of ERP's is the challenge to grow and change the business. UNIT4 focuses on assuring that their customers can deal with business process change. (See more on UNIT4 here.)
Visibility	Visibility's focus is on the build/engineer-to-order business: industries such as Aerospace, Industrial, Engineering and Construction as well as custom manufacturing, for example. These businesses have a strong need to support complex, and often, one-of-a-kind installations that have highly skilled and unique work assignments. Visibility's customers are often not small or mid-size. But Visibility can assure ease of growth, as smaller firms need to support more complexity in their business.

Figure 7: ERPs for the SMBs—Source ChainLink Research

As you can see in Figure 7, we are immediately confronted with a daunting list of players. It's critical to understand that the larger firms like Sage, SAP, and Infor (multi-product enterprise providers) have multiple product offerings that are either industry or company-size oriented solutions. Some of these also are designed for growth orientation, so as you grow, you don't have to buy a new package. NetSuite, Plex and SAP's All-in-One are just some examples of these. So for example, a small, less complex business might adopt SAP BusinessOne; whereas a business destined for growth would purchase All-in-One and add functions as they grew. Plex and NetSuite provide this same concept without the purchasing confusion, we think.[10] Highly configurable, multi-tenant architectures allow users to adopt business processes as needed without guessing which software package might be the one they need.

But there are other considerations, so let's work on narrowing down[11] our choices a bit.

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10. And, I am sure, have more efficient development teams at lower cost.
11. In fairness to the reader, we included a complete market listing. But, since some providers declined to participate in our research, we will just cover the ones who submitted briefings and analytics for this report. For more on ERP providers you can go to SupplyTech's ERP section.

Cloud vs. On-Premise

SaaS ERP has been around since the launch of NetSuite in 1998. But in the intervening decade a few things have occurred to lend importance to the cloud. First, although the internet was a 'hot concept,' it was considered more a vehicle for trading partner integration and commerce, not for core enterprise management. And that was probably OK then, since we did not have the internet connectivity and global performance that we have today. So, number one is ubiquitous connectivity to assure that critical enterprise functions can run over the internet.

Second are budgets for IT projects of this nature. We have seen a steady decline in IT budgets for certain classes of software. Previously, if mega enterprises with big IT budgets spent ten million or more on software, it did not seem critical. Today, we have continued downward pressure on the budget, and cloud economics are quite compelling. So economics is our second factor. (You can read about cloud economics here.)

Third is the market itself. Software players like to chase the big enterprise deals, especially in their early years. If you spend tens of millions developing your product, naturally, you think about recovering those costs through large deals with the largest companies. As time passes, saturation occurs in the Fortune 10000, so the mid-market is where everyone chases. And that has been the course of ERP's history for Oracle and SAP, surely. But many of our ERPs for the SMB started out as solutions for this market. Now, they have more competition. However, this competition has challenged the players to think innovatively about how the get SMB up and running. And that brings us back to cloud.

So now we have about a dozen cloud-based solutions on entering the market. Even big ERP players are creating cloud offerings.

	BlueLink	Cincom	CDC	Harris Data	Infor	NetSuite	Plex	Syspro	Visibility
Platform/Delivery Model									
On Premise/license	yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Hosted/license	yes	No	Yes	No	Yes	No	No	Yes	Yes
SaaS - Single tenant	yes	No	Yes	Yes	Yes	No	No	Yes	Yes
SaaS - Multi-tenant/single instance	No	No	Yes	No	No	Yes	Yes	Yes	Yes
Managed Services	No	No	Yes	No	Yes	No	Yes	No	Yes
Business Process Outsourcing	No	No	Yes	No	No	No	No	Yes	Yes

Figure 8: ERP Cloud vs. On-Premise Offering

It is important to understand that not all 'cloud' is the same. Many solution providers now host your proprietary solution for you, which is a bit different than the multi-tenant/single instance of other providers. (You can read all about cloud benefits in this cloud series and about alternative cloud architectures and approaches in the series, As-a-Service Framework). Managed service will also take on further IT activities for their customers. In Figure 8, we show several approaches for these platforms and who provides them.

Business process outsourcing will go further, assuming basic business functions and participating in team work, often at the client site. (You can read about managed and co-managed processes here.) As you can see, few technology companies have ventured into this business process realm, though these services are frequently available from consultant and data analytics companies.

Integration and Communications - No Enterprise Is an Island

Besides handling basic critical business functions such as Manufacturing, Sales and Finance, inter-enterprise communication must be included in the solution. Whether banking transactions, payment, or supply chain, communications should be fluid and seamless Communication such as device integration to mobile and RFID, or business-to-business communication in workflow management and EDI (and Secure File Transfers) must be well integrated with the basic enterprise processes. Though, often, these features are developed by partners of the ERP companies or purchased separately, the methods for integration should be seamless and easily deployable.

In addition, users are often forced to buy separate analytics and reporting packages and bolt these into the enterprise. There may be a good reason for a standalone reporting system in organizations that have multiple software packages, but many SMBs rely on one ERP provider. In this case, reporting and analytics should be included in the solution, rather than driving users to be Excel specialists along with doing their other job.

	BlueLink	Cincom	CDC	Infor	NetSuite	Plex	SYSPRO	Visibility	Description
Communications									
Directed workflow and messaging	◐	●	●	●	●	●	●	●	Functions, user-to-user, as well as alerts, email, documents, and directed work place systems such as Warehouse and Stockrooms
Mobile communications	○	○	●	●	●	●	●	●	Mobile applications
EDI	●	◐	●	●	●	●	●	◐	Full compliance with EDI used by customers and trading partners
Device Provisioning and Management	○	○	●	●	●	◐	●	●	Management of device security, software updates, etc
RFID	○	○	●	○	◑	◑	●	●	Support for RFID for supplier and customers and used within warehouse operations
Bar-coding	●	◐	●	●	◑	●	●	●	Comply with appropriate industry data/labeling standards
Performance and productivity	◐	●	●	◔	●	●	◔	●	Analysis and reporting

Figure 9: Workflow and Integration—Source ChainLink

Industry Focus

The technology market is very much focused on serving particular industries, and companies build their market share by being experts with deeper functionality in these verticals. Industry focus may be the single biggest factor in selecting a solutions company with which to work.

You can see in Figure 10 the distinction, by industry focus, of the solution providers. Take CDC software vs. Visibility as an example. CDC is strong in process areas such as chemical and pharmaceuticals; whereas Visibility's strength is in Aerospace, Engineering and Construction—very different processes, products, and financial models. Therefore, the software has to look very different. One of the most important elements in selecting a solution is this industry focus. Before you proceed with a provider, you should be clear about their industry expertise.
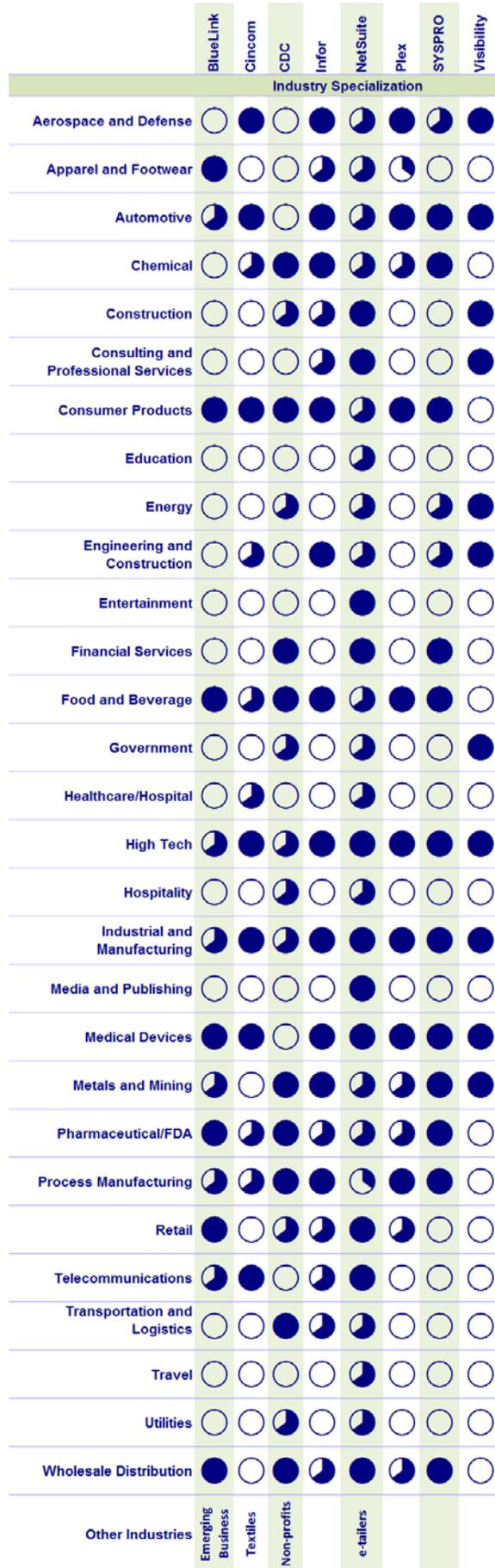
Industry Specialization

Industry	BlueLink	Cincom	CDC	Infor	NetSuite	Plex	SYSPRO	Visibility
Aerospace and Defense	○	●	○	●	◐	●	◐	●
Apparel and Footwear	●	○	○	◔	◐	◔	○	○
Automotive	◐	●	○	●	◐	●	●	●
Chemical	○	◐	●	●	◐	◐	●	○
Construction	○	○	◐	◔	●	○	○	●
Consulting and Professional Services	○	○	○	◔	●	○	○	●
Consumer Products	●	●	●	●	◐	●	●	○
Education	○	○	○	○	◐	○	○	○
Energy	○	○	◐	○	◐	○	◐	●
Engineering and Construction	○	◐	◐	●	◐	○	◐	●
Entertainment	○	○	○	○	●	○	○	○
Financial Services	○	○	●	○	●	○	●	○
Food and Beverage	●	◐	●	●	◐	●	●	○
Government	○	○	◐	◔	◐	○	○	●
Healthcare/Hospital	○	◐	◐	○	◐	○	○	○
High Tech	◐	●	◐	●	●	●	●	●
Hospitality	○	○	◐	◔	◐	○	○	○
Industrial and Manufacturing	◐	●	◐	●	●	●	●	●
Media and Publishing	○	○	○	○	●	○	○	○
Medical Devices	●	●	○	●	●	●	●	●
Metals and Mining	◐	○	●	●	◐	◐	●	●
Pharmaceutical/FDA	●	◐	●	●	◐	◐	●	○
Process Manufacturing	◐	◐	●	●	◕	●	●	○
Retail	●	○	◐	◐	●	◐	○	○
Telecommunications	◐	●	○	◐	●	○	○	○
Transportation and Logistics	○	○	●	◔	◐	○	○	○
Travel	○	○	○	○	◐	○	○	○
Utilities	○	○	◐	○	◐	○	○	○
Wholesale Distribution	●	○	●	◐	●	◐	●	○
Other Industries	Emerging Business	Textiles	Non-profits		e-tailers			

Figure 10: Industry Focus of ERPs—Source ChainLink Research

Architecture Makes It All Scale

It is important to note that in spite of the marketing hype (which is designed to impress you with what these solution providers understand about your business and use cases), these companies fundamentally define themselves as technology providers. And the core principles by which they develop the code, databases, and connectivity makes a huge difference in their ability keep up with industry changes. If they make poor choices in the foundation, the price will be paid later with lack of flexibility in change management. Poor design limits the ability for cross-functional and inter-enterprise communication, as well as data management. Over time this affects the cost of development and, therefore, the service charges or other costs such as major, disruptive upgrades of the software package.

Buyers of ERP today should look for the newer foundations: Service Oriented Architecture for flexible, modular approaches for on-premise software; and web 2.0 capabilities for cloud versions. Basically, software whose foundation/code base is a decade or two old may be lacking in resilience. However, most software players have significantly addressed their code base.

SaaS companies relieve the purchaser's burden of needing to know too much about the technology, to some degree; however, they do not totally absolve you from paying attention. Ultimately, the configurability and flexibility required to support your business growth are embedded in the modern technology approaches. These make a difference in the long term software and support costs, as well as time and effort to upgrade. And they make a difference in the solution provider's ability to produce further enhancements.

This leads us into our final section about some methods for approaching the selection process.

Selecting an ERP—Beyond Emotions

Many of the core capabilities of the ERP have become non-differentiating due to the fact that 'everybody's got that' function. However, as you have seen above, these companies always have some important, distinctive traits (that made it worthy to create this report).

We recommend users evaluate these solutions, therefore, on the following strategic considerations discussed in the report:

1. *Core*—**The** core of your business: distribution, manufacturing, publishing or construction, for example, needs to be considered. As mentioned, often the enterprise will turn to a best-in-class solution provider for this and use their ERP for financial management. (This points to the value of the industry, since many specific industry standards and semantics, and trading partner enablement will be embedded in the industry-specific solution.)
2. *Industry*—Critical understanding of the challenges in your sector will mean, over time, that the solutions provider will build needed capabilities specific to your needs.
3. *Functional depth*—Certain key functions may need more depth. For example, if you are an international company you will need multi-currency in your financial systems, or a distributor warehouse management and EDI.
4. *Delivery Architecture*—On-premise or Cloud? It's a critical decision. And beyond that, examine the type of approach used within the technology provider's development standards. It should provide the needed flexibly and ease of implementing future enhancements.
5. The Company and Pricing—What is their customer-focused philosophy? Today, the cost of on-going service and maintenance is critical. Many On-Demand ERPs do not charge maintenance[12] within the contract period. Price, of course, would be topmost in mind.

So, don't look solely at the rating charts above.   Look at your own strategic concerns. In Figure 10, you can see an example from one of our client engagements. They decided on four strategic priorities and then the conversation narrowed the choice. They wanted the industry expertise, but in the cloud, so that ultimately drove their choice here to vendor X, though the others had a longer list of functionality.
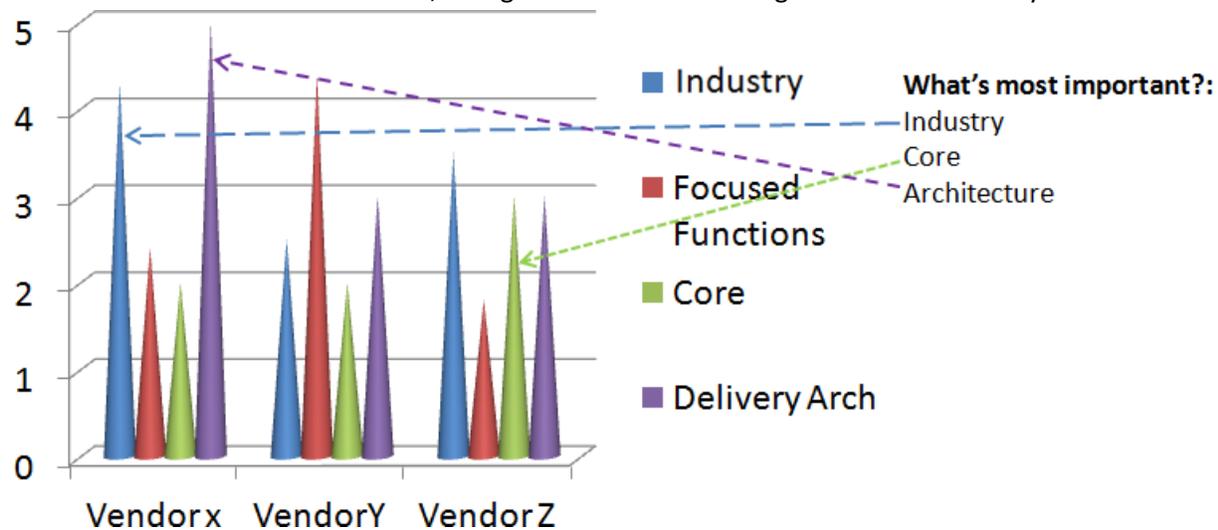

Figure 11: Strategic Priorities Example

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12. I strongly encourage you to read Cloud Economics on this topic: The 'total cost to support' for the solutions provider drives lower total cost of ownership for the enterprise. In addition, they may not charge any maintenance fees for the life of the contract.

Don't misunderstand, we do recommend users create a template. (We can share the one we used throughout this report.[13]) However, we don't recommend that you rely solely on the functional rating-sheet scores and use that as the final arbiter of your decision. You can get caught up in too many details and lose the big picture.

We have used this method—strategic considerations—as a way to augment the raw scoring approach. The idea is to conduct a different type of discussion within the evaluation and decision team.

How it works

In essence, this is a weighting of the key issues. Within the functional and business requirements, certain issues will become more important. The scores in these areas get elevated.
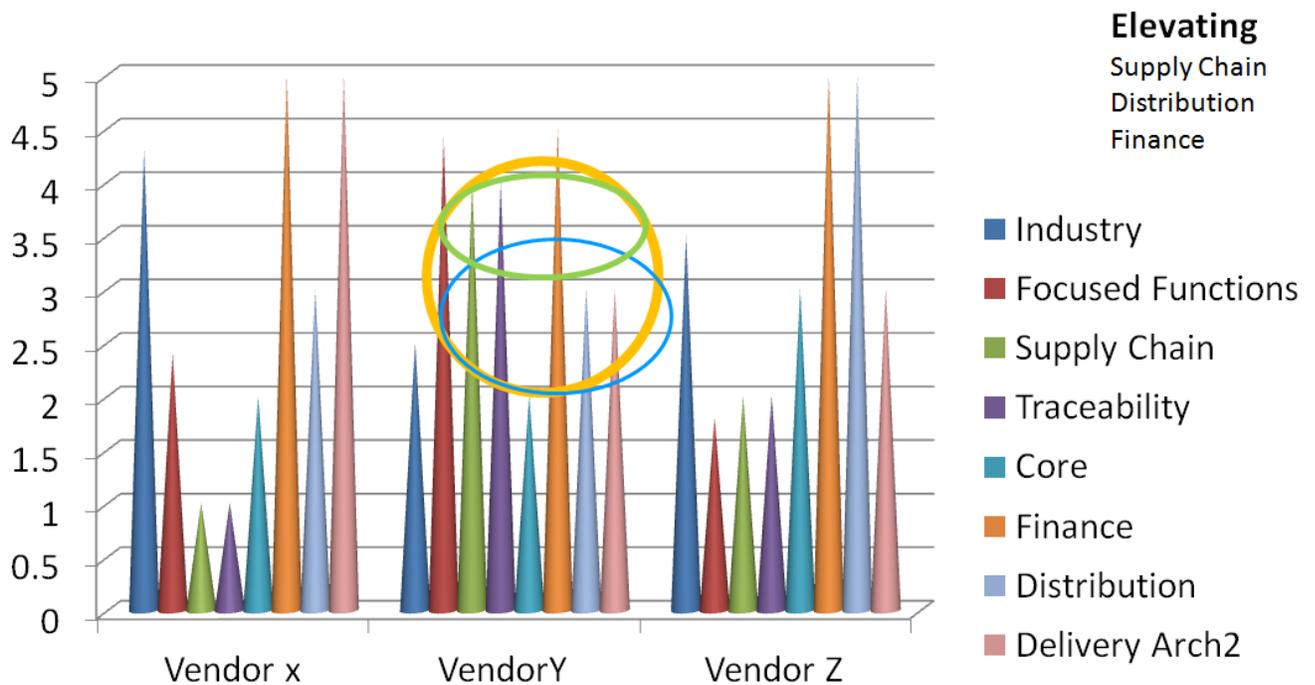

Figure 12: Strategic Priorities

Figure 11 is another example with more detail than Figure 10. This client needed to elevate a few core and functional items. Their key areas of concern are isolated and are easier to understand than you might think at first glance. Here, the supply chain folks naturally gravitated to the green on this chart. And finance, the gold. In this example, though, Vendor X and Z had more of what finance wanted, and Vendor Z had Distribution. So they decided on the compromise solution, Vendor Y, since it had, based on the final priority, the best position.

No matter what your approach, you will find these cross-functional decisions will be all about compromise. After all, it's an enterprise solution—not just a functional one.

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13. Send an email to info@clresearch.com and request the ERP Evaluation Template.

Conclusion: Socrates had it Right

So what technology strategy is right for you? To answer that question, several fundamental questions need to be answered. Before thinking about that ERP purchase, think about how you would characterize your business. For instance:

1. Industry—What industry are you in?
2. Regulation and Compliance—Is your business part of a regulated industry such as Aerospace, Life Sciences, etc?
3. Business Maturity—Where are you in your business maturity? Start-up, growth, going global?
4. Globalization—If you are going global, what is your need for multi-currency accounting, global trade document/import export management?
5. Suppliers—Are they global? How do they get financed? Do you have a direct and critical, consistent need for information sharing and visibility?
6. Growth rate—What is the pace of your growth? Some firms want to stick to a modest IT budget, but many high-growth businesses will allocate more funding to IT and look to scale as they grow.
7. Automation of Business Processes—What business processes will be automated? How central are they to business success? How complex are those processes?
8. Workforce Management—Is your work force centralized or mobile? What kind of skills management is required to support the work?
9. Outsourcing—What will be outsourced and, therefore, operated by others? What kind of integration and data sharing is required between your firm and your service provider?
10. Channel management—Do you distribute, sell, or service through channel partners? If so, how reliant are you on your partner for shared data? What kind of financial and sales activities do you share? Inventory, transportation, trade promotion management, sales agreements and commissions, and other agreements can all be part of the complex set of relationships.
11. And so much more….

The biggest errors companies make, even after countless warnings, are two-fold: They fail to take into account their organization's culture and do not dedicate enough time to decide and implement. No doubt we had infatuations when we were young. And our parents told us to take our time. For many that proved to be sage advice. ERP is likewise. Promises of quick implementations are interesting. They *may* mean a better architecture (or an over eager sales person). But your major consideration should be making the *right* solution choice.

This "who am I?" is fundamental to a successful ERP choice. These systems are designed for *your business operations*—your policies, processes and industry. Answering these questions well will take you half way to selecting your ERP wisely.

References

Perspective in the Cloud—http://www.chainlinkresearch.com/cloud.cfm

[ERP Series](#) from ChainLink

A good source of discussion for ERP for the SMB is the LinkedIn group so named [ERP for the SMB.](#)

Contacts for the all the companies mentioned are embedded/hyperlinked in Figure 7.

To receive the ERP Evaluation chart used for this report, contact: [Info@clresearch.com.](#)

719 Washington St., Suite 144

Newton, MA 02458

617-762-4040

www.ChainLinkResearch.com