ERP Selection: The Lifeblood of an Organization

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Keywords: ERP, Enterprise Resource Planning, Small business, SME, Change Management.

What ERP solution best meets the needs of our current business practices and can serve as the catalyst to propel our organization forward? Dave Johnson pondered this question as he watched the setting sun slowly disappear over the horizon from his nearly barren but spacious office. He had just received the final quote from the last of the finalist vendors. All of the data had been uploaded and input into the spreadsheet before him and seemed to stare back as if beckoning for an answer.

Johnson was the recently hired Vice President of Operations at International Communication Services (ICS). He was specifically recruited to ICS with the mandate to implement change on a large scale. The selection of a new ERP system was critical; it would be the lifeblood of the "new and improved" ICS.

The options came down to ERP vendors that each excelled in pivotal but fundamentally different ways from one another. Epicor was created specifically for manufacturing and was in use at a sister company. Infor's advantage was in project management and had a friendly, easy to use interface. Deltek had the edge in financial reporting and was currently in use at the corporate office. What solution was best for ICS? The recommendations of the super users from across the corporation, which included representatives from manufacturing, finance, program management, and quality assurance among others had been carefully tabulated, measured and scored. All that remained was Johnson's final recommendation meeting with Richard Green, President of ICS, scheduled for 8am the next morning. As he turned off the lights in his office, he couldn't help but to take one last forlorn look at his now black computer screen and softly whisper to himself, "Did we get it right".

DAVE JOHNSON

Dave Johnson's experience as a change agent included positions of increasing responsibility across a virtual who's who in the in the aerospace and defense industry. His most recent stop was Director of Manufacturing for L3 Communications where he had led the Operations team on just this type of journey. Johnson was a leader that had "grown up" in the Operations role serving in virtually every job in the function, which meant that he truly understood the trials and tribulations of those that he led. His educational background was in computer science, and he had been the architect of the home grown ERP system that was implemented at L3 during his tenure there. The compilation of his extensive experience across his nearly 30 year career, his technical expertise, and his deep desire to make an impact made Johnson the right man for the job.

INTERNATIONAL COMMUNICATION SERVICES

International Communication Services, founded in 1965 as Communication Laboratories, has spent over 40 years designing and implementing cutting-edge solutions for the toughest communications challenges in the world. In addition to the U.S. military, ICS's customers include foreign governments and militaries across the globe. Additionally, ICS provides remote communication solutions to the commercial sector, including some of the world's largest energy companies, such as Royal Dutch Shell, Petronas, and PEMEX. ICS is a wholly owned subsidiary of Communications Unlimited and is the world leader in digital communication systems. These advanced communication systems use elements (such as water, vapor, dust or atmospheric variations) in the lowest level of the atmosphere to scatter a small portion of transmitted energy forward in a predictable manner. A point to point link that requires a terminal on each end and is capable of both transmitting and receiving signals is used to create a reliable, compact, and low cost communication solution. These systems are an ideal alternative to expensive satellite communication and can be deployed in the harshest of environments.

ICS had just completed the largest contract in its nearly 50 year history. The increase in scale as a result of the contract nearly crippled the organization. Specifically, the internal business processes that governed how work was accomplished were thought to be lacking by the senior management team. It was commonly felt inside of ICS that the lack of execution fell at the feet of the Operations organization. Johnson had been recruited to fix that problem. The next large program for ICS was scheduled to begin in about 6 months. The ERP system that was selected would be the backbone of the product realization process and would be instrumental to the future growth of the organization.

WHAT IS ERP?

An Enterprise Resource Planning (ERP) system is a tool used to streamline and automate a business. Traditionally, functions in an organization (such as assembly and inventory) operated in silos, which created barriers in communication and execution. The lack of transparency of each individual process and how it related to the next process in the value stream created waste in the system and ultimately to inefficiencies and increased costs. ERP systems were first developed in the 1960-s in manufacturing environments to better manage inventories. The next generation of ERP systems occurred in the 1970-s and 80-s in what was called Material Resource Planning (MRP); these systems were primarily focused on planning the material requirements for a particular manufacturing product. MRP systems evolved in the 1990-s, into organizational ERP systems that were used to combine all of the processes of a company or business including sales, order management, purchasing, inventory, assembly, quality assurance, distribution and customer relationship management to better manage business activities. Since the 1990s there has been an explosion in the number of firms using ERP-like systems to garner intelligence about their business practices in an effort to make themselves more competitive in the marketplace. ERP systems have the potential to reduce inventories, reduce time and resources, and increase the reaction time for a company to better respond to market changes. The downside of these systems is the relatively high cost of the software and

associated systems, in addition to the time or resources required to implement the system. Depending on the size of the company, the cost can range anywhere from a couple of hundred thousand dollars to several million. Additionally, depending on the resources allocated to the implementation and training for the system, the time to completely implement an ERP system can be anywhere from several months to two or more years.

The major vendors of ERP systems are SAP, Oracle and Microsoft. Those systems traditionally targeted large businesses that saw the promise and competitive advantage of integrating all of the disparate processes needed to successfully compete on a large scale. In the mid-2000-s, there was a movement to provide small to mid-sized businesses with similar but reduced capabilities at a lesser cost. This phenomenon occurred for two reasons. First, to create a growth market for sluggish ERP sales due to the recession. Secondly, and more importantly, the large organizations who were the original adopters of ERP were just completing their own ERP implementations and were looking for new avenues of competitive advantage. One potential avenue included reaching down into the supply chain and partnering with trusted vendors to streamline and eventually integrate the two ERP systems for seamless communication and agility.

ERP systems are versatile tools that are available in two primary options with a potential third option just beginning to emerge. The first option is to have a generalist system that combines the major functions of most businesses. For instance, accounting and human resources are considered vital by most organizations and are included in nearly all ERP generalist packages.

The second option would be for organizations that have niche markets and only need a limited scope ERP system. Both of these systems require software and hardware that is purchased and implemented onsite for an organization. Recently, there has been an emergence of web based hosted solutions. These ERP systems are owned by the vendor and are treated like a service that is provided to a customer. The advantage is the lower costs to implement and maintain such a system. The disadvantage is that the system is not owned by the company and therefore, ironically, communication and response could be an issue.

The evaluation of the success or failure of an ERP system can be tricky at best. It is directly related to the amount of time and effort put into the upfront planning task. Financial measures that provide concrete numbers such as return on investment (ROI) or total cost of ownership (TOC) are commonly used. Subjective measures such as improved customer satisfaction or more visibility and control of internal processes, both of which can be hard to quantify at times, are also commonly used.

ERP systems specifically designed for small businesses was exactly the solution ICS was looking for when they initially made the plan to transition to these packages nearly eight years ago. The name of the software package that will forever live in infamy at ICS is Aptean Relevant.

APTEAN RELEVANT

The Aptean Relevant ERP system was implemented at ICS in 2008. It was chosen by the leadership team primarily because of its ability to work within the Microsoft operating system and its relatively low cost as compared to other more established vendors. In October of 2015, Charles Witten, IT Manager at ICS, received the letter shown in Exhibit 1.

Aptean disclosed in the document that they would no longer be supporting the Relevant ERP system in regards to support and maintenance starting in January 2017. The decision was reached based on a small customer base and a lack of technical capability in the near-future Aptean workforce due to a decision not to invest in retiring team members passing on their "core knowledge". The company provided four options for the existing customer base outlined below:

- Move to Unsupported Mode – ICS would continue to use Relevant ERP indefinitely in an unsupported mode in accordance with the related software license agreement.
- Migrate to an alternative Aptean ERP solution – Aptean would offer at a discounted price, consulting and implementation services to transition ICS to an alternative ERP system that is offered by Aptean.
- License Relevant ERP Source Code – Aptean would for a one-time fee deliver and license a copy of the source code for Relevant ERP for exclusive use by ICS.
- Move to Restricted Support – Aptean indicated they may consider offering a restricted level of support beginning January 2017, depending on overall customer interest.

Facing such a dire situation with a strict deadline, Johnson and the team at ICS chose the fifth option, which was to evaluate and implement a new ERP system from a new ERP vendor. ICS readily confessed that the failure of the Relevant ERP system was not entirely the fault of Aptean. However, nearly all at ICS felt it was in the best interest of the company to move on to a new solution.

THE METHODOLOGY

Dave Johnson did not want to repeat the sins of the past. The Aptean Relevant experience had soured the thought of implementing a new ERP system in the minds and hearts of the senior management team at ICS. Worse yet, it had disillusioned the rest of the organization into thinking that ERP systems could not, and in fact, did not, work at ICS. Johnson was on a mission to change that. "I need a plan," he thought as he tapped his fingers on his desk. His next action was instinctive to the current generation. He searched Google for "Unbiased ERP Evaluation" and found Software Advice consulting. After three email exchanges and a relatively short phone conversation with the consultant, Johnson was beginning to pull together an outline for a plan. The first piece of advice was so astonishingly simple that Johnson started to wonder why he was paying someone for advice. Once he realized that he wasn't actually paying for advice (yet), it made it much easier to comply. To get started on this journey, ICS needed to explicitly define the characteristics they needed and wanted from an ERP system. Based on the informal discussions he had already had with each department head and the knowledge of what went wrong in the previous system, Johnson had enough data for a rough draft of system requirements. See Exhibit 2.

Armed with the requirements, which he emailed to the consultants, Johnson scheduled a follow- up meeting to discuss options. The consulting team at Software Advice provided the following list of options targeted especially too small to mid-sized enterprises (SME-s). See Exhibit 3.

Johnson reviewed the websites of the five potential vendors and decided that three would be a manageable number to evaluate with the team at ICS with the goal to purchase inside of three months. During this time, ICS's parent company Communications Unlimited was going through a major acquisition of Global Communications Incorporated (GCI) that promised to reshape the future for ICS. On the corporate website, there was an ominous statement in the transaction presentation that directly alluded to ERP systems.

Johnson thought it may be a good idea to include GCI's ERP system in the final list to be evaluated. The finalists were:

- Epicor 10
- Infor Syteline
- Deltek

After initial phone conversations with sales reps from the finalists, the selection criteria were sent to the potential vendors. All were eager to participate. They were invited for on-site discovery sessions to better understand the needs of ICS and tailor their approaches to meet those needs.

Johnson knew that to effectively carry out a major change, he needed buy-in from the organization. He needed buy-in from both the leadership team at ICS and the team that executed the work. To accomplish this task, Johnson set up a steering committee with representatives from all functions within the company that had a stake in the new system. The steering committee consisted of the following members: See Exhibit 4. Members of this team, or a delegate, would be present for all on site meetings and would be responsible for evaluating the overall system for each vendor and how that system met the needs of that specific function. The first vendor for the onsite discovery sessions was Infor on December 2, 2015, followed by Epicor on December 4. Due to the busy holiday season, Deltek held their visit on January 15.

During Johnson's initial research, he feared that these three vendors were so closely matched that it would be difficult to differentiate each product offering. From the discovery visit alone he started to see some separation. For example, Infor and Epicor sent a team of individuals to really dig into the processes of ICS. Each team had four members with a specific specialty and the discovery sessions each took about a day and a half. It seemed that these two companies really wanted to understand what made ICS tick and then target their respective software solutions to help ICS streamline its business practices. Deltek on the other hand sent one representative, who had an extensive manufacturing background, and the discovery session lasted one day. Perhaps this was because Deltek's offering was superior, and they already intimately understood the needs of ICS, Johnson thought as he walked the Deltek Rep to the door. The rubber would meet the road when the vendors returned the following month to showcase their solutions.

THE RETURN

The management team at ICS was eager to get started with a new ERP system. The initial visits from the vendors seemed to whet the appetite of the management team. The current system wasn't a problem when they didn't know what they were missing. Now that they had witnessed the enhanced capabilities of the new systems, they knew they had a problem and were leaving money on the table. Additionally, the timing couldn't have been better. ICS was just wrapping up the largest contract in its nearly 30 year history. The increase in scale as a result of the contract nearly crippled the organization. It was commonly felt inside of ICS that the lack of execution fell at the feet of the Operations organization. Johnson had been recruited to fix that problem. The next large program for ICS was scheduled to begin in about 6 months, which wasn't quite long enough to completely implement an ERP system but was certainly enough time to get a solid start. He was thinking about the increased efficiencies when the Infor team walked confidently into the conference room to discuss their solution.

INFOR SYTELINE

In short, the ICS team was blown away. From the initial visit, when Infor gave a brief overview of their product Syteline, the ICS team was optimistic. However, no one at ICS could have predicted the presentation they had just witnessed. "It was seamless and more importantly almost intuitive," Johnson thought as he read the last of the reviews from the steering committee. The Syteline software had been created in a manufacturing environment; this was important to ICS as that was the primary business in which they operated. The Syteline team was well versed in manufacturing and was knowledgeable about ICS's practices, enabling them to point to areas of potential improvement. Of vital importance, the system offered by Infor promised out of the box functionality. No other systems would need to be "bolted on" to add capability. In the world of ERP systems this was a discriminator. Many available systems excelled in one area or another and as a result would need another system "bolted on" to add increased functionality. Infor Syteline came as one complete package.

The module that Johnson was most impressed with was the training module, which made him chuckle to himself when the thought first entered his mind. Training is a critical part of any software implementation and especially ERP implementations. The Software Advice consulting team had been sure to warn Johnson of the potential impacts of poorly training the ICS team. It was common knowledge that a majority of ERP failures were attributable to poor training plans. The secret of the Syteline module was that it let participants practice. They could practice in a virtual environment, make mistakes and the software would literally coach the individual to improved performance. Once the student had mastered the skill, he could take a self-directed or supervisor-assigned test to show objective evidence of his mastery. "The Quality department is going to love this feature!" thought Johnson.

DELTEK

The Deltek presentation promised to be the most interesting for the ICS team. Deltek had sent one representative to the discovery session, and he seemed to gather all the knowledge he needed in only a single day. Deltek was the most widely known of the three ERP vendors and was currently being used at corporate headquarters in New York and the newly acquired GCI. Johnson's contacts at each location were generally

pleased with the product. Johnson assembled the steering committee in the main conference room and the meeting began with much needed strong coffee.

At the end of the day, it seemed as if the air had been sucked out of the room. After the home run presentation made by Infor, the ICS team had increased expectations, perhaps unjustifiably, for Deltek. The software seemed clunky in its use. All of the applications were present, but they did not interact seamlessly. What would have taken one click with Syteline took three clicks with Deltek. Additionally, the interface was not aesthetically pleasing. It looked like a beefed up Excel package, which is exactly what ICS was trying to avoid. ICS's alternative solution to escape the rigidity of the Relevant system had been to use Excel files in virtually every department. Excel was a four letter word at ICS and the team wanted off that bus. Another potential problem was that Deltek did not offer out of the box functionality. The Manufacturing Execution System (MES) would have to be purchased separately and would require a different login. The complete system would be managed by Deltek but, in the instance of an MES issue, the Deltek rep would have to reach out to a third party vendor for resolution. This had the potential to complicate on site issues for ICS.

The saving grace for Deltek was its financial reporting module. For Deltek, which started out as a financial management technology company, this was the secret sauce that kept the customers coming back for more. The ICS team members most excited about the potential adoption of Deltek was all members of the Finance organization. Deltek also had the advantage of being in use at corporate headquarters and at GCI, which meant that reporting and sharing of financial information between the two groups would be seamless. While this feature undoubtedly excited the executive leaders at corporate, it did little to ease the mind of Dave Johnson and his team at ICS. Still Johnson needed to be sure. He asked the steering committee to choose a favorite among the two ERP vendors that had presented their solutions thus far.

EPICOR

Epicor was the last ERP vendor to present, and they did not disappoint. Epicor was currently in use at another ICS sister company, Communications Americas (CA), the largest manufacturer in the ICS family. Although the Epicor version CA used was dated, the team in Phoenix, Arizona, was quite happy with it. The Senior Vice President of Operations for CA, Tim Adams, was Johnson's contact in Arizona and ardently supported the adoption of Epicor in Orlando, Florida. Aesthetically, the interface for the Epicor system was not quite as pleasing as the Infor solution but was very close. Epicor also had out of the box functionality and had been created in a manufacturing environment. In virtually every module, Epicor was similar to Infor with the exception being the Program Management (PM) module. John Dyer, the Vice President of Programs at ICS, was enchanted with the PM module. It offered the ability to manage the program from the software interface. He could check the status of a part that was being purchased from a vendor and send an email to the Purchasing Manager, Greg Cook, all within the system. Dyer had the same capability in nearly every other aspect of the program, which greatly increased his ability to interact with his peers within the company from his desktop. There was no question about it, Dyer was voting for Epicor and was going to actively use his impressive skills of persuasion to influence others to do the same.

As Johnson shook hands with the last of the Epicor team, he smiled to himself and thought, "We are almost there." He then sat at his desk and sent an email to the steering committee asking for a final recommendation. The enthusiastic responses poured in.

THE DECISION

Johnson eagerly arrived early to work on the morning of March 18, 2016. He had carefully tabulated the data and tirelessly prepared for his meeting with Richard Green scheduled to begin at 8am. The final comparison data from the vendors, which included price and estimated support as well as the recommendations from the team, stared back at him from the glossy pages of his final report. See Exhibit 5. Initially, Johnson was stunned to see that the recommendation was unanimous. When he had dug into the data provided by the team a clearer picture emerged. Still he couldn't help but to wonder, what was the best solution for ICS? What system provided the best overall functionality to ICS's current business? Which provided a platform for growth?

Johnson's thoughts were interrupted by the boundless energy of Richard Green entering the room. "What's it going to be Dave", Green asked with characteristic vigor. Johnson smiled confidently as he handed him the final report and said "The team overwhelming chose Epicor to be ICS's new ERP vendor." Green grinned and replied, "Great news Dave and congratulations on a job well done. The last step in the process is to have this approved by corporate. I'll send the e-mail today."

CORPORATE DECIDES

Dave Johnson sat in bewildered silence at his desk on the morning of Monday March 28, 2016. He had just returned from the weekly Staff meeting where it had been announced that corporate had chosen to move forward with the Deltek ERP solution. The team at corporate was appreciative for all of the hard work, time and effort the steering committee had put into examining the various ERP options, but ultimately they felt that Deltek provided the best solution for ICS, or so the official email said. The additional modules that may be needed to support a fully comprehensive ERP system could easily be bolted on to the Deltek solution, reasoned the leaders in New Jersey. Perhaps this specific feature, or any of the others that seemed to be discriminators, was not as critical as I first suspected, thought Johnson. "Why would corporate overrule a unanimous decision, made by a subsidiary, supported by conclusive data", he asked to no one in particular.

Johnson was disappointed, to be sure, but he knew that for a successful implementation of change, he needed, and ICS required, a fully engaged guiding coalition. As he saw it, ICS had 3 remaining options:

- Accept and fully embrace the Deltek selection
- Use the steering team's data in an effort to influence corporate or a corporate sponsor to revisit the decision
- Do nothing. Wait until the current Aptean ERP system ran out of its supported life

The advantages for fully embracing the Deltek platform were obvious. Particularly, ICS would be on the same system as corporate and the soon to be acquired GCI. Perhaps there was an opportunity to streamline the communication between the divisions and unlock potential value, wondered Johnson. The downside was the team at ICS was energized by and enthusiastically supported the Epicor option. It would be difficult, but not impossible, to divert that momentum this late in the game to a solution that nearly all thought was inferior.

The second option was risky at best. The thought was that the ICS team could identify a potential ally at corporate and use the data previously gathered to influence that partner to become an advocate of the Epicor solution. The collaborator would then leverage the newly discovered data to convince the group of leaders to reconsider their position. The risk was that senior leaders at many corporations did not like to reconsider decisions that had already been made. The appearance that ICS attempted to usurp the decision from corporate could possibly alienate ICS from future opportunities.

The last option was to do nothing. ICS would wait until the end of December when the license ran out and then would likely have to build a homegrown solution until the matter reached a breaking point. The issue would then have to be reconsidered by ICS and corporate.

What was the best option for ICS? Which option is most likely to succeed in the current environment? What would be most agreeable to both ICS and corporate? As Johnson turned out his office light for the evening, he couldn't help but wonder how they had nearly come full circle. A major decision still loomed in the very near future and it needed to be made fast. Time was running out.

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Note: Exhibits can be obtained directly from the author.