**ERP Proposal for Seeds'N'More**

Enterprise Resource Planning systems (ERP) bring many benefits to organizations. However, there is much detail and thought that must go into the selection and implementation of these systems for the benefits to reach their greatest potential. There are many obstacles that organizations must plan around and avoid through precautionary measures, thus consultants are used to help organize and develop the choice and the implementation process.

**Meet Seeds'N'More**

Seeds'N'More is an organization in the Agricultural Industry in the United States. They are based out of Southern Indiana and sell seeds and produce, such as corn, wheat, soybeans, hay, and tomatoes, while also importing and selling other seed crops not commonly found in Indiana. As well as growing and selling harvested crops in the United States, they do ship seeds internationally but do not ship crops internationally. There current are 3,000 employees working for Seeds'N'More and their revenue each year has averaged to be about $300 million dollars.

They most recently have found themselves in the position to merge with a major competitor also in the Southern Indiana area. This would boost them in the competition environment of the Midwest United States and provide them with growth and the expansion that the organization is looking for. The merge is estimated to bring $200 million in new revenue (about $500 million in yearly revenue). They are also concerned about the employees during these processes as this would be adding 2,000 new employees. They also want to make sure that the ERP system that they decide on will be able to grow with them as they are adopting new facilities as well as new sensors (The Internet of Things) for their business.

Seeds'N'More following the merger would greatly benefit from a new Enterprise Resource Planning system. They would be able to keep increased accuracy of inventory records, increase fill rate, maintain customer relations, and manage the then two facility storage and warehouse facilities. They would also be able to keep combined records in real time of both facilities at once.

**Enterprise Resource Planning System Overviews**

After reviewing and researching into the major ERP providers the following are the solutions that may possibly best suit Seeds'N'More. NetSuite and SAP have developed my attention in reference to Seeds'N'More.

**NetSuite**

NetSuite by Oracle offers a cloud-based ERP system that could very helpful to meeting the needs of Seeds'N'More. NetSuite offers to reduce manual and spreadsheet-based processes by up to 70 percent through the use of one back office system. This includes financial, fulfillment, inventory and sales. They also state that they can give daily cash balance visibility by using real-time dashboards, scorecards, and Key Performance Indicators (KPIs). NetSuite cloud ERP also provides real-time visibility, and 24/7 access from any browser. The pricing however, starts at $999 for the base license and then general user access is listed at $99 per month per user.

Their ERP key benefits of NetSuite include the increase of available time, resources, and built-in business intelligence. This means it will combine data with visuals to display the data and thus increases the usefulness of said data. It also offers easy customizations as your company grows through leveraging a highly scalable business management system. NetSuite also benefits areas including financial management, financial planning, order management, production management, supply chain management, warehouse and fulfillment , and procurement.

With financial management, NetSuite’s cloud-based single platform architecture ensures complete real-time visibility in light of the financial performance of the business from consolidation to the individual transactions that occur. Their Planning and Budgeting Cloud Service (PBCS) includes in-memory aggregation and instant financial planning analysis reporting. It offers integration with Microsoft Office tools like Microsoft Outlook, Excel, Word, and PowerPoint with Smart View for Office. Excel can be used for adding custom members ,slicing and dicing data and ad-hoc-modeling. Spreading and allocation are also available within planning data grids rendered in Excel. These would be helpful for Seeds'N'More to be able to convert data into easy to read graphics and to be able to use the familiar Microsoft Office tools.

The PBCS features also include a mobile-ready interface that combines task lists, instructions, dashboards and graphical reports. Users can develop multiple plan alternatives as well as compare them to one another to pursue the optimal business plan. PBCS shows the “What if” analysis so that the impact of any change can be understood and planned for, this is helpful in forecasting. They also offer Multi-Currency support, which means that it has an automated currency exchange calculations and reporting. This is helpful to Seeds'N'More as they do business internationally.

Order Management is another area that NetSuite proclaims optimal business streamlining. They state that their order management capabilities will eliminate manual bottlenecks, preventing errors and establishing a smooth flow from sales quote to order fulfillment, thus making the invoicing and payment time decrease. The features include pricing and promotions, sales order management, and returns management. They have multi-currency pricing management across all channels, rule-based automation, and communication with customers throughout the whole process. Benefits include an improved cash flow due to the automated order-to-cash processing, increased on-time delivery, reduced shipping costs, and engaging with customers and partners with native Customer Relationship Management (CRM) functionality.

Production Management is another area where NetSuite has features with the use of the cloud-based ERP. Features they accentuate are product data management, work order management, planning and scheduling, quality assurance, and MES. Within product data management they highlight the fact that their engineering departments will be able to collaborate and will be included within the ERP system to prevent other departments from needing to ask their department questions regarding products. Its capabilities include multi-level bill of material (BoM), phantoms, and revision control. These may be helpful to Seeds'N'More but since they are not a large manufacturing company and only deal with seeds, this may not be the most helpful features. These features may also not be suited for agricultural purposes. However, documentation is excellent through NetSuite. With work order management, NetSuite allows for Batch Processing, which is very beneficial to Seeds'N'More as they deal seeds in batches. They have lot tracking and also offer scheduling for machines, employees, work centers, and assets. Thus, information is tracked and updated in real time through barcode and tablet interfaces. With planning and scheduling Material Requirements planning is demonstrated through NetSuite’s Demand Planning functionality. It allows for inventory checking, safety stock levels, review demand, and analyze supply before generating planned orders. This is all done in the cloud and has minimal overhead. Under Quality assurance NetSuite allows for inspection plans, tracks results, and evaluate vendors to ensure optimal quality. They also provide Barcoding, HMI, and Tablet for shop floor information and data gathering. This feature is helpful to Seeds'N'More as they already are used to using barcodes on the floor but the tablet data gathering would be very beneficial. All of the features in this area help to increase on-time delivery and reduce cost of quality.

Under the supply chain and inventory management one benefit that the cloud software offers are the ways to identify supply chain cost variances as they occur. Thus, changes can be made to fix these variances and reduce these costs. For their warehousing and order fulfillment they have inbound and outbound logistics to meet receipt dates and meet deliveries on time. They also offer mobile warehouse management that adds warehouse specific parameters to be able to define and configure where you store your inventory. Seeds'N'More would be gaining more warehouse space with the merge as well as a large amount of new inventory from the other company and this may help them decide on what to store in each location. Overall NetSuite is a strong competitor.

**SAP**

SAP offers two software options for agriculture specific businesses and companies. They include SAP Farm Management by Vistex and SAP Grower Management for Perishables by Vistex. For Seeds'N'More I believe that the SAP Grower Management for Perishables should be combined with the SAP Farm Management by Vistex for optimal efficiency and performance. They are both a software adaptation on top of an SAP ERP system. They are also offered on the premise or for in cloud versions.

SAP challenges the agriculture industry to say ahead and offers features that will benefit and grow with your business. SAP Grower Management for Perishables is a single solution and one platform, it has a versatile toolset, advance planning support, product traceability, task management, chemical application tracking, irrigation management, and visualizations.

Contract Management is a tool included in SAP Grower Management for Perishables. Contracts can carry critical details on crops planted, purchase and sale conditions, as well as quality. There are traditionally many inconsistencies with the information methods and SAP eliminates or helps to quickly and easily reconcile. Since Seeds'N'More still grows and sells crops and is not solely 100 percent seeds this feature is very beneficial.

Out-grower support is another feature that Seeds'N'More could use in their ERP system. Within SAP, the settlement process is able to integrate financial assistance or direct payments for logistical services can be calculated into contracts. This includes things such as equipment rentals, seed, fertilizer, and pest control materials. It also helps to allocate accurate payouts.

Another feature highlighted under SAP Grower Management for Perishables is the monitoring and data tracking using the Chemical Application Tracking (CAT) and irrigation management. It ensures that Seeds'N'More would stay in compliance with Good Agricultural Practices (GAP). When used with the Farm Management module, improvements are supplied to quality control and product traceability which brings improvement in adherence to regulatory requirements. SAP Farm Management streamlines the flow of harvested crops to the facility and helps bring optimal inventory to meet demand levels. The SAP Grower Management for Perishables is seamlessly integrated into the SAP ERP that all processes related to inventory, storage and finished good manufacturing can be included as part of an end-to-end process. This tracking and documentation would bring benefits to Seeds'N'More.

The SAP ERP that I would pair these software solutions on top of would be SAP S/4HANA Cloud ERP. It compares to other ERP systems with improved efficiency, financial transparency, automated processes, and real-time data analysis. However, they also provide a window into the future of the company and to the aspect of growth. The agile format allows the system to grow with the business and help the business grow with improved intelligence. It also can be implemented with the use of The Internet of Things to further help boost all functionality of the ERP. However, the cost is $220 per user/ month, which is substantial. Overall a good choice for Seeds'N'More.

**ERP RECOMMENDATION**

After much review and research on the most popular ERP systems I can say that I believe that SAP offers more benefits and caters more so to the needs of Seeds'N'More than NetSuite by Oracle. NetSuite offers cloud-based ERP with multi-locational features, however does not offer agricultural solutions or software as SAP does. The SAP solution S/4HANA Cloud ERP is quite robust and can grow with Seeds'N'More after their first merge and can expand as the company grows. The software solutions that SAP and Vistex offer are extremely beneficial to their planted crop production and greenhouses. The way that Chemical Application Tracking (CAT) as well as irrigation management is integrated into the system would be put to great use at Seeds'N'More. It is expensive however, I believe that the benefits and features outweigh and offset the cost.

SAP also is capable of being integrated with the Internet of Things. This is a big deal when it comes to the expansion of the Agriculture Industry. The Internet of Things is a system of interrelated computing devices, mechanical and digital machines, objects, animals, plants, or people that are provided with unique identifiers (IP Address) and the ability to transfer data over a network without requiring human-to-human or human-computer interaction (Rouse, 2016). Thus, since Seeds'N'More would like to develop their use of The Internet of Things through sensors technology and other mechanisms, they would have the chance to integrate the data with their ERP system using SAP. Even though SAP solutions cost a great deal and potentially will take more time to implement, I still believe that due to the fact that food production will need to be doubled by the year 2050 that the SAP S/4HANA Cloud ERP is the choice that will help get Seeds’N’More to reach their goals and that level.

**ERP IMPLEMENTATION**

Concerning the implementation for Seeds’N’More, I believe that due to the merge that a full year should be given to allow the merge to occur and then settle before trying to implement the ERP. After that first year of being merged, then I estimate that 2-3 years will be needed to completely install, set up, train, and implement fully the new ERP. The ERP system should be announced and explained all throughout the merge year. Assemblies, meeting, memos, emails, flyers, etc. should be used to help all employees be aware of what will be taking place and of the same understanding. Six months into the merger year the heads and best of each department from both sight locations should be pulled from their current positions and replaced with a long-term fill-in employee. The heads will be brought together to help strategically plan the ERP (Strategic Planning). Compensation or incentives should be offered to maintain moral and to ensure that these top/heads of departments will stay throughout the process. They should work together every day in a separate space from their department, simply to allow them to focus at the work at hand. In this position they should examine current business processes and the flow of information. Key documents should be gathered for analysis and consideration on how time and resources are being spent and how they can be changed. Objectives should be derived from this process and then plans can be made. After this the procedure review should begin. Up to a week should be spent in review of the software capabilities, the project team should be fully educated, and gaps should be identified. Processes should be evaluated to determine whether they should be automated or remain manual and Standard Operating Procedures(SOPs) should be documented. During the merge year there may be some temporary use of different software modules, just to keep the two locations (they are not using the same old ERP systems) collected until the new ERP system is completed. At the end of the merge year installation of the new ERP begins.

With installation and setup consultants should be hired and placed to help the current Information Technology employees to understand how the system does and will work. They should also be able to perform their normal job (hours) in order to keep them from becoming overwhelmed by the process. I would consider consultants a necessity for the support and implementation, even though the expense is high. Even with incentives trying to fulfill two jobs is too much stress for the IT department to handle. Plus, the chance of human error increases greatly when consultants are not hired.

While being installed, the project team should be collecting, converting, reviewing, and cleaning-up data. They should determine which information should be converted and what new data should be collected. Data analysis helps with this procedure. Then the data should be reviewed for accuracy and completeness. Clean-up being part of this process, should help in determining what data is no longer needed such as a customer who is no longer in business.

Over the course of 2-3 years the entire system will be installed and prepped. Within the last year of installation training of employees should begin. It is cost effective to do extensive training with each member from each department in the project team and train them on how to train the employees in their department. Functional training should be done in the employee’s areas and additional tools should be provided. Tools such as cheat sheets and documentation. To maintain this training, refresher training should also be provided on a regular basis.

The system should be pre-tested to confirm that the information is accurate and working correctly. Transaction data should be pushed through the system for a week while providing validation than the system is actually working. Once ready to go-live, a checklist should be developed before going live. The list may include such things as a physical inventory is to be completed, beginning balance entry procedures are developed and established in all modules, documentation and modifications are tested, employees are fully trained, the vendor is available for the go-live day, and that users will have assistance during their first live transaction.

**Conclusion**

The benefits of Enterprise Resource Planning systems are great to large organizations. However, they provide an increasingly difficult challenge to install and implement correctly without the proper project management. Seeds’N’More with the proper management through their merge, ERP planning, and the implementation with consultants should be able to transfer to a new larger ERP system that will grow and expand as they maintain their new facilities, new employees, and their new use of sensor technology through the Internet of Things. I believe that the SAP S/4HANA Cloud ERP with the Farm Management software solutions from Vistex will serve Seeds’N’More and their needs and will help their organization grow as their use of new technology grows.

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