



Strategic application

ERP systems and ADC Tools have reached a level that, when implemented effectively, can elevate an organization's information infrastructure and knowledge culture to a strategically higher level

By Rod Rego, CMA

Enterprise Resource Planning (ERP) integrated application software systems and Automated Data Collection (ADC) tools are experiencing a resurgence. Existing users are expanding their use of existing functionality, and new users are acquiring one or both applications to meet business requirements. This increased interest has been driven by customer requirements and new legislative requirements here in Canada and the U.S.

ERP systems are a well-established IT application in today's medium to large multi-national organizations. They have evolved into fully integrated supply chain tools, including customer relationship management (CRM), business-to-business transaction support, vendor-managed inventory tools and customer self-service interfaces and portals.

Automated Data Collection, or ADC/barcoding tools, employ fixed and portable barcode scanners that read labels as products pass through the production cycle, so that transactional and product data is wirelessly transmitted via a wireless network to radio antennae, which seamlessly update the ERP system.

Often a secondary implementation to an ERP installation, ADC/barcoding tools effectively leverage the existing capabilities of ERP systems. While these tools are also not a new development (the first barcode was actually scanned in 1972), there is now an increased demand for them, particularly now that they may include radio frequency identification (RFID) tags, which provide an efficient solution for regulatory and customer food/product security requirements, particularly in high volume environments.

With RFID, portals can be positioned so that a forklift driver could pass through with a full pallet of mixed items, and all of the RFID labels could be read



simultaneously and discretely.

Large organizations like Wal-Mart and the U.S. Department of Defense, which deal with millions of pallets of material a year, foresee large savings in labour and increased data accuracy, by employing RFID technology. Driven backwards through the supply chain, primarily by large retailers, RFID will eventually become a universal, entrenched part of the physical buyer/seller transactions in industries where large volume



transactions exist, in addition to a regulatory environment where issues of food/product security, lot traceability and real-time data accuracy are paramount. The relatively high cost of RFID labels and the lack of standardization of the format are still obstacles, but RFID will become a standard in these industries over time.

Shifting paradigm

The impact of this evolution on accounting and management information systems (MIS) has been substantial, even revolutionary. However, the impact hasn't been limited to these areas. All areas of the organization have had to evolve with changing organizational paradigms.

One of the fundamental organizational changes that ERP systems have created is a demand for more strategic staff and fewer clerical staff. Given the inherent integration of transaction processes connected to ERP systems, users need to understand at least one step before and one step after their own job functions, both inside and outside the ERP system. ERP systems are configured around key business processes outside the system itself, which means users have to understand these connections and work with them to create an efficient organization.

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Optimal ERP system configuration and transactional processing requires that the implementation integrate business processes and train the users in the integrated transactional processes of the system. This process creates an expanded organizational knowledge and greater functional capabilities for the system users.

The rigorous requirements that ERP systems place on their users is evident in the people focus of the implementation models and methodology of IT consulting firms. Many of these firms consider the relative importance of resource allocation and effort as follows: people — 50%, process — 35%, tech-

nology — 15%. Hence training with, and user understanding of, the ERP system is paramount.

These considerations have obvious impacts on the HR function. An ERP system implementation is a large scale change management initiative. Organizational processes are reviewed, documented and rationalized, often in a “current state/future state” analysis, or as part of a business process re-engineering plan. Management must manage the change efficiently and effectively. HR must work closely with management, the project manager and any external consultants, to ensure these considerations are addressed.

In the same manner that ERP systems can be viewed as leveraging the human capital of an organization, ADC tools have leveraged the inherent capabilities of ERP systems, which are often described as integrated, “real-time” systems. The reality is that while ERP systems are capable of real-time reporting for an organization's MIS, data capture often isn't automated. ADC tools form the last link in this information chain, turning “real time” into “real, real time.” Thus the accounting assertion that there need be a trade-off between relevance (timeliness) and reliability (accuracy) of financial information is no longer the case.

These developments have also enhanced quality assurance (QA) capabilities and compliance effectiveness. With the timely and accurate tracking of supplier and customer lots in real time, efficient and effective lot tracking and mock recall protocols are also possible. This is a major boost for the product and process components of any food/product security program, for instance.

It's interesting to note that in the same manner that inventory items are barcoded and scanned by ADC tools, so too can employee ID badges, as the employee moves within the plant or work centre. Not only does this enhance the people and plant components of a security program, but it can be interfaced with the ERP system to produce additional labour reports. In many labour-intensive plants, accurate labour reporting is difficult to attain. With this tool, labour variances can be analyzed.

Selecting the right system

To derive the benefits of an ERP implementation, a number of considerations must be evaluated. These include considering:

1. both the current and future/growth business requirements (scalability);
2. the appropriate trade-off between application software complexity and related user needs (usually a mid-market vs. high-end software application acquisition decision);
3. an assessment of the “time-to-benefit” for key business processes in the organization's strategic plans;
4. the key metrics that indicate relative application software complexity and time to benefit, such as the historical ratio of consulting dollars to initial license fees (the application software vendor and/or consulting firm can provide this);
5. the software version of the application being selected (leading edge vs. bleeding edge);
6. the stability of the software vendor;



7. the ability of the organization to devote sufficient resources (people, amount of dedicated project time per person, minimum funding) over time;
8. the involvement of key users in the planning process (when key players “plan the battle” they don’t “battle the plan”);
9. producing a specific, measurable, achievable, realistic, time-oriented project plan and budget; and
10. selecting application software certified implementation consultants with relevant industry experience.

Given that each application is provided by a different software vendor, it’s crucial that the ERP system and its integrated ADC tool have significant, successful implementation history together.

A second important proviso is that the appropriate procedures and controls must exist both inside and outside the system, including appropriate levels

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of user training and system familiarity, with the ERP system, the ADC tool, and their integration. With a tight integration of these applications there are fewer change management challenges when, for instance, implementing an ADC solution subsequent to the initial ERP implementation (the standard sequence of events).

The substantial benefit to accounting and MIS of ERP systems, ADC tools, and more recently RFID, will continue to be simultaneously *relevant* and *reliable* data. At the same time, organizations will be able to devote more of their human resources to strategic challenges. ■

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