Enterprise resource planning systems: revolutionizing lodging human resources management

Leonard A. Jackson

*Kemmons Wilson School of Hospitality & Resort Management,
University of Memphis, Memphis, Tennessee, USA*

Abstract

Purpose – The e-business revolution which the world experienced over the past decade is forcing businesses to review, re-engineer, and revolutionize traditional approaches to running a successful enterprise. Globalization and competition have also made it essential for companies to find innovative ways to manage daily administrative tasks as smoothly, seamlessly, and cost-effectively as possible. Companies are achieving such capabilities and efficiencies by adopting enterprise resource planning systems. The purpose of this paper is to highlight the fundamentals of enterprise resource systems and their practical application in the lodging industry.

Design/methodology/approach – The paper reviews the fundamentals of enterprise resource systems and discusses their practical applications in managing the human resources (HR) function of lodging enterprises.

Findings – The integration of company-wide day-to-day HR administrative tasks through the use of enterprise resource systems results in both tangible and intangible benefits for lodging organizations. These include: improved productivity, reduced cycle times, and availability of timely information.

Practical implications – The paper suggests that the use of enterprise resource systems to consolidate and integrate routine HR functions will continue to grow and prudent lodging executives should pay close attention to this trend so that they can adopt the technology into their operations and enjoy the benefits it offers.

Originality/value – Both practitioners and educators will benefit from the information presented as it communicates information and provides insights about a relatively new form of technology.

Keywords Manufacturing resource planning, Communication technologies,
Human resource management

Paper type Conceptual paper

Introduction

Enterprise resource planning systems (ERPS) have become an integral, essential, and critical component in the overall business processes of several organizations, and represent one of the largest information technology investments for several companies (Chung and Snyder, 2000). ERPS represent one of the fastest growing sectors of the information system industry (Brown, 2001). The advent and growth of this form of technology has been propelled largely by increased competition which has forced companies to rethink business processes, find new ways to improve operational efficiencies, while at the same time reduce overall operational costs. Hence, for many companies, ERPS offer an attractive solution since they enable the attainment of competitive advantages since they enable organizations to streamline business processes and integrate data from multiple and often disparate systems and sources. These activities ultimately enable organizations to revolutionize business processes

and transform organizational cultures to meet the challenges of a changing global environment (Braganza, 2002; Venkatachalam, 2006).

Enterprise systems are configurable information system packages that are designed to integrate organizational business functions and in the process, allow information to be shared across units, departments, and functional areas within a company. This information sharing leads to synergy and allows organizations to create value by ensuring that the right people have access to the right information at the appropriate time. Such timely availability of information enhances organizational efficiency, productivity, and effectiveness as managers within organizations can utilize resources and processes more proactively (Kumar and Hillegersberg, 2000; McGaughey and Gunasekaran, 2007; Nikolopoulos *et al.*, 2003). The efficiency achieved through integration often results in lower operational costs as well as better internal and external customer service. Hence, unlike previous information systems that focused on specific functional areas, the modules of a resource enterprise system focus on the procurement and transmission of integrated data (Tarn *et al.*, 2002). This seamless and timely transmission of information is made possible through the use of internet-based architecture. This paper highlights the benefits of ERPS to lodging enterprise, with emphasis on the human resources (HR) module since this module has practical use in the lodging industry. The paper also highlights factors that must be addressed to ensure successful implementation.

Theoretical background
Recent, enterprise resource systems evolved from materials requirement planning systems, which were initially developed to assist manufacturers with their inventory management and controls. Over time, these systems evolved and incorporated all processes found in an enterprise, such as capacity planning, productions scheduling and controls, financial control, HR, accounting, logistics, supply chain management, and marketing. These systems were developed to achieve efficiency through integration (Mabert *et al.*, 2000; Tarn *et al.*, 2002). Historically, ERPS were adopted by heavy or capital intensive industries such as those operating in the manufacturing, construction, aerospace and defense sectors (Chung and Snyder, 2000). However, in recent years, companies in other sectors, such as those operating in the service sectors (hospitality, finance, education, insurance retail, and telecommunications) have started to realize the true potential and benefits of these systems and are increasingly adopting these technologies. For example, lodging stalwarts such as Starwood Hotels and Resorts and Marriott International Corporation have embraced the technology and incorporated it into their overall business processes.

The traditional ERPS comprises a series of integrated modules which includes accounting, production, sales and distribution, HR, marketing, finance, inventory management, inbound and outbound logistics, purchasing, and manufacturing. These modules do not focus on specific functional areas in an organization, but instead on business processes and are combined to form a single data warehouse or repository (Tarn *et al.*, 2002). Figure 1 shows the components of a fully integrated enterprise planning system.

Implementation of the entire ERP package is neither feasible nor practical for some companies, or for companies within specific economic sectors. For example, companies operating in the lodging segment of the hospitality industry may not necessarily benefit
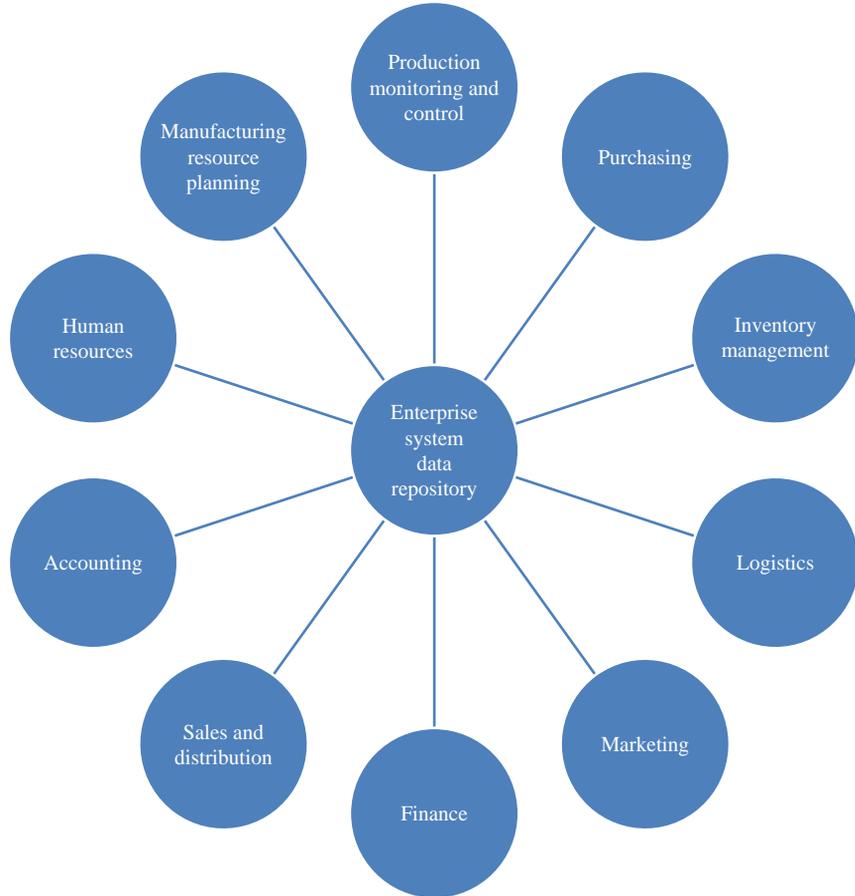
Figure 1.
Traditional ERPS

from implementing a full ERP package since modules such as production and manufacturing are not applicable to the industry. However, companies operating within this segment can select specific modules, and still enjoy the benefits of integration. This notion is further accentuated by the fact that cost benefit analysis of full ERPS implementation have suggested negative returns (Steadman, 1999) and further, full enterprise system implementation often takes longer than expected and incur costs over those initially budgeted (Venkatachalam, 2006). In fact, implementation and operational cost overrun of 178 percent is not uncommon (Venkatachalam, 2006). Further, despite the potential benefits that ERPS offer, adopting and integrating all functions of an ERPS does not necessarily translate into positive returns (Dalal *et al.*, 2004). In fact, many full ERPS implementations fail (Davenport, 1998). Hence, for many small and medium-sized companies such as those operating in the lodging industry, full ERPS implementation is clearly not feasible. Leading ERP vendors (SAP, JD Edwards, Baan, Oracle, PeopleSoft, Made2Manage, Epicor, Syspro, Microsoft Dynamics, Infor, Sage software, Netsuite, IFS Manufacturing) have recognized this fact and have developed component-based packaged solutions. These solutions are usually developed via a modular approach,

which enables quick and cost effective deployment. For example, vendors have developed solutions that focus on synthesizing the HR function. Hence, companies can select modules that will enhance specific organizational processes rather than purchase an entire ERPS. This trend is increasing in the lodging industry since the core business processes of the lodging industry do not require the utilization of a fully packaged ERPS. Instead, several of today's leading lodging enterprises have opted to adopt only the HR module and integrate it into daily operations. This trend stands to grow as national boundaries become more opaque and lodging companies continue to expand their international reach.

Benefits of enterprise resource systems to lodging operations
The HR module of an ERPS includes all the processes necessary for a company to efficiently and effectively manage its HR functions. These include application screening, salary administration, payroll, work schedule, planning, travel expense, recruitment, benefits administration, compensation management, personnel development, funds and position management, personnel time management, time evaluation, shift planning, training, and event management (Figure 2). These modules are designed to be country and region specific, which allows for the adherence to specific country and state laws relating to employment, tax, benefits, etc.

It is important to note that information stored in ERPS is integrated and accessible companywide by authorized users. Hence, lodging enterprises that adopt ERPS can capture and process data in real time and without duplication. This leads to improved data quality, data transparency, system wide consolidation and overall organizational efficiency. ERPS also offer organizations the benefit of synthesizing all units and departments of an organization using one comprehensive system package which usually results in cost savings through improved productivity. For example, by implementing an enterprise system, Starwood Hotels and Resorts was able to manage the HR reporting activities of 750 properties in 80 different countries using only four employees (*Information Builders Magazine*, 2006). However, one of the most important capabilities of these systems is that they allow information sharing and timely communications of data between units within the enterprise. ERPS also enable a company's strategic goals to be aligned since information flows from one central core to all units within the originations.

Cost savings and efficiency are also achieved since ERPS also allow employees to actively participle (through self-serve options) in the HR function thereby reducing or eliminating costly steps. For example, most ERPS are accessible via the company's intranet. Employees therefore have the ability to access and modify their own benefits as well as personal information. Some systems offer line managers and employees the ability to access, retrieve, and edit data so that decisions can be made in a timely manner. Hence, such systems effectively reduce the volume of paper work, thereby making the HR function more efficient and convenient for both managers and line employees.

ERPS can also be used to enhance the training and development functions of employees once they are hired. For example, most systems are sold with software that allows for employee goal setting and will gauge how well employees are meeting pre-determined goals. Most importantly, they also allow "the cascading of goals" as they provide employees with the ability to view their progress online and see how their

Figure 2.
Human resources
enterprise system

goals are being met and mark their progress. Employees can also, observe the goals of others within the organization, especially those in the chain of command, from the chief executive officers all the way down to their immediate supervisor. This allows for a holistic view of the organization, which enable employees to align their personal goals with the organization's overall objectives. In addition, most vendors will customize the software to provide personal and customized training for individual employees through personalized curriculums and learning tips based on employees' personal goals and organizational needs. In general, implementation of an ERP will benefit lodging operations in the following ways:

- Reduce overhead operating costs as it requires less people to accomplish tasks.
- Enhanced efficiency through increase productivity as it facilitates efficient completion of routine daily operational tasks and through effective resource allocation and management.

- Enhances strategic planning as it allows for an accurate assessment of organizational needs, and allows for a more accurate measurement of goals as compared to outcomes.
- Eliminates organizational inertia cause by data silos.
- Eliminates conflicting information coming from several different sources.
- Self-serviced tools easily available to line employees and managers.
- Reduction in administration costs.
- Automation of virtually every routine transaction by introducing self-service applications and workflow automation.
- Consolidation of multiple, disparate HR systems globally.
- Provide and empower managers with the tools they need to increase employee productivity and people-related decision making.
- Reduction of administration costs, thus enabling the company to increase the ratio of HR administrative staff to employee.
- HR data are extremely sensitive because it relates to employee personal data. A fully automated and integrated system has a significant advantage over its paper-based systems in that controlling access to data is automated, which means that managers can determine which users have access to various data.
- A fully and completely integrated system provides users with the ability to store employee information electronically, thereby eliminating piles of paper and files which often makes data retrieval a tedious and difficult exercise. Hence, a fully automated and integrated system allows relevant employee information to be accessed and retrieved in a matter of seconds.

As previously noted, reduction in overall costs is achieved because ERP software packages allow all employees to actively participate in accomplishing routine everyday tasks. Thus, HR staff can shift their focus away from these tasks, and focus on program design, management, and consulting. For example, routine tasks such as leave requests, filling out vacation time, and filing expense reports can be completed entirely on-line, or via designated HR kiosks or terminals. Further, approvals are completed faster which results in increased employee morale. In general, these software programs allow companies and their employees the ability actively participate in the following HR "self-serve" activities:

- Update personal data.
- Enter and review personal information.
- Access to their benefit information as well as the ability to update and review benefits selection.
- Complete and submit expense reports and travel requests.
- Automatic routing of approval requests and informing those who need to know.
- Employees can apply for training or skills upgrade.
- Apply for other jobs within the company or express interest in other jobs.
- Seek or inform managers about professional development opportunities.

The ability of the employee self-service options means that from a staffing perspective, once ERPS software are installed, the ratio of HR staff to employees will be greatly increased. In conjunction, HR departments will also be able to run a zero growth budget. Additionally, cost savings are also realized because once the application is installed, the company will avoid data extraction, printing, and postage usually required to produce and personalize enrolment materials and mail them to employee homes.

Planning for implementation

In general, implementation and integration of enterprise resource planning systems into organizations will face challenges that are related to people, business processes, and technology (Sandoe *et al.*, 2001). People-related challenges refer to organizational changes that are inherent with the adoption of the technology. Consequently, organizations that adopt and implement ERP systems must ensure that training, especially change management training is implemented to deal with and overcome organizational inertia. Process-related challenges relate to system migration, reengineering of existing business processes. Finally, technology-related challenges relate to the overall functionality and harmony of the ERPS – both hardware and software application integration with existing and proposed systems. Of the three kinds of obstacles to implementation, the largest area of concern is that of the people issue. In this regard, the organization must first and foremost answer the following questions in an effort to overcome these challenges:

(1) What subcultures do we have within the organization, and how will they resist these changes?

(2) What cultural attributes are weak or will interfere with the changes?

(3) What will be the toughest changes and how will they be addressed?

(4) Who will be responsible for change management?

Employee training is therefore an essential component in the success of the implementation. If employees are not thoroughly trained, they will become frustrated using the system and resist changes. The company must also be realistic with time schedules for software and hardware implementation. Enough time should be allocated to ensure that the software and necessary hardware are installed and employees are properly trained to utilize these resources.

Lodging companies should also decide whether to implement the enterprise system as a system-wide implementation (the big-bang approach) or through a phased approach. A "big-bang" approach to implementation means that all units within the enterprise would adopt the technology at the same time while a phased approach means that the technology is adopted on a unit-by-unit basis or through geographic implementation on a region-by-region basis. If cost-related resources are scarce, it is advisable that phased approach is utilized by the company. This approach also allows for testing of the technology as well as the simple fact that it will also allow for the respective constituents to become familiar with the technology. Further, a big-bang approach requires expending tremendous resources in a relatively short period of time, which makes it prohibitive for many organizations. Although the phased approach will take longer to implement enterprise-wide, it will offer lodging enterprises flexibility, especially those with limited resources. Conversely, although the "big-bang" approach

will take less time, this method is a one shot deal and if mistakes are made in any step of the implementation, it could be extremely costly. Ultimately, the selection of either a phased or a "big bang" approach will be contingent on the organization's resources, time, as well as in-house expertise. It should be noted, however, that experts tend to agree that a phased implementation is more likely to result in a successful enterprise system implementation (Portougal and Sundaram, 2006).

Selecting an ERPS
The first step in choosing a system is to ensure that the selected system offers the highest return on investment. Further, the need for the system should be justified in terms of absolute dollars for initial investment, service, and training. Savings from use of the system should also be justified, as well as the total hours of increase overall productivity that would result from use of the system. In general, the following should be considered or undertaken when deciding on the type of system that is appropriate for a specific lodging enterprise:

- *Organizational audit*. The first step that should be taken in selecting a system is the conducting of an organizational audit to carefully measure and document the current work processes within the organization's HR department.

- *Initial costs and lifetime maintenance costs*. The organization should determine from vendors what the initial cost of the application will be as well as lifetime maintenance costs. In addition, the organization must determine if a suite of applications are needed or if a few applications will suffice. In this regard, it is advisable that each application is priced separately and then asks vendors what the price would be if the application is bundled.

- *Software installation, implementation, and training*. The organization must ascertain who will be responsible for employee training and how and where it will be conducted.

- *Technical support availability*. Decisions must be made as to whether or not the HR information system will be supported internally or if the vendor will host it, and the cost of either option. The vendor's technical capabilities should also be evaluated.

- *User-friendliness*. Decisions must be made as to how easily it will be for employees to learn about and use the software. For example, questions must be asked whether or not the software provides features such as links to teaching and learning resources.

- *Compatibility and integration with existing systems*. The organization must also ensure the software application will be compatible with existing hardware and software. Disparate systems lead to management problems on all levels and are usually costly.

- *Software customization and ability to upgrade*. A futuristic approach must be taken in determining whether or not the software should be purchased. Hence, the software should be purchased to satisfy both current and future needs. Hence, the organization must ascertain what costs will be involved in upgrading the software in the future.

- *Organizational and employee fit*. The application and its access must fit with the employee and its employee base. For example, if the system is installed at a large resort, will there be employee access at kiosks, throughout the resort or will kiosks be located in the HR department or area.

Implications and conclusion

Global competition has forced companies such as those operating in the lodging segment of the hospitality industry to seek new and revolutionary solutions that will enable them to gain advantages and continue to offer products and services to consumers at a competitive value based rate. In fact, as globalization and competition increases, it becomes essential for companies to manage their day-to-day administrative tasks as smoothly, seamlessly, and cost-effectively as possible. In today's volatile operating environment, organizational success is often contingent on a company's ability to effectively and continuously rethink existing business processes and embrace new technologies that will lead to competitive advantages. ERPS offer lodging enterprises the opportunity to gain competitive advantages by consolidating routine HR functions, which leads to economies of scale. These systems support a process oriented view of business and can assist lodging companies in automating and integrating processes, enhance process efficiency by allowing companies to share common data across the entire enterprise and finally, in a changing business environment where time is of essence, these systems provide companies with the ability to generate and access information in real time. Successful implementation of these systems, however, require that lodging operations pay close attention to the people, process and technology-related challenges that are inherent in ERPS implementation. Lodging operations must also pay close attention to factors relating to system selection, and select systems that will enhance organizational processes and lead to a positive return on investment.

The adoption of ERPS into lodging enterprise will continue in the foreseeable future, particularly in the area of HR management. This technology will continue to revolutionize the HR function of lodging enterprises. In this regard, it behoves prudent lodging executives to pay close attention to this technology and select and adopt the appropriate system into their operations. However, lodging executives should be cognizant of the fact that these systems are not panaceas for poor or inadequate organizational structures or processes, but instead are enablers of organizational processes. Consequently, ERPS should be seen as technology that will enable the strategic move of organizations towards enterprise integration, and hence will integrate human capital, systems, information, applications as well as functional domains.

References

Braganza, A. (2002), "Enterprise integration: creating competitive capabilities", *Integrated Manufacturing Systems*, Vol. 13 No. 2, pp. 562-72.

Brown, J.P. (2001), "Is ERP a silver bullet?", *The Performance Advantage*, Vol. 10 No. 3, pp. 167-93.

Chung, S.H. and Snyder, C.A. (2000), "ERP adoption: a technological evolution approach", *International Journal of Agile Management Systems*, Vol. 2 No. 1, pp. 24-31.

Dalal, N.P., Kamath, M., Kolarik, W.J. and Sivaraman, E. (2004), "Toward an integrated framework for modeling enterprise resources", *Communications of the ACM*, Vol. 47 No. 3, pp. 83-7.

Davenport, T.H. (1998), "Putting the enterprise into the enterprise system", *Harvard Business Review*, Vol. 76 No. 4, pp. 121-31.

Information Builders Magazine (2006), "Starwood Hotels accommodates HR users with operational reporting systems", *Information Builders Magazine*, Vol. 16 No. 1, pp. 28-31, available at: www.informationbuilders.com/new/magazine/v16-1/28_starwood.html

Kumar, K. and Hillegersberg, J.V. (2000), "ERP experiences and evolution", *Communications of the ACM*, Vol. 40 No. 4, pp. 22-6.

McGaughey, R.E. and Gunasekaran, A. (2007), "Enterprise resource planning (ERP): past, present and future", *International Journal of Enterprise Information Systems*, Vol. 3 No. 3, pp. 23-35.

Mabert, V., Soni, A. and Venkataraman, M. (2000), "Enterprise resource planning survey of US manufacturing firms", *Production & Inventory Management Journal*, Vol. 41 No. 2, pp. 52-8.

Nikolopoulos, K., Metaxiotis, K., Lekatis, N. and Assimakopoulos, V. (2003), "Integrating industrial maintenance strategy into ERP", *Industrial Management & Data Systems*, Vol. 103 No. 4, pp. 184-92.

Portougal, V. and Sundaram, D. (2006), *Business Process: Operational Solutions for SAP Implementation*, IRM Press, Hershey, PA.

Sandoe, K., Corbitt, G. and Boykin, R. (2001), *Enterprise Integration*, Wiley, New York, NY.

Steadman, C. (1999), "Survey: ERP costs more than measurable ROI", *Computerworld*, Vol. 33 No. 14, p. 6.

Tarn, J.M., Yen, D.C. and Beaumont, M. (2002), "Exploring the rationale for ERP and SCM integration", *Industrial Management & Data Systems*, Vol. 102 No. 1, pp. 26-34.

Venkatachalam, A.R. (2006), "A holistic perspective on enterprise integration", *Journal of Information Technology Case and Application Research*, Vol. 8 No. 1, pp. 1-6.

Corresponding author
Leonard A. Jackson can be contacted at: leonardajackson@aol.com

www.manaraa.com