Chapter 6

Moving Ahead With Enterprise Resource Planning Systems in Civil Construction

ABSTRACT

Commerce and trade around the world require cutting edge tools and business process systems to stay competitive. All around us, this is manifested in how industries—big or small—conduct businesses and adopt new manufacturing and business systems to remain profitable. During the mid-20th century, businesses in the Western world began to adopt material requirements planning to streamline production processes till the finished product. While material requirements planning itself, at that point of time, was not unheard of, the introduction of computers and information technology revolutionised the way material requirements planning was adopted. Researchers and proponents of an integrated information system agree that material requirements planning predated enterprise resource planning (ERP) that has since been a central theme and prime mover of all information and data within organizations.

The concept of ERP is based on the fundamental principle that business processes and information within an organisation can be viewed, analyzed and processed by persons with appropriate authorization at any given point of time. In other words, decisions made and records generated at any point and at any office or remote location of an organization can be viewed almost instantaneously. For organizations, regardless of size and business domain,

ERP has turned out to be a facilitator that has transformed how businesses function. At this point, it is of vital importance to note that without Information Technology in close attendance, ERP cannot be implemented. In this, it differs from MRP (material requirements planning) that does not always require Information Technology and associated tools (Shtub, 2001) to function. Notwithstanding this seemingly slender advantage that MRP has to offer, organizations all across the world are keen to adopt ERP in whatever form that best suits their respective needs and business requirements.

ERP brings to the table several key advantages that organizations, especially in key infrastructure sectors, find lucrative to adopt and implement. For example, entire departments that are geographically distant can share data and pool information (Teltumbde, 2000). Branch offices situated at remote locations can access a global form of data at a press of a button. Project planners, engineers, procurement specialists and managers can view data and information that is constantly and continually updated based on inputs received from different offices and sites. This translates into superior business intelligence at all operational levels with critical decisions based on near realtime inputs and actual data. The significance of timing in terms of arriving at business decisions at almost any operational level in businesses cannot be overstated. It is often cogently argued that ERP accords an effective platform (Angerosa, 1999) to act as a universal binding medium through which transactions between customers, suppliers, partnering agents, internal departments and even independent consultants can take place irrespective of geographical distances between them. Indeed, ERP systems have evolved to a stage where enterprises view such as strategic tools that help in gaining critical business advantages and sustainability, rather than being deployed as an advanced accounting and inventory management system. While ERP systems offer a single-point-of-entry and multiple reporting mechanism, the most vital feature is the modularity coupled with secure authentication that make such systems an invaluable asset in the functioning of organizations globally.

The construction industry operates on a disjointed basis more than any other comparable industry anywhere in the world (Markus, 2000). Individual sites where construction activities take place can have their own accounting, management, inventory, design and drawing facilities. Construction companies view their own remote site offices as individual cost centers that are capable of generating and monitoring their own profit and expenses. Yet, it remains

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