Enterprise systems: The technology we already have

Understanding enterprise systems

For the last 20 years, companies have been implementing and adopting large-scale IT, most notably enterprise systems (ES). They have done this to automate transactions, reduce costs, increase customer satisfaction, integrate with suppliers and make better decisions. Examples of ES include applications for Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), Human Resource Management (HRM), Product Lifecycle Management (PLM) and Supply Chain Management (SCM). Such systems are widely heralded as a departure in the short history of modern information technology. They enable the integration of business processes within organizations and allow the improvement of coordination among departments, business units and supply chain partners (suppliers and customers). ES are often composed of different functionality and applications provided either by a single vendor or by a set of different vendors (i.e., what is known as the “best-of-breed” approach).

The dependency of modern business on ES systems is very substantial. It is reported that every Fortune 500 company has an ES. They can be described as the unseen platforms of modern living, enabling consumption and trade across business networks and across the globe. From our shopping trips to internet travel bookings, visits to the pharmacist, or collecting our salaries; lives are lived in constant interaction with ES. Orders, supply, payment, inventory; these are the fodder of ES; they are the transactions and processes that these systems support.

Many authors have reported that ES are complex technologies because of their sheer scale, the off-the-shelf approach to their adoption, and the organizational, operational and technological changes they introduce within organizations. This complexity has made ES implementation an increasingly appealing topic for research among scholars. Reportedly high rates of failure in ES projects resulted in a tendency to analyze this phenomenon from different management perspectives. This means that we can
now argue that ES has become a cross-functional discipline in its own right, holding interest for scholars in a broad range of management fields, including IS, organization theory, human resources, accounting and operations.

Meanwhile, the situation evolves and changes year by year. New information technologies and new means of delivery are making these systems both more affordable and more flexible. For example, new cloud-based offerings potentially cut costs and complexity. It is possible to conceive of constantly accessible, customizable “processes in the sky.” In the future, maybe, it won’t be that ES are complex, implemented products but that they offer accessible interfaces to a myriad of business networks and functionality. ES will be a service, and access to this service will change the costs and convenience of business; from the smallest start-up to the grandest conglomerate.

A step back in time: bureaucracy

The clue is in the name, “bureaucracy.” This was for a time and a technology. The technology, principally, was the bureau – a desk. The old image is of workers sat at desks with forms and pens, working in a structured way with heavily structured hierarchy. Take out the bureau, the pen and the form and introduce the application, the device and the network, and things should change, yes? Well, maybe, and maybe not.

Implicit in bureaucracy is the understanding of work being broken up by tasks and into hierarchy. A series of permissions govern what each individual worker can or cannot do. These permissions might be encoded into the form itself and thereby enforced, for example, the worker must tick these boxes and provide these signatures. Beyond this lies a deeper model. This is the idea of the firm itself being a great arrangement of people in tasks and roles, each person striving to fulfill some duty in hope of reward or promotion. Remember what we said about the power of mental models and the pitchfork view of the enterprise, well, we are coming back to that point.

The charge has been made that ES become a kind of “electronic bureaucracy” – heinous control systems, constantly falling out of step with a dynamic business environment or, worse, functioning as an instrument of control by misguided managers. They are like the old bureaucracies but, in a way, worse. At least with pens and forms, everybody understood the technology. Everybody knew the language and could make suggestions about the redesign of a form or, perhaps, how an office processed its operations. In the new age of ES, so the charge goes, the common language is lost and skilled teams become dependent on experts who reside in the IT office or some external consultancy. Control is diminished or lost entirely.