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Information systems: Challenges and strategies in managing information

Syed Ahad, Murtaza Alvi
Lecturer, College of Computer and Information Sciences, King Saud University, Riyadh - Saudi Arabia

Abstract
In this paper we discussed challenges and opportunities of integrating information system. Our study also showed that efforts to integrate Information System might be challenged by the existing structural, socio-cultural and political contexts of the organization. On the other hand, opportunities for integration of Information System lie in the existence of Health Information system.

Keywords: information system, opportunities, organization, data management

1. Introduction
Information system is a combination of hardware, software, infrastructure and trained personnel organized to facilitate planning control, coordination and decision making in an organization. IS (information services) is a common name for an organization within an enterprise that is responsible for its data processing and information system or systems. Strategic management of data, information, and knowledge and associated ICT—represents a major strategic challenge and opportunity for organizations in the twenty-first century. The market for ICT products and services can be measured in tens of billions of dollars/euros. It has been estimated that companies in the developed world spend something in the region of two per cent of turnover annually on hardware and software alone (Willcocks 2001-2003) [10]. This figure would no doubt grow considerably if the costs associated with staff development, maintenance, and the management of change associated with the implementation and ongoing operation of ICT-based systems were taken into account. But we still talk glibly of the information age, of the networked society, of globalization, of knowledge management—each in its own way enabled and facilitated by ICT. It is therefore surprising how little we strategize about these issues.

2. Review of Literature
IS (information system) is the collection of technical and human resources that provide the storage, computing, distribution, and communication for the information required by all or some part of an enterprise. A special form of information system is a management information system (MIS), which provides information for managing an enterprise. There are very few current articles focusing on IS strategy.* It would seem that IS strategy is now more important than ever, with flexible information infrastructures being a requirement for any organization hoping to grow efficiently and effectively (Ciborra *et al.*, 2000) [7]. Useful sources of information covering this information strategy include Avison and Fitzgerald (1995) [2] and Willcocks *et al.* (1997) [9]. Other important topics not covered in any depth here include infrastructural issues; sourcing IS services, and lessons from implementation failures. Useful references here include Gunton (1989) [4], Ciborra *et al.* (2000) [7], Ward and Griffiths (1997) [5], Willcocks and Lacity (1997) [3], Lacity and Willcocks (2000) [1], and Sauer (1993) [6]. Strategic management is an overused and largely misunderstood terminology that is often used with little understanding of either what strategy is or what it will deliver. Information technology utilizes this terminology with the expectation of achieving some level of respectability and priority from decision makers. Often these concepts are lost on these same people, who are reticent in accepting strategic information management as being of value, or even understanding what it is. This is not to say that information does not have value. Nor does it imply that management of technology is not important. It does imply that management views information differently from the Information Technology specialist.

3. Data Management to Strategic Information management
The business and technology backdrop is compelling organizations to move beyond traditional, reactive and silo-based data management approaches to a managed – even predictive – approach that treats information as a strategic asset and uses it to create business value, that approach is called information management, said Troester, and although it includes the gamut of data management capabilities, it is far more than that. "It is a combination of unified technology solutions and strategy, coupled with implementation services that enable organizations to fully exploit and govern their information assets, resulting in competitive differentiation and sustained business success." SAS defines information management as the confluence of three important capabilities:

- Data management – managing and governing the data from a unified platform, including data integration, data quality, data governance and master data management (MDM), with the ability to access any type of data source across the enterprise.
- Analytics management – managing a portfolio of analytic models in a systematic way – including model development, testing, deployment and monitoring – and using the results of those models as new information assets.
- Decision management – embedding information and analytical results directly into business applications or

processes at the point of decision, and supporting a feedback loop as decision outcomes are cycled back into the process.

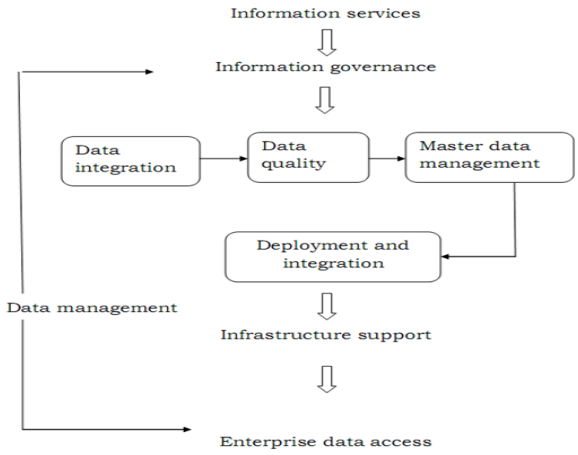

Fig 1: Information management - including data, information and decision insight [Source from: [8].

4. Strategic information in decision management

The Business Value "Data is only important if it can be turned into information that can drive valid decisions," said Troester. "Decision management is all about taking the analytics or information service and embedding that into the production system." For example, when a credit card organization is processing a card swipe, fraud detection should be embedded in that process. When call center agents have a customer on the phone or tellers have a customer at the counter, analytics should be giving them the information they need behind the scenes to make the most of the interaction – right now. The right IT architecture allows organizations to embed analytics into ongoing work processes in three ways:

- Automate decisions that must be made frequently and rapidly without human intervention, such as for fraud detection, real-time offers, dynamic forecasting and facilities control.
- Deliver analytics via Web applications or enterprise systems, for tasks where most of the needed information is available electronically, but expertise from a human is required, such as for supply chain optimization, sales forecasting and advertising planning.
- Manage information flow, workflow and collaboration, often drawing information from enterprise systems into desktop productivity tools, such as for case management – and closing the loop by factoring the results of analytics back into the process.

5. Conclusion

In the first phase, in the early days of commercial computing, information systems strategy was predominantly concerned with issues of the day and the efficient utilization of the technology for mainly operational purposes. From this perspective, information systems strategy may be viewed as having been fairly isolated from the rest of the business. There followed a period where more formal, 'top-down', business-driven strategies were commonplace, with the emphasis being for the most part on reactive effectiveness. Such strategies took as read the existing business plans and objectives, and attempted to identify information systems applications to meet those business needs.

6. References

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