# Basic resource for any organisation

## Introduction:

Information is basic resource for any organisation to its management. If the information is available on time it’s really effective for the management in its operations. The term information system usually refers to a system based on computer which is designed to support the operation, management and decision function. Management information system collects, transmit, process, store information and the system convert this data for management to make decisions and the strategy in the organisation.

## Reason for information system strategy

First let me clear the misunderstanding for those who don’t understand that whatever we do we have a strategy. im sure everything we do we have an objective to achieve that plan we make a plan that plan is strategy. Problem is strategy can be good or it can be bad or we may not have spotted that we can do much better if take the opportunity and environment into account. But there can be certain things give us a push to adopt a strategy and to achieve the better results for our business.

There are two distinct phases, the first one is quantitative and the second one is qualitative. The first part we talk about the research of different organisations. In each organisation we will talk about different key stake holders in formulation of strategy process. This phase of the research will be started when different stakeholders will be interviewed over 100 interviews have been conducted so far. For the second phase the potential sample size will be every HEI in the UK.

The first method tool which is being used to get samples in the first part is based on interviews and observation from which case studies are being created. The case studies created in part one will then be used to enlarge and increase upon present theory to grow a survey. This will be directed, using the results already recognized in qualitative research and different other organisations. This will bring the experimental sample to lots of other organisation which is adequate to learn any main defects in the survey. The second data-gathering tool will be a organized survey. The small size of the real people means that the survey can be given in all the organisations to at smallest three key stake holders or alliance frontrunners.

Earl suggests a multiple methodology to formulate an information systems strategy.

## Earl's multiple methodologies

Earl's multiple methodology provides a means of:

1. Clarification of the business needs and strategy in information systems terms.
2. Evaluation of current information systems provision and use.
3. Innovation of new strategic opportunities.

## 1. Top down – clarification

Earl's definition of a suitable method to clarify business needs in IS terms:

' A methodology that is easily understood and used by line and general managers, it can cope with varying robustness of business strategy, it does not consume too much time or resource, it can be repeated as circumstances inevitably change and, as a result of these needs and because

it could not achieve anything else, it points to directional IS needs and not detailed specifications.'

The ' Critical Success factors' approach meets many of the requirements of the definition.

There are otherssee ' Strategic Management and Information Systems' Wendy Robson

See ' IT Strategy for Business' Joe Peppard

**2. Bottom Up – evaluation**

Most organisations only have a vague understanding of the potential and capacity of their present IT systems. The technical perspective and backroom perception of IT may create a barrier. To understand the present systems a bottom up analysis is carried out. This involves an audit or survey. As well as the technical detail the user/specialist interface is examined. The value of the system to the organisation must also be ascertained.

In this evaluation the following questions must be asked:

How reliable is the system?

How easy is it to maintain?

How cost effective is it?

What is the impact on the business?

How easy is it to use?

How often is it used?

What is the state of our specialist – user relationship?

Other considerations might be the interactivity of the systems. These interactions and the evaluation can be shown graphically using systems maps or other means. The present systems can then be examined for strengths and weaknesses.

The top-down business approach and the bottom-up systems approach do not provide an opportunity to exploit radical new ideas for exploiting the competitive advantage of IT. The business approach examines the ‘ what’ and does not examine the ‘ hows’. The bottom-up approach is constrains radical thinking by the presence of the evaluation process and the strengths and weaknesses of the existing systems. A more detached approach is needed.

### 3. inside out thinking – lateral thinking

It is often inspiration and creativity that produces the bright spark ideas that can produce the beginnings of an IS strategy for competitive advantage. Ideas brought from unrelated sectors can often be successfully applied. The right atmosphere must be nurtured to produce this creativity.

Runge suggests the following six characteristics associated with IT innovation|:

The idea often emanates from a commercial manager.

The idea was backed by a senior manager who became the project champion.

The competitive advantage was added to an existing system; evolutionary process.

The idea was developed outside of the IT control constraints.

Customers were involved in the development.

The application was given a high profile and was marketed.

## External Analysis

The three legs of Earl's multiple methodologies have considered IS strategy from an internal perspective. It is important to also view this strategy from an external point of view i. e. competitors, customers, consumers etc. There are techniques that can help clarify this approach. The SWOTmethod is a suitable candidate that explores both internal and external perspectives.

A technique such as SWOT is useful when considering an external view of the three legs of the multiple strategies.

Porters five forces model is a useful model for considering the external perspective on IS strategy.

Boddy et al suggest that Porter's model can be used to construct an IS strategy.

## Considerations when using the multiple methodologies.

The use of methodologies does not mean a ' cookbook' attitude should be taken the implementation of strategies. Methodologies are useful overall

frameworks but the context in which they are used needs consideration as well as experience.

Experience suggests that:

- Significant differences existed in different firms;
- IS strategy formulation inherently seemed a more complex matter in some firms than others; and
- approaches in practice did not always match either the popular prescriptions or the accounts in case documented articles.

Infrastructure-led may emphasise leg 2 – bottom-up approach.

Business-led may emphasise leg 1 – top-down approach.

Opportunity-led may emphasise leg 3 – inside-out.

## Alternative approaches

There are many other approaches in structuring IS strategy. One such approach is Porter’s five forces model. This is also useful in conjunction with Earl’s methodology. The following is reproduced from Body et al.

## IS changes the basis of competition: opportunities and threats

Computer-based information systems are changing competitive conditions in many Indus-tries. There are many tools and techniques which can be used to analyse the relationship between strategy and information systems, depending on their purpose. In this book we can only illustrate one of these approaches, and the Five Forces model originally developed by Michael Porter seems the most appropriate to introduce. It can be used at the level of the individual firm to assess the possible impact of information systems on

the competitive position of the firm. A comprehensive account of the many other perspectives on the topic will be found in Robson (1997). Figure 4. 5 is based on Porter's framework, and a show that IS represents an opportunity to secure a strategic advantage by using it to strengthen one or more of these forces. Similarly, it represents a competitive threat, if other organisations are able to use IS more effectively in these ways.

## Information systems and the threat of new entrants

Managers can use IS on this force by using it to reduce the threat from new entrants by raising barriers, or by using it themselves to enter new markets.

Using information systems to raise entry barriers

The Caterpillar case illustrates that the manufacturer of the machine links the customer electronically with the service organisation. Because of that electronic link, it is not easy for a customer to go to another service organisation for repair and maintenance. This strengthens Caterpillar's position as a manufacturer and as a service provider. The system is so complicated, advanced and expensive that it is hard for existing competitors to imitate. It is even more difficult for new entrants in this market to develop a similar system. The box gives two other examples.

In the IS industry itself ' setting the standard' is very important to gaining a strong position. Most customers want to use equipment that has become established as the industry standard.

Examples are Microsoft word-processing software, Intel computer chips and Netscape Internet browsers. It is very hard for new entrants to overcome

these entry barriers, leading to a winner takes all’ situation in many sectors of the market.

## Using IS to enter markets more easily

The Caterpillar case illustrates how the company uses its information system to attain a stronger position in the maintenance market. The system can strengthen the relationship with buyers of Caterpillar equipment and provide them with a broad after-sales service. Caterpillar becomes a stronger competitor of independent maintenance companies in new markets.

Information systems and the threat of substitutes

Companies can use information systems to alter this force by differentiating their products, or by creating new ones which they can use to threaten competitors.

## Using information systems to differentiate products and services

The Caterpillar case shows the company using the information system mainly to improve the speed and quality of customer service. When the system notes deterioration the service starts immediately and the very capital-intensive machine will be repaired soon. This saves the customer a great deal of money. Other companies use the Internet to create and orchestrate active customer communities. Examples include Kraft (www. kraftfoods. com), Intel (www. intel. com), Apple (www. apple. com) and Harley Davidson (www. harley-davidson. com). Through these communities the companies become close to their customers. They can learn and innovate with product or service improvements that would otherwise be impossible.

The research summary box below explains why it is essential for information service providers to differentiate their products.

Using information systems to create new products and services Telephone and Internet banking are relatively new phenomena which have only become possible with new systems. The same is true of companies that use the power of database technology to offer new services in customer relationship management and direct market-in. Wide Internet access has generated a huge increase in businesses offering new services. These include electronic auctions, search engines, electronic retailers, electronic hubs (Data and Segev, 1999; Timmers, 2000; Kaplan, 2000), and Internet providers. Caterpillar created new maintenance services, and the next box gives another example.

Information systems and the bargaining power of suppliers

**Increasing power of suppliers**

can increase their power by using information systems to track much more closely the costs of providing services to customers. They can set prices accordingly, or decide that they do not want a particular piece of business. For example, airlines use yield management systems to track actual reservations against traffic forecasts for any flight, and then adjust prices for the remaining seats to maximise revenue. Stepanekz (1999) reports how Weyerhaeuser Doors uses an Internet-based system to, amongst other things; manage orders from its distributors. This allows the company to manage its internal processes more efficiently, but also to assess much more accurately the value of each order, and the overall performance of its

distributors. This enables it to refuse unprofitable orders, and to be more selective about the distributors which it supplies. Customer relationship management systems are a currently popular example of suppliers' ability to track customers' requirements more accurately, thus increasing the suppliers' power over the customer.

## Decreasing power of suppliers

Information systems can also be used the other way around. Customers can use information systems to strengthen their position in the marketplace at the expense of suppliers' power. Ford and General Motors have set up electronic marketplaces and urge their suppliers to use that system to match their supply with the demand of Ford and GM. The Economist (6 November 1999) commented:

Ford and GM's e-business revolution will not be confined to them alone. Their decision to go online will ripple through the 50, 000 or so firms they trade with. The car makers are careful to say that none of their suppliers will be compelled to use their new portals, preferring simply to express that the benefits-cost savings, the access to new customers, the faster time to market, the sheer value of the information will make it an obvious choice. But the reality is different. Ford and GM are investing a lot in their e-business infrastructure and great hopes are riding on it. Suppliers that want to continue to do business the old way will rapidly become ex-suppliers

– and before long ex-companies.

The next section about the use of information systems to change the power of buyers explores this theme further. This illustrates that information

systems are increasingly inter-organisational phenomena, rather than hidden back-office systems. Inter-organisational systems can be used to co-operate as well as to compete with business partners, whether suppliers or customers. Powerful parties tend to urge less powerful ones to adopt their systems.

## Information systems and the bargaining power of buyers

a good example of the balance of power being altered is when retail chains use modern communication technologies to make electronic links with their suppliers. Such systems reduce inventory costs and warehouse expenses and improve fulfilment time and information flows. For instance, they encouraged the further concentration of retailing firms which then had much more power over their suppliers. The retailer’s computer continually monitors its suppliers’ finished goods inventories, factory scheduling, and commitments against its schedule. The purpose is to ensure the stores always have adequate stocks. A supplier that is unwilling to join the system is likely to lose business. The box illustrates how Wal-Mart used this idea.

More generally, buyers can use the web to access more suppliers, and to compare prices for standard commodities much more widely than was practical with earlier technologies.

## Information systems and the intensity of rivalry

two ways of using information systems in the process of competitive rivalry are by reducing costs and through more effective management.

## Using IS to reduce costs

On-line inventory systems make it possible to make radical changes in manufacturing supply systems. This greatly reduces inventory levels, and the costs associated with them. Car manufacturers are only invoiced for components when the completed assembly leaves the factory. When the system knows that X headlamps have been used, it passes the information to the component supplier. They send an (electronic) invoice for the components used, and supply replacements. There are similar systems in retailing, where suppliers like Unilever and Procter & Gamble manage the inventory of their biggest customers. These inter-organisational systems reduce inventory costs – but not only through lower inventory levels. They also reduce the need for working capital and allow a (smaller) purchasing department to focus on non-routine orders and strategic supply matters.

The Internet enables large companies to transfer their purchasing operations to the web. Secure web sites connect suppliers, business partners and customers all over the world. This makes it easier for new suppliers to bid for a share of the available business, makes costs more transparent, and improves the administrative efficiency of the supply process.

## Using IS to enable more effective management

A travel agent’s branch accounting system can now provide detailed patterns of business to managers, enabling them to monitor trends more closely, and to take better-informed pricing and promotional decisions. Another example is Ahold, a Dutch retailer, which achieved much greater performance in the supply chain by using its data-mining capability and knowledge extraction in its customer database. Management information

systems can expand the span of control of individual managers, which can support the flattening of organisations.

These examples show that information systems may become opportunities for creating, supporting or changing generic strategies. On the other hand competitors have similar opportunities – there are also costs and risks associated with using information systems in this way.

## IS can also be a threat

New entrants in the financial services sector have been able to introduce telephone bank-in through call centres very quickly. They were able to take advantage of the fact that they did not have an established branch network, and so could use the new technology very quickly. The technology worked to the disadvantage of established banks with many local offices. They found it costly to close branches. The technology was an advantage to the new, a disadvantage to the old. This illustrates a more general point that, for all the potential opportunities, IS can also be a threat.

## Information systems enable new competition

Computer-based information systems represent opportunities for one business and threats to another company. In retailing, large chains have benefited at the expense of smaller

shops, large suppliers have benefited at the expense of smaller ones, and large retailers have more power over suppliers. Any use of IS by one company to enter a new market, reduce costs and so on, is a potential threat to a competitor. They lose out if they have not seen the possibility, or have managed implementation less effectively. The London Stock Exchange is

threatened by the fact that modern technology allows major institutions to trade shares directly, rather than use the market institution. The problem is increased by the fact that competing exchanges have implemented new information systems more effectively. They are likely to gain a larger share of a smaller market.

## Information systems place new demands on management time

Implementing a major system takes a great deal of management time – a cost that managers rarely include when evaluating investments. They require managers to look inward at (important) operational problems of staff, system design, and security. The danger is that they do not look at (even more important) issues of how to use the systems for strategic advantage. In other words: managers are often balancing between a ‘ problem orientation’ and an ‘ opportunity orientation’. Senior management frequently underestimates the resources required to implement new information systems, especially of managing the many organisational implications.

## Implementing an information system successfully is difficult

many research reports comment on the difficulties of implementing information systems. This is especially true of systems which involve many stakeholders with different interests or those which are innovative in other respects. They often take place in an uncertain environment, from a competitive as well as from a technological point of view. These uncertainties make it difficult to plan a change over a longer time. At the same time, the stakes are getting higher in terms of costs, people and other resources.

## Even when applications work, there may be downsides

Managers often buy in expertise for development, operations and consultancy. These suppliers become the main experts of a company's IS resource. This dependency can be misused. Their lack of knowledge and insight in the organisation causes major problems. They have difficulty in negotiating successfully with the external providers and crucial company knowledge becomes the asset of other companies.

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