

## Data, knowledge and communication: the information value chain

Chris Gledhill, Managing Director, PDMS

Oct 2001

In a recent opinion piece in the Financial Times the columnist Michael Skapinker put forward the proposition that "the internet age has yet to find a satisfactory notion of management". Or, to put it another way, business is so complex these days that it is almost impossible to manage effectively. The article goes on to list some of the major shifts in management thinking and business organization which have accompanied the massive step changes in productivity that have occurred over the last hundred years or so. For example, Henry Ford and the move to production line systems of manufacturing or the emphasis on 'Total Quality Management' which was associated with the rise of Japanese manufacturing in the seventies and eighties.

The challenges a new theory of management would have to address today include human or indeed moral issues such as the working conditions of workers in low cost jurisdictions or, closer to home, the need to combine a more automated approach to the delivery of services with sufficient human contact.

So why are these issues associated with the 'internet age' and what do we mean by this in the first place? In this article I would like to take a step back from technology itself and examine some of the organisational challenges and opportunities that define our times.

### Everyone is a user

The internet holds the promise of huge productivity gains, as consumers become their own order entry clerks and paper forms, brochures and other printed items move on line or are downloaded and printed at the customers expense. The trade off for the consumer is the promise of greater convenience, improved service and potentially lower prices. However, in order to achieve these benefits an organization has to present its systems to a completely new community of users. Whether it is a customer entering an order on line or a supplier updating information on a Business to Business exchange, we are dealing with a completely new context for designing systems.

Most large organizations in both the public and private sectors tend to have a fairly complex structure which will reflect it's history and politics as well as the individual functions and locations which combine to manage and deliver products and services. Most employees will be expected to devote many working hours to understanding and working with the peculiarities of this particular machine. An external user on the other hand, neither knows nor cares how your business is structured, they know what they want to know or do, and expect the systems they encounter to be structured accordingly.

Systems which have been designed to reflect the way a business is structured often do not make any sense to a user from outside the fold and a customer simply does not have time to go on the employee's induction course. Joking aside, it is quite surprising how much of a culture shock it can be for an organisation to see its systems from the point of view of a complete outsider. The whole focus moves from 'this is how we do it' to 'this is what I want to do'. Both the organisation and its systems become subservient to the services they provide. The process and the transaction become far more important than the business that delivers them.

## Reclaiming the customer relationship

However much businesses would like it to be otherwise, we live in a highly commoditised world. Whether it is financial services or consumer electronics, most purchases are made on a combination of brand recognition, price and above all convenience. In this context it is interesting to think again about the business model for a product or service and to consider the lifetime of the 'transaction'.

If I buy a consumer item such as a fridge, I will tend to assume that the shop never wants to hear about that transaction again (especially since I never buy the extended warranty) and that the manufacturer will breathe a sigh of relief when the warranty period has expired. After sales service is essentially a cost in this model. However, my relationship with the fridge will go on for years, and this is where the opportunity to add more value comes in. The manufacturer knows who I am (assuming I sent in the warranty registration) and what model I have, they should be able to supply the correct parts if I need them, predict when I am likely to need a replacement and always know who I am when I call. In other words, another way to look at the lifetime of the 'transaction' is the lifetime of the product and its eventual replacement.

## Owning the relationship means controlling the flow of information

Because processes and the data associated with them have become so important and because data can be moved anywhere in an instant to gain whatever economies of scale, location or specialisation may be available, interoperability of systems has become much more important. For example, it is interesting to contrast the challenges of a vertically integrated organisation with those associated with outsourcing of non core activities. Arguably a vertically integrated organisation requires much less flexible systems in that it retains complete control over the flow of information from order to fulfillment and on to after sales service. Outsourcing on the other hand requires much more flexible and sophisticated systems in order to maintain a consistent service throughout the life of a transaction. However, provided this can be achieved it provides for a far greater degree of flexibility.

If we consider the mail order industry there are companies like Littlewoods that do everything from product purchasing through inventory management to logistics and delivery and provide consumer credit into the bargain. At the other end of the spectrum are tiny specialist mail order suppliers who know a great deal about their product but don't even process their own credit cards. My point is that wherever an organization or brand sits in this spectrum, the relationship with the customer is owned by those who control the flow of information. For example if we buy

a book from Amazon they control the relationship not the publisher of the book or the company that delivers it to our door.

## From data to knowledge via expertise

We live in an incredibly complex world. At some level every purchasing decision we make is hugely technical. Most manufactured goods, from a can of beans to a private jet, involve fantastically sophisticated technology in their manufacture and in their supply chain. But, fortunately, we don't usually need to concern ourselves with the detail. Most well established products are judged against a few standard criteria, for example a car will be judged on its government performance and economy statistics rather than on the quality of its engine management software.

Notwithstanding government statistics and the views of the presenters of Top Gear, many products and services are difficult to evaluate without a lot of information and new ways of providing information forms the basis of the 'internet age'. However, as we all start to go slightly mad under the weight of information that is waiting to be assimilated it is gradually dawning on us that information on it's own is not enough. The new buzz is about knowledge, we all want our systems to be smarter.

The grand vision is of a system to which we all contribute our know-how piece meal which then imbues everyone in the organization with the sum of its accumulated expertise. Naturally this is complete nonsense, but the important word is expertise because it takes expertise to transform information into knowledge and it also takes human skill to make technical knowledge accessible to the non expert. In a connected organization the management and provision of expertise is undoubtedly important, as is the efficient processing of transaction information. But the real trick is to connect them in support of the customer relationship. My ideal organization in the internet age knows how to connect me to a person with the expertise I need to make a decision and that expert has all of the information he needs to help me at his fingertips.

I started this article inspired by the apparent lack of an all encompassing theory of management for the 'internet age', and whilst I would certainly not purport to have answered that question, I do think that some interesting themes are emerging.

The first, which derives from the statement that everyone is a user, implies that businesses should try to shape their organization and systems around the consumer's perspective and needs rather than their own internal structure.

The second is that the ownership and duration of the relationship with a customer is much more important than who supplies each component of a service; hence the emphasis on Customer Relationship Management in the IT press at the moment.

And finally although making computers more 'knowledgeable' remains a holy grail for the IT industry, I believe that the real challenge lies in enhancing the productivity of that scarcest of all resources, the human expert.