The "Knowledge Economy"

The term "knowledge economy" has become a bit of a buzzword over the past few years, and it has been used to cover a number of different concepts.

One such concept is the need for "knowledge transfer" between academic and research establishments and high growth businesses (through "knowledge transfer networks").

Another is the move away from manufacturing or other labour intensive industries (where work has increasingly been "off-shored" to countries such as China, India and Eastern European countries) to more "knowledge-based" work.

The consultancy Gartner uses yet another description of the knowledge economy, saying it is based on the "creation of knowledge in a high performance workplace".

None of these descriptions relate directly to IT but, in line with the Lisbon strategy, the Regional IT Strategy recognises that "whilst a 'knowledge society' and IT are not synonymous, IT (the infrastructure, its take-up and – above all- its exploitation by business, community and individuals) is a pre-requisite".

In order to understand the significance of this we must understand what knowledge is, how it is exchanged and how it can create value.

What is knowledge?

A good starting point is to define 'knowledge' in relation to 'data' and 'information'

Data can be described simply as "numbers, words or pictures without context."

soufflé; red; armadillo; 9889900; 12 o'clock

Information can be described as a "collection of words, numbers or pictures which have meaning derived through context". E.g. The restaurant will be serving soufflé from 12 o'clock.

Knowledge is where we take in and understand information about a subject and form opinions, make judgements, make forecasts, and accordingly make decisions. We do this by using rules about the world that we have worked out through having lots of information from the past. E.g. the restaurant always opens at 12 o'clock during the week and the specials will be written up on a board outside – you need to book on Fridays.

Data leads to information, and information leads to knowledge.

How is knowledge exchanged?

However, there are also different types of knowledge. These are commonly referred to as "explicit" knowledge – that which we can write down in order to share it – and "tacit" knowledge – inherent ability, perhaps learned over time, that the individual isn't necessarily aware of. This term is now commonly used by business management consultants to describe the stock of expertise within an organisation which is not written down or even formally expressed, but may nevertheless be essential to its effective operation. Think of the 'knowledge' that leaves an organisation when a key employee moves jobs regardless of what they have written down about their role.

A simple way to differentiate the two is to consider how an individual might learn to make a soufflé. You can give them the recipe – a list of ingredients and instructions about how to prepare and cook them (explicit knowledge) but they may take many attempts to get a perfect result. If the same person works alongside an experienced chef who just "knows" how to make a soufflé, the chances are that they will acquire the relevant skills much more quickly.

This definition of knowledge throws light on the role of computing and communications in sharing and creating knowledge.

Computers are particularly useful for the codification, storage and retrieval of 'explicit' knowledge. Increasingly sophisticated tools have been developed over the past couple of decades to 'mine' repositories of data, information and knowledge in order to create new knowledge. 'Knowledge bases' are created out of the experience, problems and solutions generated by communities of users. An example would be a help desk centre which records every logged enquiry and solution and identify common issues and develop solutions accordingly.

Computers are generally less good at dealing with 'tacit' knowledge but can have a significant role to play in connecting people with experts and creating an environment where some tacit knowledge can be shared in collaborative online environments.

How does the exploitation of knowledge create value?

The old adage that "knowledge is power" gives rise to the idea that individuals and organisations must protect their knowledge and treat it as a vital asset which equates to competitive advantage.

Unfortunately this is rather too simplistic and, paradoxically, creates a tension between employers and their employees. Whose knowledge is it? How does the company realise competitive advantage from it? How does the individual benefit? Why should employees share knowledge?

In fact, employees no longer expect a job for life and there is consequently an increasing mobility in the workforce where skills an knowledge are traded. They are often guarded from the very employers who should be benefiting from them.

This environment has led many larger companies to implement "knowledge management" programmes. Lew Platt, former CEO of HP, is famously quoted as lamenting "if only we knew what we know at HP".

The result, for corporations such as Xerox, BP and IBM, was to invest more in understanding how knowledge gets shared within an organisation to create benefits. Xerox, for example, realised that much of the knowledge about how to support and maintain large photocopying machines was being generated by field operatives. The company invested in a global extranet to support knowledge transfer and introduced policies that encouraged and incentivised sharing of knowledge that would increase customer satisfaction and profitability.

Larger companies have also become much more proactive about working collaboratively with customers and suppliers – the combined knowledge they hold can unlock opportunities for efficiency (for example) in planning and scheduling, production and distribution.

In terms of explicit knowledge, the larger consultancies have for some time realised that knowledge does not represent power – it is the ability to build value with that knowledge that is important. Much more codified knowledge is now shared by such organisations freely – it builds the credibility of their operations and advertises their cores skills of analysing data and information in order to create actionable knowledge.

What does this mean for business?

Ubiquitous availability of broadband and mobile communications are opening up similar opportunities for smaller companies. Researching new ideas and markets is much simpler than ever before so it can be quicker to assess opportunities and take them to market. Companies that identify knowledge / skills gaps in relation to specific projects or overall growth will also find it increasingly easy to identify where knowledge exists outside the

company (through virtual communities and online business networks) and to collaborate (often electronically) with new business partners.