

IT INNOVATION – BEYOND AUTOMATION

Authors in alphabetical order: David Elton (PA Consulting), Rob Gear (PA Consulting), Dr Carsten Sorensen (The London School of Economics and Political Science)

There is little doubt that Information Technology (IT) has made a difference. One doesn't need to look at statistics (although such abound) to conclude that productivity, product availability, response times and other measures have all been changed by IT.

And technology certainly maintains an enduring appeal. From the first moment, depicted in the opening scenes of 2001: A Space Odyssey, that man felt the power of technology (in this case a large bone) in his hand, to the rush to spend large sums of personal money on the latest wireless nano-devices, we have been fascinated by technology. Rightly so – technology is the most obvious manifestation of that uniquely human characteristic – the restless mind.

But is IT just innovative, or does it enable innovation? Can the application of IT stimulate innovation? To answer this question, we need to start by looking at the way people work and the way they work together, which is where innovation starts. The reason we need to look the way people work, and the innovation that creates, is that technology does not create change itself. Rather it amplifies change and its effects. In fact IT itself is just one of a set of ingredients that includes the business model, energised and creative employees, and a supportive management and culture that are essential for innovation.

The way people work

The way people work has got more complicated. The traditional cycle of innovate and then improve has become blurred as the two take place increasingly in parallel. Whereas once the CIO could focus either on helping the business improve service levels, or look for innovative new ways of doing business, today the demand is for both.

Many CIOs report that the day-to-day tasks and challenges that are essential to keep the business running smoothly leave little time in the day for innovation. Often a lack of time, budget, or good people is cited as reason for a lack of innovation within the IT department. Therefore in the mean time, IT has continued to focus primarily on improvement. The primary objective has been to use IT to find more ways to automate, to improve efficiency through automation and to drive out errors.

However, when the business finds itself having to work at both improvement and innovation in parallel, this extends the requirement for IT. Instead of there being one priority – to achieve productivity gains through automation, recent PA research with the London School of Economics identifies four different categories of IT application. In each area the potential exists to use IT to amplify benefits on the scale already seen in automation.

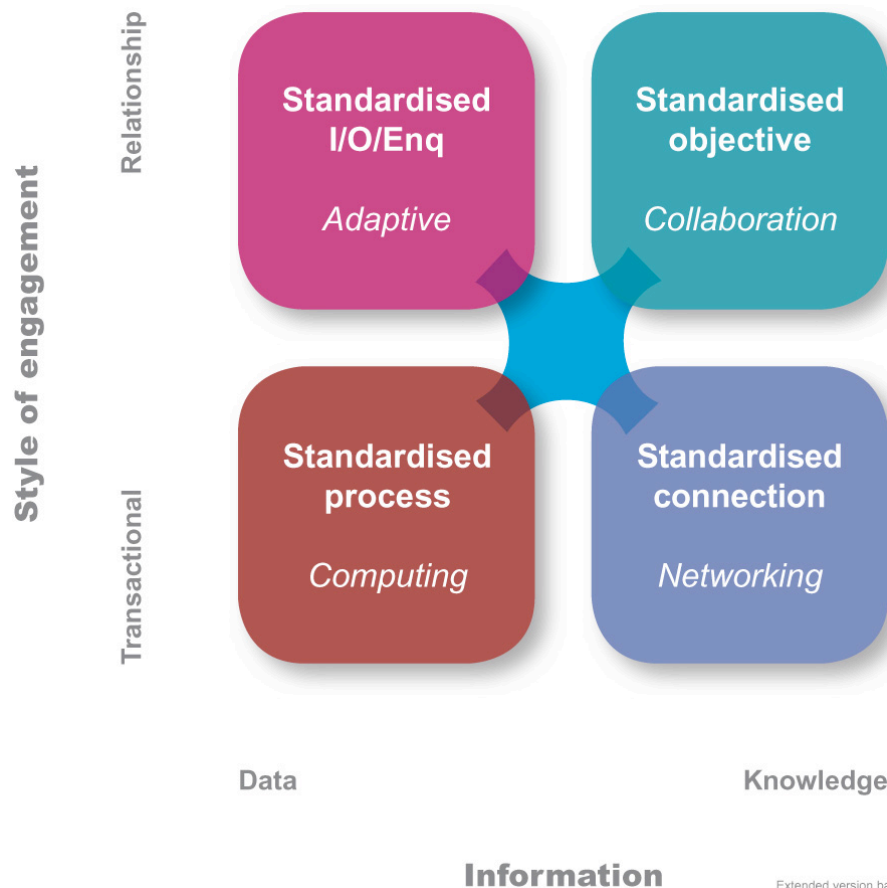


Figure 1: Different IT for different ways of working

Figure 1 shows four different ways of working and the corresponding IT applications. We can think about the way people work together and share information along two axes – the information that they use and the style of engagement. This gives us four styles of working together and sharing information. This is quite important because, theoretically at least, it suggests opportunity to gain value from IT across a much wider range of applications, and to use IT to support collaborative working, which could lead to faster innovation.

Achieving an effective IT strategy that will enable and underpin successful innovation will require on balancing and matching the four information services types in figure 1. Standardised computational services to automate basic tasks; networking services to provide a mechanism for sharing information and making decisions; adaptive services to listen to and engage with users; and collaborative services to enable users to work together effectively to achieve shared objectives.

The process automation miracle

If we look at typical approaches to IT in business, they tend to be driven by a desire to provide more cost effective business processes (see figure 2)

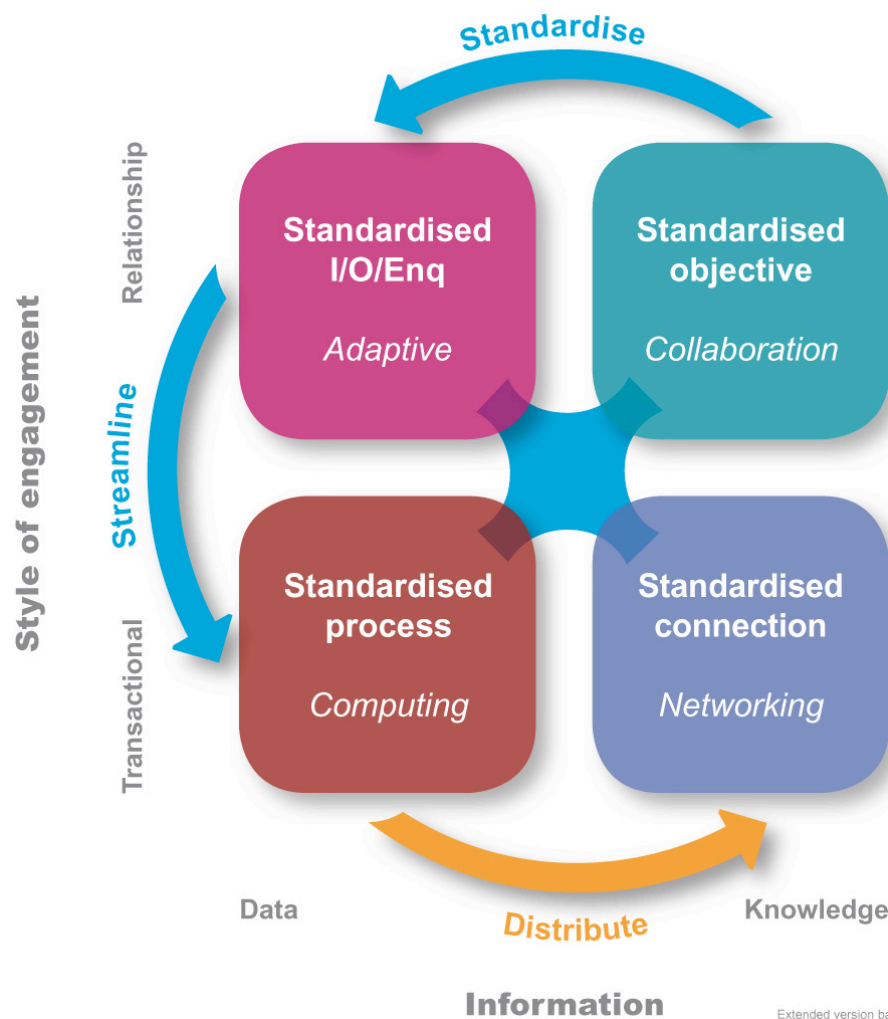


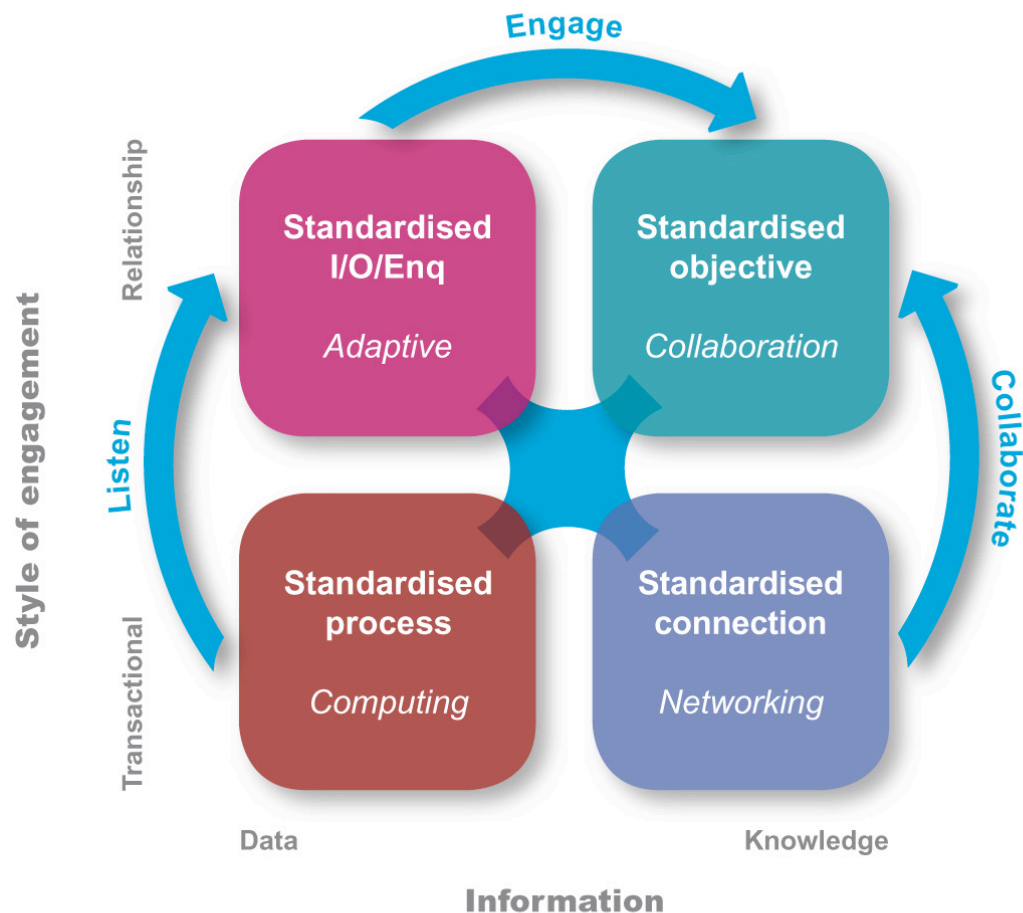
Figure 2. Traditional IT strategy

The strategy is realised by defining business processes and then developing applications and infrastructure to support the business processes. A simple example of this trend is to look at how opening a bank account has changed over the last 40 years. The starting point (many years ago) was a collaborative engagement between bank and business. As systems became established, the engagement continued to be personalised and adaptive (done in the context of a relationship) but the information used became increasingly standardised. Further streamlining allowed the work to be boiled down to fully automated, people free transactions. In a final twist, the internet has enabled a market for such processes, through meta-services such as Moneysupermarket.com and Kelkoo.

Restarting innovation

This is of course brilliant because it allows costs to be massively reduced and service levels to be similarly increased – a double win. The problem that emerges in the aftermath is that people – customers, suppliers, and staff – are increasingly excluded from the process, and with it, the capacity to innovate.

So what if we were to try and do the opposite, as shown in figure 3?



Extended version based on Mathiassen & Sorensen, 2008

Figure 3. IT strategy for adaptivity and collaboration

In this scenario we add back listening, engagement and even, potentially, networked collaboration. This opens up the possibility of using IT to amplify, on a massive scale, adaptive and collaborative ways of working. The trick is not to compromise the automation, but to add to it. This can be quite a subtle process.

Some of the most interesting examples can be found where ICT is used to support relationships when people work together collaboratively. Platforms such as Wikis can be far more suited to collaborative working than networking technologies such as mobile phones and emails, as anyone who has tried to collaborate on a document in a large group via email will attest! Another simple but useful example is the increasing use of blogs by quite traditional organisations, as a new channel for communicating with customers, staff and suppliers. The technology is simple; the impact can be large and possibly risky. Our research has indicated however that blogs can be one of the things that lights the touch-paper on a more collaborative (and consequently innovative) culture.

The point here is that it is not the investment in technology that is big, but rather the risk of unleashing a more powerful phenomenon than expected.

New shape for IT strategies

All this suggests that, if IT is to be used to amplify innovation, there is a need to expand the scope of the traditional IT strategy. The scope for IT strategies should cover not just one business objective, but four, as illustrated in Figure 4.

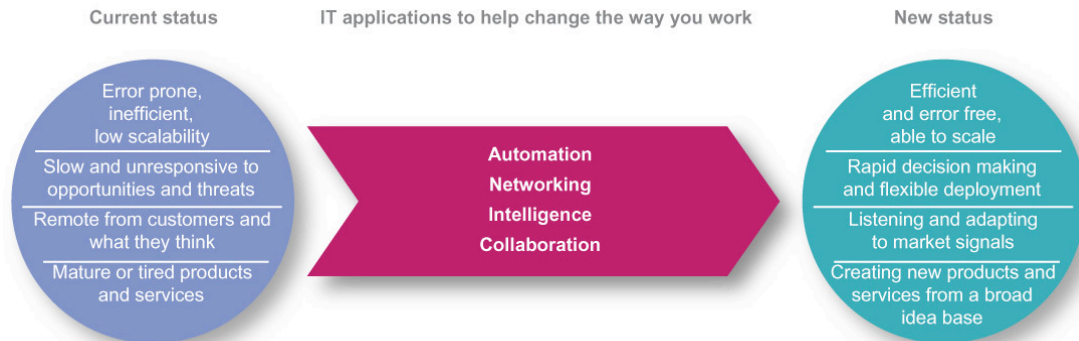


Figure 4. Four IT strategies in one

Automation remains critical, to improve efficiency, reduce error rates and achieve rapid scalability. But on its own, it can start to stifle innovation. To stimulate innovation you need to build people back into the process. The value in IT will increasingly reside in its ability to build and support *communities* of users both inside and outside of the organisation. A simple formula for doing this is to use the four types of IT application in combination:

- **Automate as much as you can.** If you are satisfied with current levels of automation look again. The chances are that there are still errors and inefficiencies to work on. And so long as your processes have errors in them (i.e. they don't work) people will spend time fighting processes rather than innovating. When people complain about a system that is a signal that automation is not streamlined. Getting the automation right is important because unless the basics are working well, it will be extremely hard to develop the personalised, adaptive and collaborative services that are fundamental to customer enablement and collaboration.
- **Customer enable your processes (add adaptivity and networking).** Customer enablement, on line, in store, on the road, is critical to creating an adaptive service, by putting the customer in control. You enable customers by making the processes simple and reliable enough for them to use and distributing them to where the customer wants to use them. If you can make systems and processes simple and reliable enough for customers to use, you can hand over the work to your customer. This is not shirking your responsibilities; customers love it because they become empowered. They adapt your service to suit their needs. Empowered customers who feel that they are part of a mutually beneficial relationship with an organisation are more likely to remain loyal and engaged with its products and services.

We are seeing more and more organisations beginning to capitalise on this customer enablement. Slim Media and Tonium (manufacturers of a media server and a handheld device for mobile Disk Jockeys respectively) have engineered a community around their products, which allows users to solve

each others problems, share content, network, and develop new features and enhancements.

Meanwhile, mobile search provider Cha Cha delivers an automated search engine to mobile devices, but users' queries are actually answered by humans, ensuring a far more meaningful and personalised response. This will ensure that their users will be more likely to use the service again thereby strengthening the brand and the customer relationship.

If you need a golden rule it is this – you can't make things too simple. If you have complexity, ask if it is necessary, because complexity makes things hard for people

- **Add discretion to act (by encouraging collaboration).** An automated, customer enabled business is still a machine. It is a shared machine, but it is still a machine. It will change only slowly. Innovation will be stifled. The last 10% of getting IT to work is about creating discretion to act – to change the way the organisation works. Discretion is a difficult thing to create, particularly in highly automated, hierarchical organisations. It depends on people – customers, staff, and suppliers - using their initiative when working together. It depends on collaboration. IT has the potential to recreate collaborative working, and build communities, possibly on a vast scale, and change the rate of innovation in organisations. Go look at the Netflix Prize to see how culture and technology can combine to create collaborative working and innovation.

Firms that use IT to automate the errors and inefficiencies out of their processes, empower customers to take their products and services when and where they want, tailor, adapt and personalise to meet customers' needs, and add collaboration to innovate, will find they are able to transform the IT department into a powerful driver and enabler of innovation. The whole company and its customers will reap the benefits of continuous and parallel improvement and innovation.

Reference:

Mathiassen, L. & Sorensen, C. (2008) Towards a Theory of Organizational Information Services. Journal of Information Technology, vol. 23, no. 4.