

Disruptive technologies in IT

Jason Connolly, director at Next Generation IT, looks at how the way we use technology is rapidly changing



The IT industry has moved into a new phase of rapid change with many disruptive technologies, such as cloud computing and the convergence of mobile technology with traditional business computing. This is giving rise to step changes in the way the technology sector operates, opening many opportunities for innovative businesses.

A disruptive technology is an innovation that creates a completely new way of doing things or a new market that eventually disrupts an existing market and ultimately displaces an established technology. Disruptive technologies create a step change the evolution of working practices and are not a new phenomenon. Some examples of new developments and the technology they disrupted include post by email, mainframe computers and typewriters by the personal computer, and film photography by digital.

The internet

The largest disruptive technology of our age, the internet, has had a fundamental impact on the way we work, live and play. It has had significant impact on our shopping, the way we consumer news, buy music, do our banking, watch television, even gambling.

Cloud computing – infrastructure as a service

The most disruptive technology in a business context is cloud computing and is the natural extension of the impact of the internet to business IT infrastructure. It supplants onsite server and communications equipment, instead using online resources to provide applications, communications infrastructure and storage. The hosted system provides all the facilities that used to be provided by the onsite server infrastructure. Organisations need only a connection to the internet or a fibre link to the datacentre, eliminating the need for a server room and reducing the need for onsite IT staff.

This is particularly beneficial to smaller businesses which can access enterprise capabilities at a fraction of the cost, paying on a usage basis every month. For instance, NGIT's 'Office Anywhere' service provides remote access facilities and sync with mobile devices built into the service. The system is built on enterprise server and storage infrastructure providing a high level of performance and resilience, and hosted in a local datacentre with a fast internet pipe into the datacentre.

This provides a fast and resilient infrastructure at a fraction of the cost of buying an onsite system, but also provides inbuilt scalability, access to facilities only available to larger organisations.

Hosted applications – software as a service

The cloud concept can be taken further so that individual applications are hosted by the vendor. Salesforce.com has been particularly successful with their CRM system, but now Xero is gaining popularity with its accounting software. As time goes on, more and more applications will go this way.

These services allow users to access these applications via their web browsers as they would with desktop applications. Hosted applications are deployed easily as they require no upfront installation and the application is managed, maintained, backed up, patched and monitored by the service provider.

This service provides all the benefits of IaaS and also the advantage that the application software is continually updated leading to much more rapid development of functionality and features.

Future disruptive technologies

Gazing into my crystal ball, the following technologies are likely to be the biggest game changers in the near future.

Internet of things. Sensors on devices, clothing and almost anything will communicate wirelessly over the internet. There will be major impacts on manufacturing, retail, healthcare and business.

Advanced robotics. Exoskeletons, artificial sight and hearing will revolutionise healthcare. Artificial intelligence will automate knowledge work in all sorts of fields, including education, legal discovery, accounting and investments.

3D printing. The potential to revolutionise manufacturing, enabling almost anything to be made at the point of need, and each item individually customised and created without a minimum quantity.

Fintech. A ubiquitous term for technology applied to financial services. Fintech start-ups are threatening to shake up traditional financial services, including money transfer, asset management and crowdfunding. Typically disruptive start-ups use their small size and lower costs to provide niche services. They use technology, such as cloud computing, to provide mobile device-friendly systems and utilise social networks to deliver services to a wide audience at minimal cost.

Disrupted technologies create significant business opportunities for adaptive and forward-looking businesses. The Channel Islands are in a good position to spearhead fintech in particular, with leading expertise in both technology and financial services. We can use technology to access new markets with innovative services, providing easier access to financial services to a wider audience.