

Intelligent buildings: giving shoppers a better telesperience

By Teresa Cottam

Defining the intelligent building is tricky

Telesperience is all about how people and technology interact to provide an improved experience, and how this, in turn, affects the commercial experience of businesses providing the services. An interesting example of this in action comes in the form of the intelligent building - but defining an intelligent building is actually far from straightforward.

Why is one building more intelligent than another? There's no easy answer to this question. It's an area where different vendors, architects and builders define the requisite attributes differently. However, what all intelligent buildings have in common is that they use IT and telecoms technologies to deliver an improved telesperience for tenants and potentially for their customers as well.

Perhaps we should go back a step and look at why buildings are becoming more intelligent in the first place. Rather like the environmental forces that cause organisms to evolve, likewise a number of commercial, social, economic and environmental factors have stimulated the requirement for improved performance from buildings. A building now has to adapt to the ever-changing needs of the businesses that use it – to be successful it has to deliver against their goals. An intelligent building provides a range of benefits to businesses and their customers including:

- enhanced communications – such as Wi-Fi hotspots, improved telephony reception, and new value-added and location-specific services
- remote monitoring and control of building systems such as lighting and heating – which also helps with environmental targets
- security and safety – improving access control, intrusion detection, building safety and the protection of occupants
- asset management - tracking and monitoring both physical assets and personnel via technologies such as Wi-Fi and RFID.

Ultimately these types of benefits should translate into two key deliverables for businesses: reduced opex and an enhanced customer experience. They also offer the possibility of increased revenues.

The first stage of improved intelligence is increased operational efficiency

Intelligent buildings have been around for a while – particularly in the US. But early visions of voice-activated doors didn't really excite people. Applications therefore tended to be confined to more mundane things such as lighting and HVAC. Mundane they might be, but these applications have

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become much more topical due to the drive to improve efficiency to combat both rising energy costs and global warming.

IT systems can really help with the job of managing the environment inside buildings, providing a more pleasant and yet more efficient environment. Consider lighting and heating, for example. Lights produce considerable amounts of heat that in summer needs to be cooled by air conditioning systems. By integrating the two and allowing IT to control them both you can, for example, turn down the amount of electric lighting in summer when there's more natural light available, which in turn reduces the amount of cooling required and saves energy.

This is just one example of how intelligent buildings deliver lower operational costs and a lower carbon footprint – giving their tenants and owners an operational advantage.

Technology provides the foundation for service innovation

Intelligent buildings also offer the possibility of improving the ways companies do business through enhanced customer satisfaction and by offering differentiation. A good example of this can be found in the shopping centre. There are lots of places people can shop: the high street, the local shop, the out-of-town superstore, the large shopping centre (or 'shopping mall' as our American cousins like to call them). There are now so many options that shopping centre owners need to offer an improved and differentiated customer experience to attract, retain and upsell customers, which in turn attracts the tenants they require.

Shopping centres have long differentiated themselves through the built environment, but are increasingly turning to IT and telecoms to help them. A combination of technologies are being implemented to deliver this improved and differentiated experience - including fast and secure fixed and mobile access based on IP networks, along with technologies such as Wi-Fi and RFID. Location-based technology is of particular interest, as it delivers the possibility of contextualised promotion and information services. Face recognition technology is being employed both to ensure criminals can be prevented from entering centres and also so advertising can be tailored to the current demographics of the customers in the centre.

A particular target for this technology is the army of men accompanying wives and girlfriends on Saturday shopping trips. It is envisaged that technology can provide services that keep them entertained while they wait, which centres hope will encourage shoppers to spend even longer in the centre.

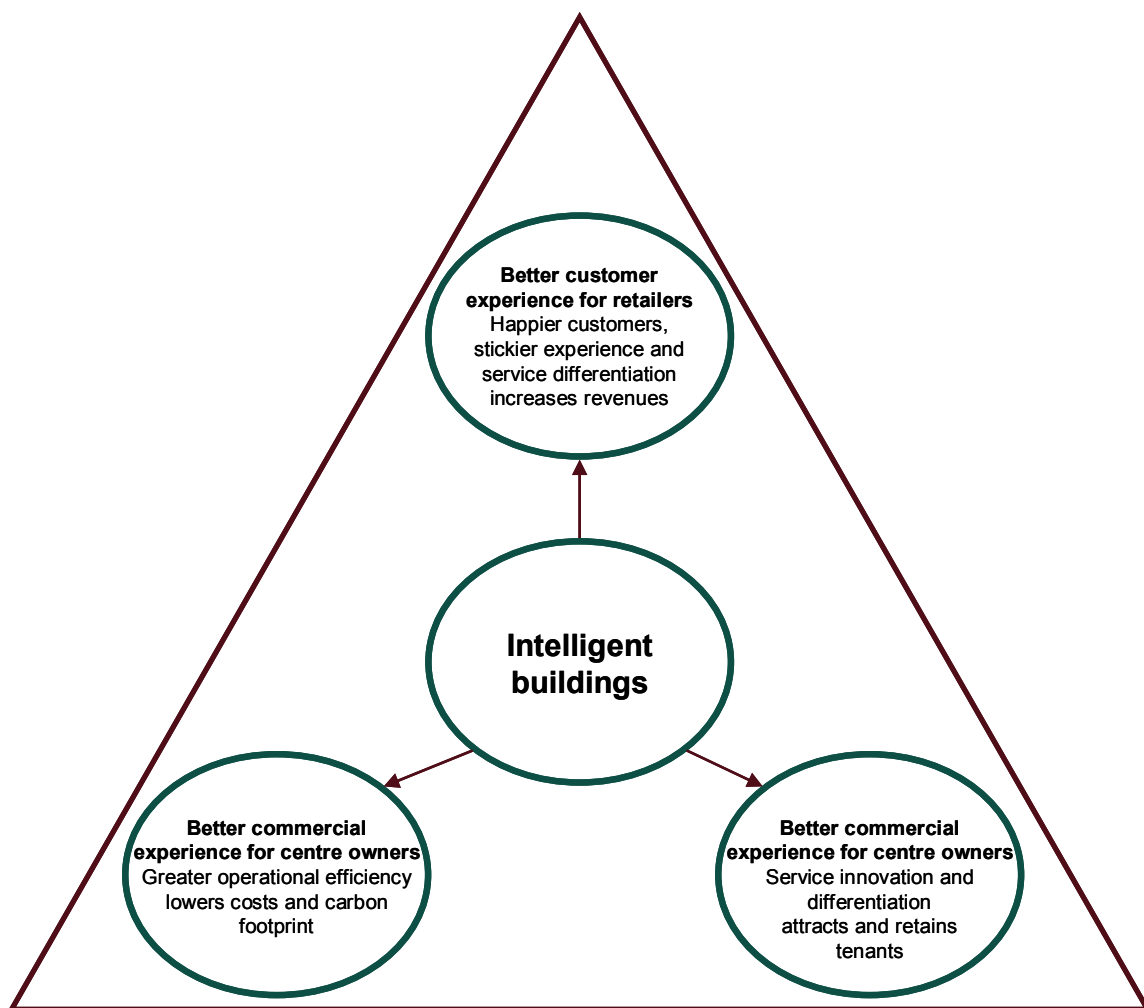
Innovation will be driven by marketers dreaming up suitable services, but they will only be able to do this if technologies are deployed, embedded and convergent - providing the foundation for innovation. What is expected is that over the next few years truly intelligent buildings will become more widespread, and over time these will become even more intelligent as innovative services are

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added. Service innovation will mean that customers will quickly begin to perceive this intelligence in the form of enhanced levels of service.

Intelligent buildings therefore offer the potential of both a better customer and commercial experience – making great business sense.

Figure 1 Three core benefits of more intelligent buildings [Source: Telesperience 2009]



Case study: Westfield London

The new Westfield London shopping centre opened to great fanfare in October 2008. It is located in Shepherd's Bush and was developed by the Westfield Group at a cost of £1.6b. Although much has been written about its launch and its impact, a lesser known fact is that it is an example of an intelligent building, which uses embedded telecoms and IT services to improve its efficiency and enhance both the customer and retailer experience.

Westfield London customers benefit from a range of telecoms- and IT-based services including interactive directory boards, free Wi-Fi services and digital signage. Valet parking tags allow customers to press a button to alert the concierge team to fetch their car and have it waiting outside the valet lounge for them; while handsfree shopping Wi-Fi tags means that your shopping can be sent to one location for you to collect – no more trailing round the shops with ever longer arms!

Technology also benefits Westfield's retailer tenants. The free public Wi-Fi service, for example, allows retailers to access information via the Internet and showcase products such as mobile phones, PDAs and laptops from within their stores using the Westfield data connection.

Westfield is also considering other telecoms- and IT-based services, but emphasises that just because something is technically possible does not mean it will be implemented, as a range of factors need to be taken into account. It has considered implementing a child tracking service, for example, but while this is attractive to some parents there are still issues to do with safety and privacy that need to be ironed out before the service can be considered for rollout. Other location-based services are also being considered, as well as more interactive functionality with consumers via Westfield directories.

Innovation is, however, the name of the game, and the network has been designed to allow retailers to use the telephony and data infrastructure. Westfield has evaluated the possibility of providing retailers with internet connectivity and telephony service offerings and this is currently being trialled by a number of retailers in the centre.

Westfield says that the consolidation of building control and monitoring systems has provided the company with a huge opportunity to improve the sustainability and operational efficiency of its building. Central monitoring and control of the airflow, temperature and lighting are just a few examples of how it is doing this.