



Marketing

A Futurizon Report

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Contact details: info@futurizon.com or idpearson@gmail.com

Author: Ian Pearson BSc DSc(hc) CITP FBCS FWAAS FRSA FIN FWIF

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info@futurizon.net

INTRODUCTION

Marketing has to adapt to social and cultural change all the time, so change is nothing new. What is new is the rate of transition of such a wide range of activities to new platforms such as the internet, and even this won't give stability. Marketers face big challenges, but the opportunities are also rich for those that are agile enough. New platforms are new to customers as well as marketers, so marketers that can be bang up to date have a strong advantage over the bulk of customers to whom the web is still relatively new. They are more vulnerable to marketing when they don't recognise it. So while people may already be expert at avoiding or ignoring TV and newspaper ads, the range of approaches available through other newer platforms more than makes up for this, and though each new approach might only last a year or two before customers get used to filtering it too, by then there are always new technologies coming along that offer new techniques. So change is only a threat to marketers who can't keep up. This report looks at a range of new technologies, a few of which are already becoming familiar, but mainly those that are still in the future for everyone except researchers.

But first it is important to look at some background changes that will affect the ways in which new technologies can and should be used for best effect, such as demographic changes.

DEMOGRAPHIC CHANGES

The UK population is changing quickly, and over time, we will see enormous change in the population makeup. The two main trends are ageing, which is well known, and migration, which is often misunderstood.

An ageing population has different needs, but people don't get old suddenly, and we will not suddenly have an older population that can't cope with technology. Rather, tomorrow's older population will be much more familiar with networks and gadgets than today's, who are also becoming more familiar with technology, and they will be adept at using networks for their own purposes when it suits them. There have been some recent backward steps, such as selling by pounds rather than kilos, which is forcing yet another generation of kids to become bilingual just to save a little effort by a small fraction of the population. This is important because it is one of the many 'weak signals' pointing towards inter-generational conflict, which will be a major factor in tomorrow's UK society. With a large and politically powerful older group, many of whom will be living on pensions that have been underfunded, tax rates will have to rise substantially, while the people paying those taxes will have less say in what is happening. This will lead to a great deal of resentment, and young people will consider that many of the problems are essentially self inflicted. Pension deficits will not have occurred by accident, but because many of the pensioners will not have bothered to invest properly in their pensions. Even for those that did, actuaries are still not taking sufficient account of future medical technology and corresponding extension in life spans, so almost all pensioners will cost far more than they have contributed. Add the pressures of over-population, increasing health care costs, too many systems designed mainly for the benefit of older people, public transport clogged with pensioners travelling for free, and it is easy to imagine that a high level of tension will build between young and old. Intergeneration conflict will be very significant.

For a similar reason, there is very likely to be a major backlash against the civil service as the private sector workers feeling the stress of economic decline become more resentful of the much better treatment of public sector employees. And again, as those people reach retirement, there will be a huge gap in wealth between public and private sector pensioners.

Migration is more complex. In recent years, the focus of attention has been on too high levels of immigration, leading to racial tensions as they compete for jobs, welfare and public services. But as we have seen recently with many recent immigrants, they are obviously those people more inclined to migrate, and when conditions change adversely in the UK relative to their own homelands, many are only too happy to return. So we are now seeing a new but significant trend – remigration. It is not just recent immigrants such as Poles that this affects. Lots of Indians and Chinese, even second generation, are leaving, and this leaves large holes in the UK's skill base. Indians form a large part of the IT skill base of

the UK, and it is very hard to fill their roles with home grown staff, because our education system can't produce enough good quality graduates in the required disciplines. But migration will still continue. There will be many people for whom the UK will be seen as an attractive alternative, who will still want to come here. The difficulty for the UK will be to catch those that we need.

Meanwhile, we are likely to see our own young people considering migration to other countries too if they have enough of the right skills. With increasing tax rates and the country over-run by pensioners, their personal solution might well be to leave to get a better life for themselves and their kids.

The result of ageing and migration will be a very different social mix in the next few decades. And of course this means a significant change in culture too, and therefore a quite different marketing target. And even though none of the changes will happen overnight, some will generate significant changes over just a few months, so marketers will have to work hard to keep up. Every change presents a new challenge, but also new opportunities.

ECONOMY AND SOCIAL CHANGE

The UK is in a recession, suffering the consequence of banking collapse like with most countries, but to a greater degree, partly because the UK economy was in a weaker position to start with, and partly because the UK is also much more dependent on banking than most economies. However, there will be some social benefits that will last long after the recession is over. People tend to pull together in times of adversity, and the web is a perfect platform now for social entrepreneurs, as has been amply demonstrated over the last few years. Also, when money is scarce, people tend to have more intimate social contact instead of going out and shopping. While this makes a difficult period for sales, it will result in a stronger, better networked society. This social activity would be a good focus for marketers as they forge greater links with CSR and PR, since many such activities might need small amounts of support.

Also, as AI makes its presence felt in the much longer term, we will see the evolution of the care economy (on which more later), and this will be well suited to companies that have already become adept at integrating into local communities. Indeed, care economy companies will have arisen naturally out of this new social structure during its formation. Other companies will have to deliberately engage local community activities if they want to keep up.

The current economic stress will lead directly to reduction of waste and eradication of many inefficient practices. An IT renaissance is already long overdue, where companies tackle the bloated micromanagement systems they have created by indulging every administrative whim of management over the last decade. Leaner companies will be better placed to survive, but will also be able to provide better services at better prices.

NETWORK COMMUNITIES

The web is already being used as a political platform, and it will soon become the default choice for organising political campaigns and actions. The web offers some major advantages over the physical world. The same factors that make it suitable for political activity also lend it to marketing, but they can also represent serious threats to companies. Marketing may be mainly an outreach activity today, but in the future, it will become much more closely integrated with corporate security, PR, and corporate social responsibility. This is already the case in many large companies, and it will spread further down the economy to medium and even small companies.

Firstly, web communities may include membership from a number of physical countries. These members can use anonymity technologies to hide from physical detection, organising and leading communities without fear of being identified. While this makes it easier to attack companies without worrying about libel action, it also gives an opportunity to companies to use anonymous membership of network groups to influence opinions or even actions in their favour.

Secondly, with members in a number of legal jurisdictions, it is not easy for governments to control the activities of network communities. Again, this can allow marketers to influence events outside the jurisdiction of their own government to bring external pressure, or to seed new markets by assisting communities elsewhere to gain advantage over incumbent companies, even treading into practices that might well be deemed anticompetitive on home soil.

Leaders can communicate with the membership almost instantly, and consequently to potential exists for actions to be initiated in a very small time and coordinated with fast response as they happen. It is very hard to do this in the 'real world'.

Software enables more sophisticated actions, even for peaceful activity. For example, electronic boycotts of products from particular companies or regimes can easily be implemented by means of emails that set preferences in buying profiles. Other software can enable a central command to use the power of each member's computers (with their consent of course). This may be used for marketing, campaigning, and mass emailing. If a network community doesn't want to stay on strictly legal grounds, then of course they may also use this power for malicious cyber-attacks, again relying on anonymity to hide command structures.

THE MARKETING RESPONSE TO THE NEED FOR AGILITY

Companies will have to keep up with very rapid change. In turbulent markets, adaptability is much more important than optimisation, as evolution shows is in nature. Optimisation is a goal of many companies, but it is quite wrong in a changing environment, as the company becomes optimised for an historic market at the expense of survivability in the coming market. Many species in a rain-forest are wiped out because they are too specialised, perfect for exploitation of a particular niche, and when that niche dies, they do too. Agility and adaptability are the keywords in survival strategy now.

In this environment, where the 5 year plan is more of a liability than an asset, marketers have a dual role of marketing to the existing market, but also having to start brand establishment activities in fields adjacent to the company's current activity, since it is these fields that are most likely to be the next target markets. Advance marketing will be highly worthwhile, not only in pre-seeding markets, but also in testing the market acceptability, and thus helping strategy steer.

GAME CONSOLES

Game consoles present an interesting area that has been largely ignored by marketers. There are of course numerous opportunities for product placement in computer games, but that's just the start. The controllers provide a huge interaction capability, offering interactive ads that would never be possible on a TV, even digital TV, with a conventional remote. Even the web, when browsed on a standard PC, has relatively little interaction apart from mouse and keyboard, unless it too has been converted into a games machine by the addition of specialist interfaces. With a games controller, objects can be tried out in many different ways. Marketers can make games out of adverts, and if they are good enough, viral marketing will spread them quickly, making a large number of interested customers much more familiar with the offering and the associated messages.

Now that games consoles are usually networked and have reasonably sized disk drives, they can also download video material as well as games and provide internet access, and even email and messaging (though without a proper keyboard, few customers use them for such purposes). The PS3 provides a cheap entry point for Blu-ray DVD players too. So marketers should start to recognise their special position in the home. They are an excellent centre of convergence, and an important channel to the customer.

CYBERSPACE

Even though the internet and then the web have been around for a long time, it is only the last few years that virtual worlds have taken off, with notable successes such as Second Life and World of Warcraft. Because they are still in their infancy, almost all virtual world objects and processes are small incremental modifications of what we already are familiar with in the real world.

It is helpful to think of the market today as comprising three domains. There is the physical world, with all the cities, roads, buildings, people etc. Then there is the mental world, inside our heads. This is where culture, imagination, and knowledge reside. It includes all the fictional, fantasy worlds such as Middle Earth. Now we have created cyberspace, another domain that is the computer equivalent of our mental space. The front end is just the content of billions of memory chips and hard drives. But actually it is in principle an infinite mathematical world, with infinite dimensions, which can hold entities far beyond the capability of human imagination. So when we translate our physical world into cyberspace layers that mimic our real cities, or games environments that mimic the imaginary worlds inside the programmers' heads, we are only tickling the surface of what is possible. The physical world can hold sensors, that produce an echo in cyberspace in much the same way. So at the boundary where cyberspace meets both the physical and mental world, we see a lot of activity, but deeper in than that boundary layer, we see little or nothing – yet. So cyberspace is not the world wide web, that is just a very thin veneer.

The trouble is that people are not good at making leaps of imagination. As Rutherford said, we make progress and see great insights by standing on the shoulders of giants. It would have been impossible for someone 100 years ago to imagine computer games or an iPod, and yet they are a large part of life today. So we start with email, then text messaging comes along, then instant messaging and so on. We will have to accept that cyberspace will only yield its potential very slowly, as we incrementally build on previous structures and cultures, with only rare leaps from occasional geniuses. And as new structures are invented and people become accustomed to them, so will new marketing platforms emerge.

One of the most interesting factors in cyberspace marketing is that many of the buyers and marketers will be machines, eventually intelligent machines, and they will eventually build their own marketing techniques of which people will know and understand little. In 100 years, cyberspace will be vast, but almost all of it will only be inhabited by machine entities, and it will probably be forever an alien domain for people, rather as sea-birds only dip into the very surface level of the vast oceans.

But even at the surface, the marketing potential is rich. Taking just one example of human society, where the physical world meets cyberspace with human populations, we see community networks, linking together people in the same geographic area, and creating niches for people intent on marketing local produce and services. But where human society meets cyberspace from the mental world, we get network communities, where people meet others of like mind regardless of geography. And this provides totally different opportunities, the chat rooms, on-line games, information exchange networks, entertainment and so on. And where these two niches overlap, we see local people of like mind, and opportunities such as dating sites.

However, the web is the main face of cyberspace today, and it has certainly reached critical mass. The dot-com boom saw many companies die simply because there weren't enough customers using the net back then, but that is no longer a reason for failure. The web is now accelerating even faster because it is easier to write web sites, people are more familiar with the potential so are more likely to try something, tools are better and more familiar, interfaces are better and simpler, bandwidth is available at low cost, broadband mobility is usable and economic with the current range of mobile phones and laptops. This is a virtuous circle, with each advance feeding other advances. In this period, it is easy for people to get left behind, marketers being no exception. So marketers should work hard to make sure they keep up with web developments, particularly cultural developments, so that they can exploit the potential before their competitors. On the other hand, the penalty for not keeping up is probably not so great because the main market is the mainstream of the population, so it is really only the rapid adopter market that the slower marketers miss out on.

Miniaturisation and integration has taken only a decade to condense half a ton of electronic equipment into a mobile phone. The hi-fi, TV, games console, laptop, camera, video camera, watch, filofax, wallet, dictionary, satnav, voice recorder and phone are all available in a 100g package now. This obviously has enormous environmental advantages, showing the stupidity of environmentalists who complain about rapid obsolescence, without which a half ton of stuff would still need to be replaced every few years instead of the 100 grammes. More importantly, this high-capability device presents a superb platform for marketing. The mobile phone knows all your regular contacts, where you are, where you've been, who you're with, the time, your diary (and hence where you are going and why). If the owner uses it, as is increasingly likely, to access Facebook or other social networking, it knows a lot more about you, and your friends.

Miniaturisation hasn't ended with the mobile phone. If we get rid of the keypad and replace it with fingertip tracking and voice interaction, and replace the display with a video visor, the rest of the phone can be condensed down to jewellery size, and over time almost any piece of jewellery will be big enough to house the electronics needed. So lapel pins, brooches, and even ear-rings could be equivalent to today's most powerful mobile phones in a few years time. The cost of electronics continues to fall rapidly too, so people might well wear several pieces of digital jewellery, each with a particular role.

It is likely that this advance will cause a strong shift towards pull marketing. Such technology would inevitably attract the abundant attention of marketers, and to prevent being swamped continually by unwanted ads, people would buy digital filter services or 'digital bubbles' that allow through information that they want, while filtering out unwanted adverts and other information. For example, the person might be happy to receive information on special offers in a favourite restaurant when it is almost lunchtime, but filter the same ads out immediately after lunch. Marketing would therefore have to work with people's personal digital filters and recognise that although people can easily block stuff they don't want or need, they also do want marketing information sometimes. Providing for those sometimes with appropriately packaged, personalised information will reap rewards.

Marketers should also recognise that this kind of electronic jewellery platform is ideal to capitalise on inter-person recommendations. People will often listen to recommendations from others, even strangers, rather than marketing departments. Jewellery will generally be networked, and data will be shared organically among the population. Just walking past someone gives enough time for a large amount of information exchange. If marketers can learn to utilise such a flow, then they can treat jewellery networks as another channel to market. Viral marketing on YouTube has already shown the power of using new platforms in clever ways. To illustrate the potential further, people may use digital 'ego badges' to radiate their personality, effectively from wireless web sites, and the kind of information they hold on their web sites or Facebook entries. Often, people associate with particular brands, especially designer labels, and that kind of 'personality radiation' is valuable, especially when that person also attracts admiration or respect from other aspects of their personality. In fact, given that electronics can be condensed into such small volumes, even buttons on clothing could act as information radiators too. So rather than relying on garish labels or logos, more discrete marketing can be applied by allowing clothes to radiate via inbuilt electronics.

As costs fall, it will be possible to add such small devices to almost anything. We will see myriads of tiny information beacons all over the built environment, each interacting with the digital filters of passers by. Malls, shops, shelves, and even individual packages can take advantage. So we will be bathed in a sea of information, making the filters and bubbles absolutely essential.

One of the biggest opportunities here is to radiate alternative architecture. Already, video visors are on the market for people to watch TV. Soon they will be used to overlay images and data onto the field of view as people walk around. So although a shopping mall can only have one physical appearance, it can take advantage of this overlay and produce a different appearance for each customer group, so that everyone sees the mall in a style they like. Dual architecture allows shops to appeal to a wider customer base, or to focus attention on thoroughly indulging a particular niche. And when every shop and night club uses this to attract their clients, the coolest ones will be those that realise that 'invisible is the new black'. With almost everyone walking past a night club, not seeing anything special at all, just a

plain doorway into a presumably plain building, the people the club wants will instead see a very obvious entrance and all the information they want to see, as garish as you like.

DISPLAYS

Video visors are an important step in display evolution. Today's versions produce a very large image that allow people to watch movies or play games. They are improving rapidly in terms of price, performance, ergonomics and looks. To make them useful for overlaying data, they need to be semi-transparent, cover only a part of the field of view, or have a means of relaying real world images into the computer generated images. The latter would be the ideal solution, as it allows any blend of real, virtual and hybrid images to be produced. While the first people wearing visors on the street might appear odd, this was also the case with the first users of Bluetooth headsets, which are now common and accepted as normal.

In the same time frame as video visors take off, we will see posters using digital paper, so that the image can be changed every few seconds, and even some with video panels, with either polymer screens or fat-response digital paper. There are already a few electronic posters in use, but the numbers will rise greatly.

We will also see a wider range of displays in use around the home and office. Large wall-hanging displays, TV style monitors, desktop and laptop computer displays, magazine tablets, electronic paper, electronic photo-frames and various other specialist displays will accompany the pocket-sized ones on our phones and PDAs.

The far future will bring active contact lenses, which condense all the required electronics down to contact lens size, making an image directly on the retina using a combination of lasers and micro-mirrors. This will enable full high resolution wraparound virtual environments. Also far away, active skin displays can be printed onto the skin surface, so that people can have an extra computer display on their arm.

With this range of displays, it is obvious that marketers will have much more variety in the ways they can try to reach customers.

As well as dual architecture, we will also see people using dual appearance. It is likely that their digital jewellery will transmit appropriate data on their avatars according to the person looking at them. So while some people might see a plain person walking past, others might see them very differently, exhibiting a particular costume, makeup or role. This can be used for personal marketing of course, but can also be used to add various 'professional' layers. So charity street collectors might all be seen in similar ways, with the same uniform, as might employees from various service companies. Indeed, when people have multiple simultaneous roles, their image might alternate quickly between several.

ACTIVE SKIN

Active skin is electronics printed onto the skin surface. Upper layers might contain electronics for connecting to the network, while lower layers might connect to blood sensors and nerves, allowing continuous health monitoring, and extending IT right into the nervous system. With nerve links, sensation can be recorded and replayed, enabling full sensory environment almost as powerful as Star Trek's Holodeck. Obviously, adding the sensation of touch to adverts would make them much more powerful. One use of active skin is to add displays to the skin surface, which can be used for body adornment or as a general purpose computer display. They could be touch sensitive, so also act as an input interface.

Capabilities such as this can be used to greatly enhance everyday experiences, by adding sensations according to the dual environment. So a museum could provide much more information, such as replica interactive immersive environments that effectively take the visitor back to the period and situation the artefact came from. This has huge

educational potential, but also huge marketing potential, adding extra layers of interest to any everyday situation, and if they are compelling enough, people might willingly expose themselves to large amounts of marketing.

DUALITY

The duality of virtual and real images offers dual architecture, dual appearance for people, and overlays of computer-generated images or data onto the field of view, as briefly mentioned already. It is in essence a convergence of the real and virtual worlds, and as with any convergence, we should expect an abundance of innovation, an opportunity explosion. It goes far beyond just being able to access internet while on the move. It allows every metre of high street to be extra display space for art galleries, at the same time as being a huge interactive space for computer games, or a personalised shopping mall, or any visual environment imaginable. It will for example greatly affect how customers shop on-line. Instead of only being able to do so from a computer, online shops can also lay their stores out in real space using overlays, anywhere in the physical world. Even in real shops, virtual layers can be used to add personalised shopping opportunities, allowing shoppers to buy some items in the store and some online at the same time. Since virtual space is infinite, a pass through the virtual layers of the store could allow access to a huge range of stock that would not fit physically, or is only available from allied suppliers. Being able to market products online and physically on the same trip will increase the capability of shopping trips, allowing more shopping around, which is a threat or opportunity depending on the positioning of your product.

Duality also allows computer games to be overlaid on the physical world. Playing computer games while your partner browses for clothes would reduce boredom levels for both kids and many adults. This potentially allows shopping trips to be longer, with less rush to finish.

Duality could allow shoppers to inspect competitors' products alongside the ones in front of them physically. Looking at a suit and seeing the nearest equivalent from a range of other suppliers in the same town or online would seem an advantage to the shopper, but as far as the shop is concerned, it is really a form of digital trespassing. We might well see shops trying to jam radio reception in their stores to prevent this, but even then, the storage capacity of devices will be such that a shopper could download most of the useful data before they leave home, or more likely, it could be downloaded for them automatically, since the device knows a great deal about their preferences, and diary. So it might be nearly impossible to prevent this kind of digital trespassing, and shops will have to get used to a world where the market is far more transparent.

However, there is a great opportunity here for services that support marketing and shopping. The duality market will have many layers, with players at each level. Someone has to design the best interfaces, the many virtual worlds, overlay them creatively, figure out the best ways or personalising to a large number of market sectors, and create auxiliary content such as avatars, dual architecture and so on. Then there is another market for filters, bubbles, outreach technologies, context, profiling and position based services. On top of all these, aggregation and comparison sites can build applications.

ABOUT THE AUTHOR

Ian Pearson graduated in 1981 in Applied Mathematics and Theoretical Physics from [Queens University, Belfast](#). After four years in Shorts Missile Systems, he joined BT Laboratories as a performance analyst, and later worked in network design, computer evolution, cybernetics, and mobile systems. From 1991 until 2007, he was BT's Futurologist, tracking and predicting new developments throughout information technology, considering both technological and social implications. He now does the same for Futurizon, a small futures institute.

He is a Chartered Fellow of the British Computer Society, the World Academy of Art and Science, the Royal Society of Arts, the Institute of Nanotechnology and the World Innovation Foundation. He also holds an Honorary Doctor of Science degree from the University of Westminster.