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# Next-generation Web services: Enabling the customer-centric organisation

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## Abstract

This paper describes a future of anytime, anywhere computing where customers will use a multiplicity of connected devices to access rich Internet services. Successful websites of the future will not simply be about presenting content or transacting e-commerce sales — they will integrate data between different sites and allow customers to create their own personalised 'Internet experience'. The third wave of interactive marketing is almost upon us, where the Web will be more than just a channel of communication, clearly establishing itself as a 'programmable asset'.

## Anytime, anywhere computing

The author has a simple but fundamental belief: that the future will be a world where customers will be able to access your company's services at any time, anywhere and on any device connected to the Internet.

That is easy to say; more difficult to deliver. However, the basic building blocks are already in place, and when this vision becomes a reality it will have a far-reaching and sustained impact, fundamentally changing the relationship between buyers and sellers of goods and services.

Specifically, it will force all companies to place 'customers' at the centre of their business. In this context, the term 'customers' is used very broadly to include consumers, employees, shareholders, voters etc.

## The key building blocks for next-generation websites

The advent of wireless communications and broadband Internet services will make it easy to send and receive rich information no matter where we are geographically located. As consumers, we will be able to easily access a very wide range of Web services: whatever we want, wherever we are, whenever we choose.

Alongside the already well-established PC there will be a wide range of information and communication devices — to carry around in the pocket, to have in the home, to use in the car — with which we can pick up e-mail or voice messages, order goods and services, schedule appointments and carry out many everyday, yet essential, tasks.

Such Internet devices will proliferate. There will huge innovation and

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**Table 1:** Web generations

Generation	First	Second	Third
Characteristic	Connectivity	Presentation	Programmability
Key Technology	• TCP/IP	• HTML	• XML
Applications	<ul style="list-style-type: none"> <li>• FTP</li> <li>• E-mail</li> <li>• Information sharing</li> </ul>	<ul style="list-style-type: none"> <li>• Web brochureware</li> <li>• Basic interactivity</li> <li>• Transactional e-commerce</li> </ul>	<ul style="list-style-type: none"> <li>• Personalisation</li> <li>• Information integration</li> <li>• Full interactivity</li> <li>• Customer-driven e-commerce</li> </ul>

competition, providing great choice and value for consumers. However, it is not the devices *per se* — the hardware — that will determine how the Internet develops as a sales, marketing and customer service channel. It is software that will lead to breakthroughs in the customer ‘experience’.

### The third generation of Web functionality

From a software perspective, it is important to recognise that we are now entering the third generation of web functionality (Table 1).

The first generation was focused around connectivity. The basic TCP/IP Internet infrastructure enabled applications such File Transfer Protocol (FTP) and e-mail to connect previously disparate PC systems across the globe, allowing them to share information easily, quickly and cheaply.

The second generation of Web functionality began in 1994 with the introduction of the first Web browsers and continues today. This era was — and remains — really all about presentation. The key technology here is Hyper Text Mark-up Language (HTML). This identifies content on a website as having some relationship to other content, enabling users to explore those relationships by ‘browsing the Web’, rather than simply benefiting from the connectivity of two or more PCs exchanging information.

The third generation of Web functionality is only just beginning and its key focus will be programmability. A new generation of Web technology called Extensible Mark-up Language (XML) takes HTML one stage further. Where HTML identified content on a website as being related to additional content elsewhere, XML identifies such content as a piece of information available for processing. XML therefore provides a common language for the exchange of business information over the Internet, enabling integration of information between different websites. This will establish the Web as a ‘programmable asset’. Your customers in the future will be able to program the Web to create their own unique ‘Internet experience’. This will fundamentally change the use of the Internet as an interactive marketing medium.

**XML technology identifies website content as available for processing, not just viewing**

### The Web as a programmable asset

With the Web, we are now at a strategic inflection point which will be as dramatic as the introduction of Windows was to the PC in the early 1990s.

Just as the graphic user interface, the GUI, transformed the PC user experience, the Internet user experience will be transformed by the IUE — with software that enables customers to integrate websites and share data across the Internet in a much more consistent way than at present.

All this heralds a new way of thinking about how businesses use computing and the Internet to interact with their customers. Take a look at a few examples of how the ability of customers to program the Web will affect our relationships with them.

### **Integrating personal data to build customer loyalty**

Today, my bank has a website, my stockbroker has a website, my car insurance company has a website, my life insurance company has a website. Each is as rich in individual functionality as the available human and budgetary resources can make it.

That is wonderful for them, but not for me.

Each of these companies is simply ‘broadcasting’ information at me — the same way that TV companies have done for years. What is more, none of the information contained within each website is transferable to any other website. In most cases, none of the information is even transferable between the online and offline channels within the same company. The nearest I can get today to assessing my real-time, personal net worth via the Web is to save each site in my ‘favourites’ folder, then visit each of these sites one by one.

Put simply, no one has yet created for me my personal integrated website. If my bank, stockbroker or insurance company was not just using HTML but was working with the new generation XML technology on their sites, they could deliver to me an ‘Andrew Pickup Financial Portfolio’ Web page. This site would display my consolidated personal financial position using information from each of my individual financial providers’ sites. I would also be able to program the site, for example with rules for alerting me to policy renewal dates and for transferring funds automatically between different accounts, using ‘triggers’ that maximised my interest-earning potential.

Which do we believe customers would prefer: to visit a number of separate financial sites, each displaying their small part of the customer’s financial arrangements, or a single website programmed to reach out, gather, integrate and display a consolidated position? The author believes that the first financial services company to deliver against this latter vision will attract and retain large volumes of customers prepared to buy greater-than-average products from that company.

This integration of information will not just be limited to external websites. It will encompass programmability covering your PC and personal device applications as well.

Here is another example. Imagine a customer books a flight using an online service such as Buzz or easyJet. In the future, that flight booking will also be automatically reflected within their personal schedule. The friends that they are going to visit will automatically be e-mailed with the itinerary and flight details. How will this be done? The customer will

**The key to building customer loyalty will be adding value through the integration of data between and within different websites**

have programmed the website to do it for them. If the flight is delayed, the customer will be notified automatically — wherever they are — and a message will automatically be sent to the people they are due to meet telling them of the delay.

Take an example from the healthcare area. There will soon be a day when patients will be able to keep all their personal medical information in a secure, private place out on the Web. Customers will be able to give permission to appropriate doctors to put new information into the site and to view their medical history. They will automatically receive notification when their dental check is due, and that appointment will automatically be incorporated into their diary. Wherever they are in the world, whenever they wish, they will be able to access that information.

Further examples of some of the author's favourite next-generation websites are given in the Appendix.

## **What does this mean for online relationship marketing?**

Taking into consideration this future programmability of the Web, we have barely scratched the surface of how the Internet will support rich relationships between companies and their customers.

We are moving from an era of simple, two-way transactions over the Web to one of delivering complex services live on the Web, which customers will be able to personalise in any way they want. Today, companies choose how they use the Web to showcase products or give information to customers. In the future, customers will choose how to use the Web to buy products or get information from companies. Customers will program the Web for themselves.

This will form the basis for a new model of customer relationship and interaction — a model that will empower customers to do what they want, when they want, wherever they are. In other words, it is a model that uses information technology to deliver massive customisation; large-scale personalisation at close-to-zero marginal cost.

**How does the website that manages the supply chain talk to my own website that is processing online orders for customers or requests for customer service?**

## **What do companies need to do?**

There are two fundamental issues to consider when preparing for this future:

- empowering the customer to personalise the Internet experience;
- integrating your site with other channels of service or product distribution.

Take a look at your company's website today. How much of the customer 'experience' does the visitor actually control? Are they empowered to customise the site to suit them? In a future world where customisable services will be available anytime, anywhere, how long will your customers put up with this? Visit [www.msn.co.uk](http://www.msn.co.uk) to see how to provide users with a highly customisable Web experience.

Then take a look at how integrated your site is with your other

channels of distribution. Anyone can do the easy bit — a catalogue on the Web, your electronic shop window. The second stage of e-commerce transactions is more difficult, but it is not until the third — and most demanding — stage that you really begin to transform the customer experience. This is when the flow of all information inside your company and all your company's key applications are working together in Internet time around the customer's demand for a personalised service.

**Woolwich allows customers to access rich services, anytime, anywhere and via any device**

### **Putting it into practice: Woolwich plc**

The Woolwich provides a good example of how to use technology to create a new, value-added and personalised customer experience.

Three years ago, the Woolwich was a medium-sized bank. Its CEO, John Stewart, recognised that it faced a 'slow lingering death' unless it did something different. Extensive customer research showed that what Woolwich customers wanted was anytime, anywhere banking through a wide variety of different channels — branches, ATMs, standard and mobile telephony, PC, interactive TV.

Above all, customers wanted the bank to treat them as a single individual. Regardless of which access point they chose, customers wanted the bank to 'remember' them and their business — however and whenever they chose to contact and transact. Clearly, with millions of customer relationships to manage, the ability of a single Woolwich member of staff to remember individual accounts and related transactions was limited. So the Woolwich saw information technology as a way of achieving this goal.

The result was the introduction of Woolwich Open Plan Services, which integrates each customer's borrowings, savings and protection. (Readers of this paper can view a demonstration of this service at <http://www.openplan.co.uk>.) Woolwich customers receive a single consolidated view of their entire financial position with the bank.

To date, the Woolwich has recruited more than 30,000 customers to this service. What is more, these customers are more valuable and loyal to the Woolwich overall. The average number of financial products per bank customer in the UK is 1.5; for Woolwich Open Plan customers it already exceeds three products per customer, which obviously translates into increased profit for the Woolwich.

There are no signs of any let up in this area — the bank has just announced they are the first in the UK to offer banking over the mobile phone using Wireless Application Protocol (WAP). This offers one more channel for Open Plan Services customers to access their financial services.

### **In conclusion**

The future will be a time of anytime, anywhere computing, where people use a multiplicity of devices to access Internet services for information, communication, entertainment, education, shopping and routine daily living tasks.

An organisation's role will be to provide the right Internet experience for their customers. This will require reinventing the internal information structure to dovetail with such Internet services. The key is to plan now for a time when your customers — not you — will choose what your website look likes and does for them as an individual.

## **Appendix**

### **Some of the author's most admired and visited websites**

#### **www.yodlee.com**

This is a (very early) example of the Web as a 'programmable asset'. Yodlee offers a service that allows users to consolidate personal accounts on the Web, including bank statements, stock activity, bills, news services and e-mail. The site then periodically retrieves data from those accounts and puts it on a single screen. An early example of the next generation of Web services that will be available via a multitude of different platforms.

#### **www.genie.co.uk**

A good example of how the PC, Internet and mobile communications revolutions are converging. This is a companion site for BT's Cellnet service that allows browsers to access and use value-added services in combination with their mobile phone. The site can be used to send short messages to colleagues and friends and access a range of other services.

#### **www.priceline.com**

This site turns the traditional pricing model on its head. Normally only very large organisations can put their business out to 'tender', but with priceline.com individuals name the price they wish to pay for cars, groceries, flights and hotel rooms and suppliers pitch for your business. A great example of how the Internet brings together buyers and sellers of goods and services — a role normally performed by retailers.

#### **www.letsbuyit.com**

A similar name-your-price model to priceline.com with an added twist — collaborative buying power. The more that individuals club together to buy a particular product, the lower the price becomes.

#### **www.stepstone.co.uk**

Another example of the Internet bringing together buyers and sellers — only this time the 'commodity' is people. Executive staff retention used to be easy — companies were safe in the knowledge that employees had limited access to alternative career opportunities. Not any more — this site alone has 12,000 UK jobs, a search engine, career adviser, salary checker, company backgrounds etc. Now a new breed of 'empowered knowledge worker' is appearing — informed, mobile, demanding and confident of their market value and opportunities. This type of website application will revolutionise staff recruitment, development and retention for many years to come.

**www.lastminute.com**

Now one of the most visited UK destinations, this site works because it very accurately reflects the current profile of the average Internet user, ie cash rich and time poor. Lastminute.com sells late deals on flights, hotels, short breaks, restaurants and shows. The site been running less than two years and a UK flotation in March 2000 will value it at over £500m.

**www.sixdegrees.com**

An extraordinary self-help community site and a great example of 'viral marketing' ie electronic 'word of mouth', where the community of users drives the success of the site rather than expensive advertising. Based upon the theory of 'six degrees of separation', ie no one on the planet is more than six 'steps' away from being related in some way to everyone else. Popular, useful and fun.

**www.schwab.com**

Very few industries have been so profoundly affected by the Internet as the share-dealing business. Buying and selling stocks — or just accessing detailed information about them — used to be an expensive process, carried out via a broker and available only to the very wealthy. Now over 40 per cent of US retail shares are bought and sold over the Internet. Information that used to be available only to brokers is now free to Web browsers — a great example of 'turning the screen around', ie encouraging customers to serve themselves and remove the middle man. Commission levels have been slashed and competition is cut-throat. Schwab — a bricks-and-mortar share-dealing business — was an early adopter of this new technology despite the fact it cannibalised their existing business. Their site is among the most user-friendly, rich and valuable in this field today. The 'myschwab' feature allows users to personalise and program the site to suit their own needs.

**www.bcentral.com**

A Microsoft portal site that pulls together valuable services for its target audience (small businesses) — many of them free or available at very low cost — including website creation software, mailing lists, advice, communities. A good example of how the Web is expanding the market for Web-based services, delivering value to markets that (pre-Internet) would never have been able to participate.

**www.whereonearth.com**

A software vendor site, and a potentially very useful one for interactive marketers. This site also serves to illustrate the now massive scalability of Web applications. Essentially whereonearth.com has digitally mapped over 2.5 million place names across the globe. This can then be used by Web marketers for a number of services and applications: website users can, for instance, locate their nearest 'bricks-and-mortar' store, Web marketers can analyse the geography and profile of their customers, etc.