North American Perspectives

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Broadband: Shaping the future of interactive marketing

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Abstract

This piece examines how broadband technology can be leveraged to redefine the world of interactive marketing. Through the adoption and application of broadband technology, companies can interact with customers on a one-to-one level. Such interaction can help redefine every area of their business, from research and product design to customer support and, of course, marketing.

New directions, new opportunities

Broadband is evolving into the lifeline technology for many if not most businesses. It is the point of connection to the Internet, to the World Wide Web, and to a host of shared and connective information services that allow businesses to market and sell their products, partner with other companies, and support a two-way dialogue with their customer base.

Businesses will grow and expand by choosing strategic technology partners who have the experience both to implement technology and to evaluate strategic technology options for their customers. Interactive marketing is evolving into a multi-tiered relationship with its prospects (B2B, C2B and B2C), and broadband makes that relationship possible. What are the key questions shaping the future of interactive marketing?

- What key marketing and business functions drive interactive marketing?
- What are the technology needs and requirements for interactive marketing companies to be competitive?
- How can strategic high-bandwidth configurations such as dark fibre, smart buildings and more make interactive marketing companies successful?

This paper addresses the relationship between broadband and intelligent networking technology and the evolving discipline of interactive marketing to assess how technical capabilities evolving today will shape the future of interactive marketing tomorrow.

Interactive marketing

The connectivity assumption

The term 'interactive marketing' can be simply defined as marketing which makes use of interactive media to create a direct dialogue with customers. Applying this definition to real business situations is difficult,

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largely because evolving technology is continually changing our sense of what is possible. Even ten years ago, when the Internet was clearly established as a technology framework, interactive marketing as we know it today was scarcely imaginable. The invention and deployment of the first World Wide Web browser in 1993 was the flashpoint for a startling new direction in business communications. Coupling the Web as a content distribution medium with e-mail for direct one-to-one communication, marketers were among the very first to grasp the true business potential of the new digital universe.

Today, less than a decade later, interactive marketing is a complex global industry comprising a wide variety of disciplines, techniques and highly specialised technologies. The Web has become a nexus and point of convergence for a growing number of new technologies, including multimedia applications, interactive information and dialogue tools, and many highly specialised database applications, ranging from online electronic catalogues to sophisticated personalisation systems and financial transactions.

Connectivity is the lifeblood of interactive marketing. Back in the relative Stone Age of dial-up services and 28.8 modems, connectivity was an event, a fixed span, like a telephone call, in which data was exchanged. In the US marketplace, 24/7 broadband has become the baseline connectivity for all businesses seriously using the Internet, and the home consumer marketplace is growing dramatically as well. In the UK broadband deployment is roughly two years behind the US pace, but is also poised to learn from the mistakes of the early Internet infrastructure pioneers.

Interactive marketing is moving rapidly from its roots in Web and e-mail distribution to an ongoing electronic relationship, a creatively defined feedback loop in which the Internet is as much a means of gathering mission-critical information about what customers desire and need as it is a means to distribute marketing messages and offerings.

Interactive marketing: Today and tomorrow

Interactive marketing and the future

The interactive marketing industry of today combines elements of many older marketing and communications disciplines, notably corporate marketing, direct mail and the various forms of media messaging and audience engagement developed during the last half of the 20th century. Marketing techniques for both print and broadcast were largely event based. Whether through a television or radio commercial, special programming, print media advertisements or direct mail offerings, the audience experienced marketing communications as a series of discrete moments and controlled interactions.

The Web and early e-mail began to change the nature of the relationship between marketer and prospect. E-mail dramatically simplified the ability of individual members of the audience to respond back to marketers effortlessly and in real time, even if this was only an angry request to be left alone. The proliferation of unwanted mass e-mail initiatives, or 'spam', obscured the even larger evolving ability of early e-retail sites like Amazon and E-Bay to gather information about their

customers. Cookie technology provided a critical link, allowing marketers to recognise repeat customer visits to their sites and link that information to a working e-mail address.

Data connectivity nurtured the technologies of customer relationship and bonding. In the marketplace of today, the connective context of Internet identity, e-mail and websites is being enhanced through sophisticated databases that define a new killer app for the new century: CRM, or customer relationship management, is the omnibus term for the new technology infrastructure of feedback loops connecting marketer with customer and prospects. CRM systems seek to observe customer actions and transactions, and translate this mix of data via inference engines, data models and other information into proactive information that can be used both strategically and tactically to shape a company's future.

The new interactive approach

Interactive dialogue

Interactive marketing is, therefore, about defining an ongoing customer relationship and electronic dialogue in which the customer's response, actions and opinions more directly shape and define the possible outcomes of the relationship. This new approach has not replaced or displaced more traditional marcom forms, but is moving to become a central point in the overall marketing process, a point of integration for print, direct mail, TV, radio and other outreach media. The interactive system offers members of the audience real involvement and the ability to obtain information — ranging from a simple e-mail sign-up for an electronic newsletter delivered via e-mail to a subscription or registered membership complete with personal preferences and other information that allows marketers to tailor offerings to individual tastes and sensibilities. These capabilities may be shaped or constrained by bandwidth limitations in service offerings available from the customer's ISP or other service providers.

There are four distinct levels at which interactive marketing operates, and each of these forms is being shaped by new directions in broadband and smart high-bandwidth data networking technologies.

- Customer to business (C2B): customer pull technologies, such as search operations to determine competitive pricing on products or services, requests for information or reverse auctions, in which the customer states a desired price and online vendors compete to match that price.
- Business to customer (B2C): retail e-commerce and product marketing initiatives using the Web to identify customer prospects, make purchase offerings and provide transaction facilities through an e-store.
- Business to business (B2B): the network of relationships with business partners, suppliers, service providers and outsourcing vendors defined via the Web and extranets. Interactive marketing is a key tool to monitor and develop sophisticated business relationships

that can be shaped and refined to meet the needs of rapidly changing national and global markets.

- Business internal marketing: the fourth level has not yet acquired a recognisable acronym as yet, but it may be one of the most significant forms in which interactive marketing is applied — to shape the operations and inner workings of the business itself. It covers internal communications within a business that communicate company objectives, messages and marketing goals to all affected areas of the company in real time. Used properly, internal marketing via a company's intranet is a powerful means to focus company resources and develop successful business initiatives.

The relationships defined and maintained through interactive marketing sites and supporting technologies and applications depend upon an accelerating level of connective technology to function. Connectivity defines not only the amount of data that can be disseminated, but the time frame required to move them.

What are the technology needs and requirements for interactive marketing companies to be competitive?

Beyond broadband

Technology evolution

The future of interactive marketing is being shaped by a variety of forces, including development of new technology applications, accelerating patterns of end-user and business adoption of the Internet and more. But the most critical factor determining the strategic direction of the interactive marketing industry is connectivity. In today's business universe, connectivity encompasses not only the current broadband technologies available and deployed by a variety of service providers, but newer, faster protocols such as 10 gigabit Ethernet (10 GbE), and an entirely new relationship between connective fibre-optic and hardware switching technology. Simply stated, the basic worldwide wiring of the 20th-century telephone network is evolving rapidly into a smart, high-bandwidth digital data network, in which the network itself provides critical aspects of intelligent information deployment.

Fibre-optic cable and other high-bandwidth delivery technologies are complemented by network switching hardware and software systems of increasing sophistication. Much of this new technology has been developed and deployed so fast that its real business potential remains undeveloped.

The telecoms legacy

High-bandwidth networking is evolving out of the many legacy business processes and professional attitudes created by the telephone industry. Analogue telephone lines were the first real wide area network for the USA and most other countries. Even after digital telephony was introduced and infrastructure was being built, the telecoms approach to network business shaped many customers' perceptions of what was possible in large-scale data networking.

First and foremost among restrictive and limiting telco business

processes was the approach to installation of services. Services were delivered via hardware configurations that often required extensive onsite cabling and building infrastructure work — everything from laying cable in walls and installing connective ports to placement of in-building switching racks and other hardware necessary to run the system. The tendency of telephone companies in the USA, UK and other countries to be regulated monopolies or utilities did not contribute to a strong competitive dynamic. The result was that the telco became a bottleneck to progress, and in periods of high demand businesses might be required to wait for months to have strategic lifeline communication and data transmission systems put in place and made fully operable.

In the UK the current growth of broadband infrastructure has been significantly constrained by a number of key factors, most significantly the pace of deregulation. British Telecom will be unbundling its network elements only this coming summer, thus making it easier for independent DSL companies to establish themselves in the marketplace. The capabilities for high-bandwidth data currently in place are the traditional ISDN and leased line approaches. Fibre optics with sophisticated switching capabilities, digital subscriber lines (DSLs) and cable modem, all established and growing in the US market, are just beginning to be established here. Telecommunications professionals in the UK are also highly aware of the often fractious experiences in building the US infrastructure and are anxious not to repeat earlier mistakes.

From a business standpoint, the evolution and development of broadband for businesses in the UK faces additional hurdles. One of the most significant of these is the office buildings and structures themselves. The USA has many more multi-tenant office buildings than are common in the UK, often newer and with significantly more commercial space. It is much more profitable to wire such structures than the often smaller and older buildings in London and other UK business centres. Smaller and older buildings may require significantly more investment to wire for broadband, so the emphasis for service providers in the UK may focus on recent buildings or new construction.

New technologies broadband on demand

Bandwidth on demand

The advent of personal computing technology and the rapid development of computer networking brought pressure to bear on the established telco ways of doing business. The focus began to shift to digital lines capable of exchanging data using a variety of transmission protocols. In addition, the PC workstation itself evolved into a point of contact with the telephone system, and increasingly business solutions could be implemented through computer software and a variety of computer-enabled devices.

Where the existing telco approach has been to install services based upon specific customer orders, computer technology coupled with high-bandwidth data transmission cables and capabilities are creating an entirely new business model, all their own. To eliminate or drastically diminish the time required to deploy lifeblood information services, many new buildings are being designed from the ground up with sophisticated

fibre-optic systems, network ports and other network system hardware in place. With a high-bandwidth data backbone built into the building, tenants are able to move in and have the ready-installed 'dark fibre' cable 'lit' by a service provider of their choice, and deploy their Web and connective data applications in days or weeks rather than months.

Bandwidth on demand is transforming the way many businesses define the purpose and utility of the office. Many bandwidth-on-demand products enable businesses to have their level of bandwidth connectivity adjusted quickly and easily. If a customer, for example, wants to conduct a Web-based presentation and needs additional bandwidth for the execution, then the supplier can simply increase the size of the customer's bandwidth connection for the day. Or if a customer wants to scale down their connectivity on the weekend and then increase it on Monday morning, this too can be achieved.

The Internet has quickly become a mission-critical resource for virtually all international corporations, from large enterprises down to small businesses. The evolution of the smart building approach is leading to the retrofit of existing buildings as well as creative networking of campus and office configurations to permit more rapid deployment of information services and Internet access to growing companies. The nature of a smart building solution only begins with the cabling or the 'dark fibre' in place. The next layer is to structure and link the required network configurations the company may need, from local area networks (LANs) to metro area networks (MANs) and wide area networks (WANs). These established configurations may be augmented using specialised virtual private networks (VPNs) to connect and interface different corporate business offices seamlessly via the Internet.

How can strategic high-bandwidth configurations such as dark fibre and smart buildings make interactive marketing companies successful?

Applications and opportunities

Marketing solutions

The technical advances in data networking and high-bandwidth data communications are bringing about fundamental changes in the way that data networks are installed, structured and deployed. Capabilities embedded in computer operating systems, application software and sophisticated network hardware work in synergy to offer the ability to develop business initiatives and solutions in entirely new ways. The general flexibility accorded by intelligent networking can be expressed as two distinct primary values: time and scalability. Both of these values are essential for the future of interactive marketing.

The electronic dialogue with customers and prospects depends upon rapid response to market conditions. This is particularly true in the shifting world of e-commerce. In both customer (B2C) and business partner (B2B) relationships, the need to reduce or minimise time to market for strategic initiatives can mean the difference between success and failure. As market conditions demand new partnerships or outsourcing options, the interactive marketer must be able to respond and deliver as quickly as possible.

As Amazon.com evolved from a simple online bookstore to a global

retailing powerhouse, each new layer of retail offerings required new marketing communications initiatives, and in some cases the need to link Amazon's site transparently with new business partners providing part of the overall retail solution. Sophisticated data networks not only enable data communication and throughput, but can be the conduit for powerful database applications that are the core of sophisticated Web offerings like Amazon. High-bandwidth capability on demand via dark fibre reduces or eliminates installation delays and allows businesses to respond to competition in real time.

The effectiveness of the interactive marketing framework will, of course, be mitigated by spotty implementation. This includes variable offerings by service providers, and different levels of installed capability for different customers. It should be noted that broadband adoption can be accelerated by the presence of perceived high-value capabilities on the part of the customer. So, to the extent that there is a 'chicken and egg' factor here, there is also a larger issue of momentum driven by real business capabilities.

Scalability is a technology-driven value that allows businesses to cope with the uncertainty and dynamism of markets. So as customer demand fluctuates for all the usual reasons, including seasonal factors, new product introductions and more, the interactive marketer is able to adjust network capabilities to cope with periods of expanded demand. In the dot.com universe, scalable systems are the very essence of any new company. When new ventures bring a software or relational business solution to market, the response and rate of adoption are virtually impossible to anticipate, given the many variables in Internet-based enterprises. Putting a scalable solution in place is a strategic requirement for any serious player in the digital economy. Intelligent networks, again, are the foundation for this capability — providing the conduit and smart connections that allow companies to make use of server farms and other overflow capabilities to absorb the flow of business.

Tools of the trade

How can you communicate with your customer?

Connecting with the customer

Interactive marketers have an unprecedented array of powerful new tools to address the emergent global digital economy. Each of these tools offers specific communication value or help to capture the ongoing flow of customer/partner feedback that is the essence of interactive marketing. Flexible high-bandwidth network capability is the essential framework, the very foundation for any business to deploy and use these powerful new capabilities successfully. Intelligent networks are the conduit for a growing, multilevel electronic dialogue with the customer. The following are just some of the highly valuable technologies of today that bring opportunity and advantage to the electronic marketer.

Streaming media

Voice, music and movement: media communications capture the emotions and energise a message. For many interactive marketing

applications, these can be critical tools to capture interest and attention. Streaming media capabilities have been constrained more than most newer technologies by bandwidth limitations. As broadband becomes the new baseline for home Internet services as well as businesses, video and audio components are becoming much more widely used in marketing content and messaging.

Content management

Databases are the power tool of the interactive marketer, and the ability to deploy fresh content is the foundation of successful marketing initiatives. Content management applications provide the behind-the-scenes power to track content usage, and aggregate content from a variety of internal development sources as well as strategic business partners and suppliers.

Videoconferencing

Chat is one of the two true killer apps of the Internet (the other is e-mail). Videoconferencing is a high-bandwidth application poised to grow into the new chat of the 21st century. Videoconferencing is a means of communicating human presence in real time, and as network throughput and capabilities evolve there are many potential applications for this technology in both B2C and B2B business operations. Customer chat and discussion areas can be a means of involvement and participation. Videoconferencing may also prove to be the technology of choice to maintain partner relationships and conduct certain types of internal company business to save travel time and money.

Virtual private networks

Remote access is a key capability in the dynamic world of interactive marketing. Strategic partnerships, supplier relationships and outsourcing solutions would not be possible without the ability to build effective networks and communications to implement business initiatives quickly. Virtual private networks (VPNs) are a low-cost technology solution that use high-bandwidth data networks and the Internet to connect an archipelago of offices, partner venues and other elements in a marketing business into a seamless whole.

Content billing

The Web began with sites offering essentially free content that users could capture, save and use right from the screen. As the content business evolves, the need for financial accountability and a means to derive revenue from content development has become paramount. New content billing systems allow owners and developers of information to define a variety of pricing models and cost assessments that may be integrated into partnership agreements and realised through content billing and accounting software. Even though these assessments may be transparent and invisible to the end user, the marketing company has a means of tracking the use of its content and deriving revenue based on a number of simultaneously active business models.

Viral marketing

Entertaining jokes sent through e-mail often initiate 'forward frenzy' as recipients share the message with individual friends and e-mail groups. Viral marketing technology draws upon this core Internet behaviour through the means of smart objects that individuals can find on websites or receive via HTML e-mail. Recipients may then forward these content packages or 'mini-websites' to friends and groups. As the object is forwarded, it phones home to the root server farm. The viral marketing process captures the process of sharing information and has the capability to build entire networks of interest from the ground up. This is the opposite approach to traditional top-down marketing research and market building, and offers many new capabilities for interactive marketers. Smart objects in a viral distribution like this may, in some technology offerings, be a pipeline for new marketing messages and content, updated with new offerings to engage the user.

Distance learning/interactive workgroups

Training is a fundamental requirement in the digital economy. New technologies and business models and shifting partner relationships have defined a business culture of continual learning. Distance learning technology is not a solution for all instructional issues, but it can be a very cost- and time-effective means of communicating vital information and skills for marketing businesses. Newer distance learning systems offer integrated media functions, notably sophisticated point-to-point distribution for streaming video from digital cameras, both from instructor/presenter to student and from students to a virtual classroom. Coupled with this video and voice capability are electronic whiteboards, shared documents that can be edited on screen by a group of remote participants.

CRM systems

Customer relationship management (CRM) is the family of database tools evolving to manage the flow of customer feedback made possible by the Internet. Based in established data warehousing models that captured and performed structured analysis on a variety of customer tracking data, CRM represents an entirely new way to deal with customers. Most business websites have a fundamental baseline architecture of identity for all visitors, whether that is via transparent cookie technology or through an active participant registration process. Digital identity allows the data-gathering process to function in real time, monitoring all customer interactions within a site and intellectual property transactions — including requests for information, participation in surveys or opinion requests and similar interactions. CRM systems have the capability to produce much more articulated and detailed portraits of individual customer preferences and interests. They also have the potential to help marketers combine this new level of detail and define more specialised markets. CRM is a core technology for marketers that allows them to use the feedback dynamics of the Internet as the foundation for present and future business strategy.

Looking forward

UK opportunities

The future

Interactive marketing is being reinvented every day as the worldwide Internet grows and develops, both in its physical infrastructure and in the ongoing development of sophisticated software that offers new business capabilities and enhanced communication and dialogue with customers. The UK is poised to realise the benefits of this revolution. Forces are engaged to transform the traditional telecoms model and support the entry of new telecommunications providers to the UK marketplace.

The US marketplace has developed and tested a wide variety of broadband configurations and an ever-growing number of applications that support interactive marketing. The future of broadband in the UK will not be a simple carbon copy of the US experience. It must be shaped by the unique requirements of this marketplace and be relevant to the needs of businesses throughout the UK.

New business models

Interactive marketing is continually being reshaped by dynamic data-networking technology. The one-way mass e-mail strategies of the recent past are evolving into fully articulated feedback loops with the customer via CRM-style solutions. High-bandwidth data networks are a key element in the evolution of the interactive marketing industry. They allow interactive marketers to reduce time to market, deploy sophisticated data applications and digitally engage with partners and suppliers, and provide a host of other benefits. Today, mobile technologies integrating palm computing, cellular communications and wireless Internet are bringing new points of entry into the network. Each new technology has the potential for interactive marketers to move closer to the customer to convey messages and learn about customer interests. The intelligent data network is the very lifeblood of this exciting new capability and the foundation for the future of interactive marketing.