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The impact of the new technologies — Permanent paradigm shift or transitory aberration?

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Abstract

The paper discusses what lasting legacy remains from the widespread use of technology to create new products, companies, business models and marketing processes. The highest-profile failure of technology-driven innovation has been the dot.com companies, but the list also extends to the faltering business models of the telecommunications, software and entertainment suppliers and the disappointment with the business benefits delivered by CRM and knowledge management. The paper investigates the reasons why so many failures have occurred, and suggests how the marketer can ensure that the same mistakes will not be repeated in the future.

Introduction

> 'The company that creates a truly innovative business model and employs the full gamut of communications techniques to address their market or that utilises the new technologies to radically enhance the competitiveness of their product portfolio can now, irrespective of geographic location, experience a paradigm shift in market demand.'

This concoction of new economy 'consultant speak' is an updated version of a quotation that will undoubtedly be well known to the reader. 'If a man can write a better book, preach a better sermon or make a better mousetrap than his neighbour, though he build his house in the woods, the world will make a beaten path to his door.'[1]

It would seem that we have learnt very little in the last 131 years, as the list of 'new technology' nightmares claims a few more victims with the demise of ITV Digital, Vodaphone experiencing the status of a penny share and AOL Time Warner's massive write-down of $54bn in the first quarter of 2002 — the largest in corporate history. Added to this list is the category of companies where their destruction is a mix of failed business model and suspected fraud. As the repercussions of the demise of Enron/Andersen are being assimilated we now have the accounting irregularities of WorldCom. This list of catastrophes is long and probably accounts for the destruction of over a trillion dollars in market capitalisation.

The *Wall Street Journal*[2] stated this situation in even more dramatic terms: 'the companies listed in the high technology market (NASDAQ) haven't made a collective dime since 1995'.

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Marketers were promised new ways of interrelating with their customers, the extension of their geographic and product reach, new business and pricing models and the evolution of new digital products. It is probably an understatement to say that the 'new technologies' have failed to deliver their promised business benefits. The author has been fascinated to try and understand what the lasting legacy, if any, of this period will be for the marketer.

Have the basic constructs of marketing been changed as a result of the recent technological developments?

The aim of this paper is not just to catalogue these failures or to provide a detailed financial analysis of why they occurred but rather to try to answer two questions. Firstly, have the basic constructs of marketing been changed as a result of the recent technological developments? Secondly, what lessons have we learnt to help minimise the chances that we replicate these business failures with yet another set of technological innovations?

While the author has associations with academia he is primarily a consulting and training practitioner and it is from this perspective that the paper is written. It will be some time before we can get a detailed academic analysis of this period. Hopefully these views, based on a combination of research and accumulated experience, will provide some interim assistance to the practising marketer.

It is not just dot.coms

It would be comforting to believe that the dot.coms were the only technology-driven market developments where horrendous mistakes have been made and the era of the 'new economy' was a brief but finite period of business madness.

This is certainly not the case, and as a reminder the following are some of the other 'innovations' that failed to deliver their promise.

WAP phones came and went without creating any tangible change in consumer behaviour, but created large holes in their suppliers' balance sheets. Five consortia paid £22.5bn for the UK's next generation of mobile phone licences, apparently without any clear plans as to how and when this and all of the other associated costs would be recovered.

The demand for telecommunications services was hopelessly overestimated, resulting in a long list of corporate disasters, with Energis and Marconi being two of the high-profile failures.

CRM has closely followed knowledge management as supposedly providing a radically new tool for the marketer. Neither of these has come close to satisfying their overinflated expectations. As was graphically stated by Gartner Research, 'CRM is a fantasy in most European organisations with only 3 per cent of companies having true CRM'[3] (where CRM is viewed as an enterprise-level initiative rather than it being used to solve a single department's functional problems).

Digital TV is the most recent area of failure, with the demise of ITV Digital and the near-death experiences of NTL and Telewest. Even Sky Digital has yet to stimulate the levels of demand for its interactive services that were originally expected. The position was succinctly stated by Geoff Ramsey, the CEO of EMarketer, when he said 'Let's face it, interactive television has been hyped for years, but never lived up to its potential.'[4]

And so the process goes on with the emergence of a new generation of 'breakthrough' technologies that will provide the marketer with radically new opportunities. 'Web services' are forecasted to provide the glue to link organisations together to drive down costs and create new trading entities. Multimedia messaging (MMS) is portrayed as a new way for mobile customers to send ever more 'rich' messages (eg video and images) to each other and hence provide new communications opportunities for the marketer to exploit. Maybe this time the promise of the technology will be realised — maybe.

Maybe this time the promise of the technology will be realised

A long list of culprits

It is very easy to blame these failures on the other interest groups that have been involved with the events. Undoubtedly the venture capital funds, investment bankers and market analysts have greatly contributed to the failure of new technology companies. They created a disturbing, some might say illegal, process of making huge profits by taking half-formed business models, let alone fully functioning companies, to the stock market for unbelievably high valuations. As if this were not bad enough, we are just beginning to learn of the 'creative' accounting that fuelled rocketing share prices which in turn led to an unsustainable acquisitions spree.

Likewise the press has been responsible for creating unsubstantiated optimism and unrealistic expectations, only to be the leading voice in complaining about the lack of success and amplifying the mood of despondency when technologies and companies fail to deliver.

To this group can be added the unedifying, but totally predictable, herd mentality of the institutional and private investors who either perceived an opportunity to make some fast money or were driven by the fear of not being part of the technology bonanza. Finally there is the fuel of investment capital, in the form of pension funds, from the private individual that is continually available to keep the whole thing moving. A brilliant analysis of this whole process can be read in the *The Internet Bubble*.[5]

Unfortunately to this list must be added marketers, who in many cases were responsible for identifying the market needs and translating them into product definitions, generating the business forecasts, creating the business models and plans and overseeing the spending of huge amounts of money on promotional activities. It has been marketers who have shared with their IT colleagues in the growth of CRM and knowledge management. Marketers have been important contributors to the creation of corporate e-business plans.

Whichever way you wish to view the contributing factors to this muddle, you have to conclude that the role of marketing has performed badly.

The role of marketing has performed badly

Gurus change their mind

You rarely encounter a marketer, at any level of seniority, or an academic guru who is willing to confess to being hopelessly wrong about the business impact of the technology-driven events of the last few years.

Somehow it is always the collective 'them' who were naïve to believe that these ventures would succeed, with the implication that the gurus understood the truth from the outset.

The author is certainly prepared to admit to being naïve in embracing many of the new marketing rules that appeared to turn accepted business common sense upside down. Teaching Internet strategy courses gave the author the worrying experience of having continually to change training materials to reflect the demise of so many of the new business rules that we originally thought the Internet had created. This was the period when marketers were sanctioning massive advertising expenditure in a race to exploit their 'first-mover advantage' to capture website users without understanding how they would be converted to customers. The marketing community, as much as any other group, enabled the worse excesses of this period to take place.

Perhaps the highest-profile example of a business guru revisiting this area is Michael Porter.[6] Porter articulates a view that the new technologies increase the importance of the old business roles rather than making them obsolete. He positions the Internet as a threat to industry's profitability and believes the salvation is to use the technology to complement rather than cannibalise established competitive approaches. Gary Hamel (Harvard and London Business School) proposes this argument in a more graphic way by stating that the 'bigger the E in your strategy the smaller the E in your P/E ratio'.[7]

The author agrees with these views — indeed, who would dare not? However, it is a little disturbing that many of the most vocal proponents of the new technology, including Gary Hamel,[8] used Enron as their star case study of a company that had understood the move from physical to knowledge assets. Even *The Economist* reviewed 'Enron's spectacularly successful internet strategy'.[9] The author suspects that even the most respected gurus have been retrofitting some of their original arguments to the eventual outcome.

The business community has at best been naïve

Whatever way you wish to view the last few years, the conclusion must be that the business community has at best been naïve and the function of marketing must take its fair share of the responsibility.

So what really went wrong?

The writer believes there are five main factors at the core of the mistakes that marketers have made. None of these relates to the misapplication of very sophisticated marketing techniques, but instead to losing sight of some of the fundamentals of business common sense.

Unrealistic belief in the speed and extent to which corporate and consumer behaviours can be influenced

Mistake 1

The first reason and probably the most important mistake is an unrealistic belief in the speed and extent to which corporate and consumer behaviours can be influenced to change.

An excellent example of this, in the corporate sector, is the failure of B2B market exchanges to make any significant impact on purchasing behaviour. The proposition of using the Web to provide the mechanism for buyers and sellers to interact, generating savings from reducing transaction costs and by the application of more effective buying processes (eg auctions), has a simple and compelling elegance.

Inertia of entrenched purchasing practices

Unfortunately the inertia of entrenched purchasing practices has slowed the adoption of these exchanges to a snail's pace. The leading example of a B2B exchange is Covisint that was created by GM, Ford and Daimler-Chrysler as a mechanism to redefine their supply chain. During July 2002 the organisation reduced its workforce by 25 per cent as it reacted to the slowness of their own organisations and their suppliers to change their purchase and supply behaviour.

Similarly the willingness of consumers to use new ways of purchasing, such as the auction process or aggregating their orders with others to achieve higher discounts, has been very slow to achieve widespread adoption. Where the use of technology is less intrusive and requires minimal learning the extent and rate of change can be much greater — for instance, the Web is now used in over 60 per cent of consumer car purchases in the USA.[10]

Closer to the marketer's own world is the common problem encountered during the implementation of CRM and knowledge management systems of needing to change the work practices of those groups of staff who are involved. This tends to prove far harder and take much longer than is expected.

The author suspects that some readers might be thinking 'Well, if this is the case how you explain the amazing growth of short message service texting or the rapid take-up of e-mail and the adoption of mobile phones into our everyday life?' Each of these examples provides a useful insight for the marketer into the degree that market behaviour can be influenced and the extent to which change occurs for reasons outside the marketer's control.

It is confidently expected that by the end of 2002 the monthly volume of text messages will have grown to 100 billion worldwide.[11] It staggers belief the amount of human energy that will be spent in keying and reading this traffic.

Back in 1995, when the service was launched, nobody in the industry had any idea how it would be used. During this time the author was the chairman of a mobile phone trade association and remembers only a minute amount of time being spent in discussing the technology's commercial potential. In spite of this lack of interest by the suppliers of the networks and the phones and little or no promotion of the technology, it was adopted and moulded by the youth market and the rest is history. An outstanding commercial success for which the marketer can claim very little credit.

Clearly this technology provides benefits that are closely aligned with basic human emotions and the needs of a large sector of society. The best explanation of this success relates to its satisfaction of the innate human need to communicate, linked with an even stronger desire to be part of and accepted by our peer group. Young people found their own means of communicating that was a mystery to the older generation, and once a critical mass of users was achieved it became a 'must-have' product.

Great rewards await the marketer who can formally analyse and then transpose this phenomenon to other product areas.

There are slightly different reasons to explain the rapid take-up of the mobile phone and e-mail. In fact e-mail has been around since the late 1960s and the mobile phone age is at least ten years old. Maybe the term 'rapid' is somewhat of an exaggeration.

E-mail is very similar to SMS in the way its growth was fuelled by the continual need for humans to communicate in better ways. Once the basic constituents came together with the hardware platform (the PC), the ubiquitous presence of 'free' e-mail software (Microsoft Office) and the widespread and low-price availability of the communications medium (the Internet), the scene was set for rapid adoption. While e-mail has been the 'killer application' of the Internet, its widespread adoption has not resulted from the excellence of marketing. The only exception to this was the creation of free e-mail services (eg Hotmail).

The marketer can justifiably take some credit for the growth of the mobile phone market. The innovations of pre-paid packages and the transition of the product to become a fashion accessory are clearly the result of innovative marketing. We are very close to reaching the saturation point for mobile phone usage, and if the market is to grow it will have to be by the active intervention of the marketer to stimulate the use of non-voice services. This will be a much sterner test of marketing skills.

The most recent example of a venture that owes its success to tapping into a rich vein of human emotion (inquisitiveness) rather than to marketing expertise is friendsreunited.co.uk. With a zero promotions budget this website has attracted over 5 million people to submit their personal details and has become one of the UK's 20 most popular destinations.

Mistake 2

Marketing planning becomes dangerously disengaged from the practicalities of implementing the strategy

This concerns what Professor Nigel Piercy labels the marketer's 'hopeless optimism',[12] whereby marketing planning becomes dangerously disengaged from the practicalities of implementing the strategy. This manifests itself in many ways. There is the dangerous belief that the behaviour of a small set of early adopters can be rapidly replicated into the mainstream market. Another mistake is the 'fallacy of very large numbers'. This is where market demand is forecasted on the basis of achieving minute percentages of very big numbers (ie there are XXX million Internet users in the UK and we only need 0.01 per cent of them to considering using our Web services and then only 0.01 per cent to purchase our products and we will have a successful business model).

Mistake 3

Unwillingness to question rigorously new business propositions and concepts

This relates to our unwillingness to question rigorously new business propositions and concepts when they are being proposed by academia, the media and the consultancy profession. The author suspects that marketers, like other business professionals, are always seeking that magic ingredient that will change the rules by which they operate. Concepts such as 'first-mover advantage', 'the weightless economy', 'knowledge management' and 'customer and supplier relationship management' are all portrayed as providing an accelerated business advantage.

Most people subscribe to the view that there are 'no free lunches', and this concept equally applies to the adoption of these panaceas. Most of these concepts have their basis in sound business fundamentals, but they generally take far longer to deliver and require a great deal more input than their proponents initially suggest. Amazon provides some interesting lessons. This company had first-mover advantage in many of the market sectors in which it operates; it set the benchmark of techniques to attract and retain customers; it provides a remarkable breadth of products to enable 'cross-selling'; and is recognised as providing some of the best customer service in the industry. Even though the company has mastered so many of the new economy rules it has succeeded in generating an accumulated loss of $2.4bn on sales of $8.3bn since it started in 1994 (ie a negative margin of 30 per cent).[13] Now after seven years of operations Amazon's operating profit margin is just 1.3 per cent, which is much less than half that generated by the old-world Wal-Mart.

Mistake 4

Technology is more complicated and prone to going wrong than we expect

Technology is more complicated and prone to going wrong than we expect. This has been a factor in many of the high-profile disasters. For example, there was the slow speed of gaining national coverage for ITV Digital, the three minutes needed to load the boo.com website, the total inability of the national Census website to handle the demand and the difficulty in constructing the handsets for the new third-generation phone services. For each of these high-visibility examples there are countless instances of delays and cost overruns that never make the headlines.

We have grown used to experiencing the unpredictable performance of corporate and government IT projects, yet we do not apply the same questioning when using technology within the marketing arena.

Mistake 5

The final mistake has been (and is still being) made by senior marketing and general management. It manifests itself when senior managers make decisions about marketing issues which are very dependent on technology without a sufficient understanding of what is involved and the resulting repercussions. Often this occurs because the individuals are not prepared to admit the limitations of their knowledge, yet feel impelled to 'take the management decisions'. Another variant of this issue is when some managers are only able to express their vision for using technology in the vaguest of terms, yet expect this to be understood and translated into a reality by their staff.

Some managers are only able to express their vision for using technology in the vaguest of terms

The author witnessed a perfect example of this while writing this paper. The CEO of a well-known organisation that is involved in the professional services sector was explaining their vision of how the Web should be changing their business. Partway through the description the presenters stopped and said 'I expect you think this all sounds rather vague', which indeed it did. Each of the managers present at the meeting came away with very different ideas of what was required, and proceeded to brief their own staff accordingly. The first time that any person with an understanding about the capabilities and limitations of the technology will become involved in implementing this strategy is at least two levels away from the point of its origin.

Combinations of these five mistakes have probably contributed to the great majority of high-profile technology-related failures that we have witnessed during the past few years.

What has really changed?

Having now analysed, albeit very briefly, the scope, magnitude and reasons for the new technology nightmare we can now try and understand what lasting legacy will result from these turbulent years.

The Internet is now an unremarkable and basic part of consumer and corporate life

Has the Web become boring?

The *Financial Times* journalist Louise Kehoe made an excellent starting point in addressing this question.[14] The question she posed was 'Has the Web become boring?' Her conclusion was that while the public profile of the Web had greatly reduced, it had become an integral tool for the way that large numbers of the population go about their day-to-day personal and corporate business. Research that she quoted[15] showed that the Web had significantly changed the news-reading, TV-watching and shopping habits of its veteran users, and to a lesser degree those of more recent converts.

Once a technology dissolves into the background, as a neutral enabler of corporate and social life, then its true potential starts to emerge.

For most companies, the Web has now moved from being an optional adjunct to something that is necessary to do business. Less do we consider it as a means of gaining competitive advantage, and more as something that is a 'no option' requirement. The sophistication of Web facilities differs, but for each industry a norm of functionality is emerging (ie no airline or bank would consider online transaction facilities as anything other than a necessary requirement). We now have a generation that has grown up with the Internet and considers it in the same category as the phone or the PC. A report from the US Department of Commerce showed that in September 2001 nearly 80 per cent of US young people had access to and used the Internet.[16]

The first enduring change the marketer must appreciate is that the Internet's impact is permanent and is increasingly present in the day-to-day operations of the majority of their corporate and consumer customers. Accordingly, marketing plans must ensure that this is reflected in their communications, sales and distribution channel strategies. Hopefully organisations are moving beyond the need to give focus to the technology, with the creation of separate e-marketing and e-business plans, and now evaluate the appropriateness of the technology as they would any other business tool.

Evaluate the appropriateness of the technology as with any other business tool

The skills and role of the marketer have expanded

In a previous paper, published in *Interactive Marketing*, the author addressed the issue of the expanding role, responsibilities and skills of the marketer (interactive marketing needs interactive marketers).[17] The need to exploit the Internet has lead to a dramatic increase in the requirements of the marketer's portfolio of skills and knowledge. It is no longer sensible to draw lines of distinction between things that are 'techy' and those that are 'marketing'. Having a comprehensive understanding of the way the technology operates is a necessity and cannot be delegated to IT.

Understanding the way technology operates is a necessity and cannot be delegated to IT

Business evolution happens faster

This relates to the potential of the technologies to enable traditional business evolution to happen faster and with greater intensity. This is very different from suggesting that the basic rules of business are being recast. An example of this is the speed with which direct e-mail and SMS messaging has evolved. A recent study by e-Dialog[18] showed that nearly 50 per cent of US companies reported e-mail marketing as their mainstream marketing vehicle. The basic marketing rationale of these companies is unlikely to have changed, but they have been able to adopt a new, technology-enabled, marketing tool in a very short space of time. Another example relates to the speed at which companies can outsource their non-core activities. This process has been happening for a long time, but the Internet has made the mechanics of the process easier to achieve.

Time taken to implement IT-related marketing developments has reduced

An adjunct to the previous point is the potential of Web technology to reduce the time taken to implement new IT-related marketing projects. An upper limit of three months for the development and implementation of new IT/marketing projects is a benchmark that companies are increasingly applying. If this step change in development times is to be capitalised upon then the associated decision-making and internal communications processes must change accordingly.

Closer integration of IT and marketing

The past few years have graphically demonstrated that for many industries the technology is no longer a supporting appendage: it 'is the business'. It is obvious that few companies could operate without their supporting IT systems, yet the gap between the IT and the business functions has remained worryingly wide. This situation is now changing, partly as a result of marketing and IT having to work closer together on Internet-related projects. The first phase of the new technologies was dominated by the 'creative' and communications aspects. The second and longer phase is concerned with the IT aspects of the Web enabling the corporate legacy systems.

The gap between the IT and the business functions has remained worryingly wide

This closer integration of the two business functions will accelerate. As was previously mentioned, this places demands on both IT and marketing to expand their skills base to ensure they have a sufficiently wide overlap of knowledge to have a worthwhile dialogue. Unfortunately this process has some way to go, as is evidenced by the way that so many websites employ excellent usability and presentational design in the 'front end' (responsibility of marketing) and then abandon all of these considerations within the commerce/transaction part of the site (responsibility of IT).

The old marketing hierarchical structures re-exert their control

During the past few years the country and divisional marketing departments of large enterprises have been endowed with a high degree of freedom to determine their own digital media strategies. This was not a conscious corporate decision but rather it resulted from the fracture that these technologies created in the old hierarchical structures. Countries' marketing groups created their own brand sites, and divisions within companies pursued their own digital strategies.

While this period may have released the latent creative marketing energies of the operating subsidiaries, it has also led to considerable waste and sometimes confusion in the market. The author has encountered companies that have numerous country brand sites operating on different Web platforms and none of them with sufficient resources to be really successful.

The implosion back to the old marketing hierarchical structures is occurring

The implosion back to the old marketing hierarchical structures is occurring. They will not reassert themselves in exactly the same manner, but they will be much closer to the old model than one would have originally expected.

This section has intentionally only discussed those changes that are generally applicable across all industries. Clearly there are examples of industries where the new technologies have, or are in the process of, fundamentally altering the business model. The potential to change the cost and distribution model of products that can be digitised (ie books, music, video, software, information) is immense. Industries that can use the technologies radically to simplify and reduce their transactions costs (ie parts of the banking and travel industries) have the opportunity for short-term competitive advantage.

These are the high-profile changes that have attracted most of the publicity. In the long term the enormity of the changes listed will be equally as important, if less exciting.

So have the basic constructs of marketing been changed as a result of the recent technological developments? There can be little argument that the aggregation of the six effects discussed in this section has a significant impact on the day-to-day operations of the marketer. However, it is much less certain that the rules of marketing have been fundamentally altered. Rather, the author believes the new technologies improve, when correctly applied, the effectiveness of the marketing process but do not radically change its shape.

We will never make the same mistakes again

A desire never to make the same mistakes again is a natural emotion for those investors, managers, employees and customers involved with companies where the exploitation of the new technologies has been their driving goal. The same feeling must exist with marketers who have been

The rule	The danger
Do — be prepared for there to be delays in getting the technology to operate to the promised levels.	Products are promoted and customers' expectations are raised before being able to deliver on the promises.
Do — be honest (with yourself) about your ability to make decisions and determine policies related to the technology.	For the sake of protecting management ego costly mistakes can be made. These will invariably be blamed on the implementation of the faulty decisions rather than their originator.
Do — be sceptical of the 'one leap and we are free' solutions.	Invariably the quick-fix solution is more costly than expected and impacts negatively on other parts of the business
Do not — be surprised when consumer and corporate behaviour changes at a slower rate than expected.	Technologies and products can be deemed failures before they have had sufficient time to be adopted. Strategies are changed before they have enough time to be effective.
Do not — be afraid to challenge what might seem to be the accepted marketing wisdom.	You replicate the mistakes of your competitors. You should be seeking to have an open and enquiring mind laced with scepticism.
Do not — unquestioningly believe the views of the 'experts'.	The advice may be wrong and dangerous. Remember that consultancies are driven by generating fees; academics are judged by the papers they publish and software vendors by the revenue they generate. These priorities are not necessarily the same as yours.
Do not — extrapolate total market behaviour from the reactions of small and specialist sectors.	Disaster!
Do not — believe that the benefits of technology are self-evident.	Too much time and money is spent in refining the product and too little is dedicated to acquiring and engaging the potential customer.

Figure 1: The marketer's dos and do nots

attempting to use technology to improve their effectiveness and their relationship with their customers. This is not to imply that failure has been the only outcome. The way that Capital One has used data mining to transform the credit card business is outstanding.[19] The way the BBC has used the Web to expand the quality and range of its services has received worldwide acclaim. There are other high-profile success stories, but they tend to be in the minority.

The author decided the best way to try and distil the basic rules that will help reduce the chances of these failures being re-enacted was to construct a list of dos and do nots that would conveniently fit on a marketing manager's desk, and to make them brief enough that they might be read. Associated with each rule is a brief description of the dangers that can occur if it is not followed (Figure 1).

Would these simple rules have avoided all of the mistakes that have been described in this paper? Not all, but a great many of them.

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