Internet Strategies

A corporate guide to exploiting the internet

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Business

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INTERNET STRATEGIES

To Stella

Introduction

There seems to be no hiding place from the all-pervasive presence of the Internet.

You rarely read the press without seeing an article appearing about the technology, TV commercials increasingly display their WWW addresses and even the radio encourages its listeners to communicate with their favourite programmes by e-mail.

Parents are hounded by their children to buy an Internet connection for their home PC and in the office they are plagued by a deluge of e-mail and the requirement to understand all of the wonders that the WWW can provide.

Any questions about the Internet's continuing popularity were answered by the tripling of traffic on the 1998 Winter Olympics WWW site compared to that experienced during the duration of the 1996 summer games in Atlanta.

In many ways the Internet is in a similar state to the PC when it was emerging as a business and consumer product. Technical innovations appear at a frightening rate, new applications for the technology emerge continually and management is expected to automatically appreciate how the technology should be applied. This book has been created to assist managers to understand better these business implications of the Internet.

Like many books this one arose from my lack of success in finding a textbook that focused on the business rather than the technological implications of this new technology.

Countless books consider the Internet and its application at a tactical level. Others focus upon a particular functional application of the technology, particularly its potential as a new sales and marketing channel. What I was seeking, and hopefully address in this book, is something that considers how the Internet can effect all the components of a business. I had five objectives that I wanted to satisfy in writing this book.

- To take a realistic and not an evangelical approach that will challenge the ultra-optimistic views that abound about the way the technology will change business.

- To consider the strategic risks and opportunities that the Internet presents to businesses in a pragmatic rather than theoretical manner.
- To provide practical tools, in the form of checklists, that will assist managers to review their own organisation's use of the technology.
- To admit what is not known about the subject, which is a great deal, but still provide guidance on making the difficult decisions that managers must confront.
- Above all, not to assume that the reader is a technical wizard, or wants to become one, but to treat the reader as a businessman and use the language he or she will understand.

The first chapter of the book provides a summary of the Internet's history and the main services that it provides. Understanding how the technology evolved provides a valuable insight into many of the factors that need to be understood when planning its future use. A glossary of Internet terminology can be found at the end of the book.

Chapter 2, 'The Business Drivers of the Internet', discusses the many factors that have contributed to the Internet's phenomenal growth. Some of these drivers are fundamental to the technology and the benefits that it can deliver. Some are transitory and derive from the vested interest of companies supplying Internet products and services. The media's fascination with the subject has acted to heighten the feeling that unless a company was using the Internet it was missing out on a business bonanza. A manger considering investing in the technology must be able to distinguish the real from the imaginary benefits.

A key input to any decision about using the Internet is understanding the current and future characteristics of its users. Where they are located and how they use the technology are fundamental and often unanswered questions. Equally important is the level of confidence that can be attributed to the research data that purports to answer these questions. These issues are discussed in Chapter 3, 'Who is Using the Internet'.

Chapter 4, 'The Impact of the Internet on Business Processes', considers how the technology can change the way that a company's internal processes are conducted and how relationships with customers and suppliers will be affected.

The following two chapters, 'The Marketing Process' and 'The Impact on the Sales Channel and Customer Support', focus upon the customer facing applications of the Internet. There are numerous ways in which the Internet can be applied to improve this vital area of corporate activity. Ironically it is this plethora of choice that has led to many of the problems that companies are now experiencing. Presented with so many new applications the danger has been to allocate them equal priority, leading to an unfocused and confusing use of the technology.

These chapters provide materials to improve managers' understanding of the different applications and their ability to make more informed decisions as to the most appropriate uses of the Internet for their particular circumstances.

By considering the implications of technology at the functional level it is possible to lose sight of the much larger and important issue of its potential to change the fundamental business model upon which an industry operates.

Chapter 7, 'Creating Strategic Change', looks at three industries where the Internet is already influencing their way of operating, travel, financial services and IT. By considering these industries' characteristics and the factors that make them susceptible to change, a methodology is created that enables other industries to be similarly analysed. It is too early in the Internet's life to create a guaranteed prescriptive method for understanding its strategic impact: however, the contents of this chapter improve the ability to forecast its effect.

The contents of the book, until this point, have focused upon understanding the applications of the Internet and providing the tools to optimise its use. While this is a vital activity it is only part of the story since it does not address how the organisation's structure and processes need to adapt to enable the full benefits of the Internet's applications to accrue. It is equivalent to expecting the driver of a standard family saloon to immediately start driving a Ferrari and to take both full advantage of its capabilities and not harm themselves.

By using the scenario of an imaginary company that has fully embraced Internet technology into the way that it operates, Chapter 8, 'Why Managers' Attitudes Must Adapt', considers these issues and the implications they have for the corporate manager

Building upon these issues, Chapter 9, 'Strategic Options', provides a framework to enable managers to consider the organisa-

tional structure they wish to adopt and the scope of their ambitions for applying the Internet.

Irrespective of a manager's functional discipline the chance of them becoming involved in decisions involving the Internet is rapidly increasing. For many this is a daunting experience. When changing the method of work and the utilisation of new business processes, a vital factor to success is ensuring that the multitude of small tasks are completed successfully. 'The devil is in the detail' is most appropriate to projects related to the Internet. Chapter 10, 'Management Issues', provides checklists of questions that will assist managers when involved in such projects.

Chapter 11, 'The Essential Ingredients for Success', distils the array of issues discussed in this book into five key recommendations that managers should adopt. While the technologies that comprise the Internet will change, as will the names of the products and their suppliers, it is very unlikely that these concluding points will alter significantly over time. It is interesting that the most important issues surrounding a subject, which when first encountered appears to be dominated by the technology, are focused on the areas of organisation, planning and implementation.

It is a fitting conclusion that the only practical way to deliver the final chapter, Subsequent Developments', is to make use of the Internet's unique ability to be continually updated and be accessible by a global audience of readers. For this reason the book's final chapter is not committed to the inflexible medium of paper but is published electronically. The book's WWW site (www.internet-strategies.co.uk) provides the reader with the opportunity to see what developments have taken place that enhance our understanding of how this amazing technology is affecting so many of our business assumptions.

Contents

1 What is the Internet?

Chapter overview

In the short space of 25 years something which started as a US defence initiative has developed into the main communications mechanism for the academic and research community and most recently has expanded into a major business tool for the commercial sector.

The Internet, as we have now come to call it, has evolved during this period from being a robust and effective way of exchanging information to providing a delivery mechanism for massive amounts of multimedia information to a global audience.

Virtually all of the services and products related to the Internet were originally defined to satisfy demands emanating from the academic and research world. We are only just entering into the era where the main driving force for new developments is coming from the commercial sector.

The original users of the Internet were drawn from a narrow segment of the populace. They have recently been joined by the new generation of users with a wider range of backgrounds than academia and research. The club-like nature of the Internet is fast disappearing as the ease and cost of access makes it accessible to a much greater audience.

The two Internet applications that are most likely, in the short term, to have an impact on the non-IT manager are e-mail and the world wide web (WWW). E-mail provides a very simple and effective way of sending both simple text messages and computer files (for example spreadsheets and word processed documents) to one or a number of recipients. The WWW enables individuals and organisations to provide a global audience with a full gamut of multimedia information that can be accessed easily. The benefits of all of these Internet services are available at local telecommunications charge rates. The

basic design criterion for the Internet, that it should provide a resilient network which is capable of operating without a central control and administration in the case of a nuclear attack, is now causing difficulties for those authorities seeking to administer its operations and in particular the content that it carries.

The Internet's potential to change the way we conduct business is only just beginning to be understood. Already it is clear that managers must orientate their thinking to adapt to the opportunities (and threats) that are being created.

The focus of this chapter

There is no need for today's managers to have a detailed understanding of the Internet's history although a little knowledge helps explain some of the mystique and idiosyncrasies that surround the technology.

Without question there is a need for the manager to gain 'hands-on' experience of actually using the Internet, since no amount of text can possibly describe the reality of seeing it work in practice. The days when there were clear demarcation lines between the 'technology' and 'business' issues are over since the use of technology is often integral to the implementation of business strategy. In addition to the portfolio of managers' skills that include finance, marketing, operations and so on, must now be added electronic commerce.

This chapter aims to provide a brief introduction into the background of the Internet. When and why was it created? How has it been used? What is causing the radical change to its future usage?

This chapter will provide some insight into the main Internet applications that managers are likely to find most useful.

For the reader who is currently using the Internet and is happy to remain oblivious of the technology's roots this chapter can be missed without it affecting their understanding of the book's content.

A historical summary

The remainder of this book could easily be filled with a historical account of the Internet.

There are many excellent books that cover this subject in depth and indeed the Internet itself contains a wealth of historical refer-

ences. Details of further sources of information are provided at the end of the chapter.

While it is undoubtedly a fascinating story, there are just a few key things that need to be understood about the Internet's evolution which still have a direct impact for today's user.

In many ways we have the Soviet bloc, and its perceived military threat to the US, to thank for the precursor to the Internet. During the late 1960s and early 1970s the US Department of Defense (DoD) was concerned that centralised forms of communications would be vulnerable to nuclear attack. In the era before the distributed processing power of the PC had been dreamt of, the DoD's fear that the country's defence systems were reliant upon a few, very large, computers was all too real.

There was a need to link computers together in such a way that was not dependent on any single machine for the integrity of the whole network. At this time, networks were totally reliant on a few machines and if these were damaged then all computer processing would cease.

The technological development that was created from this military objective was known as the Advanced Research Projects Agency Network (ARPANet).

By the beginning of the 1970s there were just four defence research sites connected to ARPANet.

Things moved forward rapidly from this point. The number of computers connected to the network continued to grow, with the first international connection occurring during the early part of the 1970s. By the beginning of the 1980s there had been many advances in the protocols (for example communications technical standards) that enabled computers to talk with each other over the network and which provided a range of applications in addition to the basic e-mail.

The next major event came in 1983 when it was decided that all of the computers connected to the ARPANet would convert to using one set of protocols for communicating with each other. This family of protocols, called TCP/IP (transmission control protocol over internet protocol) provides the basic standards by which the network functioned. TCP/IP is often called the 'glue' which binds the Internet together. As long as the electronic address of another computer was known it was possible to initiate a dialogue over the physical electrical network, irrespective of the make and type of the two computers.

Any computing device with a discrete address was able to interact with any other.

It is probably this very early adoption of a universally agreed set of standards which gave ARPANet the ability to grow so quickly, since it removed the damaging conflict and delay that invariably follows when there are competing standards vying for technical supremacy. Basically, if you wished to enjoy the benefits provided by this global network, then you had to use the agreed TCP/IP standards.

It is from this period that the term 'Internet' became more widely used to refer to a collection of networks that specifically used TCP/IP protocols to communicate.

At this date there were probably less than 700 computers connected to the network. If we fast-forward to the end of the 1980s the number of computers connected to the network had grown to close on 200 000. By the end of 1997 this figure had exploded to 20000000!

By this stage other major networks had adopted the same set of protocols. The most important of these was the network implemented in 1986 by the US National Science Foundation (NSFNet). The creation of this network provided connectivity between five super-computing centres and universities and research establishments.

It is worth considering that by the beginning of the 1990s what has now become the Internet was still very much the tool of the research and education world. The driving principles and priorities of the network had not been appreciably influenced by the requirements of the commercial sector.

Around this time the first commercial providers of Internet connection started to appear. Commercial and non-profit information service providers began connecting to the network.

The most important development of the current era of the Internet occurred at this same time (1991) with the initial world wide web program being developed at CERN. This is one of the world's largest scientific laboratories located on the French–Swiss border near to Geneva. It is fascinating to note that, yet again, the drive for this development did not come from the commercial world but originated in a research institution.

Three years after the first release of Microsoft's Windows operating system (in 1990), can be said to be the birth of the hyper-growth phase of the Internet. The first release of a software product called 'Mosaic for X' which was created by Marc Andreessen, who has had a central role in the current era of the Internet's evolution, took place in 1993. Andreesen is better known as the man who founded Netscape, the company whose Navigator software rapidly became the software that

most people used to access the WWW. This business and technological phenomenon shocked the PC's leading software supplier, Microsoft, to aggressively pursue Netscape and challenge it for supremacy of the browser software market. This battle is still being fought with Microsoft progressively encroaching on Netscape's initial market dominance.

This same year witnessed the written media beginning to take an interest in the Internet with articles appearing in *The New York Times*, the *Guardian* and *The Economist*.

By the middle of March 1995 the WWW had gone from its birth, four years beforehand, to become the greatest single generator of traffic on the NSFNet. In the same year Marc Andreessen's Netscape Company went public with the third largest ever initial public share value on the NASDAQ market. At the close of 1996 the company's market capitalisation stood at just over $5 billion. By the end of 1997 this value had approximately halved. Even during the high tech bull market of 1997 the relentless competitive pressure had taken its toll on Netscape.

Other than being a fascinating story of how a technological project, initiated for purely military reasons, mutated into a commercial bonanza, this history provides some important issues we should consider.

Public service versus commercial gain

There is still a very strong community of users on the Internet who originate from the period when it was primarily used for academic and research purposes. This makes it easier to understand why there still remains a vocal lobby that resents the commercialisation of what they perceived as essentially a public service. Such feelings manifest themselves through the 'club rules' (netiquette) that exist within some of the Internet services which are opposed to the blatant use of the medium for commercial advantage. The sentiment is most evident in the older services on the Internet, in particular newsgroups. It is interesting to see that the software that is used to browse the WWW also contains the functionality to use these older services and acts as a bridge between these two eras.

Control and conformity

As we have seen, the basic rationale for establishing the forerunner of the Internet was to create a non-hierarchical network that was not dependent on or controlled by any single authority. This organic nature of the Internet is a difficult concept to understand since in a progressively legislated and controlled world we rarely experience, on such a scale, what appears to be an anarchic and unruly entity.

We are now witnessing a fascinating struggle between the Establishment, which intrinsically wants control, confronting an adversary that has gained massive commercial momentum and which ignores national boundaries. The analogy of 'attempting to herd a population of cats' is one that is often applied to the desire to regulate and control the Internet's activity. It is only slowly dawning on the regulatory authorities that its rules and timescales are from a different era and often ineffective when confronted with this bludgeoning technology.

Standards: the secret of success

While the electronic wizardry that enables the Internet to operate is staggering, it is the global acceptance of the TCP/IP protocols which has been the enabling factor that has allowed such a rapid and widespread growth. It is interesting to speculate what would occur if the Internet was being established today, within the commercial sector. It is most likely that we would experience some form of standards battle, between competing suppliers, that would undoubtedly delay the rate of its development.

On the face of it there appears to be a contradiction between the intrinsic freedom that the technology confers and the rigid protocol standards that have enabled the Internet to expand so quickly. I think that this is best explained by the difference in nature between technical standards and the content of what the standards allow to be transmitted. The latter is what is more important to most of the Internet's users, rather than the technology which makes it possible. The massive investments in time and equipment, which have been made to take advantage of the TCP/IP standards, have long since passed other than for small incremental changes. The likelihood that a competitive technology will challenge the dominance of these standards is very remote.

Co-operation can be good for you

To a great extent the Internet still retains elements of its co-operative origins. This is not to say that there are not vicious commercial battles taking place between rival suppliers of products and services. Netscape and Microsoft are the most obvious example of two companies involved in such competition. In truth, almost all suppliers and increasingly the US legislature are engaged in fierce battles with Microsoft!

However, where there is an obvious commercial gain from working together, then this culture of co-operation still exists. As we will see later, the creation of the standards that should herald the adoption of credit card usage on the Internet involves competing technical and financial services suppliers coming together to agree and implement a common standard for protecting electronic payments.

Demographic implications

As we have seen from this short historical account, those people who have been using the Internet for any period of time will have come from a very selective part of the population. The analysis in Chapter 2 will provide evidence to confirm the current skewed demographic profile of Internet users.

We are witnessing two very different sets of people who are populating this virtual world of the Internet; new users who have no historical 'baggage' of why or how the thing was established and just see the personal and corporate potential that abounds and earlier users who come from a much narrower sector of society and who see it in very different terms.

Accelerating change

This historical summary illustrates the remarkable rate at which changes on the Internet have occurred. As we see in Chapter 3, the numbers of computers connected to the Internet and the traffic they generate shows an awesome level of growth. What overshadows this phenomenon is the increase in the amount of new technological developments that are focused into this area. As an illustration of this