

Technology Management – Microsoft & the Internet Case Study

1) When & how did Microsoft become aware of the importance of the Internet?

Between 1991 and 1996, there was a dramatic change in Microsoft's attitude to the Internet (Burgelman *et al*, 2008). Through a process of change which was driven, initially by feedback from middle managers and the external environment, and subsequently by senior management strategy, Microsoft came to realise the importance of the Internet. Microsoft's strategic intent and business choice to achieve a dominant position in the desktop operating system (OS) market impacted on their ability to recognise the breakthrough in technology that the Internet provided. At the beginning of the 1990s, their strategic choices of business, customer, product and process were driven towards aggressively controlling the desktop operating system market. They had capabilities, competencies, processes, values, strategic alliances and culture all built around leadership in that arena. Senior management interpreted Microsoft as a software provider in the desktop OS and office application market, and they framed the external technological environment in that way.

With their dominant design of OS, they had extremely high bargaining power as a supplier to OEM personal computer (PC) manufacturers (Utterback, 1996; Burgelman *et al*, 2008). Their processes and relationships were built around ensuring as the PC market grew, their unique OS was the one which shipped with the increasingly affordable generic hardware. They were targeting customers whose requirements were built around standalone PCs, rather than the networks which were more popular in business systems, and as such, the growth of the Internet was outside the scope of their core competencies (Prahalad & Hamel, 1990). Due to this, there was a significant delay between the first indicators and management acceptance of the importance of the Internet.

The first internal indicators of change were taken in hiring J. Allard in 1991 for implementation of the TCP/IP stack, but the low priority that was assigned to it was clear from Ballmer's myopic statement "I don't know what it is. I don't want to know what it is." When, in 1993, Allard set up an unsanctioned project that became one of the "10 most-used servers on the net", his strategic action diverging from corporate strategic intent demonstrated both external demand and internal strategic dissonance (Burgelman & Grove, 1996). Externally, by this point, the mosaic browser had been released which was providing a simple graphical interface to access the Internet. Allard continued to feedback his concerns, and in January, 1994, he sent a memo: "Windows: The Next Killer Application for the Internet". Through these actions, he was providing information to senior management, hoping that this would lead to strategic recognition.

At about this time, Sinofsky, Gates' technical assistant had been excited by the influence of the Internet students at his old university (Burgelman *et al*, 2008). Based on his experiences, he sent an email about its impacts, and was referred to Allard. After Sinofsky had demonstrated the Internet to Gates, an executive retreat was sanctioned to discuss Internet policy on April 5th. Decisions made there included the TCP/IP stack to be in Win95 and NT, Word would save web pages, and marketing would be put out on the web. However, MSN was still to be proprietary, showing that though Microsoft had recognised change, they had not understood how it could impact their business model.

Following that, Gates sent a memo stating "Internet Strategy and Technical Goals" regarding a desire to invest resources in Internet technological leadership. Gates had not perceived the value in it by this point, however, as he said in a conversation with board member Marquardt, he could not see how to monetise a free technology. This disparity between proprietary and free was highlighted in November 1994 by the sale of a 20% stake in the proprietary MSN for \$125million. However, when AOL purchased BookLink for \$30million, a browser that Microsoft had been in discussions to acquire, it became clear that some investors forecast financial benefits.

However, by May 1995, Gates had realised the importance of the Internet, and declared that it was the "most important single development" since the IBM PC, assigning it the highest level of importance. Slivka, the project leader for Internet Explorer, also issued a warning that the web as the "Next Platform" had the potential to displace Windows. The web, as a disruptive, breakthrough technology, could, with the help of Java offering "write once run anywhere" functionality, substitute their dominant design in desktop OS into irrelevance (Porter, 2008).

If there was any doubt about the importance of this technology, Netscape had its IPO in August, making its chairman a paper billionaire, and in November, Goldman, Sachs & Co. removed Microsoft from the "recommended for purchase" list. By December, they had their strategy of "embrace and extend" in place, by licensing Java and following by attempting strategic acquisitions of Excite and Frontpage.

These key moments combined together to provide MS with a flow of both internal information streams and mounting external evidence that they had reached a Strategic Inflection Point (SIP) (Burgelman & Grove, 1996). It had become clear that unless they addressed and updated their Internet Strategy, they ran the risk of being pushed out of the technology market. Through a process of analysis of internal information and external environment, redirection of strategic intent and action and leadership decisions, Microsoft was able to recognise the importance of and adapt to the Internet.

2) How did Microsoft's strategy-making process work with respect to dealing with the Internet?

Microsoft's management were forced to change direction as a result of the dynamic change in their environment to better address the threat of the Internet to their market dominance. There were several key moments that demonstrated that the technology industry was reaching a SIP and that it would be necessary to reinvent the corporate strategic intent (Burgelman & Grove, 1996). As the corporation was exposed to increasingly powerful evidence that the Internet would play a key role in the future of technological development, they had a shrinking window of opportunity to ensure that they could leverage their dominance of the desktop into the newly networked world. Microsoft faced a threat to the sustainability of their business model. Thus, once top level management had recognised the importance of the Internet, they achieved an extreme change of direction in reaction to the external environment incredibly quickly (Burgelman *et al*, 2008).

The entire process of change and decision making involved information flowing from middle managers and the external environment up through the ranks to business leaders. This caused strategic dissonance between strategic intent and strategic action and between competitive advantage and core competencies (Burgelman & Grove, 1996). The dynamic forces providing Microsoft with a competitive advantage came from their core competencies in and dominant design of desktop OS and office applications (Prahalad & Hamel, 1990; Utterback, 1996).

Their market dominance in office applications acted as a complement for their desktop OS, and their desktop OS acted as a complement for their office applications in a self supporting relationship (Figure 1). However, there was evidence that the Internet could provide a substitute for the desktop OS, through the creation of Java, addressing non-consumers of networking technologies and providing improved access information services (Christensen, 1997). Thus, the Internet had the potential to be a competency destroying technology, meaning there was divergence between the dynamic forces conveying competitive advantage and the company's current core competencies. Allard's highly successful rogue Internet Server was evidence of strategic intent and strategic action diverging. The stated strategic intent was driving towards desktop dominance, almost to the exclusion of networks. When Allard set up the 10th most popular web server on the Internet, there was a clear divergence of action and intent. This strategic dissonance forced Gates to reassess the business and the strategic direction of the organisation. As the information regarding the need for change was fed back to management, it was necessary for them to assess the importance of the data and decide whether and how to act upon it (Burgelman & Grove, 1996).

By considering the strategic choices of the organisation and re-envisioning it as a provider of networked computers, rather than stand alone desktops, Gates had to change the resources, processes, culture and values of the organisation (Christensen, 1997). The first challenge of changing resources was fairly easily achieved, particularly with the vast capital reserves that Microsoft had available. The commitment of Sinofsky's time and the Shumway Retreat demonstrated willingness to invest resources in the technology. This was underscored with Gates' memo stating a desire to commit resources to leadership in Internet technologies. As the perceived importance of the Internet increased, greater resources were invested, including licensing of Spyglass and developer deployments. By the end of the 1995, the company was investing heavily in Internet technologies in order to acquire or license the competencies required to compete in the newly emerging Internet market (Burgelman *et al*, 2008).

By adapting their products to address potential customers of Internet services, rather than just desktop stand alone users, Microsoft would be able to reach a range of non-consumer as the

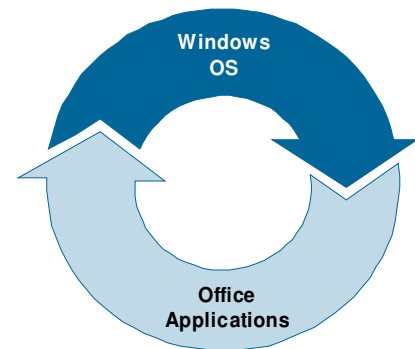


Figure 1 - Microsoft Complements pre-1995

potential for networked applications became clearer. This would be achieved through their technology acquisitions, and their powerful marketing machine. The processes of the company were geared towards providing desktop software. Microsoft tended to deploy software through retail and OEM sales. By developing into the Internet arena, different processes had to be put in place, such as Internet marketing, new development teams and technology acquisition and licensing processes.

The culture of the organisation was changed through increasingly urgent memos and statements of intent (Burgelman *et al*, 2008). Executive retreats, several memos, strong leadership and deployment of resources all contributed to the rapid cultural change. Candid discussions and “decisive dialogues” were encouraged within the organisation, as evidenced by the reactions to Allard’s and Slivka’s memos, with Slivka’s 15 minute talk overrunning to an hour (Charan, 2006). This dialogue was necessary to address the management beliefs and organisational learning with the business choices that had made Microsoft a successful company. The pervading values within Microsoft were that the company was a desktop software provider, not a networked software provider, so the advent of the Internet went against the currently successful business model. Senior management may well have had emotional ties to the desktop Microsoft, and may have perceived risks in moving outside of their core competencies. By allowing these dialogues, it was possible to challenge the culturally held values, leading to effective strategic change (Kotter, 1995).

The pervasive change throughout the organisation was achieved incredibly quickly. In the space of two years, Gates managed to completely reconceptualise the strategic direction of Microsoft (Burgelman *et al*, 2008). This required re-envisioning the four strategic choices of the company. Gates changed Microsoft from a desktop OS business to a networked OS business. Through this, the potential customers were different, as were the processes, products and services. By addressing customers with a requirement for a networked OS, products such as Internet browsers, Internet and intranet servers and a whole new market of web-based information service providing became possible, as did a new range of non-consumers who otherwise could have been targeted by Netscape or Sun (Christensen, 1997).

Gates demonstrated Zeitgeist Leadership, as he recognised the importance of the mounting evidence that without direct action, the dynamic environment would change, leaving the Windows platform irrelevant due to technological obsolescence (Mayo & Nohria, 2005). Through considering the external changes and the internal information, Gates was able to bring Microsoft back on track to dominate the software market.

Gates was able to achieve change so rapidly for several reasons. Firstly, due to Microsoft’s type of business and vast resources, it was possible for them to acquire or license the technology required to address the capability and competency gap. Where they needed to quickly ramp up their Internet technologies, they were able to license Spyglass and also the Java technologies. They were also able to leverage their dominance of the OS market to achieve high market share in the browser market by licensing their Internet Explorer technology to AOL in exchange for allowing AOL to ship with Windows 95, ending MSN’s exclusive position, changing the industry environment and competitive drivers (Porter, 2008).

Furthermore, since Microsoft is a software company, it had the potential to be relatively agile. There was no requirement for lead times in terms of retooling or capital investments. New development resources could be utilised as soon as they were acquired, leading to fast implementation of change. Also, due to the TCP/IP stack having existed for many years within the UNIX world, and having been made available under BSD open source licensing, it was possible for Microsoft to quickly adapt freely licensable code for use in their OS (Gomes, 2001).

Moreover, Microsoft’s business model was built around the concept of complementary products and vendor lock-in, and this was threatened by the Internet. Several of Microsoft’s middle managers were able to perceive the risk of not adapting to the new technology and were vocal about the risks. With the weight of the senior management behind their ideas regarding the potential threat of substitution that faced by the business model, it was possible to portray adapting to the Internet as a survival issue. As such, change was easier to achieve (Kotter, 1995).

Microsoft’s strategy-making process with regards to the Internet worked both rapidly and effectively to achieve a change of direction based on strategic dissonance (Burgelman & Grove, 1996). The processes whereby middle managers feed back information, and the candid discussions within the company ensured that implicit assumptions of the organisational culture were addressed. The change occurred quickly because once Gates was backing the change, through the strength of his leadership, the culture and values were changed. Due to the nature of the business, it was possible to acquire much of the technology quickly to ramp up their Internet position.

3) What is Microsoft's new strategy at the end of 1995? Why did they decide on this strategy? What are the implications?

By the end of 1995, Microsoft had chosen a heavily Internet-focused strategy. Gates had successfully changed their path from a highly desktop oriented strategic intent to one where the Internet played a key role. They planned to "embrace and extend" Internet standards to ensure that they were able to retain their dominance of the software world (Allard, 1994). This strategy was chosen in response to the threat of substitute of Windows for a web-based platform in the form of browsers and Java. This strategy had significant implications for the way in which they would do business moving forward, and would shape the future of technology for years to come.

Microsoft's new strategic intent was focused around the Internet. Their aim was to "embrace and extend" the Internet standards to add proprietary components to existing technologies. This strategy, as initially proposed by Allard (1994, p. 10) in his memo to senior management, recognised that "*it is probably fair to consider Internet connectivity a competitive advantage in the software industry. Tomorrow it will be a measurable disadvantage if we're not wired.*" He recommended embracing the standards by ensuring compatibility with current technologies, extending the standards by integrating the tools into the Windows platform and innovating by leveraging embedded and integrated Windows functionality and protocols to enhance customer experiences, whilst pushing MSN (then Marvel) as a tightly integrated services platform. This strategy was referred to in United States v. Microsoft antitrust by Steven McGeady of Intel as "Embrace, extend and extinguish", suggesting that Microsoft had recognised the potential of the Internet to damage their position and actively aimed to influence its development (McGeady, 1998).

Their intent was to offer a "free" browser, a "free" internet server, convert their current technologies to web-based systems, acquire new Internet technologies and achieve dominant web browser market share. They chose this strategy because there was mounting evidence that Windows was at threat of substitution by Internet technologies. Java promised developers the ability to deploy applications over the Internet, effectively substituting Windows into obsolescence (Porter, 2008). Sun could also use Java to address non-consumers of their UNIX platforms which could increase their personal computer market share. By shipping a free browser with the OS to compete with Netscape, Microsoft would be able to ensure that their technology was at the heart of the Internet user experience. Their decision to allow AOL on Windows 95 at the expense of MSN was indicative of their realisation that both the proprietary MSN and AOL networks were business and technological dead ends, but it served to improve browser market share (US Department of Justice, 1998).

The implications of this decision were that Microsoft had control of the client OS and application technology and through that they could offer their customers server systems which complemented the client stack. This meant that rather than buy software from separate vendors, customers might be more likely to stick with a single vendor offering tight integration of services. By achieving this goal, rather than having Windows substituted by the Internet, it would allow them to build an entire stack of complements where the client OS, the applications and the server OS would each complement the other, building a virtuous circle of market share growth for the organisation (Figure 2).

Internet Explorer contained proprietary extensions which were only available on Windows systems (US Department of Justice, 1998). Microsoft had realised that since most users acquired their browsers through their Internet Service Providers (ISP), by entering into licensing contracts, they would be able to not only achieve greater market share, they could also encourage ISP to use their proprietary extensions. When developers targeted those extensions, the only browser which could view it properly would be Internet Explorer, meaning the user experience would be diminished if they were accessing the web on any other platform or browser. As it became the most popular browser, developers would target the platform more and more, eventually leading to Microsoft achieving a monopoly in both browsers and OS effectively achieving a dominant design in Internet browser technology.

By offering developers proprietary extensions and a "free" and compatible web server, Microsoft was able to achieve market supremacy. Their server and client stack became the de facto standard for businesses based on their new Internet focused strategies. Through strong management of a threat to their business model, they were able to adapt and change their strategy and exploit it as a market dominating opportunity (Burgelman *et al*, 2008).

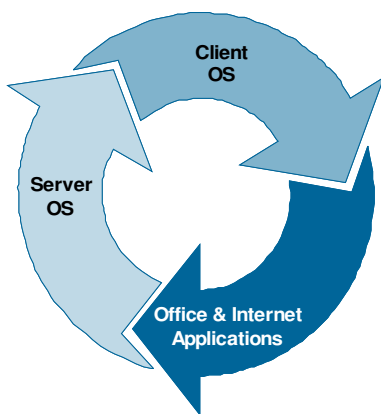


Figure 2 – Microsoft Complements 1995+

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