
Jacques Bughin

is a Director at the Brussels office of McKinsey & Company, mostly servicing clients in media, telecom and technology. He is a frequent speaker at worldwide conferences on media and internet issues and has a master's degree and a PhD in economics with *summa cum laude*. He has published articles in leading international academic journals such as *Management Science*, *the Review of Economics and Statistics*, *Journal of Industrial Economics*, *Electronic Markets* and *European Economic Review*. He has co-authored a book entitled 'Managing Media Companies: Harnessing creativity' (with A. Aris), Wiley. He is also a fellow of the ECORE, a think tank on economic policy in Belgium, is a fellow of the Applied Economics of the KUL University and co-leads the Advisory Board on media management at INSEAD.

Keywords: Web 2.0, enterprise 2.0, competitive advantage

Dr Jacques Bughin
McKinsey & Company,
Avenue Louise, 480, 21st Floor,
Brussels, Belgium
E-mail: Jacques_bughin@
mckinsey.com

The rise of enterprise 2.0

Jacques Bughin

Received: 15 October 2007

Abstract

This paper looks at how collaborative technologies are being adapted inside the enterprise, based on global field research involving more than 2,800 executives, and enriched by an online board discussion contrasting motivations of early versus late adopters of 'enterprise 2.0'. It is observed that 'enterprise 2.0' diffusion is relatively rapid and that one key rationale of adoption is to leverage new dimensions of collaborations that can form the basis for a new source of competitive advantage. While there is evidence of large pay-offs from the use of 'enterprise 2.0', the key challenge lies not in the promise of the technology, but more into superb execution — the paper closes with a set of key themes for successful implementation.

Journal of Direct, Data and Digital Marketing Practice (2008) **9**, 251–259.
doi:10.1057/palgrave.dddmp.4350100

Introduction

Collaborative technologies, dubbed Web 2.0, are spreading among online users. Blogs were initiated in 2001, to amount to 70 million worldwide at the end of 2006. MySpace has managed to attract 100 million monthly visitors in less than three years. YouTube, a user-generated video site, succeeded in generating 100 million views a day in two years of existence.

On the consumer side, the same technology tools are invading the corporate sphere.^{1,2} Cases in point include wiki usage among Motorola employees, Microsoft Channel 9 harnessing external contributions of software developers or Lego's 'Lego factory' site where people are encouraged to co-design their own Lego models. Observers have wondered whether 'enterprise 2.0' is a relevant business trend or — worse — whether it might lead to yet another internet bubble. This paper 'mines' data compiled from a major global survey conducted by McKinsey & Company early 2007 and looks deeper at how relevant this business trend really is (see Bughin and Manyika^{3,4}).

This paper focuses on three elements: (1) What is the adoption pattern of Web 2.0 technologies: is it narrow or broad, slow or rapid, global or localised? The answer is that adoption is emerging globally and is likely to be slightly faster than the adoption of other IT technologies. (2) What are the main benefits expected beyond adoption? There is a clear pattern of time-based competition, but also a vision to acquire new competitive advantage. (3) Focusing on marketing

Panel of more than 10,000 people worldwide

functions, what are the leverage points of competitive advantage? The mechanism is one of deeper brand engagements, from tighter customer service to co-creation of value with consumers.⁵

Survey

Our survey significantly improves other existing surveys (see Forrester⁶ or The Economist⁷). Other surveys suffer from a narrow sample size (a few hundred respondents), an over-concentration on the US and answers collected typically from the CTOs. The latter may be especially limitative because Web 2.0 technologies propagate at the grassroots level. This paper leverages a global McKinsey survey conducted in January 2007 and complemented in May by a qualitative probe of the incentives and bottlenecks on Web 2.0 usage within the enterprise. The quantitative survey includes more than 20 questions related to the usage and rationale behind usage. The technologies surveyed include P2P, collective intelligence tools, social networks, blogs, web services, wikis, RSS feeds, podcasts and mash-ups. The survey was applied to a panel of more than 10,000 people worldwide, acquired within the online readers of the *McKinsey Quarterly*, a worldwide reference management publication. About 25 per cent of the panel members filled out the complete survey. The survey spans across 68 countries and all industries. We highlight a set of findings below; all are statistically relevant at a traditional 5 per cent risk level. For more information, refer to Bughin and Manyika.³

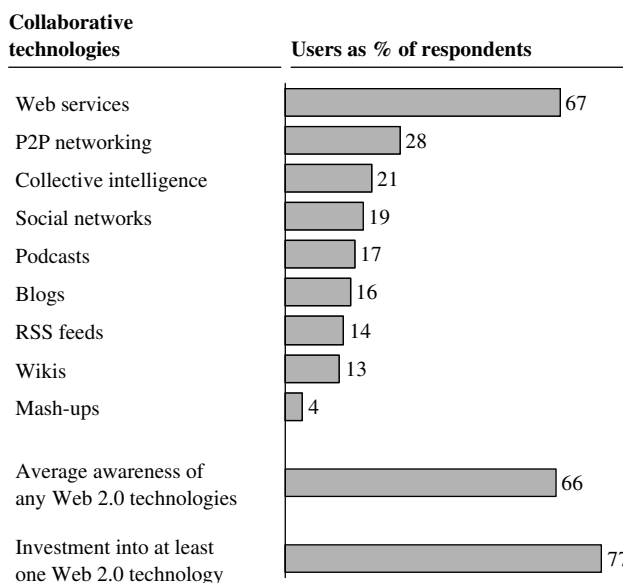


Figure 1: Enterprise 2.0 adoption
Total respondents=2,847.

Diffusion patterns

Global diffusion in the making

Web 2.0 is well understood

Web 2.0 is well understood, with all technologies known by an average of 2/3 (66 per cent) of the respondents. The lowest awareness concerns mash-ups (35 per cent of respondents). Up to 77 per cent of the executives who are familiar with these technologies report that their company has already invested at least in one of the various Web 2.0 technologies. There is a different level of adoption per technology tool, however. Web services have become pervasive and peer-to-peer networking is the second most popular technology among the companies (28 per cent). The lowest usage is for mash-ups (4 per cent). Overall, communication tools are on the lower end of usage (wikis at 13 per cent, RSS at 14 per cent) compared to networking technologies (Figure 1).

Regarding the diffusion pattern, we found that for any Web 2.0 technology we reviewed, 35 per cent of the respondents do not consider it. Yet for those considering it, 65 per cent are willing to try it and still 2/3 of all trials are being rolled out for enterprise usage. Extrapolating from this, the potential adoption for an average Web 2.0 technology (outside web services) will be 36 per cent, compared to 15 per cent today, with still a wide range of diffusion depending on the technology tool: from 14 per cent for mash-ups to 45 per cent for P2P. This pattern may be qualified as rapid. Hollenstein⁸ reports that IT technologies' adoption typically doubles every 3–5 years for Swiss companies. Slower business adoption than expected from Web 2.0 includes the laptop, LAN/WAN and even the intra- and extra-net. The only faster adoption seems to be corporate e-mail services.

The world is flat

Correlations between adoption and company features

Significant correlations were found between adoption and company features. Web 2.0 adoption is more prevalent in media, telecom, high-tech and business services. Fast adopters of Web 2.0 tend to be large companies, which is consistent with other ICT adoption patterns.⁹ Fast adopters of web 1.0 continue to be fast adopters of Web 2.0. Finally, Chinese and Indian respondents have been as fast as US companies to invest in Web 2.0 technologies. While this is true for wireless internet in Japan, the adoption of ICT has been reported to be systematically faster in the US than in India or China. More so, for some technologies such as social networks and mash-ups, these countries seem to be ahead in the adoption curve.

Root causes of enterprise 2.0

Why invest

Anecdotal evidence for large returns

There is anecdotal evidence that enterprise 2.0 can provide large returns. Seventy per cent of the web servers are leveraging open source. Companies like RedHat are largely tapping into open source for their

profitable services. As reported in the EIU¹⁰ report on collaboration sponsored by Cisco systems, Omnicom's advertising agency Unit 7 boosted revenue by 25–30 per cent through a deployment of collaboration tools between account and creative teams. Those tools significantly reduced the inefficiencies and large mismatch for ad campaign requirements, due to the early silo organisation. Tianping has developed an online platform for car insurance claimants to file reports and evidence like damage pictures, etc. This has helped reduce the necessity of the middleman, lowered fraud and reduced the cost of claims' processing, with G&A expenses being half of those of the industry. Regarding open innovation leadership, P&G has managed to reduce R&D costs by more than 30 per cent in a few years by harnessing cooperation with researchers on new products via its collaborative technology platform. Incidentally, P&G doubled its innovation rate via this platform, and more than one-third of its innovation throughput now involves an external collaboration component.

In our survey, 37 per cent of the respondents see Web 2.0 as purely experimental. Reducing costs is not seen as an important rationale; it is mentioned by only 6 per cent of companies adopting Web 2.0 technologies. In contrast, 27 per cent of the respondents use or plan to use them, in order to attack new services and markets. Still, for more than 40 per cent of the companies, the push for Web 2.0 adoption is time-based competition. Companies think they have no choice, as they are clearly afraid they might face a competitive disadvantage otherwise.

Web 2.0 technologies differ for customer collaboration

Enterprise 2.0 goes outside the firewall

The source of competitive advantage seems to be linked with the way Web 2.0 can harness the cooperation outside the enterprise. Companies adopting Web 2.0 are creating new interfaces with their ecosystem: 51 per cent of the total respondents use more flexible forms of cooperation with suppliers (web services), 75 per cent use more flexible forms of internal communications (wikis, blogs, etc) besides traditional knowledge management systems, while about 3/4 of the respondents leverage flexible forms of cooperation with customers (social networks, etc).

In general, there is a difference among Web 2.0 technologies for customer collaboration: wikis are less intended for customer cooperation than collective intelligence tools. Also, the form of cooperation can be deep, with close to 25 per cent of companies willing to engage in cocreation or co-design of projects with their users.¹¹

Bulletin board

Probing the early adopters' mindset

To probe further on the elements of competitive advantage, we also ran a bulletin board contrasting early adopters (those already investing in a majority of Web 2.0 technologies, representing 18 per cent of our sample) with the long tail of late adopters and non-users of enterprise 2.0. As Figure 2 shows, early adopters are more likely to engage in

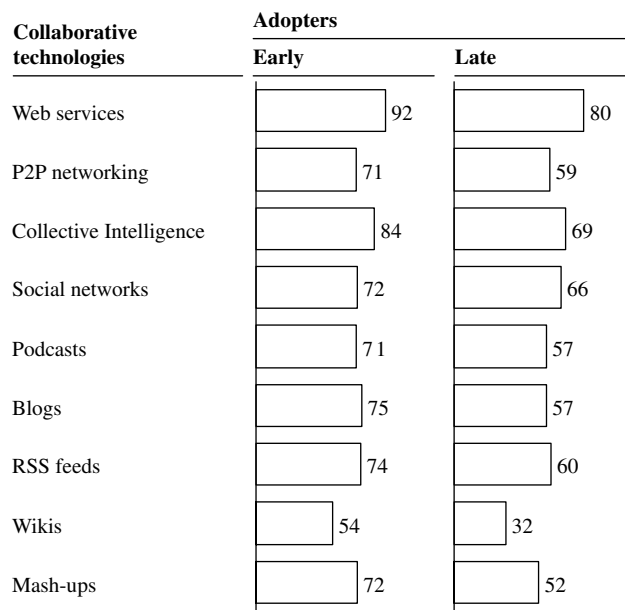


Figure 2: Consumer collaboration intent by technology
 Total respondents = 2,847.
 Note: Numbers are percentages.

cooperation with users. The bulletin board commentaries illustrate this further, with early users adopting at the grassroots level, while their operating model is more open and cooperative. Summarising the bulletin board (answers are confidential; heavy users are denoted by (H) versus the light users (L)):

1. Grassroots adoption of Web 2.0: ‘We are a very hierarchical company, a very old-fashioned company’ (L) contrasting with: ‘Those projects started at grassroots level, however value was rapidly demonstrated’ (H).
2. Competitive advantage mindset: ‘None of our investments provided us with significant competitive advantage for a significant duration’ (L); ‘Those technologies tend to be commoditized very quickly’ (L) contrasting with: ‘It clearly differentiates our services versus competitors’ (H); ‘We are gathering better feedback, faster, and competitive advantage comes when it is integrated directly into our product development cycle’ (H).
3. Open collaboration: ‘We only use it internally, partially for security reasons’ (L); ‘We are mostly using those technologies internally to cut our internal bureaucracy’ (L) contrasting with: ‘For us, it is really about partners’ (H); ‘The collaboration seems to work naturally when there is a high degree of trust between two organizations’ (H) or ‘I think the boundaries around the core of the corporation continue to shrink... smart organizations will invest in activities that maintain employees and other constituents’ participation’ (H).

Checklist

Sustaining competitive advantage: An early checklist

While the survey highlights the benefits of enterprise 2.0, one question remains: which capabilities and organisation are needed to operate? If companies are using wikis to gather knowledge among their employees, how do they motivate their most knowledgeable (and, presumably, busiest) experts to contribute? If P&G, Nokia and other companies are using design contests to tap into their customers' knowledge, what are the best designs to ensure that they benefit from the best contributions to their projects? Based on our work at McKinsey and with clients, we offer an early checklist:

Are you ready to loosen the hierarchical structure of your organisation?

Successful implementation of enterprise 2.0 has started at the grassroots level, leveraging the design principle of collaboration and agility. In our survey, 45 per cent of early adopting corporations of Web 2.0 claim that a grassroots attitude was the clear catalyser of adoption and sustained usage.

Are you ready to boost active participation?

Organisations typically have self-prescriptive job descriptions, which usually do not reward active and valuable participation. Recognising and rewarding participation in a social setting is critical, as mentioned in some studies of distributed co-creation.¹² Furthermore, the hurdles to participate need to be as minimal as possible. One way is to ensure that any minimal participation counts through modularity. One of the main benefits of Wikipedia is that even a deletion, rather than a full page of writing, can be a valuable contribution.¹³ Another way is to harness a large diversity of motives to participate. In our analysis of user-generated video,^{14,15} we found that the *combination* of diverse motivations (fame, fun, altruism, etc) creates a positive network for participation: for instance, people posting a video for their friends typically invite those friends to watch; as a consequence, a bigger audience is created for users interested in fame to contribute too, etc.

Recognising and rewarding participation is critical

Are you willing to move from central to 'edge' competencies?

Leveraging social and knowledge networks is usually done better by going outside of the corporation's boundaries. At P&G, its innovation platform tapping into external networks has basically created a 10,000 people lab. Opening the organisation gate is not necessarily the guarantee of harnessing large outside networks of competencies. Companies must gain the trust of their 'edges' — customers and suppliers. Web companies like E-bay are recognised by the auction users as a trusted platform, that is, it will ensure the smooth functioning of auctions, delivery, etc. The key for being a trusted platform is to be transparent and to guide the loose connections of collaboration, systematically leveraging the superior insights from

'Edges'

collaboration and acknowledging them systematically to show how valuable participation can be to a company.

Importance of incentives

Are you having the right incentives?

Collaboration does not happen in a vacuum and, as mentioned earlier, people have different motives to contribute. Incentives are obviously important because contributors usually take special care and time to contribute. At the Sims online, a major multi-player game, file creators spend up to 10h a week.¹⁶ In general, however, we find that incentives must be less monetary than usually perceived in traditional organisations: all research typically shows that, at maximum, half of the contributors want direct financial rewards. In a world of connected individuals, participation may be a signal of competency, a way to feel more engaged in the daily job or an effective way to reinforce social networks.

Adoption is on a par with — if not faster than — other IT-based technologies

Summary

This paper reports on a global survey about the pattern of enterprise 2.0 diffusion and its likely expected benefits. The results suggest that adoption is relatively at par with — if not faster than — other IT-based technologies; it is a global phenomenon, and is not only spreading inside but also outside the boundaries of the typical enterprise. One major theme beyond adoption is the expected benefit — clearly

Box: Web 2.0 taxonomy

Blogs (short for web logs) are online journals or diaries, hosted on a website and often distributed to other sites or readers using RSS.

Collective intelligence refers to any system that attempts to reach a higher level of consensus or decision making by tapping the expertise of a group rather than an individual. As a Web 2.0 technology, collective intelligence may include collaborative publishing or common databases for sharing knowledge.

Mash-ups are aggregations of contents from different online sources to create a new service. One example includes pulling apartment listings from one site and displaying them on Google maps to create a map showing where the listings are located.

Peer-to-peer networking (sometimes called P2P) is a technique for efficiently sharing files (music, videos or text) over the internet or within a closed set of users. Unlike the traditional method of storing a file on one machine (which can become a bottleneck if many people try to access it at once), P2P distributes files across many machines, often those of the users themselves. Retrieving a file may actually gather together and assemble pieces of the file from many machines.

Podcasts are audio or video recordings, a multimedia form of a blog or other content. They are often distributed through an aggregator like iTunes.

RSS (Really Simple Syndication) is a method that allows people to subscribe to online distribution of news, blogs, podcasts or other information.

Social networking refers to systems that allow users to learn about other members' skills, talents, knowledge or preferences. Commercial examples include LinkedIn and Friendster. Some companies use these to help identify experts.

Web services are software systems that make it easier for different systems to communicate with each other, to pass information or to conduct transactions.

Wikis are systems for collaborative publishing. They allow many authors to contribute to an online document or discussion.

Collaboration tools such as blogs and wikis are staking out ground inside businesses — and are often brought in by the end users themselves.

assessed by the survey respondents — that Web 2.0 provides in terms of competitive advantage. The mechanism by which this may happen involves harnessing the collective intelligence, now turning towards users, and in some cases, via relatively deep involvement, as in projects of distributed co-creation.

Will companies succeed in capturing the benefits?

Whether companies will succeed in really capturing the benefits is yet another question. The competitive advantage will not emerge from Web 2.0 technologies, but from adopting new business paradigms, with more 'edge' competencies, higher trust and looser control and a systematic eye to harness the contributions of the cluster of business and social networks the corporation is trying to emulate. We offer an early checklist of how to think about this new business paradigm journey. The good news is that early examples of success can show the way, from Google to large corporations such as Procter & Gamble. We have been developing a robust methodology that can also help you set the right direction.

References

1. McAfee, A. (2006) 'Enterprise 2.0: The dawn of emergent collaboration', *MIT Sloan Management Review*, Vol. 47, No. 3, pp. 21–28.
2. Davenport, T. (2007) 'Why enterprise 2.0 won't transform organizations', *Harvard Business Review* online from: http://discussionleader.hbsp.com/davenport/2007/03/why_enterprise_20_wont_transfo.html.
3. Bughin, J. and Manyika, J. (2007a) 'How businesses are using Web 2.0: A McKinsey global survey', *McKinsey Quarterly*, March.
4. Bughin, J. and Manyika, J. (2007b) 'The rise of telecom 2.0- learning from a global survey — why Telecom 2.0 matters', *McKinsey Telecommunications Extranet*, from <http://telecoms.mckinsey.com>.
5. Chesbrough, H., Vanhaverberke, W. and West, J. (2006) 'Open innovation: A research agenda', in *Open Innovation — Researching a New Paradigm*, Oxford University Press, Oxford.
6. Forrester. (2007) 'CIOs and enterprise Web 2.0', Report series, March.
7. Economist. (2007) Serious business: Web 2.0 goes corporate, Report from the Economist Intelligent Unit, sponsored by Fast, from: <http://fastforwardblog.com/category/enterprise-20/>.

8. Hollenstein, H. (2002) 'Determinants of the adoption of ICT: A panel data survey for Switzerland', Paper presented at the DRUID summer conference on industry dynamics of new and old technology, 6–8 June, Copenhagen.
9. Collecchia, A. and Schreyer, P. (2001) 'ICT investment and economic growth in the nineties- Is the United States the unique case? A comparative study of nine OECD countries', STI Working Papers 2001/7, OECD, Paris.
10. Economic Intelligence Unit. (2007) 'Collaboration — transforming the way business works', A report from the EIU sponsored by Cisco Systems.
11. Pralahad, C. K. and Ramaswamy, V. (2004) 'The future of competition: co-creating unique value with customers, Harvard Business School Press.
12. Holohan, A. and Garg, A. (2005) 'Collaboration online: The example of distributed computing', *Journal of Computer-Mediated Communication*, Vol. 10, No. 4, available online at www.jcmc.com.
13. Kittur, A., Chi, E., Pendleton, Suh, B. and Mytkowicz, T. (2007) 'Power of the few versus wisdom of the crowd: Wikipedia and the rise of the bourgeoisie', ACM.
14. Bughin, J. (2008) 'The World according to YouTube — Understanding the rise of social media', mimeographed to appear in *Advances in E-commerce research*, Nova Publishers, NY.
15. Bughin, J. (2007b) 'How enterprise 2.0 can learn from user-generated video', *McKinsey Quarterly* online, September, available online at www.mckinsey.com.
16. Prügl, R. and Schreier, M. (2006) 'Learning from the leading edge customers at The Sims: Opening up the innovation process using toolkits', *R&D management*, Vol. 36, p. 3.