

The digital company 2013

How technology will empower the customer

A report from the Economist Intelligence Unit



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Preface

The digital company 2013: How technology will empower the customer is the first of two Economist Intelligence Unit reports in a research programme that explores the impact that technology advances will have on how companies do business. Lead sponsors of the programme are AT&T, Nokia, PricewaterhouseCoopers and SAP, and supporting sponsors are Concep, Habeas and WebEx.

The Economist Intelligence Unit bears sole responsibility for this research. The Economist Intelligence Unit's editorial team executed the survey, conducted the analysis and wrote the report. The findings and views expressed here do not necessarily reflect the views of the sponsors.

Our research draws on three main initiatives:

- In March 2008 we conducted a wide-ranging survey of senior executives from around the world. A total of 661 executives, more than one-half of them from the C-suite, took part. They represent a cross-section of industries and a range of company sizes.

- To supplement the survey results, we also conducted in-depth interviews with 20 executives, including CIOs, managing directors and other senior managers, as well as academics and other leading authorities on the use of technology in the enterprise.
- Finally, we conducted an extensive programme of desk research, including a wide-ranging review of existing literature.

The author of this report was Terry Ernest-Jones and the editors were Denis McCauley and Debra D'Agostino. Mike Kenny was responsible for design and layout.

Our sincere thanks go to the survey participants and interviewees for sharing their insights on this topic.

June 2008



Executive summary

Five years is a long time in the world of enterprise technology. In the past half-decade increases in network speed, data-processing power and application sophistication have made possible, in many companies around the world, far-reaching changes in how employees communicate with one another and how efficiently they operate. Technology advances have also enabled companies to change their existing business models or create entirely new ones.

Five years from now, the impact of technology advances on how companies operate will remain enormous, to judge by the views of executives surveyed for this study. Numerous developments will influence company strategies over this period, including macroeconomic uncertainty, deepening shortages of talent and changes in market demand. It is technology innovation, however, that senior executives expect to have the heaviest influence on their business in 2013.

The technology impact will be no more profound

than in how companies interact with their customers. The latter will be more closely connected to enterprise processes in areas ranging from billing to product design and research and development (R&D). Technology will empower customers in their interaction with companies to a significantly greater degree than is the case today. Executives rightly view this much more as an opportunity to be tapped than as a risk to guard against. Risks are nonetheless inherent for firms in this development, ranging from the failure to embrace customer involvement sufficiently to the yielding of too much power to customer groups.

To explore the impact that technology is likely to have on business five years from now, the Economist Intelligence Unit drew on a wide-ranging survey of over 600 senior executives worldwide, as well as several in-depth interviews with business leaders and independent technology experts. The findings cover a host of areas where technology impacts on the business, and they are analysed in depth in two white papers.

This first paper explores the changes to come in how companies interact with their customers. A subsequent paper will examine in more detail how workplace dynamics and knowledge management will evolve, and what all these developments hold in store for the respective roles of the information technology (IT) function and the chief information officer (CIO).

Other key findings from the first of this two-part study include the following:

Customer-driven innovation will become mainstream. Companies today tend to rely mainly on in-house R&D and other internal sources for their innovative ideas. In 2013 customers, empowered by technology, will represent the leading source

The digital company 2013 survey

The digital company 2013 is an Economist Intelligence Unit research programme that explores the impact technology advances will have on how companies do business over the next five years. A total of 661 executives from around the world participated in the survey.

The sample was very senior: over one-half (53%) of all respondents held C-suite titles, with CEOs and board members alone representing 35% of the group. It was also cosmopolitan: 31% of respondents were based in Europe, 30% in Asia-Pacific and 30% in North America, with the remainder coming from the Middle East, Africa and Latin America. Respondents hailed from across 20 industries, and they represented a range of company sizes, with one-half from firms having annual revenue of US\$500m or more. More detail on the survey respondents and results can be found in the appendix.



Five steps to prepare for the technology-wise customer of 2013

Start researching and testing now.

Companies must start examining now how they can exploit customer communities. Which areas of their business would benefit most (R&D, new product development, customer service)? How will they process, monitor and control the mass of information received? How can they encourage customers to “prosume”—in other words, to help solve each other’s problems, vote on innovative ideas and help the firm in other ways?

Think multi-channel. Communications tools to encourage and ease collaboration with customers will need to be established. E-mail and corporate websites will remain

important channels, but substantial interaction will also take place using mobile devices. The channels companies adopt will have to be relevant to the next generation of graduates, used to communicating through social networks.

Be ready to open up ... and protect.

Corporate IT systems must be prepared to accommodate a more open sharing of information and the greater involvement of customers in business processes. Needless to say, information security practices must be as watertight as possible to ensure that this does not increase risk unacceptably. Likewise, as intellectual property is exchanged more freely, restrictions must be planned carefully and delineated clearly.

Revisit privacy and security policies.

Issues of data privacy and intrusion will grow in importance in customer interac-

tion as the use of social-networking and other collaborative technologies spreads. Policies must be developed that strike a balance between targeting individuals accurately according to their tastes and preferences, and encroachment. Getting this wrong will have negative implications not only for regulatory compliance but for customer loyalty and retention.

Match IT to customer demand. The customer-facing enterprise of the future will require systems that make the entire workforce more responsive. Pressure will increase on the IT function to supply systems that are both flexible enough to handle rapid change in demands and able continually to add value in increasing customer loyalty. With major technology spending increases not on the cards for most firms, IT will need to find new efficiencies to free up resources for achieving these objectives.

of new product and service ideas, according to survey respondents. This will help make a reality of “prosuming”, a concept in which the line between consumer and producer becomes blurred and customers freely contribute value. Customers will, however, expect something in return, most importantly a better product or service.

Online communities will proliferate. Web-based customer communities will play a much greater role than today in gathering—from customers and others—innovative ideas for products and services, and also to assist in providing product support. Voting and other mechanisms will help to channel customer input and filter for the best suggestions, but firms will need to be wary of according too much influence to communities, lest the latter’s suggestions prove unprofitable to implement.

Maintaining the privacy of customers and the security of intellectual property will be paramount.

The proliferation of online communities will give firms access to unprecedented information about their customers. The strength this brings to the innovation process will need to be balanced against the need to ensure that the confidentiality of any personal information provided is respected. Firms will need to be clear with online communities about the use being made of privileged data. At the same time, business will need to rethink its attitude to intellectual property protection in an era of open collaboration.

Technology will give wings to customisation.

Fully 70% of surveyed executives expect their main products or services to be fully or mostly customisable in five years, compared with 40% who say this is the case today. Such levels of customisation will be made



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possible by, on the one hand, the more sophisticated analysis of customer information, and on the other by the advance of applications and processes that will make it easier to reconfigure products.

Customer interaction will take place far more frequently over mobile devices. Advances in mobile technology will impact more heavily on customer service than any other area of company operation. Mobile devices are unlikely to be the primary channel of customer-supplier communication in 2013, but companies will need to be able to interact with customers much more widely over mobile channels, and using more advanced applications, such as video.

Will companies be able to accommodate this higher level of customer integration in their business in 2013? Several firms cited in this report have begun to experiment with new platforms for customer interaction. Few, however, have yet to review their processes, organisational structures and workforce skills with the technology-savvy customer of 2013 in mind. In certain respects it may be early, as some opportunities and risks will only come into focus as the level of interaction grows. But one thing is clear: enterprise processes and technologies, as well as the employees that use them, will need to be far more flexible and responsive to change than they are today.



Introduction

In the past 20 years, technology¹ has fundamentally changed how businesses operate. The proliferation in the workplace of personal computers (PCs) and enterprise software, and the later maturing of the Internet and wireless technology revolutionised how organisations and individuals obtain, generate and transmit information, as well as how they communicate and conduct transactions with one another.

The bursting of the dotcom “bubble” early this decade seemed to herald a period of slower change in information and communications technology. Few if any “big bang” technologies akin to the mobile phone have emerged since. Network speeds are nonetheless considerably faster, storage capacity substantially greater, and devices decidedly more functional and robust than just five years ago.

The applications with which individuals and organisations use these technologies, and the value that countless firms have created by putting them to work more effectively, have also advanced over the past half-decade. It is now commonplace, for example, for senior executives, sales people and other employees to access e-mail and critical company data from anywhere using mobile devices and applications. Data analytics tools analyse information generated internally and over the Internet to help marketing teams better target their campaigns. Supply chain management (SCM) systems have integrated suppliers much more closely into manufacturers’ operations than ever before.

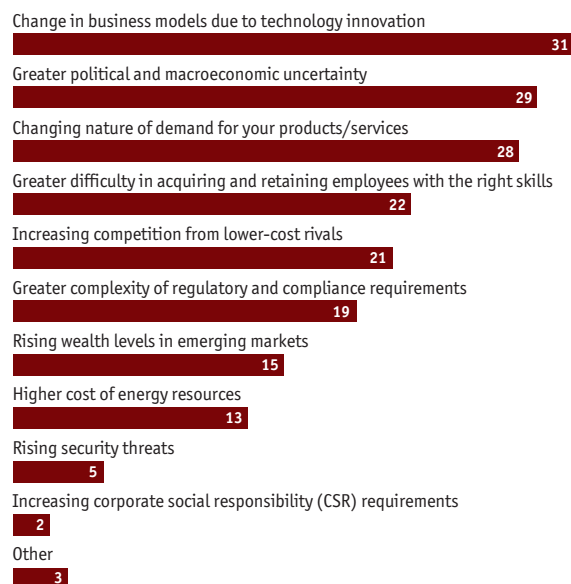
In a different area of ingenuity and entrepreneurialism, FaceBook, a social-networking website, did not exist five years ago; it now has more than 70m members. (We will argue later that social-networking sites such as this will have a

sizeable impact—in terms of both opportunity and risk—on how firms interact with their employees, their customers and the broader public.)

Given the technology-enabled changes that have already taken place in the business world, we have sought to explore in this research programme the nature of changes that await companies in the next five years. Among our findings is that senior executives of organisations worldwide expect the impact of technology to remain profound in the period to 2013. Political and economic uncertainty, looming talent shortages and changes in demand are all factors that will influence business strategies in the coming years. For our survey respondents, however,

In your view, which of the following developments will have the greatest impact on your business between now and 2013?

Select up to two.
(% respondents)



Source: Economist Intelligence Unit survey, March 2008.

1. For the purposes of this study, we define technology as all forms of computing and communications devices as well as software and information systems used by organisations and individuals.

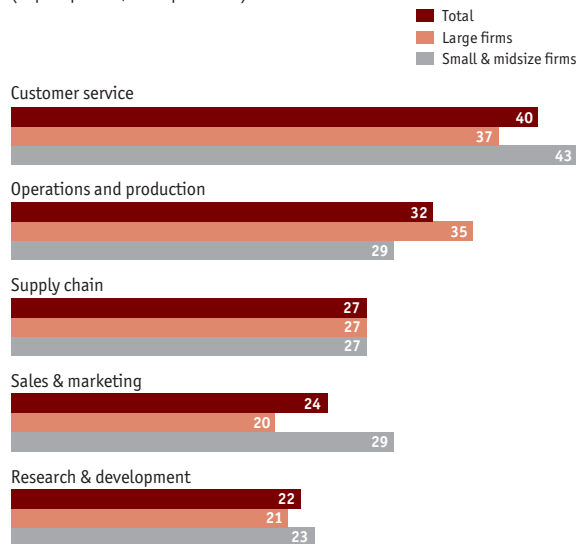


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In which areas of operation will technology cause the greatest change in business practices over the next five years?

(Top responses; % respondents)



Source: Economist Intelligence Unit survey, March 2008.

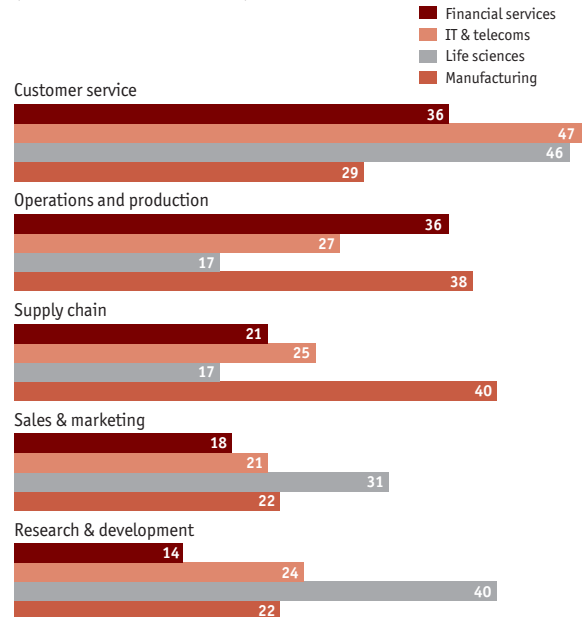
the greatest impact is expected to come from changes to the business brought about by technology innovation.

Technology will hold the key to creating an environment that is more open and collaborative. “We are moving more and more towards the ‘open enterprise’ approach—a collaborative way of working with customers and suppliers,” believes Maarten de Vries, CIO of Philips, a Netherlands-based healthcare, lighting and consumer goods firm. “This is a move from transaction to interaction. Basically, we want to create an integrated chain between customers and suppliers.”

Nowhere will businesses feel the impact of technology more strongly than in customer interaction, a belief that resonates strongly among the surveyed executives. (Only manufacturers expect a greater technology impact in other areas—in operations and the supply chain.) Information and

In which areas of operation will technology cause the greatest change in business practices over the next five years?

(Top responses; % respondents)



Source: Economist Intelligence Unit survey, March 2008.

communications technologies are empowering customers in numerous ways, which we will explore later. For some companies, this creates the risk of customer groups gaining leverage to force changes that may have a negative effect on corporate profitability. The majority of firms, however—62% of our survey sample—overwhelmingly view customer empowerment through technology as an opportunity to be tapped. This positive view of the technology-empowered customer varies only marginally among firms of different sizes, industry groupings and geographies.

How companies in 2013 will exploit this opportunity—and safeguard against the risks it creates—is the subject of this white paper. A later paper will examine the technology impact in 2013 on workforce dynamics, knowledge management and the roles of IT and the CIO.



Community-based innovation

Deploying web-based communities to marshal the creativity and insight of customers—with the aim of feeding back to them the products and services they actually want—is in evidence among only a few pioneers today, but it is certain to expand. “Customer communities will be much more widespread,” says Erik Brynjolfsson, a professor at MIT Sloan School of Management. “Technology will make it easier to harness the wisdom of large numbers.”

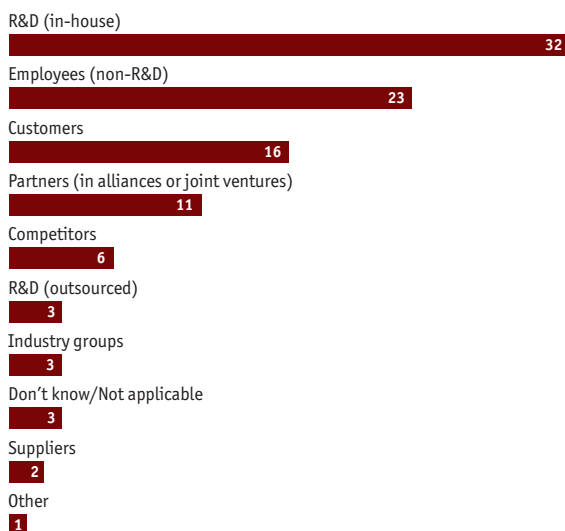
The impact of this development will be most profoundly felt in how companies innovate. Companies today still tend to rely on their in-house R&D departments to generate the lion’s share of innovative ideas. The survey results strongly suggest that in 2013 customers will be the most important source of innovation in firms, a view which is

held with similar degrees of conviction across all regions, industries and company sizes. In this way, “prosuming” (a concept made popular by futurist Alvin Toffler), in which the line between consumer and producer becomes blurred and the customer contributes value freely, will be a reality in 2013.

“The process used to be R&D, then development, then maybe some customer involvement at the end,” says Yannis Kavounis, director of Henley Centre HeadlightVision, a UK consultancy. “Key stakeholders [in 2013] will be involved actively in the whole process, due to the ease of interaction. Companies will be getting ideas from every avenue.” This type of collaborative innovation will give flesh to another concept popular among management consultants today—“co-creation”, in which value is created by

Where do your firm’s most innovative ideas come from today?

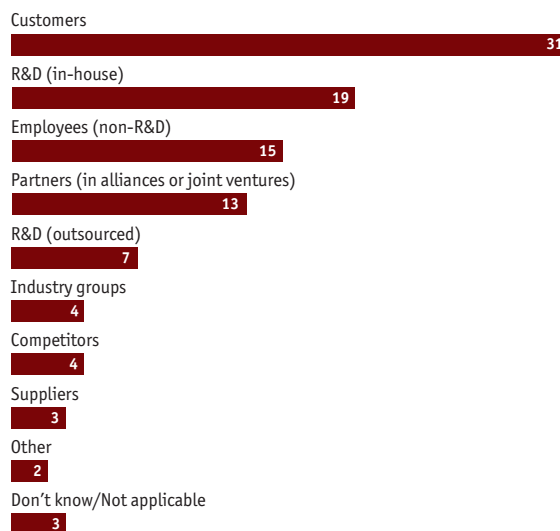
(% respondents)



Source: Economist Intelligence Unit survey, March 2008.

In 2013, where do you think its most innovative ideas will come from?

(% respondents)



Source: Economist Intelligence Unit survey, March 2008.



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both customer and supplier.

This is not to say that in-house generators of ideas will yield supremacy entirely to customers. Manufacturers of industrial goods, for example, are arguably more likely than consumer-facing firms to continue looking mainly to internal impulses for innovation. Leng-jin Chan, IT director in Asia for Johnson Controls, a US supplier of climate control systems, says that “a lot of innovation still comes from within, and specifically from my [IT] department. Customers are important, but we are also users of our systems ourselves.”

Tapping the community spirit

Procter & Gamble, a US household goods firm, is one of today’s pioneers in using online communities, having flung open the doors via its

Connect+Develop™ website to source ideas from the public at large, which may include individuals with an idea or organisations. The firm claims that its success rate for innovation has doubled since launching this initiative.

Dell, a US-based PC-maker, which was among the first manufacturers to enable the web-based specification of products by customers, is also actively developing an online community. When Michael Dell resumed his role of CEO to revive his company last year, one of his first steps was to establish a website, called IdeaStorm, to solicit suggestions from consumers and business customers worldwide. Dell employees now monitor the site to gauge which ideas are most relevant, and the site shows contributors how the ideas are being put into action. (Some suggestions and comments are decidedly unflattering,

Macy’s vision of the future

While many companies are looking forward to closer online interaction with customers using Web 2.0 technologies, Sunil Verma, head of IT at Macy’s Home Store, a US retailer, is gazing deeper into his crystal ball: “Of course we will use IT to interact with the customer, but I do not think that will be an especially productive relationship.” Much more valuable will be steering the way Macy’s is discussed on social networks, Mr Verma believes. “People will not be interested in what is said on Macy’s blogs, but they will be influenced by what their friends on FaceBook recommend,” he says.

To that end, it will be important not only to ensure that Macy’s gets “air time” on social networks, but also to “listen in” and find out what is being discussed. “We need to provide services that make it easy for customers to talk about us,” says Mr Verma. Technology will support this. For

instance, Mr Verma foresees a customer using Microsoft Surface—a 30-inch screen that sits on a table top—to weave through a virtual rack of shirts and other clothes in order to try out a whole outfit “dressed” on an image of themselves. This could then be sent to the customer’s online network with a message soliciting opinions—“What do I look like in this outfit?”

Technology will have an impact on other operations at Macy’s. Online shopping may be customised with the aid of a virtual personal shopper. Employees will get their own sites so that customers can find out about their expertise related to specific vendors and products. Customers too may get their own sites. Macy’s may give them a camera to share pictures of their home, furnished with its products, on the web. “We want people to shop with us for life,” says Mr Verma. “It is very hard to build loyalty with young customers—the ‘millennials’ who were born with the Internet and who process information and form opinions in unpredictable patterns.”

Mr Verma believes technology will make customer intelligence increasingly sophisticated and granular. For instance, analysis of images from store cameras can provide information on the types of clothes customers are wearing and other behaviour. “But we have enough customer intelligence already,” he says. “We are mainly interested in discovering whose opinion matters most to our customers. We will get much smarter in finding out these things.”

There is only so far that technology can go, however. “If you knew exactly what you wanted, why go to a department store?” asks Mr Verma. There will always remain a core of customers who enjoy the shopping experience and want to see and feel the product. But he has something up his sleeve to draw on-line shoppers into Macy’s. “We have to make it more fun—[perhaps with] online games in our stores that allow shoppers to measure their chosen outfit against the opinions of fashion models and experts.”



however, something that companies that wish to reap the benefits of open communities will have to learn to live with.)

Such communities will generate ideas not only for consumer-facing companies. Business-to-business (B2B) firms will make use of similar platforms to obtain feedback on existing products as well as new product ideas. Manufacturers, for example, told the Economist Intelligence Unit in another recent study that online portals designed to achieve this would be among the primary ways they would seek to integrate customers into the product development process².

Similar initiatives have worked out well for SAS, a US business software supplier, which operates an extranet for collaborating with partners as well as online forums and external blogs. SAS actively gathers input from customers and partners for the software development process, especially through its “Ballot” system, which is used for fine-tuning its software tools. Suggestions are gathered online and usually influence forthcoming releases. Since it started, more than 85% of Ballot input has been implemented by SAS’s R&D division.

“Better companies will be engaging customers in the co-creation of value,” affirms Denis Pombriant, head of the US-based Beagle Research Group, a CRM (customer relationship management) specialist. He advocates inviting a few hundred representative customers to an online forum that should last around 90–120 days: enough time to develop trust and exchange ideas but short enough to prevent fatigue. This, he says, will generate a cross-dialogue between individuals that the company can observe, thus obtaining genuine, candid input. “There will be a distillation of ideas, not data analytics,” says Mr Pombriant. “You will get the considered opinion of the group.” It will also be far cheaper than staging a multi-city tour of focus groups, and people can exchange ideas across time zones.

Through such communities, customers will contribute value freely to the innovation process,

but they will expect—and companies will need to provide—something in return. Some companies may choose to offer tangible rewards for customer involvement in communities in the form of purchase credits or some other type of monetary incentive. More importantly, however, customers will need to see that the result of their inputs is a better product or service (or in the case of Novell, a software provider, more effective product support—see page 10).

Online democracy

A natural byproduct of online communities, particularly those oriented towards consumers and the broader public, will be a mass of information that will need careful channelling to be useful. Voting facilities may help to achieve this.

Starbucks, a US firm that operates a global chain of coffee shops, is a recent recruit to the online community movement with its MyStarbucksIdea.com website, launched in March 2008. The site urges customers to post ideas on ways the firm can improve its products and service, and also to vote on other people’s ideas. The voting system helps Starbucks weed out thousands of useless suggestions. This technique is described by Mohan Sawhney, professor of technology at Northwestern University in the US, as “using a thief to catch a thief”. The company—in theory at least—will know it has tracked down the right ideas because they have been chosen by the customers themselves.

Threadless, a US firm that describes itself as “a community-based t-shirt company”, has integrated online voting directly into its business model. The idea is simple: it offers up to US\$12,000 for a t-shirt design on its website, selects finalists and then invites people to vote online for the best designs. The ones with the most votes get produced because they are what people want—something that the company feels immediately lowers risk.

Online voting in customer communities is at an early stage of development, and it remains unclear

2. Economist Intelligence Unit, *Producing to order: Discrete manufacturers and customer demand*, March 2008, sponsored by SAP.



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how valuable this will prove to be to the companies that utilise it. Filtering opinions for better product and service ideas will almost certainly prove a benefit. However, according significant influence to voting communities could backfire on firms. The majority's ideas may be attractive to customers, but could prove unwieldy or unprofitable for a company to implement—firms will need to beware “the tyranny of the mob” when it comes to some community votes.

Of course, companies' use of online communities will not be limited to customers. They will also capture the creative ideas of the broader public and knowledgeable third parties. A taste of things to come is Innocentive, a website (operated by a firm of the same name) that attempts to tap brainpower beyond the walls of its client companies. The site embraces more than 140,000 individuals with expertise in solving specific scientific or technological problems in areas such as pharmaceuticals, consumer goods and food products.

Mobilising collective support

Companies will use online forums not only to solicit better product and service ideas from customers, but also to enhance product support. As products grow more complex, customer support will grow harder to manage. Firms will increasingly manoeuvre customers and other third parties online to collaborate with each other to solve problems.

A small number of firms have already caught on to the fact that people outside the firm can often provide advice that is superior to that of their own employees. Some feature reliability rankings in their web-based customer communities to highlight how good particular customers are at solving other customers' problems. Novell, a US software provider, is one such

pioneer, and has started to give responsibilities to the best problem-solvers among its business customers for individual product lines. Each has a web page, is supported by Novell staff and also gets special access to technical documentation. There is now a body of around 18,000 registered contributors available to deal with a range of product support issues, and Novell's extended peer-support group deals with more than 45,000 user issues per quarter.

Novell has found that end-users often encounter problems that no support team could cover. It has also found that the community tends to correct itself when individual members step out of line, especially as participants are named. (See box “eBay polices the online community”, on page 16.) “We filter language but not content,” says Kenny Bunnell, director of Novell's global services operations. “In fact we have to do very little as moderators. If someone is acting inappropriately, the group jumps on it.” Members benefit as relationships grow with, and recognition is received from, other forum members. Customers also naturally value the quicker answers they receive to their problems.

Building the reputations of individuals in the community, and making them more transparent, is an important future direction, says Mr Bunnell. This will include facilitating community members' own blogs. Video will also be added for members, as well as access to Novell's knowledge base when they post queries.

In most cases, community support is unlikely to remove the need for customer support staff entirely. If the right incentives are found to offer customers and other community users, however, firms will find that such communities offer them an additional and valuable channel for helping resolve problems—and potentially reinforcing customer loyalty.



Technology for creating the better product

The purposes of innovation are twofold: to create a better product or service, and to do it more efficiently. Improved versions of the familiar IT-based tools that companies use today to design new products and improve business processes are likely to remain in favour in 2013. What will change, as we have already suggested, is less the technology but the breadth of stakeholders that companies will draw into the improvement process—in particular customers—and the depth of their involvement. This will show through prominently in new product development.

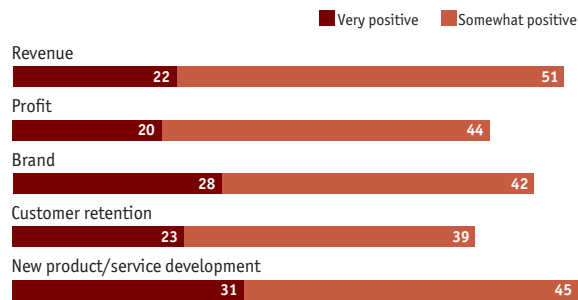
When it comes to how the company's performance will be affected by customer empowerment through technology, survey respondents are clear that the impact will be most positive in the area of new product and service development, more so than customer retention, brand or even revenue performance.

How will this be manifested in practice? Through the use of web-based communities, as discussed earlier, and—in the B2B world—online portals and direct links via CRM and other systems, customers will be integrated more closely into companies' product-design efforts. Well over one-half of surveyed executives expect customers to be linked directly into the company's product-design processes in 2013, compared with less than one-third who say this is the case today.

Web-based specification of product and service features by customers, for example, will be central to improving companies' product-development processes, according to the survey respondents, as will the use of online customer collaboration in providing product and service support. Mr Kavounis of Henley believes that technology will help in managing unwieldy crowds. "Software will be sophisticated enough to pick up violators or those that do not add

As customers become more empowered through technology, what will be the overall impact on the following aspects of your company's performance in 2013?

(% responding "very positive" and "somewhat positive")



Source: Economist Intelligence Unit survey, March 2008.

value," he says. "Smart algorithmic technology will play the part of manager."

When it comes to the use of online means of soliciting customer ideas on products, Mr Pombriant of Beagle warns that there will not be much room for error. "The innovation process has to begin by engaging customers not so much on their product preferences but on their lifestyle preferences," he says. "If you say 'tell us what to build' you are asking a fish to invent fire. You need to get close to the dialogue between multiple people to find out their needs." He warns that pressure will mount to get it right the first time. "It is critical to verify the ideas that the community has come up with." This should include "beta-testing" in real life the ideas that have come out of cyberspace.

Not all customer integration into product development needs to be online. China's Shanghai Stock Exchange believes it has created a new model of collaboration with customers in the financial services industry, at least in China, through the creation of an "IT laboratory". Says the bank's CTO, Bai Shuo: "We invite our customers—brokers and securities firms—to



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“Mindstorming” the better product

A clear example of the way collective innovation, enabled by technology, is likely to proceed is a robot kit called “Mindstorms” developed by Lego, a Danish toy maker—with help from Lego fans round the world. After receiving nearly 10,000 responses to an initial request for volunteers, Lego selected a group of 100 people to help it develop the next version of its toy. Communicating in a secure web forum established by the firm, the group collaborated with each other over a period of four months.

During that time there was continual online dialogue between the volunteers

and Lego to thrash out problems and discuss ideas, says Robbert Stecher, a vice president at the company. The resulting product has received kudos. “Developing Mindstorms this way is a huge factor in the success of the product,” says Mr Stecher. “It has inspired Lego to apply this kind of development in other areas.”

As an example, the company has launched an online panel of more than 400 children called “Kids’ Inner Circle”. (They are mainly what Mr Stecher terms “heavy users”.) On the home page, young visitors are asked for ideas that would make Lego more fun for them. Mr Stecher says the site has proven to be a “fantastic way to stay in touch with what goes on in children’s lives and what is important to them.” There are software tools to facilitate this kind of broad

lifestyle information gathering, he says. But Lego also commandeers the panel to help with specific innovations. In this case the firm writes a formal request and solicits “concrete proposals” from a selected group within the “Kids’ Inner Circle”.

The variety of backgrounds of people involved in the Mindstorms project gives more than a hint as to how rich this kind of “crowdsourcing” can be: ages ranged from 18 to 75, one in five worked in education and 13 were architects or engineers—something an internal R&D department could never emulate. “There is no question that we will be developing this concept further,” says Mr Stecher. He adds, however, that such co-creation will need to be combined with visits to customers in the physical world.

come in [to the ‘laboratory’] and conduct experiments together. An example is the launch of our new trading system—customers were required to make adjustments to front-end systems, and they did it on site.”

In some industries, physical proximity to customers will remain as important as electronic links with them. The Asia CIO of a telecoms infrastructure provider believes that “locating R&D centres closer to customers is important—R&D needs to ‘absorb’ cultural differences in China or elsewhere. This can only really be incorporated by local facilities. Some of those local market innovations in Asia are finding their way into the global market.”

Probing customers’ desires

How companies analyse and respond to customer information will be an important competitive differentiator in most markets by 2013. (Over four-fifths of survey respondents believe that it will be “the primary differentiator”.) Executives also feel that technology’s greatest impact on product and

service development in 2013 is likely to be in the sophisticated analysis of customer information. “We see technology as the key to understanding our customers and offering better service across our 8,500 stores,” says Yoichi Yokomizo, CIO of the Lawson convenience store chain in Japan. “Particularly because all stores are franchisees, our IT systems are our major ‘direct’ connection to our customers—their purchasing habits and their personal data.”

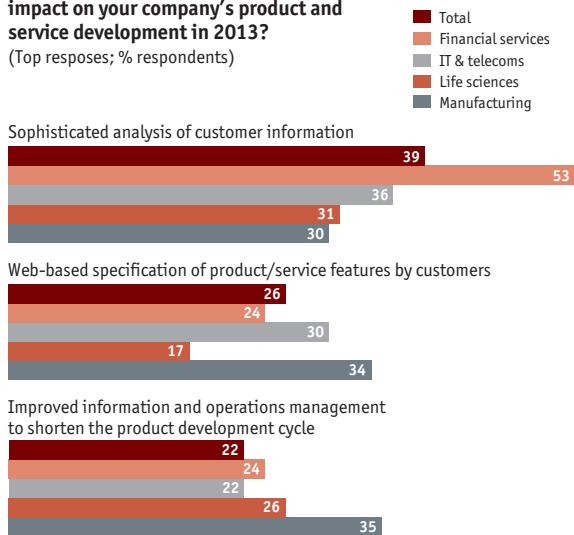
The ability to put sophisticated customer data analysis to work for new product development will be particularly important in 2013 to financial services firms—insurance providers, banks, securities dealers and others—judging by a cross-industry comparison of the survey results. (It is less important, by contrast, to manufacturers, whose technology priority in product development is likely to remain shortening cycle time.)

“There is an arms race on,” says Mr Brynjolfsson of MIT, referring to the “profiling and targeting of customer segments to extract more money”. The



In which of the following ways is technology likely to have the greatest impact on your company's product and service development in 2013?

(Top responses; % respondents)



Source: Economist Intelligence Unit survey, March 2008.

winning organisations will be those more advanced in filtering and analysing customer data. Increasingly advanced tools will be available to help them. Banks, for example, can now track the profitability over the past two years of every account and can focus retention efforts on their most valuable customers—or turn non-profitable customers into profitable ones by increasing the value of their business. “Business decisions in this area will become less ‘gut’- and more numbers-driven,” Mr Brynjolfsson believes, as a result of the more sophisticated analysis of customer data.

Customer information will be obtained from not only the customer, but aggregated from internal data and myriad public search and social-networking sources. But as Mr Sawhney of Northwestern warns: “Companies have to be sure they act on it.” Mr de

Vries of Philips is confident of his firm’s ability to do this: “We can create a much faster feedback loop on customers’ experience with products, leveraging blogs and other mechanisms, and get information much faster to the enterprise.”

Customisation advances

The more sophisticated analysis of customer information will help to drive a trend towards greater customisation of products and services. “On the demand side, technologies will make it much cheaper to have interactions with the customer,” says Mr Brynjolfsson. “On the supply side, it will be easier to reconfigure production processes to supply ‘customer segments of one’.”

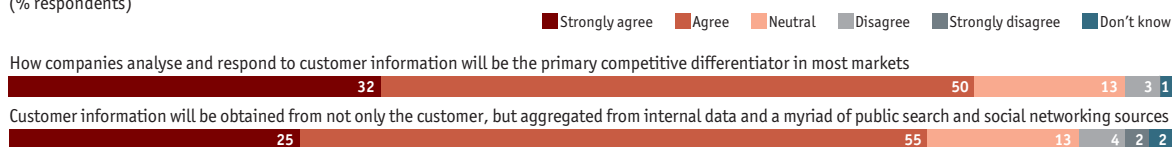
Such reconfiguration will be possible, he believes, as it is increasingly the software and data elements of a product that differentiates it, rather than the more tangible physical components. According to Mr Brynjolfsson, companies’ IT systems—and their supply chains—will need to be able to upload software to products to suit the needs of individual users—whether business or consumer.

“Our products will be more customised,” agrees Mr de Vries. “They will be designed with the customer, and it will be possible to change the offering at a very late stage [in the production cycle].” In the case of lighting controls, for example, IT will be able “to create a different experience for individual customers”.

To judge by our respondents’ intentions, this trend will have advanced far by 2013. Fully 40% of executives say that their firms’ main products or services are mostly or completely customisable today,

To what extent do you agree or disagree with the following statements about the use of data in 2013?

(% respondents)



Source: Economist Intelligence Unit survey, March 2008.

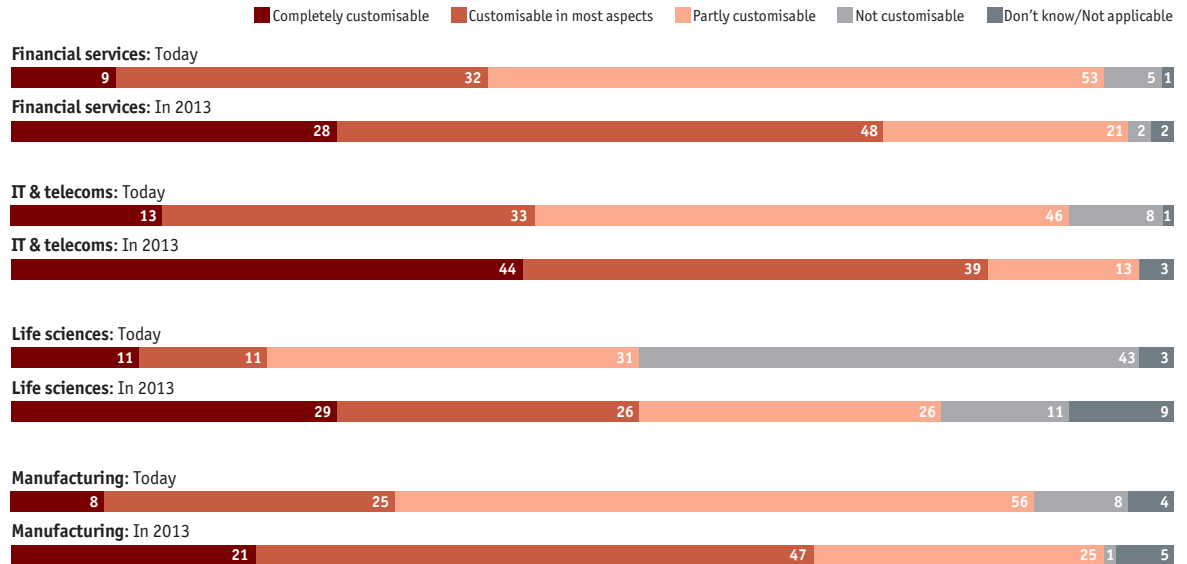


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To what degree are your company's main products and services customisable? How customisable will they be in 2013?

(Top responses; % respondents)



Source: Economist Intelligence Unit survey, March 2008.

whereas 70% believe that this will be the case in five years' time. One-third say that their products will be "completely customisable" in 2013.

Will customisation reach this far? Survey respondents from life-sciences firms, for example, are less convinced of this eventuality than those from IT and telecoms firms.

Many products indeed have limited scope for customisation. As Mr Sawhney points out, a carmaker cannot make a different body to suit the whim of every

customer (at least not yet). But there may be some surprises. He highlights an online experiment being considered by General Mills, a US supplier of consumer food products. It would seem difficult to customise breakfast cereals to individual tastes, but the plan is to ask customers to provide information on their dietary condition, with the promise that it will design a personalised cereal and deliver it to the customer's home—for a premium, naturally, over the in-store price.



Privacy and protection

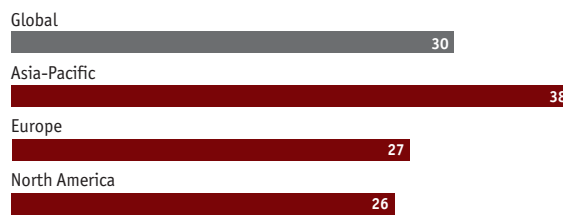
The advent of the “open enterprise” will expose new vistas for companies in 2013, creating enormous opportunities to tap customers and other stakeholders for improving innovation, product development and customer support. Naturally, this development will not be without risks to companies, some of which derive from the fact the technology platforms for much of this interaction will be Internet-based. Data privacy is one challenge firms will need to grapple with, as greater intrusiveness is likely to be a feature of company-customer interaction in 2013.

Through the creative use of web-based communities and support groups, companies will hold volumes of detailed, readily accessible information on people—and not just on their own customers. When someone enters its website, the company will immediately be able to tell who they are—age, interests, music tastes and other likes and dislikes—gained from information given freely on a previous occasion. Already today, agencies can track the searches of individual users on thousands of sites to build a profile of their preferences. “Behavioural targeting” is the tactful term for sending web users advertisements based on this kind of personal information about them.

On LinkedIn, a business-networking site, advertisers can use the information to target senior executives of particular types or sizes of company. For Kevin Eyres, LinkedIn’s European managing director, an important question in regard to this and other sites is, “How do we create a conversation between the customers and advertisers which is beneficial for both?”

Companies will have to tread carefully, and the survey shows that most believe that they will be able to frame policies that work. Nonetheless, a significant

% agreeing with the following statement: “Data privacy regulation will severely limit our ability to use customer data effectively.”
(% respondents)



Source: Economist Intelligence Unit survey, March 2008.

minority of executives—amounting to nearly 40% of those from the Asia-Pacific region—anticipate that data privacy regulation will severely limit their ability to use customer data effectively.

Although not in breach of regulations, FaceBook recently got its fingers burnt when it not only started collecting data about its users’ activities on other websites, but made the data available to their named friends and contacts on the site. Many members also felt that FaceBook made it difficult to opt out of this initiative (labelled “Beacon”). It generated numerous expressions of anger from FaceBook users, and subsequently an embarrassing climb-down on the part of the company.

Some would argue that the backlash was unfair, since the younger generation seems more prepared than its elders to reveal substantial information about themselves on the Internet. Either way, lawyers warn of trouble ahead for companies that wish to exploit personal information through technology.

“At its heart, Web 2.0 is about collaboration and exchange,” says Kolvin Stone, a specialist in online law at Fox Williams, a London-based firm of solicitors. “But there is a trade-off between the value to the user versus privacy rights. Users may be willing to accept a



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reduction in their privacy in return for a benefit (such as a discounted service). To make this choice, users need to have a clear idea of what a company is doing with their data.”

The issue of how clear a company needs to be and how far users are willing to forgo their privacy rights will become an area of extensive debate. Mr Stone agrees with the majority of survey respondents that data privacy will not unduly limit firms’ ability to use it, but he believes they will need to take steps to ensure this. “Companies will need to be upfront, and to put in more sophisticated data-protection polices,” he says. “The more intrusive a firm is, the more transparent it needs to be.”

Protecting the “open enterprise”

As companies start to operate in a much more open environment, sharing information with customers and partners, how will they protect themselves? Experts generally agree that they will have to cede some control as the barriers come down, but how do they loosen their grip without losing it?

Many executives are alarmed at the prospect of the “open enterprise”, and the arrival of a new generation of graduates used to sharing—some would say exposing—information more freely on the web. Mr de Vries of Philips takes the analogy of e-mail, chat and instant messaging: companies do not confine these to in-house communication, and opening up to the

eBay polices the online community

By 2013, networks to manage large groups of company stakeholders will proliferate, in particular for engaging customers through online communities. But to be effective, users have to trust them. The issue of how to build and maintain trust within these networks will become a key concern for the digital companies of the future.

Having started life in 1995 selling a single laser pointer over the web, eBay has had more experience than most in policing and building confidence in an online community. Famously, it has encouraged the community to help itself by allowing buyers and sellers to award each other points, so they can be vetted before money or goods are sent into the ether. The feedback record allows users to see “what people have had to say about other people”, comments Richard Ambrose, eBay’s head of trust and safety for the UK. Transparency has been crucial in removing

mystery and thus suspicion.

eBay has taken this a step further. Now, removal of one-half of all items from the UK site results from member tip-offs. “We are often asked why we cannot monitor it all ourselves,” says Mr Ambrose. “But 11 new items are put onto the site each second in the UK.”

Assistance is needed from the community itself, but eBay has found that among the genuine reports of wrongdoing, there is a great detail of inaccuracy, including people aggrieved because they have misunderstood the terms of sale or delivery times.

In this extremely open environment, abuse also often comes in the form of hackers setting up spoof or “phishing” sites to defraud members. Although 75% of transactions are made through eBay’s PayPal payment-processing system, “the remaining 25%, if defrauded, often expect eBay to pay up”, says Mr Ambrose.

Using a similar principle to the feedback record for users, eBay UK has whittled down the number of members

who give the most accurate reports to a core of 1,000. It is also adding to its own resources for policing its site. “We have to rely on technology [for policing] and to provide more staff to support it,” explains Mr Ambrose. “People who try to scam are incredibly motivated.”

He has some tips for those setting up similar online communities:

- Assume that trust and security will become the biggest challenge: invest early.
- Be specific about who you want to protect (for example, buyers or sellers).
- Self-policing by members is not a long-term solution.
- Install all the required filters and other protection measures—and be noticed doing it.

Despite all this, does Mr Ambrose feel that online communities will become a more dangerous place to be in the future? “I do not expect any nasty surprises,” he says. In terms of misuse of the site, “We believe we have already reached a high-water mark.”



outside world has brought in viruses, spam and other problems. But for him the benefits far outweigh the difficulties. “The challenge is to reach agreement on specific standards for collaboration,” he says.

Experts generally agree that, just as companies have to put up with unflattering comments published in online communities, there has to be some give. “When you open the brand to the community, you can shape it, but you have to give up some control,” notes Mr Sawhney. “I tell people, ‘You have to let go’, and they are uncomfortable with this. There is some risk and loss of control, but the benefits far outweigh the drawbacks.”

All the same, companies must ensure that sensitive information on corporate strategy does not leak out. SAS has found that a useful measure for protecting company information in collaborative ventures has been to award partners different levels of access to the corporate VPN through their individual profiles—

especially as some partners these days are also often competitors as well.

Some believe, like Mr Stone, that as ideas are exchanged more freely between customer and supplier, the issue of intellectual property will become less important—as it has in the music industry. Nevertheless, companies will need to adapt their controls to the open environment, keeping track of where and how their intellectual property is used.

Handling “loose canons” in online communities will never be easy, and controlling them will be impossible. Some argue that this illustrates how companies will have to change in 2013. As Mr Brynjolfsson of MIT maintains, rather than trying to exert control over the market with hefty strategic plans, companies will need to become much more sensitive to market moves and have the agility through their IT systems and business processes to react and respond quickly to whatever is occurring.



Preparing for the mobile customer of 2013

What technologies will companies and customers use to connect with each other in 2013? Survey respondents believe that, like today, e-mail will be the primary channel of communication five years from now along with use of the corporate website (the view of 87% and 81% of the sample respectively). Web meetings (according to 70% of respondents) and even videoconferencing (66%) are also likely to come into wider use for customer interaction by many firms. Executives also expect the mobile phone to supplant the fixed handset as the primary device used for voice-based interaction. And in 2013, nearly two-thirds of respondents expect their firms to be communicating with customers using some form of mobile data.

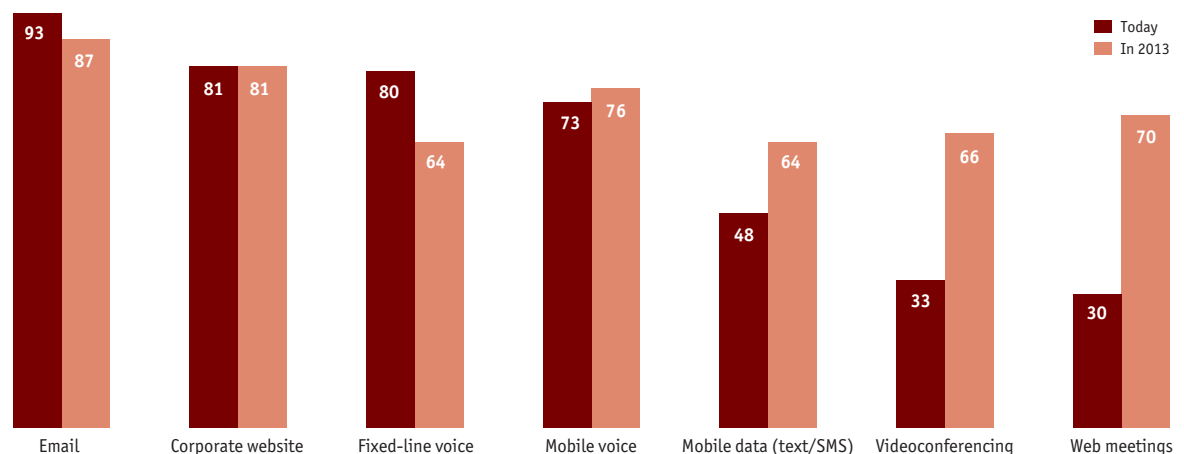
The signs are that customers, as well as the employees who serve them, will indeed be communicating far more over mobile devices in 2013 than today. In five years, 38% of mobile-phone users in western Europe will be using mobile Internet

services, suggests Forrester, a research firm³. Such growth in adoption would mean that 125m Europeans will access the web regularly from their mobile phone—triple the number that do so today.

A sharp rise in mobile interaction will place the supplier under increasing pressure from a variety of angles, believes Laura Marriott, president of the US-based Mobile Marketing Association. “In the developed world, the consumer—short of time and cash-rich—will be looking for relevant, contextualised information,” she says. “Mobile does this best.” In the developing world, meanwhile, mobile devices will provide the only link with the brand. “Immediate satisfaction will be critical,” adds Ms Marriott.

Ms Marriott believes it is “too aggressive” to say that mobile devices will provide the main computer screen that people use to interact with firms in 2013, but there will be more mobile devices than any other media, she claims. The consumer will rely on these as the first form of interaction with the supplier. Our

Which of these channels does your firm use to interact with customers today? Select all that apply.
(Top responses; % respondents)



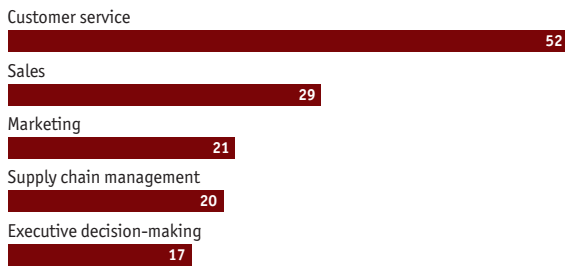
3. Forrester Research, *European Mobile Forecast: 2008 to 2013*, March 2008.

Source: Economist Intelligence Unit survey, March 2008.



Which of the following business functions or processes will be most heavily affected by employees' use of mobile technology in 2013?

(Top responses; % respondents)



Source: Economist Intelligence Unit survey, March 2008.

survey lends credence to this assertion: by a wide margin, respondents cite customer service as the business process that will be most heavily affected by employees' use of mobile technology in 2013.

The sophistication of mobile interaction is likely to change. In five years there may well be video exchanges with the call-centre agent. The phone is also likely to be used as a "mobile wallet" for banking and purchasing that can be waved in front of a reader, as already happens in Japan today. Online banking will be more widespread, with people transferring cash from one account to another over the mobile. But

Ms Marriott reckons that the best opportunities will come through user-generated content.

As a taste of things to come, a small industry is forming today that will enable new uses of mobile devices for customer interaction. For example, software from Scanbuy, a US firm, allows camera phones to take a snapshot of a barcode-like image (posted in a restaurant window, for example) and read it. A web search can then be made using the phone's browser, enabling restaurant reviews and other information to be read. A pilot scheme is currently under way in the Paris Metro for delivering information in this way to passengers.

SnapNow, another US firm founded by members of NASA's Jet Propulsion Laboratory, goes a step further. With its technology, people can take a picture of an object on their camera phones that they want to learn more about. The device will use the image as a "hyperlink" to search the web and retrieve information on it—in the same way that text is normally used for a web search.

Both these types of technology go a step further in linking the physical and online worlds via the mobile Internet. For Ms Marriott, the main thing is that, using such mobile technologies, "the consumer will control the interaction".



Conclusion

Recently, the CEO of a US airline posted a query on its website asking customers how the airline can make them more productive, and got more than 150 replies in the first week. It is this kind of straightforward use of technology to gain value from customers that is likely to thrive in 2013, as will simple, practical ideas—although complex to implement and manage—such as getting customers to help each other in company-run web communities. “The digital age is about the democracy of a good idea that can come from anywhere, including the consumer,” says Ajaz Ahmed, chairman and co-founder of AKQA, a web-marketing firm. This implies much greater collaboration with customers, combined with respect for their contribution and influence.

However, to manage this level of interaction with customers—and other third parties—and to ensure that the information and insights gained actually result in better products and services,

much will be required of employees, the IT function and the information systems they run. Tomorrow’s employees, for example, will be no less empowered by technology than customers, but will they have the skills to leverage these tools effectively and to use the information they glean wisely?

Many firms complain that they are awash today in customer and other information—how will they cope with the much greater volumes of data likely to be generated in 2013, and how will they translate it into valuable intelligence? How will the IT function itself need to change to enable and protect simultaneously the more open enterprise of 2013? What must the CIO do to help bring all of this about?

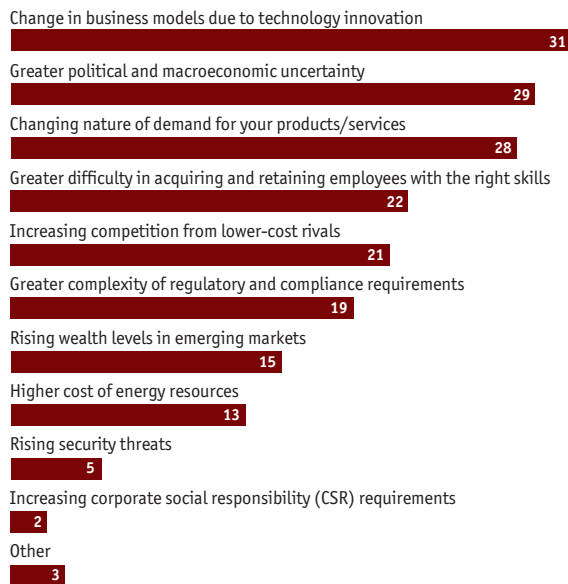
These are the questions that the Economist Intelligence Unit will address in the forthcoming second report in *The digital company 2013* programme.

Appendix: Survey results

In March 2008, the Economist Intelligence Unit conducted a survey of 661 executives of companies from around the world. Our sincere thanks go to all those who took part in the survey. Please note that not all answers add up to 100%, because of rounding or because respondents were able to provide multiple answers to some questions.

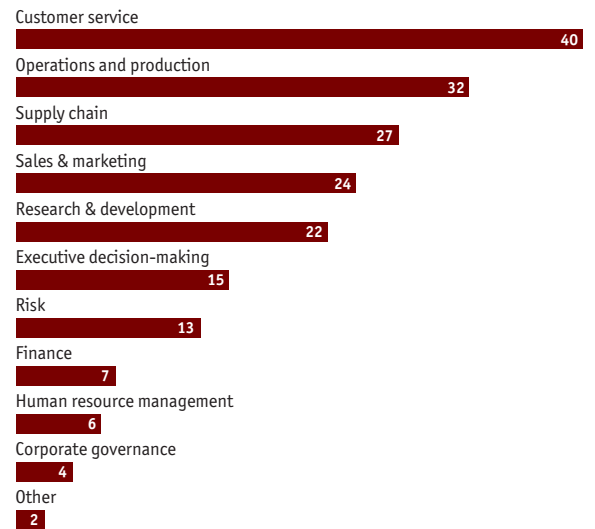
In your view, which of the following developments will have the greatest impact on your business between now and 2013?

Select up to two.
 (% respondents)



In which areas of operation will technology cause the greatest change in business practices over the next five years?

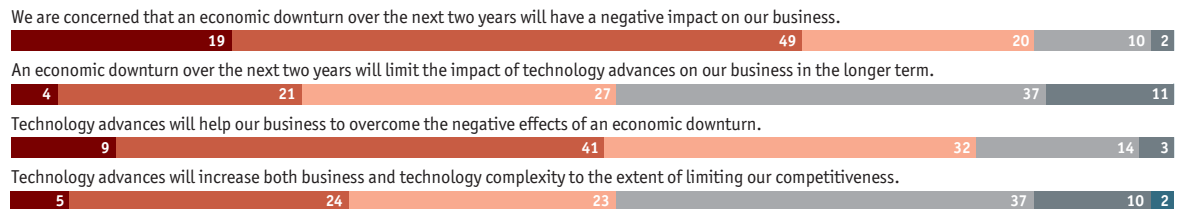
Select up to two.
 (% respondents)



To what extent do you agree or disagree with the following statements?

(% respondents)

Strongly agree Agree Neutral Disagree Strongly disagree Don't know



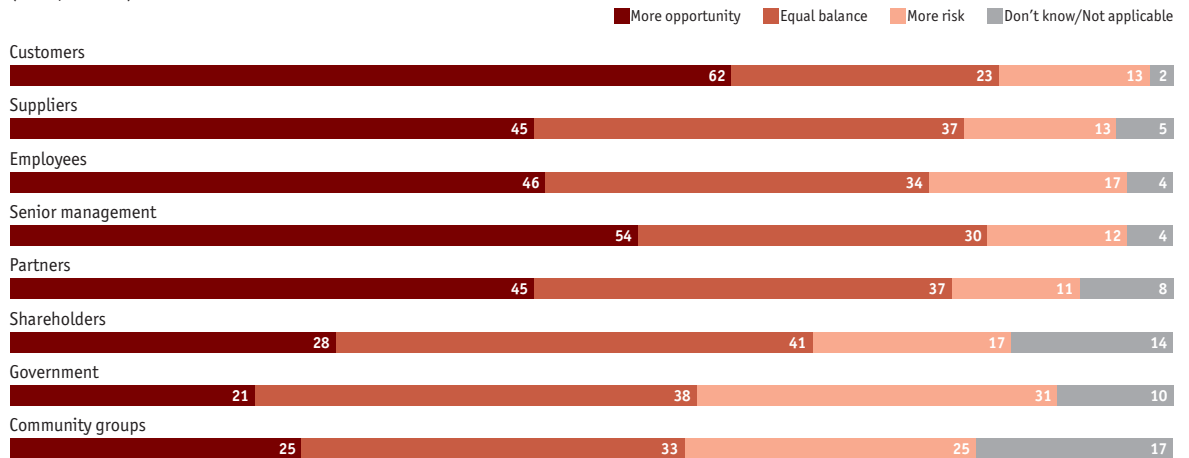
Appendix: Survey results

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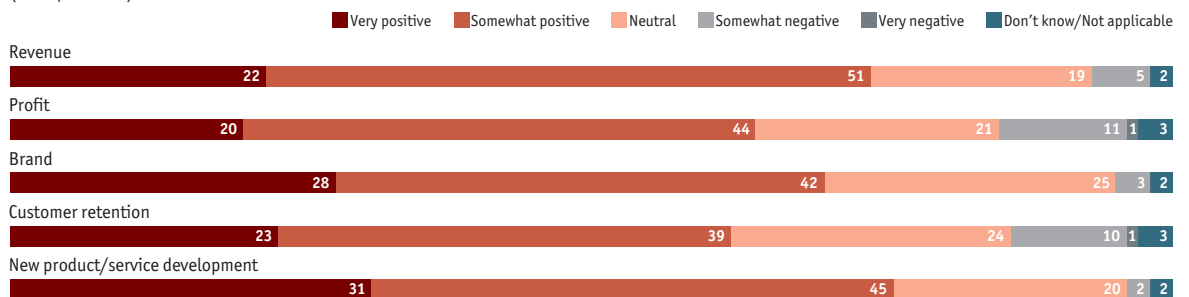
As stakeholders become more proficient in the use of technology, and thus more “empowered”, they will pose both opportunities and risks to companies. Please indicate whether the empowerment of these stakeholders will, on balance, present more opportunity or risk for your company over the next five years.

(% respondents)

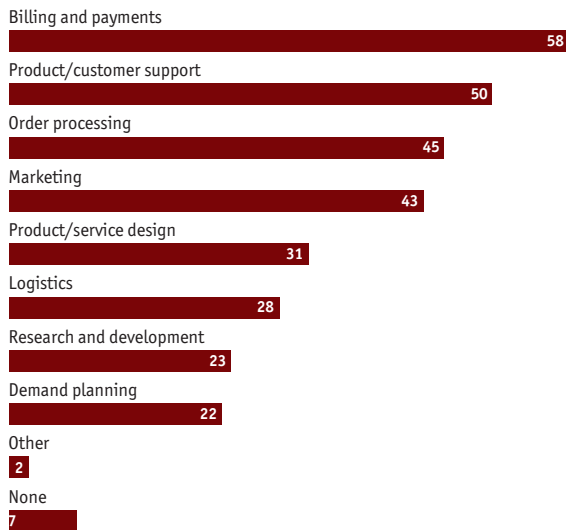


As customers become more empowered through technology, what will be the overall impact on the following aspects of your company's performance in 2013?

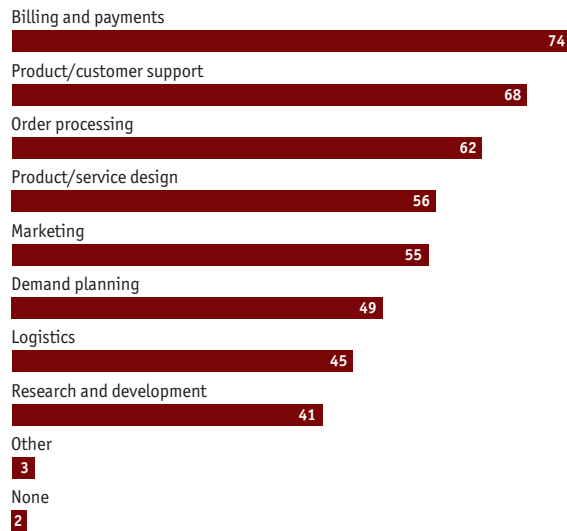
(% respondents)



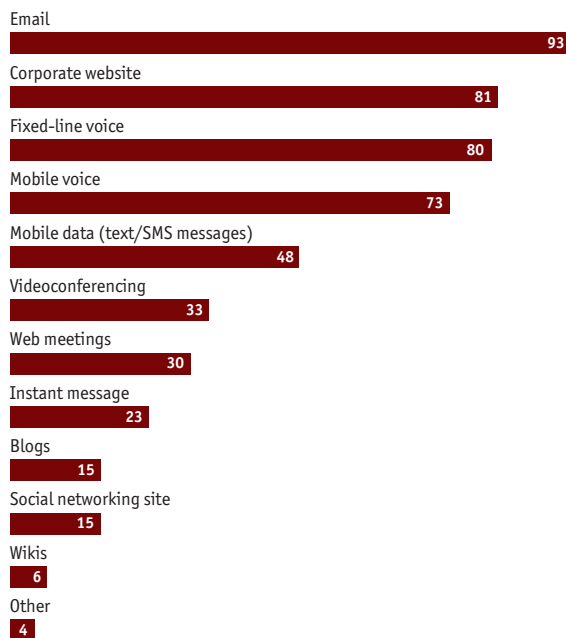
In which of the following are customers directly connected into your business processes via IT or communications networks today? Select all that apply.
 (% respondents)



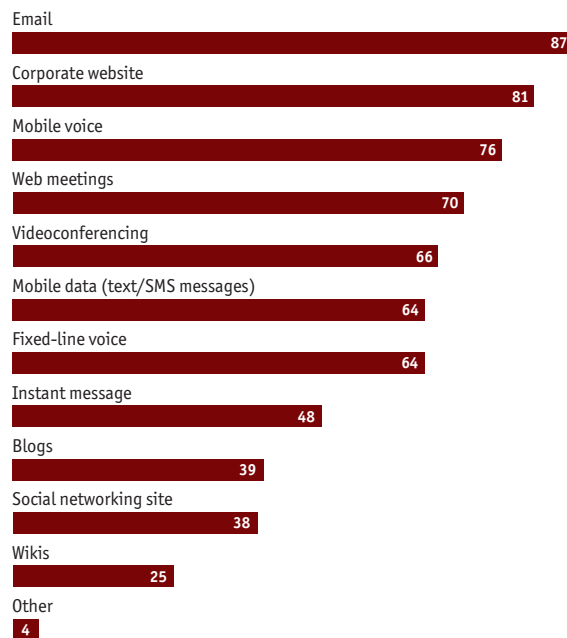
In 2013, which processes do you think your customers will be directly connected into? Select all that apply.
 (% respondents)



Which of these channels does your firm use to interact with customers today? Select all that apply.
 (% respondents)



In 2013, which do you think it will use to interact with customers? Select all that apply.
 (% respondents)



Appendix: Survey results

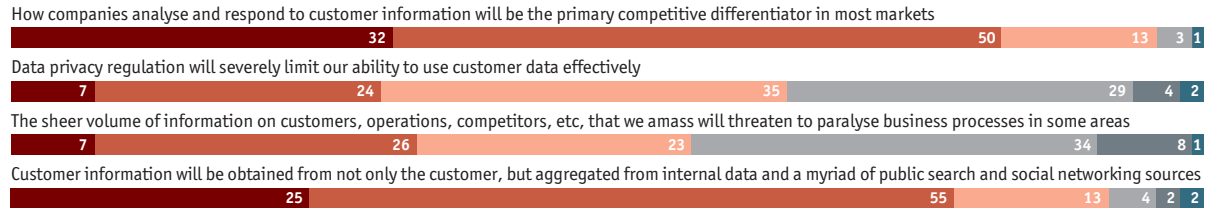
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To what extent do you agree or disagree with the following statements about the use of data in 2013?

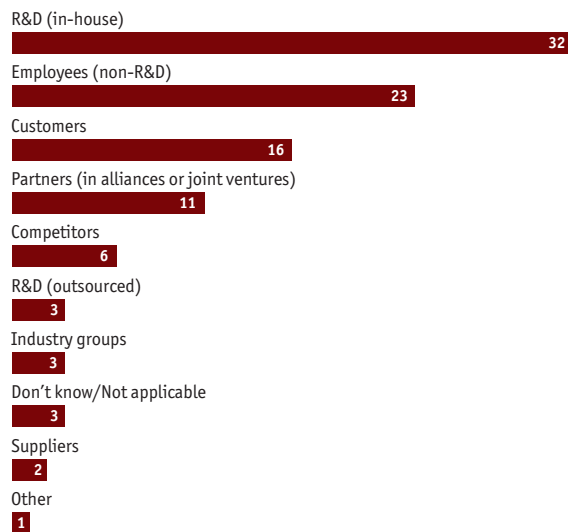
(% respondents)

Strongly agree Agree Neutral Disagree Strongly disagree Don't know



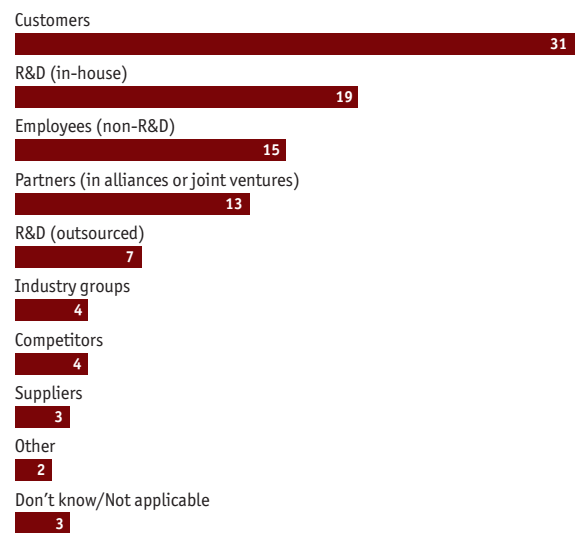
Where do your firm's most innovative ideas come from today?

(% respondents)



In 2013, where do you think its most innovative ideas will come from?

(% respondents)



To what degree are your company's main products and services customisable? How customisable will they be in 2013?

(% respondents)

■ Not customisable ■ Partly customisable ■ Customisable in most aspects ■ Completely customisable ■ Don't know/Not applicable

Today:

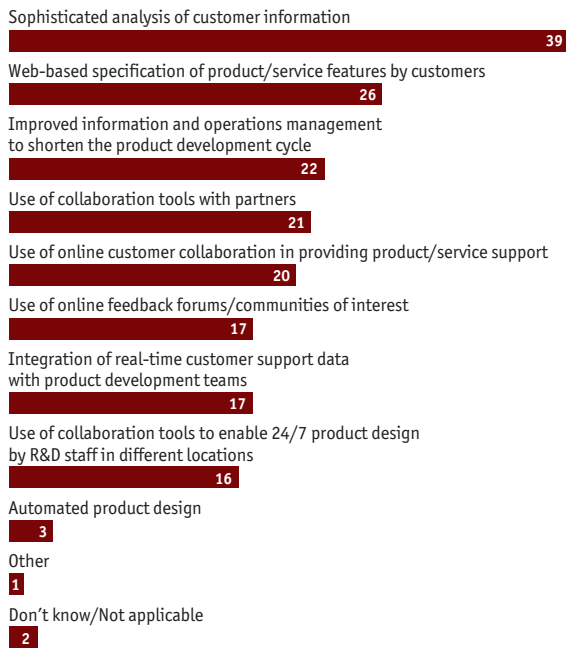


In 2013:



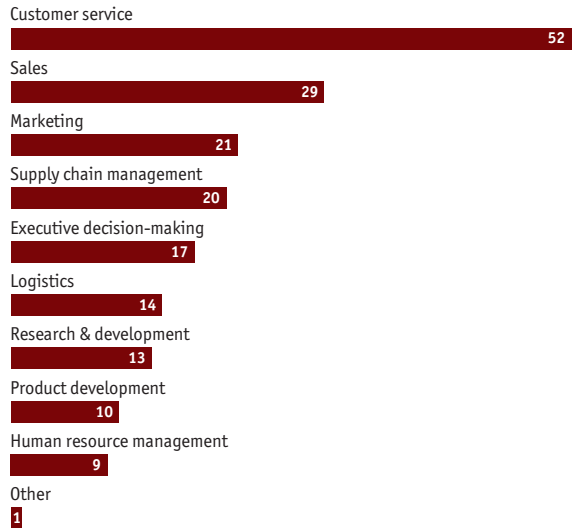
In which of the following ways is technology likely to have the greatest impact on your company's product and service development in 2013? Select up to two.

(% respondents)



Which of the following business functions or processes will be most heavily affected by employees' use of mobile technology in 2013? Select up to two.

(% respondents)



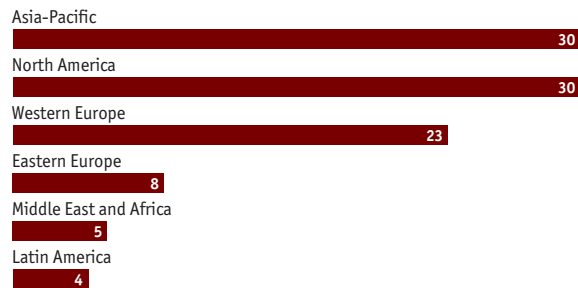
Appendix: Survey results

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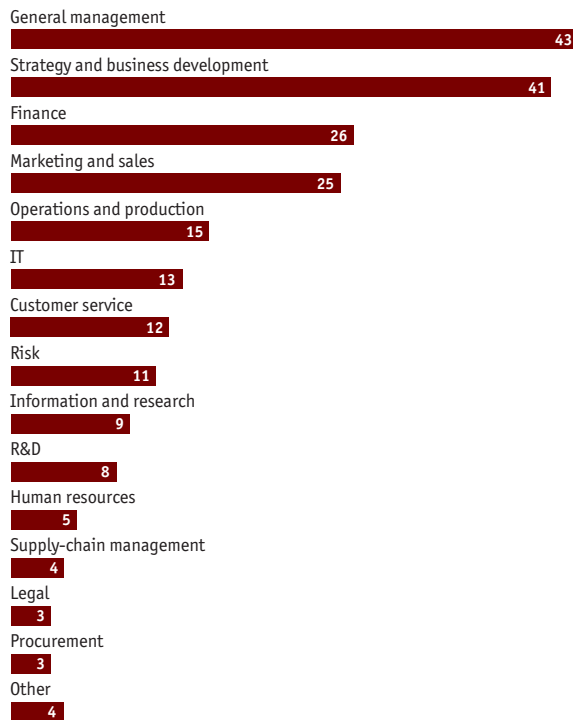
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About the respondents

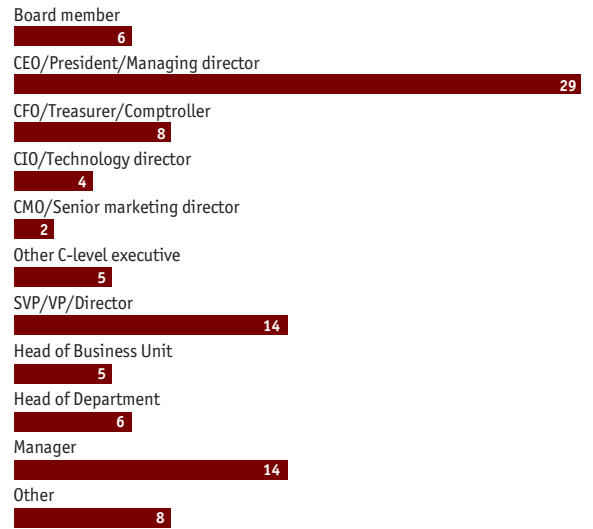
In which region are you personally based? (% respondents)



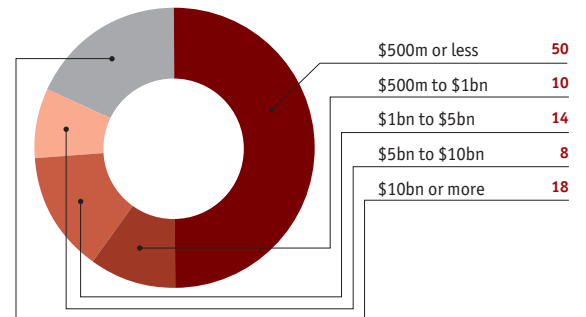
What are your main functional roles? Please choose no more than three functions. (% respondents)



Which of the following best describes your job title? (% respondents)

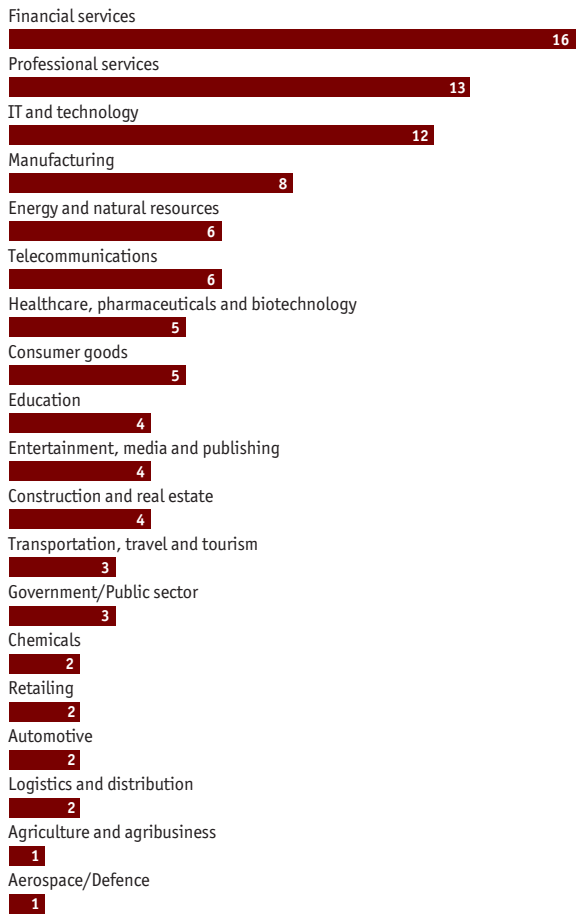


What are your company's annual global revenues in US dollars? (% respondents)



What is your primary industry?

(% respondents)



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LONDON
26 Red Lion Square
London
WC1R 4HQ
United Kingdom
Tel: (44.20) 7576 8000
Fax: (44.20) 7576 8476
E-mail: london@eiu.com

NEW YORK
111 West 57th Street
New York
NY 10019
United States
Tel: (1.212) 554 0600
Fax: (1.212) 586 1181/2
E-mail: newyork@eiu.com

HONG KONG
6001, Central Plaza
18 Harbour Road
Wanchai
Hong Kong
Tel: (852) 2585 3888
Fax: (852) 2802 7638
E-mail: hongkong@eiu.com