Dynamic power
Collaboration
The science behind the intuition
Co-creation
Placing trust in the future
Businesses today have different drivers compared with previous decades. In a more digital world, where feedback is instant, media attention is round the clock and collaboration is the new watchword, companies have evolved to focus more on communicating what they believe and how they behave. An indicator is how the society and public purpose of enterprises are becoming more relevant. Today, a mere 6% of the global population believes a company’s only purpose is to deliver shareholder profits.¹

And there are good reasons why smart businesses are working hard to demonstrate how they are building a better working world. They know they need to be trustworthy if their consumers and their potential partners want to engage with them. In this age of innovation, trust powers creativity, collaboration and enables significant business opportunities. But the flip side is that this agility requires an appropriate media and public communications strategy.

It is these issues that we explore further in many of the articles in this edition of Performance.

For example, “The power of purpose for innovation and transformation” argues that purpose-led organizations have an improved ability to innovate and solve complex market growth issues. In an environment where the majority of change initiatives fail, the key is to have a goal for something more: to translate aspiration into strategic transformation.

And consumers expect companies to have this sense of purpose. They want more than just to buy a product; they are looking to corporations to help provide them with ways to create social and environmental value. When they trust the company, the potential is unlimited as consumers begin to work with and co-create far better solutions than a business could achieve on its own. Read more in “Placing trust in the future of co-creation.”

Good innovation is also about finding the right collaborative partners, either via outsourcing (“Intellectual outsourcing: a requirement for strategic growth”) or via “innovation networks” (“Collaboration: the science behind the intuition”).

As a powerful enabler of innovation, IT is a key part of ensuring that this is firmly embedded in corporate culture. But this is a complex task, and further insight is provided in “The IT innovation challenge.”

Other articles examine what drives awareness and success in a new media environment, how companies can harness big data to improve the effectiveness and efficiency of their indirect tax practice, and whether efficiency improvement can go hand in hand with innovative services and business models.

I hope the articles in this edition of Performance provide valuable insight and information to help your business innovate, grow, optimize and protect.

Enjoy reading this issue!

Markus Heinen
Chief Patron, Performance

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The power of purpose for innovation and transformation

Successful companies embed purpose at the heart of their strategy. But how do you identify and articulate a company’s purpose? And, having done so, how do you translate it into successful innovation and strategic transformation? This article provides important insight into purpose-led transformation and how it can help build a better working world.
We're operating in a new business environment: one that is purpose-led. In our Darwinian world, evolving to have a purpose that meets a fundamental human need is key to a corporation’s ability to survive — and to thrive.

Given the macro “performance forces” — volatility, velocity and visibility — a company’s success is increasingly defined by its ability to continually innovate, to transform. This is easier said than done. Forty percent of the companies that topped the Fortune 500 in 2000 dropped from the list entirely by 2010. Efforts to transform more often than not fail miserably; EY research shows that more than 80% of change initiatives fail.

However, from our work with the C-suites of global corporations, we believe purpose-led transformations are more successful — and that purpose-led organizations have an improved ability to innovate and solve complex market growth issues.

Here’s why ... the bottom line: purpose drives profits

The evolution of companies to a purpose-led strategy — powered by purpose-led transformation — is the result of several megatrends that impact the organization’s license to operate.

The twin forces of globalization and technological transformation combined with the global financial recession, concerns about resource scarcity and the power of social media have all led to a dramatic shift in expectations of the corporation. As governments’ budgets have shrunk, they are increasingly looking to the private sector to step up to what they view as an obligation and an opportunity to get involved in markets to solve long-standing economic, social and environmental issues.

This re-evaluation of the corporation’s social contract is widespread. Today, a scant 6% of the global population believes that a company’s only purpose is to deliver shareholder profits. Customers, regulators, employees and investors are demanding more from companies. Successful companies understand that an organization’s character — what it believes and how it behaves — has become as important, if not more so, than the products and services it sells.

The twin aspects of transparency and interconnectedness have a powerful impact on the global enterprise brand, motivating greater accountability across the value chain as corporations seek to ensure their brand is not dealt a blow by a scandal from a supplier’s working conditions or environmental polluting. But this strategic evolution to purpose is driven by more than avoiding downside risks: the ability for purpose to power growth is now more quantifiable than ever.

Purpose-led brands are more successful in acquiring and retaining customers. This may make intuitive sense, but it is also backed up by behavioral science: people buy things that make them feel good about themselves. And people do business with those they trust. As Simon Sinek describes in his New York Times bestseller Start with why, “People do business with those who believe what they believe. People don’t buy what you do. They buy why you do it.”

This demand for purposeful brands is actually strongest in the emerging markets, where corporations are relying on rising middle-class consumption to drive growth. One study found that a huge 87% of global consumers believe business needs to place at least equal weight on social issues as business issues. However, only 7% think it is enough for companies to engage in social issues through philanthropy. For purpose to effectively magnetize consumers, it needs to be in the corporate DNA, with environmental or social impact woven throughout the fabric of their products and services. Unilever CEO Paul Polman describes the journey he is leading at the company as moving beyond corporate social responsibility (CSR) to make purpose part of the operating model. The focus is on addressing food security, sanitation and deforestation: “Issues that accelerate our business because we provide solutions,” says Polman. “If it’s hygiene, then we have a Lifebuoy for hand wash, if it’s women’s self-esteem, we have Dove, so every brand becomes a cause, a social movement in that sense.”

Given changing expectations, unless corporations have a sense of purpose, i.e., a why that is bigger than the what of their products and services, customers and employees will go somewhere else to find it. While customers vote with their cash, employees vote with their feet — a critical concern as the global fight ramps up for ever-more mobile talent. Companies who enable their workforce to feel connected to
Successful companies understand that an organization’s character—what it believes and how it behaves—has become as important, if not more so, than the products and services it sells.

A higher purpose are more than three times as likely to retain their employees.10 These organizations also have a workforce that is more engaged and more productive—they allow their employees to move beyond just “doing work” to “doing their life’s work.” The desire among the Millennial generation to integrate money and meaning, profits and purpose, has been dubbed “pragmatic idealism”—and is something purpose-led, pragmatic companies are paying attention to as Millennials rise to 50% of the global workforce by 2020.11

**Purpose-led transformation: leveraging the burning ambition**

The business imperative is clear: purpose can help reduce risks and provide a competitive opportunity for growth and improved financial performance, attracting and retaining customers and employees. But acting on this is easier said than done. Purpose that is simply a brand promise relegated to public relations (PR) or CSR is impotent: a company can have a compelling *why* but not leverage it into the *how.* Knowing this, successful companies embed purpose at the heart of their strategy. As companies pivot to be purpose-led companies, they undergo an *identity shift* that drives a *capability shift.* Their purpose becomes a decision lens for where to play and how to win—and subsequently a driver of innovation and enterprise transformation.

DuPont is an excellent case study. CEO Ellen Kullman and her leadership team have identified three megatrends

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that provide a strategic framework for investment. As the world’s population grows to over seven billion, three issues dominate: how to feed everyone, how to create enough energy to meet demand and how to protect the environment. With the addressing of these issues as their compass, DuPont is transforming from a 200-year-old legacy chemical company to a global science company whose stated purpose to investors is “to find sustainable, innovative, market-driven solutions to solve some of the world’s biggest challenges, making lives better, safer and healthier for people everywhere.” This aspiration to feed, protect and power the world is not an altruistic exercise: DuPont is strategically targeting scientific solutions to increase agricultural productivity, reduce dependence on fossil fuels and protect lives as their profitable path to “high growth and high value.” Their holistic approach has included “denominator strategies,” such as reducing waste and fossil fuel usage, and “numerator strategies,” inventions supporting biofuels, photovoltaics and other forms of renewable energy, or hurricane-resistant building materials that help save lives. In addition to helping strategically define and refine the businesses portfolio, DuPont’s powerful purpose can provide impetus for business model innovations that leverage capabilities across the private sector, governments and NGOs – and for the organization’s transformation.

Transformations of this magnitude are inherently fraught with challenges, requiring the whole gamut of structures, processes, technologies and people to change. The most difficult of those is the people – mindsets and behaviors are the most resistant to change, and the well-known adage, attributed to Peter Drucker, “culture eats strategy for lunch” often applies. To address this, most change initiatives seek to create a sense of crisis or urgency. But there is a need to balance the burning platform with a burning ambition: creating a compelling “run to” vision that is magnetic and can help break through fears and inertia. Cost-reduction programs, operating model changes and process redesigns have a different resonance and garner less resistance when they are steps on a journey to a destination worthy of all the blood, sweat and tears.

Engaging the organization in an ambitious purpose can also drive innovations in products and services – and innovations in business models. For Unilever, for example, focusing on solving a challenge, such as climate change, and altering the perspective from products to purpose provides the opportunity for outside-in thinking and re-architecting of ecosystems. Unilever is leveraging digital innovation via an online platform that crowdsources the technical solutions it needs to achieve its ambition of doubling the size of its business while reducing its environmental impact. Turning those ideas into applicable solutions often drives business model innovation – and, in many cases, involves leveraging cross-sector partnerships. To successfully launch Purelt, Unilever’s water purification system that creates a low cost way to provide potable water, involved partnerships with India’s National Institute of Design and National Environmental Engineering Research Institute, Tata Group’s Tata Elxsi engineering subsidiary – and EY.

Purpose provides a compass that allows organizations to be more agile. In a world of hyper-connectivity and stressed resources, how do we radically innovate? What are the opportunities for disruptive technologies and business models to provide solutions for livable cities, to solve the challenges at the food-water-energy nexus or to provide health care for aging societies? Focusing on
the why instead of the what of perpetuating a product or service allows the creative space for innovations to emerge. It also allows for an easier evolution to a new reality, a connective tissue around which a corporation can create and sustain a culture that leverages the collective genius of their people.

To see this elsewhere in the market, all we need to do is look in the mirror: EY is undergoing a purpose-led transformation right now. At EY, we are committed to our purpose of “building a better working world” – a world with increased trust and confidence in business, sustainable growth, development of talent in all its forms and greater collaboration. As EY CEO Mark Weinberger articulated during a World Economic Forum panel in Davos in January 2014:

“You have to be a purpose-driven company. At EY, we have 175,000 people and we’re growing – and we talk about our purpose of a ‘better working world’ when recruiting. People want to do well and do good. They want to understand how they’re making a difference in the world. Things change all the time, but your organization’s purpose transcends any individual product or service.”

Living the new reality

The global challenges of our times demand more from all of us – and provide unique opportunities. Consumers today want more because they are more than mere consumers; they are citizens, looking to corporations to provide ways for them to create social and environmental value. Employees today want more too. “Human resources” are more than resources from which value is extracted – they are stakeholders in value creation or destruction, and their performance is inspired and their creativity unleashed when their labor is in the service of something greater. So smart businesses are changing in the direction of being more: the transformations most likely to succeed will be those with a goal for something more than cost-efficiency to improve the bottom line or growth for the sake of next quarter’s earnings.

The key is to translate aspiration into strategic transformation – to run the business in a new way and to connect with the entire ecosystem of suppliers, regulators, customers and employees to execute on the new ambition. Our Strategy people bring together EY teams to transform clients in three ways: helping business innovate, solving complex industry and market growth issues, and delivering strategy through execution to unlock tangible value. We help our clients with purpose-led transformations because we know purpose helps to enable innovation, solve market growth issues and translate strategy into execution. EY’s own transformation uniquely positions us to help companies realize their new brand promise – to help with the how of the why. And when we help clients with their purpose-led strategic transformations, we live our own purpose of building a better working world. ■

Purpose that is simply a brand promise relegated to PR or CSR is impotent: a company can have a compelling why but not leverage it into the how.

Placing trust in the future of co-creation

Consumers are an asset for innovation. Encouraging them to participate in co-creation has the potential to deliver far better solutions than businesses can achieve on their own. They want to be involved throughout the whole product life cycle: from inception to launch. And as they are your actual or prospective customers, their views are important. This article examines the evolving co-creation trend and provides some examples of companies that are leading the way.
The opportunities to gain competitive advantage through co-creation are greater than ever. Old models are being disrupted by businesses agile enough to crowdsource their way to success. Collaboration with consumers and other partners is driving innovation.

This message is now so well known it has become something of a mantra. Less readily apparent, however, is the key to persuading consumers to collaborate with you – instead of them apathetically turning their backs; or worse, actively choosing to share their ideas with one of your rivals.

Clearly, engagement is a requisite for collaboration. Organizations and brands able to engage effectively with consumers and other partners stand to reap the benefits. Engagement delivers better insight and helps harness creativity. Yet what is often overlooked when discussing engagement is the question of trust.

In fact, trust is fundamental to engagement. Consumers will only collaborate with organizations that they can rely on to behave impeccably. Of course, different people will have different priorities. Some may be drawn to companies able to demonstrate the highest standards of ethical behavior and social responsibility. Others will be attracted by those organizations that have proven themselves worthy partners by delivering a consistently excellent customer experience, particularly those that have exceeded expectations.

Whatever an individual’s personal preference, trust underpins engagement. How could it be otherwise? Co-creation calls for consumers to share information. To do so, they must have confidence that their input is valuable, the process is enjoyable and that they have entrusted their personal data into safe hands.

Trust, integrity, reputation ... call it what you will, time and again, studies have identified this as a major issue. Consumers are increasingly on their guard, mindful of the value of their personal data, selective about the information they choose to share and careful as to which organizations they deem fit to share it with. It is those businesses that prove themselves engaging and trustworthy that will realize the potential of consumers as an asset for innovation by persuading to get them on board for the co-creation journey.

**The rise of the proactive consumer**

Setting aside issues of trust, the good news is that consumers are predisposed to collaborate in growing numbers. These
New research provides insight into the digital consumer

Technology has empowered consumers. They have become smarter, better informed and more demanding than ever. Companies face turbulent times, and getting a deeper understanding of your customer is vital if your goal is protecting and growing market share.

Our new report *Consumers on Board: how to copilot the multichannel journey* examines the implications for the businesses of today’s digital consumers. It builds on the findings of the previous study in this series from 2012, called *This time it’s personal: from consumer to co-creator*, which highlighted the changing nature of online purchasing.

Today, consumers are knowledgeable and self-confident, with the will and the means to take a share of the controls. Their purchasing behavior has evolved, and the report explores:

► The profile of the new consumer: the “homo informaticus” is smart, cautious, connected and versatile.

► The growth of the digital purchasing journey: consumers now follow an omnichannel course, with information on your and your competitors’ products and services at their fingertips.

► The importance of engaging consumers with excellent service that sticks in the mind and how they can also be an asset for innovation.

Nearly 30,000 consumers in 34 countries participated in our survey to help us understand the purchasing journey. We looked at 10 product and service areas: telephone or mobile contracts, consumer loans, household insurance, food and beverages, consumer electronics, cars, clothes, commodities, health care and health insurance.

The consumer purchasing journey starts now and is more interesting, challenging and rewarding than ever before – for buyer and seller alike.

Find out more at ey.com/consumers2014.

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Co-creation: who’s leading the way?

So, what are the major trends in co-creation? And which companies currently lead the way?

In May 2012, Deutsche Telekom announced an ambitious co-creation project with the goal of encouraging consumer participation and bringing to life its brand promise of “life is for sharing.” The aim behind the campaign was to inspire customers to make better use of their mobile internet technology by allowing them to co-create a film.

Danish actor and star, Mads Mikkelsen was cast as the lead character in road movie Move On, working with esteemed director Asger Leth. The action took place across eight European countries but the big twist was that consumer participation was integral to almost every aspect of the production: from casting and character naming, through to choice of location, props and music soundtrack.

Deutsche Telekom, working with MediaCom, reached out to thousands of consumers in 11 different markets, urging them to get involved. A huge variety of media and unusual ideas were used to allow fans to be involved in every decision connected with the movie. The campaign ran for seven months and was the subject of an enormous amount of press and social media attention.

The completed movie opened with a glitzy premiere in Berlin and won a Cannes Lion advertising award. But even prior to release, it had been viewed more than 1.7 million times on YouTube.
Engagement delivers better insight and helps harness creativity. Yet what is often overlooked ... is trust.

More importantly, by involving and inspiring its consumers, Deutsche Telekom successfully increased purchasing intent among its target audience. According to The Global Academy of Digital Marketing website, “The campaign created a positive image around the [Deutsche Telekom] brand, with up to 81% increase in people finding Telekom ‘inspiring.’ Similarly, purchase intent increased by up to 30%.”

2. The film can be viewed at the following website: http://moveon-film.com/#/movie/intl_movie/, accessed August 2014.
Global coffee shop chain Starbucks has been running the My Starbucks Idea crowdsourcing site for six years. In that time, it has attracted almost 200,000 ideas from customers and over two million votes have been cast. The co-creation initiative has certainly proved fruitful. In its first five years, it brought 277 ideas to life. Moreover, the open innovation pipeline shows no signs of drying up. The number of ideas from consumers implemented in 2012 was 73 – more than in the first 2 years (2008 and 2009) combined (25 and 28).

As the Deutsche Telekom and Starbucks examples show, consumers can be a powerful force for innovation. Increasingly, their input and influence is shaping the direction taken by companies and brands. Crowdsourcing may allow companies to develop new products, services, channels, marketing campaigns and customer experiences, and solve troublesome business problems. However, enlisting external help in this way calls for new corporate structures and behaviors.

**Corporate agility is a necessity**

More so now than ever in this collaborative, social media era, consumers have come to expect rapid responsiveness from the companies with which they elect to interact. Corporate agility is a necessity, both in terms of interacting with consumers and the speed with which new products are brought to market. Established players have to think more like hungry, nimble start-ups.

In their new book *The Co-Creation Paradigm*, authors Venkat Ramaswamy and Kerimcan Ozcan argue that, propelled by advances in global communication and information technologies, a fundamental shift is underway that will change the way we conceive of value. They write: “Individuals are attempting to push through previously impervious institutional boundaries to express their various demands and expectations. In other words, individuals as active stakeholders want to be more intensively engaged in value creation than ever before.”

This seismic shift means the days when organizations stood at the center of value creation have gone. Enterprises must respond by building engagement platforms and management systems designed for collaboration. We will certainly see a growth in roles such as head of open innovation and director of co-creation as enterprises place greater emphasis on this approach. During May and June 2014, McDonald’s invited the UK public to use an online “burger builder” to create customized restaurant menu items from a choice of over 80 ingredients. McDonald’s looked to consumers for catchy product names as well as tasty recipes. From the 12 most popular burgers, a panel of experts chose 5 that will appear in the fast food company’s UK restaurants for one week each later this year. At the launch of the burger crowdsourcing campaign, Alistair Macrow, Senior Vice President, Chief Marketing Officer, McDonald’s UK, said: “Customization and digital engagement are becoming an integral part of how consumers interact with companies.”

BMW, General Motors, Nike and PepsiCo are among the major corporations to have embraced co-creation seriously. Skincare brand Nivea (owned by Beiersdorf AG) developed and launched a successful deodorant that eradicates the problem of clothes staining. To achieve this, the company put consumers at the heart of the innovation process. The project began with online “netnography” research to identify what consumers wanted in the field of deodorants. The company analyzed consumer conversations and concerns in more than 200 social media sites in three languages. Once it discovered that deodorant stains were the biggest issues for consumers, Nivea compiled a “staining manual” listing the various types of stains perceived by consumers, the supposed causes and user remedies.

Nivea then focused on identifying a suitable ingredient that could be used in the deodorant formula. Following an ideation phase involving the company’s scientists, consumers were once again invited to help. They participated in an online study where they evaluated, modified and enriched ideas. More than 700 user suggestions were condensed to further shape the idea. Hundreds of formulations were tested in the lab and, from consumer feedback and workshops, Nivea also obtained novel product and marketing ideas. The end result was Nivea’s Invisible for Black and White, a revolutionary new deodorant that is now in the marketplace.

Another fast-moving consumer goods company, Unilever, launched a partnership with crowdsourcing platform eYeka in June 2013. The partnership covers Unilever’s entire product range across Asia-Pacific, the Middle East, Russia and South Africa. Unilever says that inviting
creative consumers to give their best ideas enables it to reinvent and challenge itself as a business.⁹

Meanwhile, Procter & Gamble (P&G) has an open innovation strategy that led to it signing more than 2,000 successful agreements with innovation partners across the world. In a message to prospective partners on P&G’s Co-Creation Channel website, the company’s North America Group President Melanie Healey writes: “We are really excited to see your ideas, and to learn from you, through collaborating together on this new co-creation channel.”¹⁰

It’s telling that a company such as P&G, a world leader in product innovation for decades, talks so candidly of learning from consumers and other external parties. So often these days, the crowd will outperform more traditional R&D setups, or at least enhance what an internal team is striving to deliver.

However, a faceless crowd may also be an unnerving proposition for corporate managers more used to exercising control over internal teams. The quality of ideas put forward is often highly variable, so that it may take time separating the good ones from the bad. With this in mind, we are beginning to see the emergence of some “curated” crowdsourcing models that involve a degree of vetting and quality control. GeniusRocket is one such example. This US-based advertising firm specializes in video production through a creative community that it curates, i.e., it acts as an intelligent intermediary between its clients and those from the crowd putting forward their ideas.

In this brave new age of open innovation and decentralized value creation, in order to prosper, organizations must be both agile and engaging. You can place your trust in that.

Collaboration: the science behind the intuition

A company’s ability to innovate is increasingly determined by how it collaborates with external partners in an “innovation network.” By doing so, an organization can reduce its R&D costs, confront the issue of shortened product life cycles and reduce risks in its innovation process. But the challenge is being able to identify compatible collaboration partners. This article introduces a mathematical approach to help companies identify which collaborations are working and why.
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In high-tech industries, where product life cycles have shortened and competition in globalized markets has intensified, companies face a challenge to keep up with the pace of innovation. For many, the answer is to try and accelerate their R&D processes, but this can become increasingly costly and time-consuming.

A growing number of companies have concluded that the answer to these challenges is to abandon the conventional, “go it alone” approach to innovation and instead open up their innovation process by building effective collaborations with external partners.

These collaborations might be with other companies, universities or research facilities, which together form innovation networks by their mutual exchange of knowledge. Participating in these networks can provide companies with multiple benefits, from diversifying risk in their R&D processes and lowering costs to shortening discovery-to-market phases and improving scouting of new technologies.

It also gives organizations greater access to specialized knowledge, which can help them handle the increasingly complex challenges they face when innovating products and services. A good analogy for these more complex and dispersed knowledge bases is the automotive industry. Today, if you build a car, it’s not enough to know how to work with rubber and steel; you also have to know how to build in navigation and other computer-based systems – which is where an external partner with specialist knowledge in developing these systems can help.

Strategic collaborations, therefore, have the potential to provide companies with a competitive edge when it comes to innovation.

**Understanding a company’s collaborative strength**

But once they are part of an innovation network, how can businesses evaluate their strategic relevance and that of other companies and institutions in the network? An organization’s position inside the network determines the extent of its ability to access the knowledge of collaboration partners.

This is where network analysis (which has been used by mathematicians and computer scientists for quite some time, but is still fairly new to economists) can prove effective. By applying this sophisticated methodology, companies can analyze the complex collaboration process within their network. This can deliver huge benefits, as the more an organization knows about its collaboration partners, the greater its ability to identify allies within the network and form effective R&D alliances with them.

Figure 1 shows an example of an innovation network with 10 actors or “nodes” (i.e., companies, universities or research facilities) that have 14 collaborations or “ties” between them. Any partners inside the innovation network with a high number of collaborations have greater access to the wider knowledge of the network and are also well-placed to share their own knowledge. A company with a low number of collaborations, and that is distant from other companies or institutions in the network, can be characterized as a peripheral specialist.

Network analysis offers a variety of robust indicators and valuable measures to help analyze collaborations and evaluate data within an innovation network. One of these measures is “key player analysis,” which is particularly helpful for working out what control companies and institutions within an innovation network have over the flow of information throughout that network. Key players often enjoy a privileged position inside the network that enables them to derive a disproportionately high benefit from its innovation processes.

By identifying who the key players in a network are and understanding how they influence that network, companies are better equipped to form strategic R&D alliances with those key players, access the resources they need from the network and gain maximum benefit from collaborative partnerships.
A prescription for identifying collaboration partners

The methodology of network analysis was applied to a recent study carried out by the authors together with EY into collaborations of companies and institutions in the biopharmaceutical industry that conducted R&D for cancer drugs from 2002 to 2012.\(^1\)

The main objective of the study was to analyze the evolutionary changes in global biopharmaceutical innovation networks.

The network analysis was drawn from a proprietary EY database that contains information about collaborations in the biopharmaceutical sector. From this database, a selection of these collaborations, specifically dedicated to the development of cancer drugs, was made and resulted in a data set of 1,355 different “actors,” of which 643 were biotechnology companies, 446 were pharmaceutical companies and 207 were public institutions, while 59 were other actor types (see Figure 2).

The study found that, although biotechnology companies tend to wield less power and influence within an innovation network than larger pharmaceutical companies, they often possess a greater amount of knowledge in the area in which they specialize.

Pole position

Key player analysis, meanwhile, revealed further support for the pre-study assumption that it is pharmaceutical companies that benefit the most from their position at the heart of the network.

The authors asked a hypothetical question in order to identify the most important players in the network. This was: which actor, if removed from the network, would have the biggest impact in terms of slowing down or stopping the flow of information?

The first thing that stands out is that, of the companies that were ranked in the top 10 key players in the global biopharmaceutical industry from 2002 to 2012, 9 of them are pharmaceutical companies. This reflects the fact that biotechnology firms, in general, often don’t have the resources or know-how to bring their innovative products to market on their own. The larger pharmaceutical companies, therefore, often act as brokers by taking over a biotechnology firm’s raw invention – a new drug, for instance – and using their considerable resources and business acumen to finish developing the product and launch it in the marketplace.

Whether it is due to their own R&D, or through acting as a broker to bring products to market or acquiring smaller biotechnology firms, the study concluded that the major pharmaceutical companies dominate the innovation process.

Conclusion

The knowledge and insight into the effectiveness of innovation networks gleaned from network analysis can be of great value to companies eager to gain a competitive edge and lead the way in R&D in their sector. Such analysis helps organizations to compare other companies and institutions, as well enabling them to benchmark themselves against partners with which they collaborate. This, in turn, enables a business to identify areas in which they’re performing well and pinpoint partners with whom collaboration would be beneficial.

In addition, the analysis of these networks in the pharmaceutical sector gives policy-makers important results for the promotion of collaborations between public institutions and companies in the research and development of new drugs. This suggests there are similar opportunities in other sectors.

The EY study further suggests network analysis is an effective methodology for identifying “hidden champions” in the market – those with the potential to be useful collaboration partners. Carrying out R&D in a global market that’s more competitive and faster moving than ever before might seem a daunting task, but network analysis gives companies the tools to innovate with confidence.

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Calculating collaborations in a network

The number, value and nature of collaborations that a company has with partners in an innovation network is calculated through a group of “indicators” known as “centrality measures.”

By being able to calculate a numerical value for each of these measures, companies can begin to evaluate their collaborative partners and networks using tangible measures rather than relying on instincts or “gut feel.”

There are three important centrality indicators:

1. **Degree centrality** is simply a count of how many collaborations a company has with partners in the network. It is expressed by the following equation:

   \[ C_D(n_i) = \sum_{j=1}^{n} x_{ji} = \sum_{j=1}^{n} x_{ij} \text{ for } (i \neq j) \]

   For example, in Figure 1, the degree of centrality for node H is 1 (C_D(H) = 1) or for node A is 6 (C_D(A) = 6).

2. **Betweenness centrality** counts how often a company lies between the shortest distances between two other partners within the network. For example, in Figure 1, node A has a very high degree of betweenness centrality because a lot of nodes have to go through company A if they want to reach each other. So, say, company G wants to communicate with company C, it has to go through A. Betweenness centrality is expressed by the equation:

   \[ C_B(n_i) = \sum_{j<k} b_{jk}(n_i) \text{ for } (i \neq j \neq k) \text{ with } b_{jk}(n_i) = \frac{g_{jk}(n_i)}{g_{j} - g_{k}} \]

   This measure is important because it describes how much influence an organization has, for example, in terms of negotiation power. Companies with a high degree of betweenness centrality are in a strong position to broker their knowledge and also broker the relationships between different organizations within the innovation network.

3. **Closeness centrality** describes how easily a node can access all the other nodes in the network. So, if one company has a direct connection to another, it has a very high closeness indicator. This means it can reach the other company very easily, sharing and gathering knowledge.

   At a simple level, therefore, closeness centrality measures how easily a company can access the knowledge within an innovation network.

   It is expressed by the following equation:

   \[ C_C(n_i) = \frac{1}{\sum_{j=1}^{n} d_{(n_i,n_j)} = (\sum_{j=1}^{n} d_{(n_i,n_j)})^{-1}} \text{ for } (i \neq j) \]

   By using these network analysis indicators, we can apply tangible measures to quantify and evaluate the collaborations of each partner in the network.
Participating in innovation networks has the potential to provide companies with multiple benefits, from reducing risk and lowering costs to shortening discovery-to-market phases.

Figure 2. Evolution of the global, biopharmaceutical innovation networks dedicated to cancer drugs (from 2002 to 2012)

Source: EY study, 2013.
An ever-evolving innovation network

Figure 2 shows the innovation network dedicated to research on cancer drugs in the pharmaceutical sector. Here, the nodes and ties (as in Figure 1) represent the biotechnology companies, pharmaceutical companies and public institutions inside the network and the collaborations between them. Biotechnology companies are shown as green circles, pharmaceutical companies as blue circles and public institutions as red circles, while other types of organizations are shown as gray circles.

The size of the circles in the figure is determined by the number of collaborations each company or institution has with partners inside the innovation network. Put simply, this means that the bigger the node, the more direct collaborations it has.

The other important characteristic shown by Figure 2 is how the larger nodes are also more centered within the network. This demonstrates how the more collaborations an organization has, the more centered it is in the network and the more it will gain from the knowledge that exists within the network.

It’s clear from Figure 2 that the larger pharmaceutical companies dominate. Due to their size and considerable financial resources, they are well-placed to collaborate directly with other companies and position themselves at the heart of the innovation network.

Although companies and institutions located in the outer rim of Figure 2 have fewer collaborative partners than those in the center, the collaborations they form still play an important role in the network’s overall innovation process.

The structure of the network is very dynamic because players can join or exit collaborations all the time. When analyzing these networks, it’s also possible to see the evolutionary development of new technological trends by observing when players are connecting to organizations in other research areas. This provides valuable information..
About the study
The study of the global biopharmaceutical innovation network used data on all the collaborations in the biopharmaceutical sector from 2000 to 2012. The data was collected by the EY Global Life Science Centers in Mannheim, Germany, and Boston in the US, which publish the annual EY Global and German Biotechnology Report.2

2. For a copy of the 2014 and previous reports, visit ey.com/beyondborders.

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Intellectual outsourcing: a requirement for strategic growth

Intellectual outsourcing, which involves the use of external resources to perform knowledge-based activities, represents the next stage in the evolution of the outsourcing market. Many firms in developed economies are opting to outsource their knowledge requirements to organizations in developing regions. This article identifies the key considerations for a firm making the strategic decision to opt for intellectual outsourcing.
A mantra repeated by management gurus is a twist on German philosopher Friedrich Nietzsche’s maxim: any change that is not going to kill an organization is going to strengthen it. The strategic impetus driving organizations to choose outsourcing is no longer cost savings and labor arbitrage. When we look at evolution of outsourcing, the phenomenon started in the manufacturing sector and gradually moved to service sectors, especially information technology and business processes. Access to a global pool of extremely skilled and talented people has evolved as one of the main strategic forces driving the growth of outsourcing. This has resulted in the movement of outsourcing to areas where the human capital being accessed requires greater depth of knowledge and higher intellectual capabilities. This represents the next stage in the evolution of the outsourcing market.

**Concept of intellectual outsourcing**

Intellectual outsourcing deals with the movement of an organization’s knowledge-based activities to an external service provider or vendor in order to accomplish the goals of the organization. These activities involve knowledge generation and, to a certain extent, include capabilities that are specific to the organization from an industry perspective. For example, intellectual outsourcing can include specialist capabilities such as market research, equity research, financial research, brand management, legal services, analytics services, pharmaceutical research, data mining, animation services and other specific knowledge process areas.

The concept of intellectual outsourcing is prevalent in various industries such as finance, pharmaceutical, insurance, technology, media, education, aviation and retail. For example, leading financial firms based in the US are outsourcing many of their knowledge-based activities, such as statistical modeling, performance reporting, forecasting and analytical research, to specialized companies based in India.

More and more organizations based in developed economies are outsourcing knowledge-based activities to developing economies such as India, China and the Philippines. According to the Associated Chambers of Commerce and Industry...
of India (ASSOCHAM), the market for outsourcing knowledge-based activities to India is expected to reach US$30b by 2015. India currently caters to over 70% of the global intellectual outsourcing industry.

Strategic value of knowledge-based activities

When considering intellectual outsourcing from a strategic perspective, it is important for a firm to assess the strategic potential of those activities that are planned to be outsourced. This assessment must clearly articulate the business value that can be achieved through intellectual outsourcing, specifically by demonstrating the advantages of such a decision versus utilizing internal resources.

Based on their strategic value to the organization, knowledge-based activities can be classified into three categories. Of prime importance are those knowledge-based activities with high strategic value that form the core competencies of the organization. The second group consists of those activities that support the organization's core competencies and hence form complementary capabilities. The third group consists of those knowledge-based activities that are not contributing to the development of core competencies.

Historically, the activities that have only minor strategic value have been the front-runners for outsourcing. However, there is a steady growth in the propensity of organizations to outsource those knowledge-based activities belonging to the first and second groups, which are of higher strategic value.

Opting for intellectual outsourcing is a critical strategic decision for a firm to take. While taking such a decision, the firm will have to deal with two critical aspects:

1. Competitive advantage: the firm should leverage competencies that will augment in-house capabilities and increase its competitive advantage in the global market.

2. Efficient governance: the focus should be on creating the right balance to determine which activities to outsource and then extracting the desired value from partners and vendors. The firm will have to form an alliance with the right external partner or vendor.

Appetite for intellectual outsourcing

The option to outsource intellectual capabilities is particularly important considering that, over time, the competencies and capabilities of a firm often change so as to survive the competition, especially in the face of a dynamic external environment. Teece’s dynamic capabilities perspective supports the fact that a firm’s capabilities always undergo adaptation, redeployment and recombination with other resources. This evolutionary process of developing new capabilities means that organizations need to effectively coordinate and reorganize internal resources with externally available competencies so that they can address a rapidly changing business environment. This also supports the firm’s decision to opt for intellectual outsourcing.

Careful evaluation against expectations to find existing performance gaps in an organization’s internal knowledge-based activities is an important part of any decision to opt for intellectual outsourcing. Once the firm identifies a gap, along with assessing the strategic value, the major criterion for deciding whether it should outsource depends upon the company’s investment appetite, the potential performance benefits and whether external vendors have better capabilities to perform them. Since knowledge is a valuable asset, organizations could be concerned that the traversing of critical information across organizational boundaries could pose a competitive risk. Such concerns can result in the organization being over-protective of its knowledge assets. In order to avoid knowledge leakage possibilities, the organization can place more of an emphasis on being cautious about boundary-spanning interactions involving exchange of information.2

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However, acceptance of the need to have integrated knowledge flow across boundaries is gaining momentum, along with an understanding of the strategic advantages of intellectual outsourcing. For example, consider the pharmaceutical industry. Multinational pharmaceutical firms have to work on various knowledge-based processes, including clinical analysis, patent study, legal research and brand development. They are outsourcing many of these processes, which involve their own specialized knowledge, to competent firms based in India that have teams of biologists, chemists, information technology experts and product developers. Pharmaceutical companies have seen how outsourcing can improve their profitability without compromising on quality. So they are opting for intellectual outsourcing where they can have stable and long-term collaboration with vendors. They now view intellectual outsourcing as a means to complement their capabilities and augment their strategies to ensure improved utilization of their resources.

Collaborating to enhance strategic value

When developing competitive advantage, there will be a range of knowledge activities with varying levels of strategic significance that need to be taken into consideration when making an outsourcing decision. The key is to identify those knowledge activities that are of lesser strategic importance or that do not directly contribute to the company’s competitive advantage. For example, consider the case of a biotechnology company. It will have to perform a number of knowledge-based activities demanding an advanced information search and analytical interpretation. One of them is statistical analysis involving collection and analysis of data in life processes. This knowledge activity has a low level of integration with the core competencies of the biotechnology firm and can be outsourced through contractual agreement with a clinical research vendor. In addition, this type of activity need not involve high levels of knowledge transfer between the client and the supplier. The contractual agreement alone is sufficient to ensure that the vendor utilizes its normal procedures for generating knowledge that the client can employ.

Pharmaceutical companies have seen how outsourcing can improve their profitability without compromising on quality.

Collaboration opens up considerable opportunities for firms to make use of global knowledge expertise; one of the notable benefits being access to culturally diverse perspectives.
When a firm outsources knowledge-based activities that complement its core competencies, it should consider forming an organized alliance relationship with the vendor rather than a simple contractual agreement. This is essential to ensure that a strong relationship is developed to maximize the value of the outsourced knowledge activities. Here are some best-practice examples from across different sectors used by firms to develop the relationship into a collaborative partnership aimed at improving value creation:

► Championing of the outsourcing effort by top management
► Development of mutual strategic expectations
► Periodic interaction to monitor, fine tune and synchronize collaboration strategy developments

It is the company’s core processes that form the basis for an organization’s competitive advantage. These core processes are capable of generating knowledge critical for the firm to thrive in the increasingly competitive environment. But this also means that, in order to keep its competitive advantage, a firm will not want to share its knowledge. However, a firm can opt to outsource components of even such core knowledge-based activities through organized alliances. While taking a decision to opt for intellectual outsourcing of core activities, the firm must ensure that it is in a position to handle four critical risk aspects:

1. Relational risk: the organizations involved in the alliance may not work toward the mutual interests of all the partners. Potential opportunistic behavior can lead to the misappropriation of the transferred knowledge.
2. Performance risk: the alliance’s strategic objectives are not attained. Uncertainty can be high in knowledge-related activities, with rapid changes happening in the business adding to the probability that the planned strategic goals are not achieved.
3. Management risk: actions taken by the management teams involved in the alliance may not be complementary, leading to disruptive effects that drastically diminish the value of the knowledge-based activities.
4. Investment risk: the complexity and firm-specific nature of the knowledge activity will mean that more investment is required from the organization to ensure that the vendor has a clear understanding of the process.

In order for a company to achieve the benefits it’s looking for from intellectual outsourcing, it needs to mitigate these risks with the following approach:

► Integrate knowledge activities: the firm should implement a plan to improve the integration of knowledge activities with its partner. For this, it should engage closely with individuals from the partner firm and work to develop the relationship. This can also help to enhance long-term collaboration.
► Trust development: it is essential that a strong degree of trust is developed between the partners so that the firm can be confident that the alliance partner is not misappropriating the transferred knowledge.
► Dynamic approach: the firm must continuously evaluate how the alliance is functioning as it must always be flexible, adapting and adjusting to the ever-evolving business requirements with respect to knowledge-based activities.
► Senior management commitment: this is important if the significance of opting for intellectual outsourcing is to be successfully conveyed across the firm. It will also ensure that the required resources are available for the alliance to function effectively.

These approaches will help in developing a robust collaborative relationship between the partners to increase the value of the knowledge-based activities.

Firms with mature outsourcing models have created an opportunity to go forward without the need for their own in-house knowledge generating capabilities. These firms develop a network of alliance partners that provides them with the required knowledge outputs. Such a networked model allows the firm to build its business around transactions between various network partners without having expertise knowledge on the processes within its own organization.

Accessing information from open sources is another potential avenue for collaboration. By making use of direct access to specialized knowledge sources, a firm can reduce its dependency on vendors for its knowledge-related business activities. This helps the firm to collaborate cost-effectively with global knowledge experts.

Collaboration opens up considerable opportunities for firms to make use of global knowledge expertise; one of the notable benefits being access to culturally diverse perspectives. Groups of people from different backgrounds and with varying skills and experiences working together have been shown to improve collaborative decision-making. While distances and different time zones can present barriers, the benefits of having a culturally diverse team can be easily harnessed if the outsourcing partners develop effective communication and collaboration strategies.
Conclusion
Organizations increasingly recognize that intellectual outsourcing can be utilized as a means to gain strategic benefit and build competitive advantage. While opting for intellectual outsourcing, firms will have to think beyond contractual agreements and adopt collaborative partnerships. Once the strategic decision has been made to utilize intellectual outsourcing to refine the firm’s competencies, collaborative and long-term alliances provide an effective and viable approach. Firms can reap the benefits of such outsourcing alliances by mitigating those risks involved and ensuring proper and transparent management of the collaborative partnership.

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What drives awareness and success in a new media environment?

Given the relevance and challenges of social media marketing communications, we conducted a study of corporate blogs from Fortune Global 500 companies in order to examine which social media communication metrics, i.e., creators, content and interactions, have the greatest impact on the growth and size of an audience. This article gives an overview of the most important results and the main ideas behind them.
In recent years, social media has penetrated modern society and consumers’ everyday life. For example, ComScore suggests that one in five minutes online is actually spent on social networks. Therefore, it is not surprising that social media communications and social media marketing have now become a priority for marketers in nearly all industries nowadays. According to eMarketer, 88% of US companies with 100 or more employees are estimated to use social media for marketing purposes, which is more than double the adoption rate in 2008. The rising importance of social media is also reflected at the budgeting level. US social media marketing spending will near US$5b by 2016, up from around US$1.6b in 2011, as indicated by Forrester Research.

Many companies are often attracted to social media by the promise of being able to easily create and spread brand-related messages across a potentially wide and interested audience, at low costs. These companies often venture into social media by establishing dedicated presences on core platforms, such as Facebook, Twitter or Blogspot, which range among the most frequently visited websites worldwide. Brands, companies and other organizations have created more than 15 million Facebook pages.

Despite the fact that most companies have embraced social media as part of the marketing mix, there still remains a significant lack of knowledge as to what drives communication success in the social media environment. In 2010, HBR Analytic Services surveyed 2,100 companies. Only 12% of those companies surveyed, that were either running or planning to run social media initiatives, thought that they were doing it effectively. Consequently, corporate attempts to leverage marketing opportunities in the social media ecosystem often turn out to be a highly experimental trial-and-error process. In light of the rising pressure on today’s marketing budgets and the resulting need to identify, measure and optimize key performance drivers of social media marketing success, this issue has become particularly important.

The authors conducted a quantitative study of corporate blogs, with the aim of empirically examining effective communication traits and providing recommendations for managing corporate social media. Specifically, we studied the characteristics of social media authors, social media content and conversational interactions, which have the greatest impact on social media site traffic growth. We analyzed traffic growth as one of the major challenges companies are facing in deploying social media. Attracting an interested audience (i.e., fans, followers, subscribers and visitors) is critical to any social media presence. Effective communication always begins with awareness. For a corporate social media channel to have any impact, it must reach a significant number of people. In the following sections, we give a brief insight into the fundamentals of our study and present three major results.

### Data and method

Data from our study consisted of distinct and complete sets of successive corporate weblog posts that were collected across a selected sample of blogs from 14 Fortune Global 500 companies. We received detailed traffic information from these companies (i.e., page views and unique visitors) for each individual post on their corporate weblogs. In total, we collected 2,218 posts from the respective companies. From the information gathered off the post sites (e.g., pictures, texts and comments), we derived the following measures across a range of specific characteristics:

- **The blog posts’ authors (e.g., gender or hierarchy level)**
- **Weblog post content (e.g., multimediability or communication style)**
- **Interaction between post authors and readers (e.g., comments, responses, degree of conversational activity or corporate share of conversational activity)**

To make a quantitative evaluation of the impact of these potential success factors on traffic growth, we estimated a negative binomial fixed effects model, allowing us to incorporate both the count character and the strong overdispersion of our dependent variable, as well as control for unobserved heterogeneity across the different weblogs.

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The three key drivers of social media success

1. Author characteristics: be relevant

We investigated author-related social media effectiveness and the hierarchy level of a post’s author. For example, corporate weblog authors could be lower-level employees (i.e., interns or “rank and file” employees), or they could be members of the higher management levels (i.e., CEO, owner, or top or middle managers). The examination revealed a significant relationship between increasing levels of authority and the size of the audience.

It should be kept in mind that social media is pull media, and consumers invest real effort (e.g., time and cognitive resources) when visiting and engaging in a corporate social media presence. Visitors want to be rewarded for these efforts in the form of expertise, competency or the kinds of insights that are unavailable in traditional media settings. Therefore, corporate social media presence is only successful if the right spokesperson is chosen.

The more narrative corporate social media content is, the more visitors the corporate social media presence will attract.
What drives awareness and success in a new media environment?

From the very beginning of the social media movement, communication norms and behaviors have not been set by traditional media gatekeepers, but rather by the audiences themselves.

2. Content characteristics: tell a story
In terms of content, one of the main questions we sought to answer was whether storytelling can be an effective means to transport company messages within a social media setting. Telling stories represents a central human activity and it is a powerful means of social communication. Research identified storytelling as key to communication efficacy. Information is stored, indexed and retrieved in the form of stories and, accordingly, people relate to the story in such narrative terms.

In the social media space, where everything is about connecting with peers, narrative stories represent the most common form of rhetoric when addressing an audience. Thus, it is not surprising that our results reflected a highly significant influence of storytelling on traffic numbers.

Alternatively, the more narrative corporate social media content is, the more visitors the corporate social media presence will attract. For this reason, it can make a huge difference if a brand posts the video of a new commercial or if the corporate author talks about their personal experiences (when, where, with whom, and what expectations and feelings were involved). Narrative storytelling can be applied not only in blogs, but also in social network sites. This is well demonstrated by the Facebook page of Walther, a fruit juice-producing German small and medium enterprise (SME), which is owned and run by Kirstin Walther. While the page's title picture makes it very clear that the respective social media presence refers to the Walther Company, the profile picture shows the owner herself. Through this twist, it becomes possible for Kirstin Walther to provide her content in the form of personal and authentic narratives.

3. Interaction characteristics: be conversational
By analyzing interactions between corporate social media authors and readers, we showed that activity on a corporate social media presence, which is conversational in nature, draws more visitors. Social media, by its very nature, enables users to converse in iterative cycles of postings and comments. One key reason for people to participate in online conversations is the value of interpersonal connectivity.

In our study, we analyzed if “lurkers” (people who do not actively contribute to a social media site, but who usually make up the majority of the visitors) would reward the mere presence of others’ conversations through visits and revisits. In order to distinguish conversational communication (i.e., discussions) from reactional communication (i.e., feedback), we defined a conversation as a series of at least two communication exchanges (i.e., consisting of at least three conversational turns and where the first turn is always represented by the corporate blog post) between two or more participants, in which the message of every newly added communicational contribution refers to messages that preceded it. In contrast, a reaction is defined by only one communication exchange (i.e., consisting of exactly two conversational turns, where the first turn is always represented by the corporate blog post).

The analysis revealed that visitors reward the presence of conversational activity. As such, conversational activity significantly increases traffic on the social media presence. This effect is at its highest when the company (or the social media authors) participate in the conversations. In other words: company involvement in online conversations influences the effectiveness of corporate social media presences much more strongly than leaving the readers and visitors to debate the content on their own.

We can conclude with the fact that, irrespective of whether a company fosters true dialogue with customers on a social media platform, it plays a considerable and important role in the formation of corporate social media success. These results allow us to derive some actionable managerial recommendations. Firstly, a general corporate approach to social media performance measurement should not only use the number of comments as a reference for success, but rather the number of conversations present. Secondly, because visitors’ average time on a page is usually short, companies should use technical features that help them to increase the visibility of online conversations (i.e., by grouping related comments) as well as the visibility of corporate participation in there (i.e., by highlighting answers from the company).

**Conclusion**

From the firm’s perspective, social media has drastically changed the fundamentals of traditional marketing communications. Outlets such as weblogs, microblogs, social network sites or online discussion forums provide consumers with a wide range of new information and communication opportunities. The freedom to determine which messages and from whom are worthy of being received (and shared), as well as the ability to participate in (public) communication processes, is key.

To summarize, the social web has enabled consumers to finally become autonomous and self-directed (mass) communication actors. Consequently, from the very beginning of the social media movement, communication norms and behaviors have not been set by traditional media gatekeepers, but rather by the audiences themselves. As a result, consumers’ expectations of how marketing communications should be embellished in this environment have evolved accordingly.

Effective social media management should, therefore, start by understanding and adopting consumers’ communication patterns. These are already well developed, having been established long before the brands entered the social spaces of the internet. In this context, our research provides three valuable recommendations for organizations looking to engage with their customers: be relevant and demonstrate your expertise, speak in a way that your consumers relate to and open up conversations with your visitors. This will enable your company to fit easily into the social media ecosystem and position you for success.

Corporate social media presence is only successful if the right spokesperson is chosen.
The age of big data: challenges and opportunities for indirect tax strategies

The exponential growth of digital data profoundly affects indirect taxes. Companies can harness big data to improve the effectiveness and efficiency of their indirect tax practice. A solid indirect tax management framework is essential. It will help companies to integrate compliance, operations and strategy, to reduce digitalization’s risks and to grasp its opportunities.
Our world is increasingly a digital world. We produce, transform and analyze huge amounts of electronic data at a dazzling speed. According to some sources, the data that now floods the internet every second are equivalent to the data stored on the entire internet 20 years ago. The volume, velocity and variety of the production of digital data are almost beyond human imagination.

This “age of big data” has a profound influence on the way companies deal with indirect taxes, reshaping both challenges and opportunities. Sophisticated analytical programs allow tax agencies to “make sense” of companies’ ever-growing volume of tax-related data and to detect errors. This increases indirect tax compliance risks. At the same time, companies can harness big data to improve the effectiveness and efficiency of their own indirect tax practice, not just in the area of compliance, but also in the areas of operations and strategy.

Big data: discovering valuable relationships
What is more, a judicious collection, processing and analysis of indirect tax data can help forge an indirect tax management framework that brings these three aspects of compliance, operations and strategy together. Securing, storing and tracking huge quantities of data in the domain of indirect taxes present an important challenge for international companies. But companies that do so effectively stand to uncover valuable relationships between seemingly unrelated data.

In our recent report Managing indirect tax data: gaining insight and control in the digital age1 we look at these indirect tax issues. As the report is based on many interviews between EY professionals and clients and tax agencies, we offer valuable examples of best practices by leading multinational enterprises.

This transformation in the world of indirect taxes by big data comes at a time when companies’ tax practices are under thorough scrutiny by not only tax agencies, but also investors, regulators and – last but not least – public opinion. In recent years, tax issues have made front page news around the world. Although much of the public focus is on direct taxes, tax agencies and opinion leaders are increasingly focusing on indirect taxes as well. For this reason, transparency of indirect taxes is becoming the norm. Companies must make tax data visible within the organization and to external stakeholders, including tax agencies. In the age of big data, dealing with data correctly is the key to such tax transparency.

The stakes are high
For companies’ indirect tax professionals, the stakes are high. Inside and outside the world of business, there is a growing awareness of the importance of their work. Governments are increasingly relying on indirect taxes such as value-added tax (VAT) and goods and services tax (GST) for their income. VAT rates have increased worldwide in recent years and new indirect taxes are being introduced. In the EU, for example, the average standard VAT rate increased from 19.5% in 2008 to over 21% in 2013.

Tax and customs administrations are increasingly focusing on full compliance. To this end, they request additional information from tax subjects; some data is supposed to flow from the taxpayer to the tax authority on a monthly basis, almost real-time. Tax agencies also share more information with one another and use ever more sophisticated tools to analyze companies’ data. In the EU, moreover, companies have to cope with the sometimes contradictory tendencies of EU-wide harmonization on the one hand, and an increase of detailed national information requirements on the other.

In addition to this demanding external background, companies’ indirect tax professionals are faced with increased internal expectations. Not only are many tax departments asked by corporate management to ensure compliance and reduce risks with limited resources, they are also asked to go beyond compliance, by actively providing financial and non-financial impact analyses in strategic decision-making processes or by contributing to companies’ financial performance through cost reductions and cash flow improvements. At the same time, many multinational enterprises are rationalizing and centralizing structures, standardizing processes and consolidating technology platforms as well as reporting systems. Very often, this makes perfect sense. However, in a world where there is still little harmonization regarding the content and formats of information required by indirect tax authorities, cross-border centralization and standardization is not without its drawbacks for the tax function.

An indirect tax management framework is key
The increased internal and external focus on indirect taxes, as well as the incessant digitalization of our world, makes it more important than ever to use an indirect tax management framework as the basis for effective and efficient management of indirect taxes. All too often, the three main aspects of indirect taxes – compliance, operational and strategic – are still managed in isolation. A solid indirect tax management framework looks at the connections between these three aspects.

Within this framework, the effective collection, processing and analysis of indirect tax data will help management to bridge the gap between compliance, operations and strategy, and to gain control, visibility and valuable insights into the process.

Managing data within this framework is key to aligning indirect taxes to the strategic goals of the business. In the age of big data, by harnessing the power of the information they hold, companies can dig deeper into their indirect tax profile and uncover hidden costs, risks and opportunities.
The age of big data: challenges and opportunities for indirect tax strategies

Key questions

Operational
How do our systems process indirect taxes at the level of individual transactions? What is the accounting treatment applied to individual transactions? How is individual data aggregated into accounts in the financial statements? What procedures and internal controls are in place to ensure accurate processing of transactions and data?

Compliance
What sources are used to gather relevant data? Who prepares the relevant indirect tax declarations and returns, and how? Are we using the correct data and procedures for calculating and reporting tax payable?

Strategic
Who is responsible for the indirect tax function? How can we ensure continuous improvements to systems, processes and controls? How do we use technology to discover risks, identify opportunities and streamline procedures? How do we ensure that indirect taxes are viewed and managed as an important, strategic part of business?

The increased internal and external focus on indirect taxes, as well as the incessant digitalization of our world, makes it more important than ever to use an indirect tax management framework as the basis for effective and efficient management of indirect taxes.
Data is both the beginning and the end of every tax task. Tax authorities know this all too well. They are becoming smart, fast and efficient in their use of data analytical tools. This allows them to focus on risk-based audits and to obtain, analyze and assess underpaid tax and duty amounts. Nowadays, in-depth reviews by tax agencies that used to take months or even years are performed in a matter of weeks.

From “nice to have” to “need to have”

Obviously, tax subjects cannot stay behind. Tax professionals need to have access to the same type of data analysis software used by tax auditors to identify errors and opportunities. In the digital age, as tax authorities continue to increase their use of data analytical tools, companies must do the same. Some data analytical tools that were, until recently, seen as nice to have by large companies’ management are rapidly becoming need to have. In countries such as Australia, Luxemburg, Netherlands and the United Kingdom, tax authorities make it increasingly clear that they expect large companies to use modern data analytical tools in their management of indirect taxes.

What is more, a sophisticated indirect tax management framework and up-to-date data analytical tools offer companies other opportunities. They are often a precondition for tax agencies to enter into a more constructive and trusting relationship with the taxpayer. No wonder, then, that tax professionals interviewed by us agreed that improving the technology base of the tax function is an essential task.
The age of big data: challenges and opportunities for indirect tax strategies

In the age of big data, by harnessing the power of the information they hold, companies can dig deeper into their indirect tax profile and uncover hidden costs, risks and opportunities.

The digitalization of filing indirect tax returns is an ongoing process. A late-2013 survey among EY tax professionals in 86 countries showed that:

► In 66 of these 86 countries, tax subjects are allowed or obliged to submit their VAT or GST returns electronically, through e-filing.
► VAT and GST payers can pay VAT and GST balances electronically in 75 out of 86 countries.
► In 69 out of 86 countries, tax authorities use data extracted electronically from the tax subject’s systems to carry out VAT or GST audits.

Big data and global trade: beyond compliance with taxes and duties

Complying with tax and duty obligations is critical for large multinational companies whose business depends on the international flow of products and services. In this respect, a complicating factor for tax departments is that customs and trade compliance is often outside the direct scope of the tax department and often managed by third parties. The “trade function” within these companies – wherever it is located – is responsible for key trade master data such as tariff classification and country of origin.

Nowadays, the importance of the trade function is rightly seen as going well beyond tax and duties compliance. The trade functions of best-in-class companies add significant value through improved efficiency and reduction of operating costs. They actively look for new ways to use big data for financial and non-financial gains: cost reductions, but also improved international trade processes and increased flexibility and speed-of-response with regard to new logistical, technical or legal opportunities. Thus, through timely collection and meaningful analysis of data, the trade function can move away from a typical reactive support role to become a proactive business partner within the company, a valued participant in strategic decision-making.
Enterprise intelligence tools
For proactive companies, there are many ways to harness technology in their endeavor to improve indirect tax management. Increasingly, indirect tax returns are managed and filed using technology tools. These tools increase accuracy, reduce processing times and costs, and boost visibility of the underlying transactions.

Better data management can be achieved quickly through simple enterprise intelligence (EI) tools. EI is how companies manage and exploit large quantities of data. A great variety of mobile EI applications are now easily available.

State-of-the-art mobile dashboarding technology can help companies cope with complicated real-time tax reporting obligations. They enable “at a glance” updates on KPIs across the whole spectrum of tax management. Visualization tools, smart navigation capabilities and drill-down functions can improve the value of these dashboards.

Seizing the opportunity
The age of big data is rapidly transforming our societies and the world of business. Indirect taxes are no exception. Dealing appropriately with the digital revolution will allow leading companies to reduce risks and improve performance in indirect tax management. The new reality is here. The tools are here. Now, it is up to companies to seize the opportunity!

Nowadays, in-depth reviews by tax agencies that used to take months or even years are performed in a matter of weeks.
The IT innovation challenge

Most companies understand that they must develop a constant stream of innovations in products and services, business models and processes if they are to maintain their long-term competitive advantage. As part of this, developing the capacity for such innovation requires a close interplay between many different business functions and activities. An established innovation management process that connects the different corporate functions is an important tool for leveraging existing but unconnected capabilities.
Corporate IT is a key player in any firm’s innovation process. In a multi-sector study conducted by EY, firms ranked investment in relevant IT systems as one of the essential ingredients for enabling innovation in products, services and operations. But in order to do so, corporate IT must step forward to assume its role as an enabler of the company-wide innovation process — and as a close participant in that process.

This new pressure on IT comes as companies make significant changes to the way that they innovate. In the past, the early stages of the innovation process were known as just “idea generation.” But today, two crucial new stages have emerged as part of a wider innovation culture: intuition and socialization. Intuition involves taking ideas from a variety of sources — both internal and external. Once these ideas have been identified, they can be socialized, which involves testing them out and discussing them with a variety of different stakeholders.

For the described innovation culture to take root, senior management and IT managers must encourage input and involvement from other parts of the organization. It’s much more likely that customer-facing staff — those in sales, marketing and customer services — will have a better understanding of their customer’s needs than, say, R&D engineers tucked away in labs. Social media platforms can also help, providing insights for firms on how to tailor their products and services to better match their clients’ needs.

To innovate effectively across organizational boundaries, companies need collaboration tools that manage processes and transactions, and that enable information to be shared among stakeholders. More than
a decade ago, Procter & Gamble realized
that, for each of its 7,500-strong R&D
workforce, there were 200 other scientists
or engineers elsewhere who were at least
as good. This prompted the consumer
products giant to develop an”open
innovation” program, known as Connect
& Develop, which is now a prominent case
study of this type of innovation.2 Beyond
collaboration, IT also supports innovation
through data. Most corporate IT functions
play an active role in the collection, analysis
and presentation of client and market
data – helping to identify more profitable
market segments, improve inventory
management and gain insight into future
opportunities. As Massachusetts Institute
of Technology (MIT) Professor and IT
expert Erik Brynjolfsson said in an interview
with MIT Sloan Management Review:
“Leading companies find new ways to
innovate based on how they measure and
handle information.”3

Take one large UK supermarket chain as
an example. It has dramatically improved
its competitiveness by creating new, more
flexible processes that can be adjusted to
take into account the information about
consumer buying habits that it extracts
from the huge volume of data that its
stores generate each day. This change
has resulted in substantial benefits for the
retailer, namely fewer stock shortages and
more successful cross-selling.

Companies can also sustain competitive
advantage through process innovations
that make it more agile, efficient and
effective. Corporate IT has a major role to
play here, from deploying business process
management tools and mobile apps, to
business intelligence capabilities and
strategic partnering.

Expectation gap

So the case for IT’s involvement in
corporate innovation is clear. But despite
this, many CIOs are still not playing their
part. In a major 2012 EY study, fewer
than half the CIOs polled agreed that they
make an important contribution to their
company’s product innovation process.4 A
2014 follow-on study showed that, even
within IT-intensive industries, where CIOs
might be expected to have a clearer role
on product innovation, only half (51%) are
doing so.5

Why not? Part of the problem is that IT
is still often regarded as a cost center and
is often poorly integrated into business
functions. CIOs typically have far stronger
relationships with their CFOs and the back-
office than with the sales and marketing
functions and other front office executives,
which are often CIOs’ weakest contacts
within their organizations. This prevents
CIOs from playing a more active role in
innovation, because they are isolated from
those functions that can provide feedback
on client behavior and needs.

Moreover, senior managers generally
hold their IT colleagues in low regard.
According to the same 2012 study, 6 out of
10 CIOs believe that they contribute to
fact-based decisions in the company. But
only one-third of non-IT managers agree.
Previous EY research has shown that only
around 20% of managers think corporate IT
is ready to meet future requirements.6

How then to bridge this expectation gap?
Companies need to ensure that corporate IT
is playing the right role in generating ideas,
fulfilling them and setting up initiatives for
the most promising concepts. This requires
a structured innovation management
process, driven by business leadership,
which focuses innovation efforts on the
drivers of competitive advantage and
business objectives of the business. It also
requires an IT function that is embedded
and aligned with the rest of the business,
and that is perceived as a contributor to –
rather than a cost of – innovation.

1. Turn risks and opportunities into results: exploring the top
10 risks and opportunities for global organizations,
EY, 2011.
2. “Connecting the entrepreneurial workforce,” New Scientist
3. “The four ways IT is driving innovation, an interview with
4. The DNA of the CIO: opening the door to the C-suite,
EY, 2012.
5. Born to be digital: how leading CIOs are preparing for a
digital transformation, EY, 2014.
6. “Innovating for growth: IT’s role in the new global economy,”
Global IT performance survey, EY, 2011.
Becoming an enabler

Companies need a systematic approach for identifying external changes that may create new possibilities for innovation, and a set of tools that enable the knowledge and insight from a wide community of internal and external stakeholders to be captured. They also need a flexible model that allows for the variability of innovations. It should be possible to implement innovative ideas at an early stage and verify them by testing them in a selected area of the business, incorporating client feedback and user experience, before moving onto the next stage of development. The ability to go back to earlier stages of the process makes it easier to validate and improve the underlying solution through iteration.

Ensuring that innovation is firmly embedded in corporate culture is a complex task. Employees have to feel motivated to exchange ideas and information. They need to be confident that they will be rewarded for their contribution, and that time and resources will be made available to follow up on their ideas. Embedding such a culture takes huge effort, to minimize the resistance to change, and to grow and connect a community of innovative employees.

As a powerful enabler of innovation, IT is a key part of instilling this culture. Companies need to ensure that there is a strong relationship between business functions and corporate IT, with a basis in trust and credibility. Corporate IT should be

If encouraged to collaborate with other business units, corporate IT can be a powerful catalyst for innovation.
Even within IT-intensive industries, where CIOs might be expected to have a clearer role on product innovation, only half (51%) are doing so.

a sparring partner for business functions and interact constructively with them. In this way, business functions can be shown new perspectives and solutions achievable through innovative technologies.

Many IT departments are hindered by the fact that they do not actively seek opportunities to innovate. Acting as a pure supplier of IT services, delivering in accordance to the service catalog, will not make IT an innovation driver. As a supplier of services with comfortable recurring business, it is easy to stay where you are. But changing conditions and growing competition means this situation can, and likely will, change very quickly.

An example of this kind of shift can be seen in the automotive supplier industry. Here, suppliers have grown their business models from being based on reactive parts production and delivery toward becoming proactive innovation sources for automotive manufacturers.

Inevitably, though, CIOs are unlikely to be able to initiate such change without a lead being given by senior management. EY research shows that one of the biggest factors in exploiting IT potential is senior management’s ability to correctly assess and prioritize the potential of IT investment. Transforming the role of IT requires boardroom leadership: quite simply, potential innovators throughout the firm need to understand that innovative solutions are highly valued.

To prevent untargeted side projects, which can bind the capacity of the whole IT organization, efforts should be aligned to desired business outcomes. The EY innovation spiral model suggests that every innovation activity should be connected with one of several business outcomes, such as profitable growth, business agility or business sustainability. Giving innovation initiatives these high-level directions will help to align them with business strategy and to create the desired business value.

A difficult part of innovation management is deciding whether it’s worth investing in certain areas. It can be hard to decide whether to go ahead with an innovation project based on just the business case. Many innovations only reveal their true potential during the development process and commercialization. The important thing is to strike a balance between trying out ideas and putting an early stop to projects that do not look commercially promising. Ultimately, however, the contribution of IT to innovation will be measured by its ability to achieve the company’s goals.

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Corporate IT should be a sparring partner for business functions and interact constructively with them.

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7. Turn risks and opportunities into results, EY, 2011.
Hospital 2020: boosting productivity and business model innovation

The modern hospital landscape is shaped by complex structures and procedures — from primary processes with direct patient contact to supporting secondary processes, such as IT (digital patient records), and tertiary processes, such as hospital catering. The challenge facing management is: could efficiency improvement go hand in hand with innovative services and business models?
The private hospital operator market is facing an enormous transformation, with new competitors and increasing consolidation. Given the need to meet both shareholder value targets and strict regulatory requirements, hospital management is more challenging than ever before.

Privately managed hospitals, including state- and church-run hospitals, are facing rising competition and cost pressure. This is true not just in the provision of health care, but across all three processes that hospitals carry out, namely:

► Primary processes, i.e., the provision of health care
► Secondary processes, e.g., finance, staffing and IT
► Tertiary processes, e.g., catering, cleaning and technical services

All three processes are coming under increasingly close scrutiny; and, in particular, calls for the use of outsourcing or partnerships for tertiary processes are growing louder. But the highly regulated environment in which hospital operators work makes management a challenging juggling act.

Nowadays, hospital operators must be able to handle and integrate, at an operational level, several acquisitions a year without interrupting the day-to-day business of existing hospitals. For this reason, great emphasis is placed on the flexibility of the underlying organization. To seamlessly integrate new hospitals, their primary processes have to be promptly and efficiently lifted onto the shared
business platform of secondary and tertiary processes, so that the overall hospital operation system works as envisioned.

Hospital manager or infrastructure operator?
When making decisions, the managers of hospital groups often find themselves faced with a recurring dilemma: “Do we make the decision from the perspective of a hospital manager or an infrastructure operator?” That is, should they look at the issue from the perspective of those involved in the primary hospital process or from the viewpoint of those involved in the secondary and tertiary processes?

In general, the verticality of the hospital’s own structure will influence the answer to this dilemma by determining which parts of the value chain are produced internally and which are sourced externally. On the whole, when the three processes are considered in context, the tendency is for management to act as an infrastructure operator. While science park, trade fair, airport and train station operators also face the same dilemma, the issue is more sensitive in a health care environment. The public is uncomfortable with topics such as covering costs, margin pressure and dividends when it comes to hospitals.

As the utilization of hospital capacities declines, it is the operators of private hospitals who focus most intently on margin optimization to ensure a consistent level of quality and compliance. Modern medicine, the growing health outcome business (i.e., services oriented toward maintaining a healthy lifestyle rather than just “selling pills”) and alternative health care programs increase this cost pressure.

The emergence of greater lifestyle consciousness and health awareness is forcing hospital management to rethink their operations and increasingly regard health care as a holistic and end-to-end service.

Business model innovation and cost optimization: a contradiction in terms?
In the future, hospital operators will need to have a sharp focus on service, but not just on the day-to-day management of running operating theaters, cleaning corridors or cooking patients’ meals. By following an integrated business model approach, hospital managers will ensure that the essential operational elements are prioritized. The benefit of working in this way is that it aids the identification of efficiencies and helps keep the focus on those core aspects of the business that create the most value.

Generalized statements about the merits of outsourcing business functions are of little value, as the decision needs to be made on a case-by-case basis. Hospital operators must identify the right balance between outsourcing versus buying in services for each of their individual structures and then work out the details for themselves. For this reason, there is no standard answer to the question of whether to outsource or buy in.

As a rule, hospital operators focus their management and optimization efforts on costs (whether outsourced or bought in), with the result that any corresponding price and cost spirals that arise from time to time cause out-and-out business panic among the management involved. In the long term, this will have an inevitable impact on service quality and compliance.

But should management boards constantly train their focus on costs when the health care market is on the threshold of a paradigm shift toward preventive health care for everyone? Or could efficiency improvement go hand in hand with innovative services and business models?

Recognizing that someone else can produce something more effectively and efficiently than you can is the responsibility of each individual management board.
Hospital 2020: ensuring future viability in three essential steps

The question that hospital operators and, indeed, companies in other industries pose most often is about their own financial health and, ultimately, their long-term viability. Again, making generalized statements about the financial wellbeing of a business has little value. However, using the following three diagnostic steps, this question can be analyzed and answered at a high level.

Opening yourself to the market and its participants can give you innovative strength and access to resources.

Diagnosis 1
Consistent focus on service

“You have embedded the concept of ‘service’ at all levels of the group – your business activities focus on providing the general service (i.e., health care) to the general recipient (i.e., the patient).”

As a result of this consistent focus on service, there is a corresponding transfer of responsibilities for service provision. This requires essential roles and responsibilities to be clearly defined (although this does not have to translate into an increase in headcount) and the transparency of the necessary interfaces to be articulated and understood by everyone.

Appropriately designed structures and procedures with consistent business processes and clear governance structures will provide the necessary foundation for an appropriately elastic business platform. These include lean, process-oriented business forms and shared service organizational structures.

Diagnosis 2
“Re-innovation” of your own value creation

“You persistently focus on identifying and innovating those aspects within your own business that create value. This approach boosts your competitive advantage, thereby strengthening your market position and opening up alternative commodity sources.”

The stringent level of regulation in the health care sector and the sensitivity of the market and the media to health topics frequently lead to the rejection of process or business model innovations. This can also result in the immediate rejection of service innovations.

The key to staying in the game financially lies not only in optimizing the prevailing cost structures, but also in continuously examining your own areas of responsibility in the value chain, in identifying alternative, more cost-efficient procurement channels for resources and in constantly reassessing the changing requirements of your client, the patient.
Prognosis

Privately managed hospitals face a variety of pressures both externally, from competitors and regulators, and internally, in terms of spiraling costs and shareholder targets. Hospital operators need to act now to ensure the future viability of their businesses. The prognosis is good, so long as current management never stops thinking as if they were operating a start-up. The challenge of building on this thinking and taking hospital management to the next level will pass to the operators of tomorrow, but it’s today’s management that carries the responsibility for ensuring that the foundations for “Hospital 2020” are solid and well laid.

Diagnosis 3
Thinking in terms of networks and partnerships

“You ensure that you keep a constant lookout for potential partners and service providers – inside as well as outside your market – so that the non-core components of your own value chain are provided more efficiently and more cost-effectively, and so that these companies can contribute to your own ability to innovate.”

There are numerous examples that show the most successful companies are those that do not operate in isolation, regardless of whether they are in an oligopoly or a highly fragmented competitive environment. Recognizing that someone else can produce something more effectively and efficiently than you can is the responsibility of each individual management board. Even collaborating with competitors can be profitable – provided that your own essential intellectual property is not involved.

Opening yourself to the market and its participants can give you innovative strength and access to resources. This can sometimes lead to very beneficial partnerships. This trend is unlikely to stagnate in the near future; rather, it is expected to grow dramatically.
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