

DIGITAL TRANSFORMATION REVIEW

N° 01 JULY 2011

The challenges of the digital revolution

• L'Oreal's choices by **Marc Menesguen** • Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance by **Capgemini Consulting** • No sector is immune by **Andrew McAfee**, MIT • The boom of Chinese e-commerce by **Brian Xin**, StarryMedia • A transformed society is emerging by philosopher **Bernard Stiegler**





EDITORIAL

Digital and Transformation:
Are they now indivisible?
By **Cappemini Consulting's**
Editorial Board

page 4



STRATEGY

Beauty and digital: A magical
match
Interview with **Marc Menesguen**,
Managing Director of Strategic
Marketing for L'Oréal

page 6



CLOSE-UP

Transform to the Power of Digital:
Digital Transformation as a Driver
of Corporate Performance
By **Didier Bonnet**, Global Head of
Practices, Cappemini Consulting
and **Patrick Ferraris**, Global Leader,
Technology Transformation,
Cappemini Consulting

page 14



VISION

No sector is immune from digital
transformation
Interview with **Andrew McAfee**,
principal research scientist at the
Center for Digital Business, MIT
Sloan School of Management

page 30



TELESCOPE

Chinese entrepreneurs take full
advantage of the e-commerce
boom

Interview with **Brian Xin**, founder
of StarryMedia, a Chinese start-up
for social marketing and digital
research

page 36



KEY FIGURES

pages 35 and 42



GUEST WRITER

Digital as Bearer of Another
Society
By **Bernard Stiegler**, philosopher,
President of Ars Industrialis,
Director of the Pompidou Center
Institute for Research and
Innovation

page 43

DIGITAL TRANSFORMATION REVIEW

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Digital and Transformation: Are they now indivisible?

By **Capgemini Consulting's Editorial Board**

Welcome to the first issue of Capgemini Consulting's Digital Transformation Review. The rise of new digital technologies is one of the most exhilarating challenges facing companies today. No sector or organization is immune from the digital phenomenon, which dictates its own pace and presence in the management agenda. The question is no longer when companies need to make digital a strategic priority – this tipping point is past – but how to embrace it and turn it to competitive advantage.

Given this urgency, should we now view the rise of digital as the alpha and omega of transformation strategies, the focal point for every aspect of corporate change? Our hypothesis is that transformation strategy is its own master, but we have reached a stage where transformation cannot be done in isolation from digital. There are two reasons for this.

First, digital has a fundamental impact on how change takes place. Moving forward, every strategy that is devised must take account of

the opportunities offered by these new technologies and their related applications. While transformation is not just digital, transformation cannot do without digital.

Second, digital is shaping the competitive battleground in all sectors. The data shows a growing performance gap between the best digital learners and the others. The more a sector relies on technology, the greater the gap between the most effective companies and the rest. And yet, the digital phenomenon doesn't stop at the borders of «traditional» sectors. Digital technology allows a more targeted business approach, more scientific decision-making and a new type of customer relationship. Companies in every business sector need to master digital tools.

We do think it is important to stress that this emphasis on a technology-driven digital revolution in no way diminishes the importance of human initiative and responsibility. Indeed, the truth is quite the opposite. It is more important than ever to acquire the right skills

and place them strategically to support transformation programs.

In this publication we are determined to embrace just this sort of complexity and counter-intuition, through a viewpoint that crosses geographical boundaries and domain boundaries, with contributions from faculty experts, practitioners, start-up pioneers and philosophers:

Marc Menesguen, Managing Director of Strategic Marketing for L'Oréal, explains how the digital revolution has impacted the organization and strategy of this global beauty products leader.

Prof. Andrew McAfee of MIT paints a picture of how these digital technologies are disrupting work processes and corporate strategy. Along the way he describes profound changes in American consumer habits and their impact on traditional marketing approaches.

The article by Brian Xin, founder of Starry-

Media, a Chinese start-up connecting marketing and social media, offers particular insight into the speed of change in China today.

Finally, philosopher Bernard Stiegler provides the necessary distance for understanding the social impact of the digital revolution, which he compares in the scale of human history to the invention of writing.

We hope you enjoy the thoughts and strong convictions of all our authors. ●

Beauty and digital: A magical match

Marc Menesguen, Managing Director of Strategic Marketing for L'Oréal, explains how the digital revolution has impacted the organization and strategy of the global beauty products leader.

Has the rise of the digital phenomenon changed your customers' habits?

Digital transformation is one of the major drivers of change in today's world. I believe we are witnessing the start of a true revolution, given how the major players are powering forward – Google, Apple, Microsoft, Facebook... – and the speed at which digital tools are proliferating. There are expected to be 20 billion connected devices (telephones, tablets, game consoles, etc.) by 2015.

This revolution naturally has

an impact on how our consumers relate to information and advertising, and thus to our brands. According to a study by the Forrester group, 7% of sales around the world today take place online, and almost 40% of off-line sales are influenced by internet research. So almost half of purchases in the world are already somehow digitally influenced.

This trend in any given country depends on its digital maturity. In the United States, where the phenomenon first developed, the internet plays a very significant role today in purchasing decisions and in how we support our consumers. This is a little less the case in Europe, although things are advancing more quickly. And in the newer markets digital technology has a considerable impact. In China, internet penetration is already almost 30%. These changes are of fundamental importance to L'Oréal.

How does the company view this revolution?

Digital transformation represents an extraordinary opportunity to strengthen our current business model and become even better at being the world's number-one beauty group. In fact, beauty and digital are something of a magical match, because beauty is an emotion and the digital world multiplies the ways our brands can create an emotional-filled relationship with their customers.

Also, using our products isn't always self-evident, and digital tools allow us to help our consumers understand and use them better, and to offer them personalized, one-to-one service so we can increase the quality and perceived value of using our products.

Could you tell us more specifically what opportunities

you see emerging with digital transformation?

First of all, digital transformation is a chance to strengthen our brands' images by improving the efficiency of our communication and advertising.

“ The digital world multiplies the ways our brands can create an emotional-filled relationship with their customers. ”

Second, the internet is an amazing tool for supporting customers throughout a product's cycle of use, and for strengthening brand loyalty. The third advantage is one of sales. The internet makes it possible for brands to project themselves right into people's homes, and generate purchases and repeat purchases through online sales.

The final opportunity involves innovation. Research & Innovation is at the heart of the L'Oréal model, and digital transformation helps our researchers' work. For example, in the United States we have a social network of 250 women who test our cosmetic or facial care products, and give their feedback online. We examine their reactions and take them into account when designing new products. We have truly reached the stage of co-innovation!

How is L'Oréal reacting to take advantage of these opportunities?

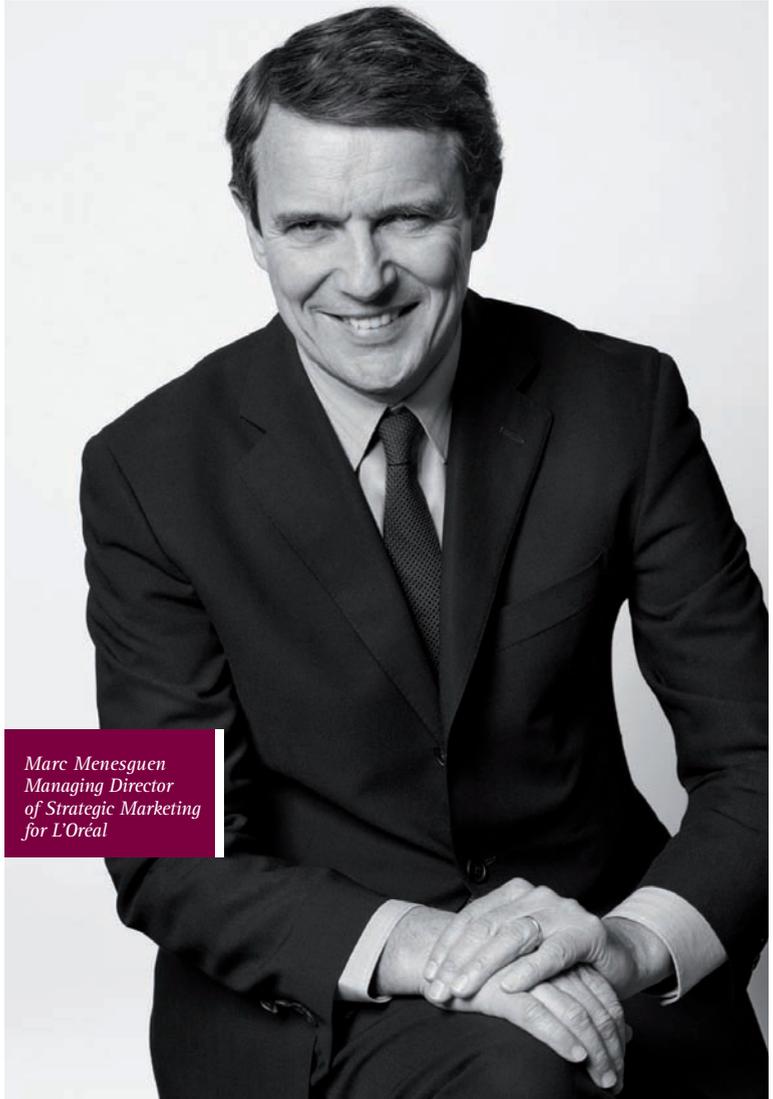
Our Chairman and CEO, Jean-Paul Agon, named 2010 the «Digital Year» for L'Oréal. Succeeding in the digital revolution is a major strategic challenge for the company at the global level, along with winning one billion new consumers over the coming decade. The year 2010 was therefore one of intense

Beauty and digital: A magical match

effort, particularly for a crisis exit phase, with strategic policies impacting our 23 brands and all our countries.

This mobilization was expressed in a number of ways. First, we made sure we had the necessary expertise in-house. We formed a team of 300 people specialized in digital technologies, with the goal of providing digital expertise at every strategic point in the company, and we have a global digital manager to pilot this cross-functional network who reports to me directly. I would point out here that digital transformation doesn't only concern marketing; rather, we have digital managers in research, manufacturing, communication and in the sales functions.

We also launched a program to train 15,000 individuals in digital fluency in two years, including the company's managers.



*Marc Menesguen
Managing Director
of Strategic Marketing
for L'Oréal*

Have you defined measurable objectives for your digital strategy?

We plan to double investment in digital media in 2011, from 5% to almost 10%. L'Oréal is the third largest advertiser in the world, so you can imagine the scope of this goal. More generally, I would note that we work using a test & learn approach: The real goal is to raise our digital IQ as a way to structurally reinforce our business model.

We have chosen specific units within the group to play a pioneering role. Their job is to prepare the ground and assemble the skills needed, and then transmit them to the other units. In e-business, for example, the luxury products divisions in the United States and Korea are leading the charge, so they have gained a head start with 6% and 12% of their sales online, respectively. Japan, on the other hand, is responsible for

developing m-commerce, sales via mobile phones. And within Europe, the United Kingdom is coming off the starting block first.

Marketing is key to L'Oréal's business model. Has the traditional marketing mix been transformed by the emergence of digital tools?

Of course. The difference between the traditional model and the new one that is emerging, is a difference between positioning and movement. Today it's not enough to think about brand positioning. Digital transformation allows brands to interact directly with their customers. This communication requires an agility from the brands as well as an ability to remain in motion and adapt continuously. It's a challenge, but also an extraordinary opportunity. In the new marketing that is developing, the consumer is even more central to our

strategy. Whereas in the mass media model, typically centered on television, everyone received the same message, with digital media we can design much more targeted marketing.

“ The real goal is to raise our digital IQ as a way to structurally reinforce our business model. ”

I think this trend will become even more marked in the future with the rise of mobile devices, which will become an increasingly important interface between brands and consumers. With geolocation, for example, we can target messages more precisely and adjust to customers whether they are out shopping or at home.

Beauty and digital: A magical match

Does digital transformation increase the complexity of managing your brands?

L'Oréal is historically a company of innovation and conquest, so our teams are excited by this new challenge. That said, like any major change, digital transformation brings with it questions and risks, two of which come to mind.

The first is the risk of a fragmented image and loss of brand equity, in the sense that multiple points of contact with a brand can lead to divergences between the global and the local. There is also a risk of insufficient return on investment, of our economic resources being spread thin.

We are prepared to respond to these risks with a matrix structure for our 23 global brands and the large regions that pilot business in the different countries. Each brand develops its own digital strategy with clear

priorities and guidelines. They deploy integrated marketing campaigns to ensure that the brand receives the same expression no matter what the point of contact.

As for monitoring economic efficiency, it has been strengthened with the creation of the Strategic Marketing division that I run. This organization is meant to support the markets in identifying best practices, and those that are less effective. We work on aligning key performance indicators for digital campaigns worldwide, which allows us to measure the effectiveness of our digital initiatives and organize reporting of experiences and sharing of best practices.

Has the way you advertise changed?

Whether on- or off-line, let's not forget that the main success factor for a campaign is its creativity. Digital channels allow

greater proximity and interactivity, but in the end customers want the same thing: They want

“ We plan to double investment in digital media in 2011, from 5% to almost 10%. ”

to be surprised, seduced, drawn in by a great story. Digital transformation lets ad writers tell even more fabulous stories to reinforce our brands.

Do social networks accentuate the risks of a negative reputation?

The internet has held risks for reputations even before the emergence of social networks. This risk is real, whether we like it or not, and we are very attentive to it. We are part of the conversation, interacting ourselves

on the internet around everything that is said. This has been part of our company strategy for several years already.

How is your digital strategy expressed in other functions?

In Research & Innovation, our strategy has always been based on proximity to our consumers around the world, with more than 3,400 researchers working at 18 research centers in 12 countries. Digital technology allows us to achieve even greater proximity, practically entering consumers' homes and, thanks to imaging technology, we can get «inside their skin.»

Sales functions, for their part, need to integrate e-distribution techniques. For example, we are testing on-line promotions. We're also taking part in a very interesting experiment launched by Carrefour Planet, an interactive makeup counter where women can apply virtual makeup.

This is a significant aid in choosing and buying cosmetics.

In Human Resources, last year we developed "Reveal", a recruiting website that takes the form of a business game (www.reveal-thegame.com).

“ The difference between the traditional model and the new one that is emerging, is a difference between positioning and movement. ”

The applicant enters L'Oréal as a virtual trainee, takes part in the activities he or she is interested in – product innovation, marketing, production – and receives a grade. Last year 61,000 people participated from 160 different countries. A stag-

gering 72% of them came from emerging markets, which shows how digital transformation largely coincides with the geographic shift that is underway. We recruited 120 people in 20 countries with this game.

I could give you similar details for Manufacturing, Corporate Communications, and all the group's functions. The digital revolution truly impacts every area of the company.

Is the impact of the same scope for every division?

The impact is strong everywhere, but is expressed differently depending on the business. Each division and each brand develops its own digital strategy based on its specific characteristics.

The Luxury division sees digital tools as an opportunity to create an image with incredible global consistency, but also as a way

Beauty and digital: A magical match

to improve personalized service and a path to increasing business through e-business tools. To date, this division has made the greatest strides in implementing online sales.

For the Consumer Products division, the primary challenge is to optimize advertising impact.

“ Digital transformation lets ad writers tell even more fabulous stories to reinforce our brands. ”

Digital tools help generate more relevant, targeted messages with more content.

In the Professional Products division, we have an extraordinary chance to enhance our relationships with our global network of hair stylists. For

example, Redken, in the United States, designed a strategy for animating its network on Facebook, with highly targeted distribution of samples and excellent return on investment.

In the Active Cosmetics division, Vichy has developed a completely novel website for online skin diagnosis (www.vichyconsult.fr), only made possible by the internet.

Finally, the Body Shop, which is both a global brand and a network of stores, has expanded its online service and sales possibilities with the internet.

Does this direct channel between the brand and consumers bring your relationships with your distributors into question?

No, not really. For one thing, e-commerce is still a fairly marginal phenomenon. Our division that has advanced the farthest

in this area, the Luxury Products division, generates 6% of its sales in the United States online. Where direct contact with our customers through e-commerce offers the greatest value, is in terms of marketing, and assessing the effectiveness of our strategies. This higher awareness also benefits our off-line business, and thus our distributor partners. The brands with the best online performance are also those that sell best in stores, such as Kiehl's.

What are the main successes of your digital strategy?

Lancôme had a number of digital successes in 2010, both in support of product launches and through a very impactful collaboration with Michelle Phan, a video blogger in the United States. She is a huge fan of Lancôme, and became the brand's online beauty advisor. Every month she posts a video with advice that is seen by more than

a million viewers. They are so successful that five of the ten top make-up videos on YouTube are hers!

Lancôme has a similar approach in China, with a social network called Rose Beauty. With 500,000 fans and more than two million posts per year, the website is an excellent lever for Lancôme, which I remind you is the top luxury brand in China.

In the Consumer Products division we launched Instant Beauty, a mobile phone application that lets customers scan a product's bar code in the store and get complete information about the product and how to use it. For Maybelline, we are also currently testing iAD, a new generation of advertising for iPhone. In particular, it allows very precise targeting, and raises visibility in the Apple universe, which aligns with the brand's "hip" character. Especially since

Apple has listed us among their best apps!

What lessons do you draw from your failures?

We haven't experienced any real failures, as every experience contributes to our digital learning. However, we have noticed some dispersion and fragmentation effects in past years, with local initiatives that may have been very interesting, but were not entirely in sync with the brand values. This led us to strengthen the brands' strategic priorities and develop integrated campaigns. The main lesson from these experiences is the need for consistency of off-line and online strategies: Our strength lies in a comprehensive vision, and mistakes mainly come from a lack of consistency.

What are the reactions to this transformation within the company?

It's a challenge for all of us. We can legitimately characterize this as a cultural revolution. But the pioneering spirit is a value that has been shared by all L'Oréal employees for decades. Don't forget that Lancôme was the first luxury cosmetic brand to launch a website, in 1999! One year later, we were again the first luxury brand to launch an e-commerce website in the United States! Today, digital transformation is an exciting challenge that involves all of our 66,000 employees around the world. ●

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

By **Didier Bonnet**, Global Head of Practices, Capgemini Consulting and **Patrick Ferraris**, Global Leader, Technology Transformation, Capgemini Consulting

Digital tools and technologies have invaded the business environment, triggering significant changes in the way we work, communicate, and sell. Industries and governments alike are undergoing a digital transformation either crisis-induced, as part of a core strategy, or as part of a more controlled business transition. Under all circumstances, leaders need to be well prepared to anticipate the current and future impact of this enduring trend and steer their corporations accordingly at the right speed.

The journey toward digital transformation entails harnessing its benefits - such as productivity improvement, cost reduction, and innovation - while navigating through the complexity and ambiguity brought about by the changes in the digital economy.

We believe that every organization is likely to tread a different path in its digital transformation

journey depending on its starting point and the digital maturity of its industry and products or services. It is imperative for businesses to remember that digital transformation is not just about technology. Instead, like any other business transformation, a roadmap across people, processes, and technology will enable organizations to successfully navigate this transformation.

AN ENDURING TREND AFFECTING EVERY INDUSTRY... BUT AT A DIFFERENT PACE

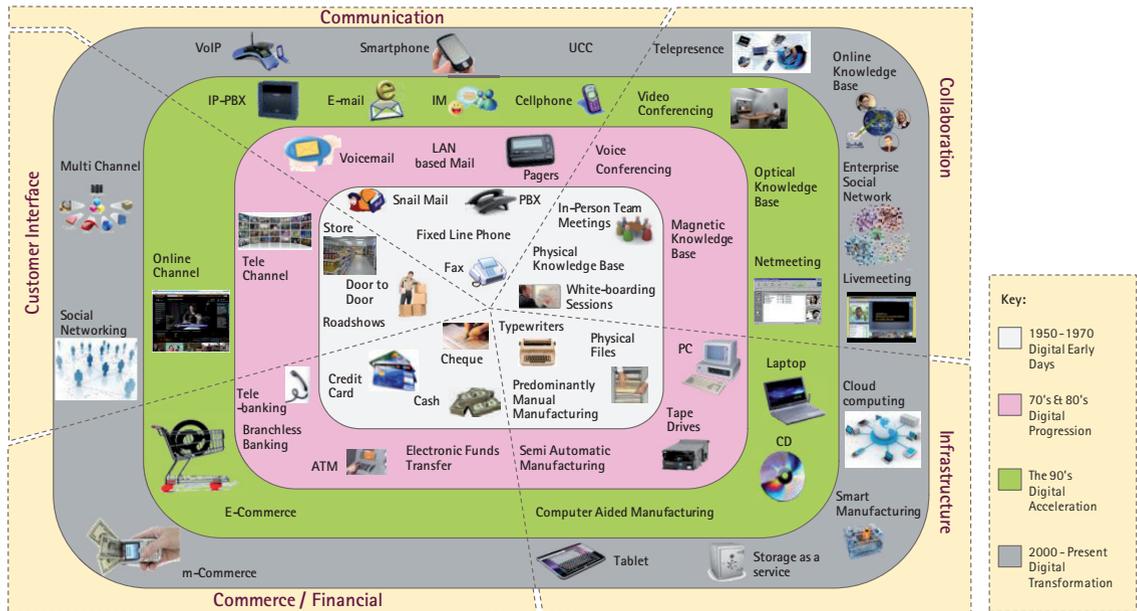
Over the past decades, digital technologies have progressively been embraced by organizations driven by advancement in technology, changing consumer behavior, increasing globalization of the workforce, and a desire to be more productive and inno-

vative (see Figure 1). This digital wave has not only fuelled a number of fundamental changes in the way organizations produce, sell, and serve, but also changed the way employees work, communicate, and collaborate. It has therefore created a leadership and transformation challenge for most industry participants.

Although the use of digital tools in the enterprise is not a new phenomenon, what has changed in recent years is the acceleration of both the capabilities of these tools as well as the pace of adoption by customers, employees, and organizations alike. For instance, while mobile telephony took around 13 years to reach critical mass-market¹,

for the Internet it was less than 7 years, and for tablets it can be expected to be around 4 years². This breakneck pace of technological change has triggered new consumer behaviors and usage patterns which are having a profound impact on organizations. Simply stated, digital transformation is the increasing adoption of digital tools and technologies

Figure 1: Digital Transformation of Enterprises



Source: Capgemini Consulting Analysis

¹ Years necessary for an invention to be used by a quarter of the US population.

² Capgemini Analysis; The European environment Agency, State and outlook 2010: "Accelerating technological change: racing into the unknown", Nov 2010; Forrester Research eReader Forecast, 2010 To 2015 (US), July 2010.

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

by an organization to fundamentally alter both its internal and external processes and functions. All industry segments and governments have been touched by this new digital reality, which has significantly altered management practices in areas from hospitals to hypermarkets and financial services to the future of public services. As a result, it has become a high priority on the leadership agenda, with nearly 90%³ of business leaders in the US and UK expecting an increasing strategic contribution of IT and digital technologies on their overall business in the coming decade. With the Internet, Hi-Tech, and Media sectors only accounting for approximately 10% of US GDP, we believe that the real transformation will be seen in the remaining 90% of 'traditional' industries⁴, where customer and employee behavior is fast evolving. We can expect a largely similar trend in other developed countries as well.

Faced with this transformation challenge and the need to stay relevant in one's industry, leaders have to embrace the implications of this enduring trend on their organizations in order to steer their strategy and drive better operational performance. Unfortunately, recent history is replete with examples of organizations which have not been able to keep pace with this new digital reality. The recent bankruptcy of movie rental company, Blockbuster, owing largely to its inability to rapidly hone a new business model⁵, is one such example.

Every industry is going through a digital transformation, some crisis-induced, some as part of their core strategy, and some as part of a more controlled transition process. Under all circumstances, leaders have to steer their corporations at the right speed, taking into account the current and future competitive situation in their respective industry.

HARNESSING THE BENEFITS OF DIGITIZATION

Digital transformation should not be an end in itself. Like all other forms of business transformation it should be guided by clear managerial goals and realizable business benefits. Once a clear roadmap has been defined, digital transformation can help organizations address their most significant priorities and achieve both internal and external benefits, in areas such as innovation, customer experience, efficiency, or productivity (see Figure 2).

It's About Productivity

Improving productivity is a key driver for sustainable growth. In recent years, productivity growth in developed economies has been steadily falling and is significantly lower when compared to emerging markets. For instance, during the periods 1995-2005 and 2005-2008, Total Factor

³ Gartner: "Gartner CEO and Senior Business Executive Survey, 2010: Anticipating the Post-Recession Landscape", March 2010.

⁴ Interview with Andrew McAfee, Author of Enterprise 2.0: New Collaborative Tools for Your Organization's Toughest Challenges.

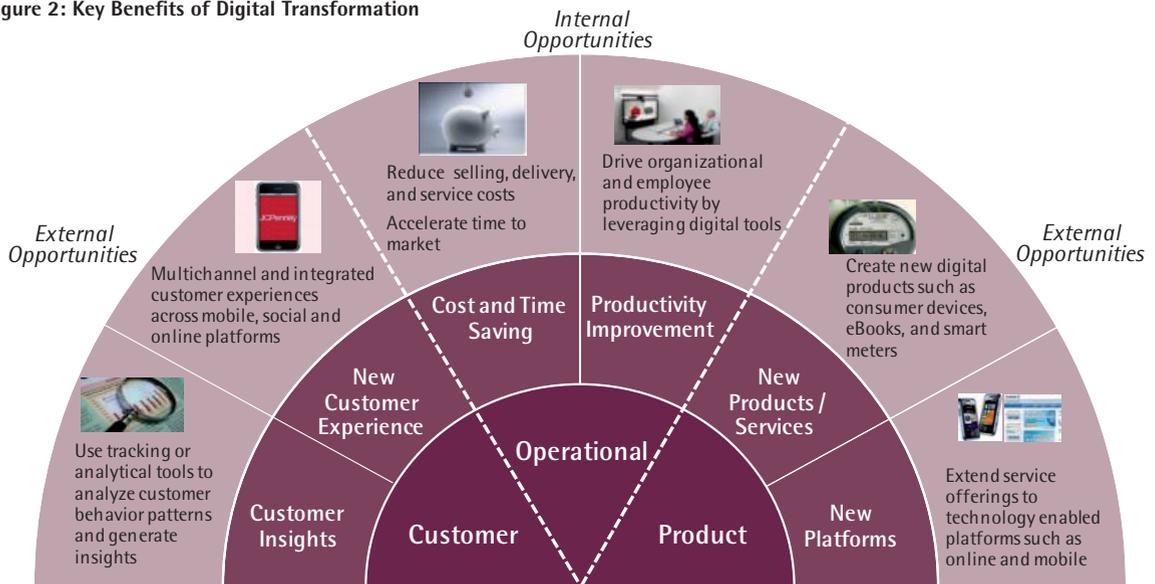
⁵ Blockbuster failed to effectively adapt its storefront model to online technology.

Productivity⁶ in the US and EU-15 nations grew at the lowest rates when compared to developing markets in India, China, CEE, and Africa⁷. On top of this, we can add socio-economic trends such as the shrinking and aging workforce. In Germany, Italy, and France, the working age population⁸ is expected to fall by 15%, 8%, and 6% respectively between 2010 and 2030⁹,

thereby exerting additional pressure on productivity. In order to stay competitive, companies in developed nations need to find new sources of productivity if they want to remain relevant on the global stage. There is clear evidence that implementation of digital technologies has been a key driver of corporate productivity. Digitization has helped organizations

improve productivity by automating tasks, enabling better decision-making, and freeing employees up to create value in other areas. In the United States, IT was responsible for two-thirds of total factor growth in productivity between 1995 and 2002 and virtually all of the growth in labor productivity¹⁰. Similarly, EU firms that adopt e-business practices (such as online sales

Figure 2: Key Benefits of Digital Transformation



Source: Capgemini Consulting Analysis

⁶ Total Factor Productivity Growth measures the Growth of GDP over the combined contributions of total hours, workforce skills, machinery and structures and IT capital.

⁷ The Conference Board Total Economy Database, Summary Statistics 1995-2011, Jan 2011. ⁸ Working-age population = 15-64.

⁹ Stanford Center on Longevity: "Population age shifts will reshape global work force", April 2010.

¹⁰ ITIF: "Digital Prosperity: Understanding the Economic Benefits of the Information Technology Revolution", March 2007.

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

and purchasing) are twice as likely to report enhanced productivity and expanded employment when compared with firms that do not use Internet technologies to innovate¹¹.

However, research¹² points out that while investment in digital capital has a strong correlation with high productivity, technology alone is not the most important driver of productivity. Instead, it is a combination of a digitally savvy corporate culture, a distinct set of organizational practices, and digital tools that results in significantly higher productivity.

It's About Saving Costs and Time-To-Market

Digitization not only helps organizations reduce operational, communication, travel, marketing, selling, and product development costs, but also significantly accelerates problem resolution and time-to-market. For instance, custo-

mer acquisition cost on online channels is 50% less than that on offline channels¹³. Similarly, when compared to call-center technical support, approximate cost per contact is nearly 92% cheaper for a virtual agent and 99.2% for web self-service¹⁴.

The cost benefits of digitization span a whole range of industries and functions. The use of RFID tags in the supply chain environment can help reduce inventory handling and logistics costs. Remote health care enables monitoring of a patient's symptoms in real-time at relatively low cost. Smart meters can save utilities millions of dollars by enabling them to read meters remotely and controlling demand. In the US, in 2010, adoption of e-business practices helped save companies \$528 billion through efficiency gains¹⁵.

It's About Driving Innovation Digitization is an enabler of in-

novation and the main driving force behind product and service innovation across sectors. An EU-commissioned survey has found that product and service innovation in most of the largest industries in Europe is either directly related to, or enabled by, ICT¹⁶. Leading the pack are the energy supply and telecommunications services sectors where 89% and 86%¹⁷ of companies attribute product and service innovations to ICT.

**“ In the US,
in 2010, adoption
of e-business practices
helped save companies
\$528 billion through
efficiency gains ”**

Digital tools also provide an excellent platform to engage stakeholders in co-innovation, brand creation, and problem resolution. Philips successfully

¹¹ Information Technology and Innovation Foundation: “The Internet Economy 25 Years After .com”, March 2010.

¹² MIT Sloan, Center for eBusiness : “The digital organization: seven practices of highly productive firms”, May 2003.

¹³ Forrester Research: “2009 Cost Of eBusiness Operations And Customer Acquisition”, May 2009. ¹⁴ Forrester: “It's Time To Give Virtual Agents Another Look”, March 2010.

¹⁵ Information Technology and Innovation Foundation: “The Internet Economy 25 Years After .com”, March 2010. ¹⁶ Information and Communication Technology.

¹⁷ European Commission: “ICT and e-Business for an Innovative and Sustainable Economy”, 2010.

created a private online community, *Sensorium*, in 2007 to co-create better products with customers and deliver on-demand insights to multiple product teams. In the last three years, the community has helped Philips in identifying post-purchase concerns, creating effective product positioning, and understanding technical specifications for a new product¹⁸.

It's About Transforming the Customer Experience

Digital channels and platforms are helping organizations extend their reach to a wider and more engaged ecosystem of customers and partners. The high adoption rate of mobile devices and Web 2.0 tools - such as social media, collaboration applications, smart phones and tablet computers - is changing the way people share information, learn, communicate, and interact. For each transaction, organizations can interact and engage with

customers over multiple touch-points, providing a seamless and integrated multi-channel experience. Defining and formulating a multi-channel strategy also enables companies to maintain a 360 degree view of the customer and balance sales, customer care, and retention across channels. Moreover, by aligning organizational structures and incentives, organizations can drive maximum value across all channels. In the UK, 76% of marketers have experienced improved brand exposure, 68% better customer service, and 62% increased revenue, by adopting a multi-channel strategy¹⁹.

Today, more than 70%²⁰ of all digital information is consumer-generated and comes from outside the organization. Aided by sophisticated analytical tools, companies can leverage this ocean of information to extract better customer insights, maximize customer lifetime value,

improve retention, up-sell, and cross-sell, and anticipate the success of new product launches. National Instruments, a leader in virtual instrumentation, has successfully adopted a web-analytics solution for lead generation and customer engagement. By tracking on-site visitor behavior, NI has achieved a 3% increase in the number of visits that reach the point-of-sale²¹.

As outlined above, the business imperatives and benefits of digital transformation are compelling and have to be addressed at all levels in the organization. However, the path toward digital transformation is not without its challenges.

A TRANSFORMATION WITH ITS OWN CHALLENGES

In order to identify the key barriers in the successful implementation of digital transformation programs, we conducted a series of interviews with a num-

¹⁸ Forrester Research: "Case Study: Philips Achieves Consumer Proximity Using Private Online Communities", January 2011.

¹⁹ DBG Report: "Multichannel Marketing Today", September 2010.

²⁰ 2010 Digital Universe Study: "A Digital Universe Decade - Are You Ready?", April 2010.

²¹ Forrester Research: "Case Study: National Instruments Replatforms Web Analytics", November 2010.

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

ber of global corporations from across different industries. Our analysis suggests that organizations across the globe are facing a common set of challenges as they tackle these new digital realities. These challenges can be broadly classified into four categories (see Figure 3).

Manning the Information Floodgates

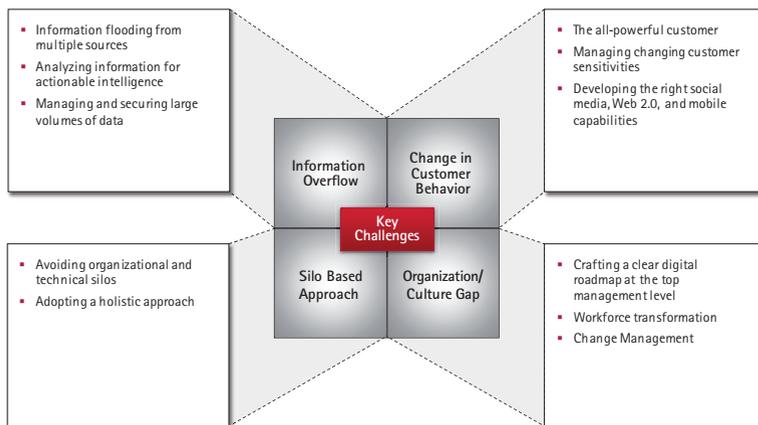
The digital explosion has flooded organizations with an

ocean of data. Between 2009 and 2020, the amount of digital information created and replicated in the world is expected to grow 44 times to reach an unprecedented 35 trillion gigabytes²². In fact, according to estimates, more digital information was produced in 2009 alone than all information since the beginning of time²³. As interactions become more frequent and information-rich, customers, partners, and employees

pour an overwhelming amount of data into the digital ocean. The more information organizations receive, the harder it gets to decipher what is credible and useful. Moreover, it becomes even more difficult to perform tasks and take decisions. Employees are unable to cope with the rising volume of information and this adversely impacts on their morale and productivity. A majority (62%²⁴ on average) of workers across the globe believe that the quality of their work is hampered because they cannot process and make sense of all the information at their disposal fast enough.

Though organizations realize the importance of analytics, many of them do not have the skills - particularly advanced predictive analytical capabilities - to undertake it. Lack of senior executive support, a silo approach, an inexperienced workforce, and insufficient investment are some of the biggest roadblocks.

Figure 3: Key Challenges in the Path to Digital Transformation



Source: Capgemini Consulting Analysis

²² 2010 Digital Universe Study: "A Digital Universe Decade - Are You Ready?", April 2010. ²³ MIT Sloan Management Review, 2011 MIT Sloan CIO Symposium.

²⁴ LexisNexis Press Release: "New Survey Reveals Extent, Impact of Information Overload on Workers; From Boston to Beijing, Professionals Feel Overwhelmed, Demoralized", October 2010.

Keeping Pace with Customer Expectation

The increasing proliferation of digital platforms has fundamentally altered the way customers interact with brands, research and buy products, and influence the decision making of other customers. Customers are increasingly becoming wary and distrusting of traditional marketing vehicles and instead are turning to online social networks, blogs, wikis, and community forums to formulate their brand perceptions and make purchase decisions. Today, consumers trust consumers more than they trust brands. While 50%²⁵ of consumers do not believe in the advertising promises of brands, 73%²⁶ trust the recommendations of friends and family.

Companies can no longer afford to ignore the voice and preferences of the customer. Customer backlash against GAP's recently launched new logo was so intense on the web that the com-

pany had to scrap the launch. In certain industries, such as music, changes in consumer behavior have completely disrupted traditional models and rendered many players obsolete.

“ More digital information was produced in 2009 alone than all information since the beginning of time ”

Despite being faced with this very visible customer expectation challenge, many companies have been slow in developing the right skills and capabilities to manage this new customer sophistication. For instance, 56% of Fortune 50 companies still do not have social-media icons on their home pages while 60% hide their twitter streams²⁷. This failure of organizations to rapidly adapt themselves can be attributed to factors such as lack

of clarity around customer and social-media ownership, inability to tailor business models catering to changing consumer behavior, and failure to take an “outside-in view” of their business.

Adapting the Organization and Culture

Alligning the existing corporate culture with new digital realities is one of the main inhibitors in the digital transition of companies. One of the clearest indicators is that a clear governance process for the transformation is often lacking. In our interviews with CXOs, it has become clear that one of the major issues is the lack of accountability in digital transformation programs. Further, enterprises' traditional decision-making systems are too vertical and too intrinsically slow to keep pace with rapid technology-driven transformation. Consequently, corporations have started to experiment with various organizational formats

²⁵ “The future of advertising agencies: learnings from Forrester”, Feb 2010.

²⁶ Forrester Research: “Three Ways To Find, Create, And Energize Advocates”, Sep 2010.

²⁷ Adage: “Most Fortune 50 Brands Still Hiding Their Social Media”, April 2011.

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

- such as cross-functional taskforces and identifying digital leaders at board-level - in order to adapt their culture to digital challenges.

Far too many enterprises are investing in digital tools and technologies without trying to drive changes in the operating model, working practices, and culture. Companies often focus too much on the technical and customer-facing aspects of digital transformation, forgetting that true value can only be leveraged if we align people and processes. As Raffi Amit, Professor at Wharton, pointed out: “It is not technology that is the obstacle to digital transformation, it is people”. An aging HR infrastructure, non-alignment between business and HR leaders on the most critical business drivers, and ineffective rollout of change management programs to train employees on new digital ways of working are some of the key barriers.

As with any transformation

program, there can be inherent reluctance and resistance to change from within, especially from middle management. Digitization results in the democratization and free-flow of information. Managers perceive this as a threat to leadership because they have less control of information flows. For instance, the US Department of Defence (DoD) had to face a lot of internal resistance during the formulation of its social media policy as the traditional military hierarchy and the network security group were used to doing things the old way²⁸. It is important for corporations to have confidence in their employees by involving them closely in this journey and giving them ownership of processes.

Overcoming Silos

Our discussions with organizations have surfaced a common pitfall - adopting a silo-based approach, be it technical or organizational. Many enterprises

have responded to the impact of digitization through multiple, separate and uncoordinated initiatives, even when the impact is felt by the same brands, customers or employees. Functional silos frustrate interaction and create information silos, making it harder to connect the right people in the right ways to create and maximize value.

**“ It is not technology
that is the obstacle to
digital transformation,
it is people ”**

Similarly, a completely technology-centric approach often fails to challenge the fundamentals of a company’s business model. This is because this approach aims to automate existing processes rather than attempting a step-change in performance. In addition, technology-led transformations often alienate

²⁸ ReadWriteWeb: “U.S. Department of Defense Goes Social...Yes, Really!”, March 2010; Scout Comms: “The Department of Defense gained a social media beachhead in 2010”, Feb 2011.

IT from the business functions, resulting in significant resistance to change. Digital transformation is first and foremost an enterprise-wide business transformation and technology should be seen as a second-order priority.

To overcome the silo mentality, corporate leaders should take a holistic approach, cutting across all aspects of their value chain and management functions. As well as the many challenges outlined here, this is as much about a fundamental change in mindset.

NAVIGATING YOUR OWN DIGITAL TRANSFORMATION

Orchestrating your Digital Transformation

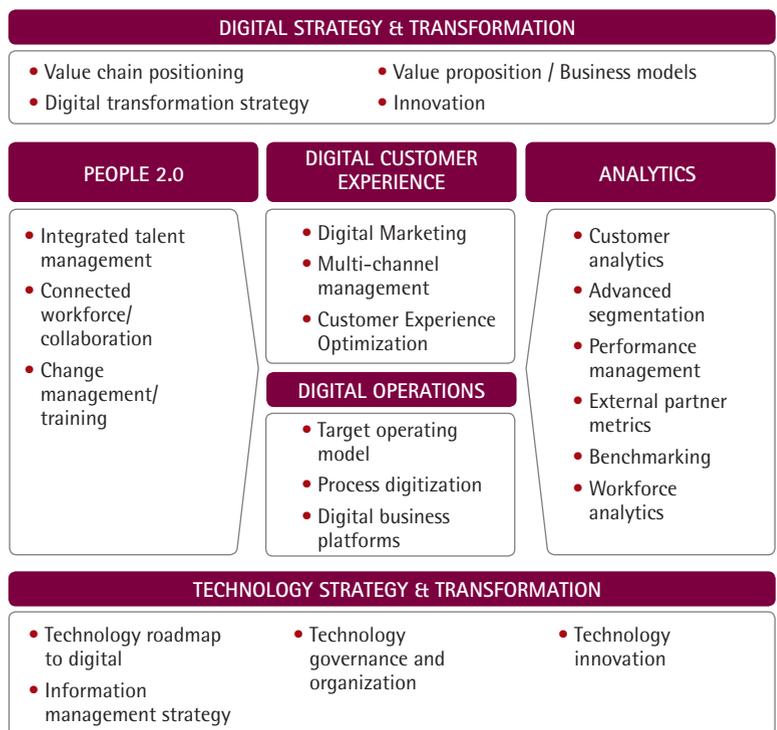
Digitization can extend the reach of organizations, improve management decisions, and speed the development of new products and services. At the same time, overly rapid adoption of technologies can disrupt

traditional business models. Organizations need to tread a careful path toward digital transformation, crafting a winning strategy and a clear roadmap across people, processes, and technology (see Figure 4).

Strategic Leadership and Boundary Definition

Digital transformation is about leadership. It has become the ultimate challenge in change management because it affects not only industry structures and strategic positioning, but also all

Figure 4: Navigating Digital Transformation: A Framework



Source: Caggemini Consulting Analysis

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

levels of an organization (every task, activity, process) as well as the extended supply chain. Leaders must constantly challenge their organizations to ensure that this technology-enabled change can unlock productivity gains and significant competitive advantage. At the same time, they should understand where and how the fundamentals of their current operations could be unsettled by agile new entrants or new business models. A significant issue facing the top-management is that most companies have traditional decision-making systems that are not well adapted for the digital world: they are too vertical, too slow to deal with the cross-functional, technological and rapid nature of this transformation. For instance, when focusing on customer issues, you need the active participation of the Marketing, Sales and IT organizations. However, historically, alignment between these different functions has been difficult to

achieve. Similarly, the Human Resources department must also be involved, given the importance of the people dimension in digital transformation. Digital transformation requires a mix of skills which are often scattered across the enterprise and its external partners. To succeed in this quest, leadership should not hesitate to redefine the traditional boundaries between its different entities, making them permeable and porous. We see, for example, the marketing or commercial departments acquiring technical skills to address rapid technological changes. Conversely, IT organizations are strengthening their marketing and sales expertise in order to better serve their companies. Strategy formulation needs to gradually move away from the linear, annual process it once was. Once strategic directions are understood, senior executives need to steer their organizations into virtual laboratories where new applications and

methods can quickly be put into “proof-of-concept” pilots and, when successful, rolled out to the entire organization.

An Outside-In View of Customers – Re-inventing Marketing

**“ Many enterprises
have responded to
the impact of digitization
through multiple, separate,
and uncoordinated
initiatives ”**

Marketing is undergoing the most fundamental change in its history. The increasing empowerment and sophistication of consumers - together with the proliferation of new channels, digital technologies, and tools - is forcing marketers to rethink the way they operate and the way they engage customers. The result is an oppor-

tunity to dramatically improve the efficiency and effectiveness of investments in marketing, advertising, and channel management.

Traditional marketing focuses on increasing reach and frequency by pushing information and offers through a variety of loosely aligned channels. However, the future of marketing in a digital world is to develop and sustain unique, personalized relationships with customers by collaborating and partnering with them through their own trusted networks. For instance, in 2010, Coca Cola cut advertising spending on television by 6.6 % globally, and instead invested more on social media campaigns via platforms such as Facebook, Twitter, and YouTube²⁹. The social media strategy of the company is aimed at long-term sustainable engagement, developing advocacy, and encouraging brand loyalty.

The new digital customer experience requires that companies

think «outside-in» about their customers and markets. Instead of thinking about finding customers for their products and solutions, marketers need to think about finding products and solutions for their customers. They need to understand what activities customers perform as they evaluate, buy, and use their products and services. They need to think deeply about when and where they hand-off products, services, and information to their customers. They need to ask which activities they can perform better than customers. Conversely, they need to ask what activities customers can perform better than the enterprise.

People at the Heart of Transformation

As in all forms of transformation, people need to be mobilized and engaged. Too often we see the technical nature of digitization resulting in companies underestimating this fun-

damental lever of transformation. Leaders should focus on a clear people vision and try to bring about inherent changes in the way people work and collaborate. There are a number of key challenges along the way: professionalizing and web-enabling end-to-end people processes throughout the organization, fostering collaboration and information exchanges between communities of knowledge workers to maximize productivity and speed-to-market, and adapting traditional organization models to the new demands of the digital world.

Digitally powered tools and processes must be developed to encompass the entire employee lifecycle. They should completely transform the way people join, learn, perform, earn, grow and leave the company. Leading global organizations are also embracing Enterprise 2.0³⁰ tools to foster a connected workforce where new forms of collaboration generate significant

²⁹ Socialmediatoday: "Coca-Cola Cuts Ad Spend by 6.6% and Invests More in Social Media", March 2011.

³⁰ Harvard Business School Professor Andrew McAfee coined the term «Enterprise 2.0» in 2006 to describe how Web 2.0 technologies could be used on organizations intranet and extranets.

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

business benefits. For instance, Pfizer uses a range of collaboration tools such as Pfizerpedia (an integrated platform including people, projects, events, blogs, and discussion group to promote knowledge sharing) and Pfacebook (platform for employees to interact) to connect its people worldwide in a way that fosters innovation and speeds the pharmaceutical development process³¹. Of course, technology does not foster collaboration on its own, so it is essential that organizations properly implement these tools with work patterns and knowledge flows truly understood.

Digitizing Your Operations for Maximum Efficiency

As companies transform their business models in the face of new digital realities, transforming their operations becomes a pre-requisite to successful execution. Organizations need a clear roadmap in the form of a Digital Operating Model that

is closely linked to the business strategy and customer priorities. For example, the physical distribution network and fulfilment processes should be optimally designed to support new digitally-enabled multi-channel go-to-market strategies from both a cost and customer experience perspective.

IBM was able to save \$6 billion by re-engineering its supply chain processes, which included process-automation through web-based applications and consolidation of functions. In addition, the company established an e-procurement system which helped reduce the average contract cycle time from 6 to 12 months to less than 30 days³².

Digital Operating Models should be designed around four key dimensions: governance and performance management principles, organization and management practices, process model, and system architecture. Only by integrating all these dimensions can an organization create real

“Organizational Capital”³³ and obtain the highest gains from their digital transformation.

Data-Driven Decision Making for a Smarter Organization

In recent years, digitization has brought a wealth of both internal and external data sources - such as supply-chain metrics, customer online data, and social-media commentaries - into organizations. Today, the notion that hard data and good analysis beats experience and intuition is generally well accepted. However, as the technology for capturing and analyzing information becomes widely available, at ever-lower price points, most organizations are still learning how to leverage them to the fullest.

In order to maximize the benefits of analytics, organizations should look beyond descriptive models, which provide simple operational statistics, such as sales-per-store or average profit-per-employee, and focus instead on predictive models

³¹ Various Websites, ³² Information Technology and Innovation Foundation: “The Internet Economy 25 Years After .com”, March 2010.

³³ Because effective work organization can be costly to develop and implement but yields a stream of cash flows over time, it can be thought of as an asset. This asset is called “Organizational Capital”- Erik Brynjolfsson, “Intangible Assets: Computers and Organizational Capital”, October 2002.

to generate deeper insights. For instance, Seven Eleven Japan uses a sophisticated analytics system to manage the limited shelf-space at its stores. Point-of-sale and customer demographic data is analyzed on a real-time basis to gather statistics such as hourly sales trend for individual items, stockout ranking by individual items, and hourly sales trends by customer profile, to better match supply with demand³⁴.

Data-driven decision making should be made an integral part of organizational culture and companies should use it as a lever to compete on analytics. Recent evidence points out, that organizations which adopt data-driven decision-making achieve a 5% to 6%³⁵ higher productivity than those that do not. This significant boost in productivity can clearly separate winners from losers in most industries. The transition to analytics should be driven by top management because of the fun-

damental changes required in culture, people, processes, and technology. Further, adopting an enterprise-wide centralized approach to analytics, rather than a department-level focus, makes more sense for an organization as it ensures that there is a critical-mass of analytical expertise, data from different departments can be correlated, and security and governance is centralized³⁶.

Adapting IT Governance and Processes for Effective Transition

The most effective companies have taken years to optimize their IT governance, and must now re-examine it in the light of the particular rhythms and characteristics of digital transformation, where technology decisions, investments and initiatives are spread out throughout the whole organization. Formulating an enterprise-wide IT policy and governance which addresses key issues such as

security, legislation, and information-management should be a key leadership prerogative. In addition, the historical quest to align IT with business strategy and with key functions such as marketing and sales has been difficult to achieve in practice. What is needed in the digital world is a true fusion of skills and functions to achieve accountability and speed of execution. This often requires new types of skills as well as flexible organizational model.

“Digital transformation is first and foremost an enterprise-wide business transformation”

Since technology is a key enabler of digital transformation the role of a CIO becomes increasingly important in today's enterprise. CIOs must focus on

³⁴ Graduate School of Business, Stanford University: “Operational Analytics”, September 2007.

³⁵ New York Times: “When There's No Such Thing as Too Much Information”, April 23, 2011.

³⁶ Babson Executive Education: “Competing on Analytics”, Thomas H .Davenport, Don Cohen, and Al Jacobson, May 2005.

Transform to the Power of Digital: Digital Transformation as a Driver of Corporate Performance

equipping the workforce and the IT organization with new skills and tools required in a digital context. Interfacing these new tools such as social networks and connected devices to the legacy systems in order to drive value needs to be a top priority for organizations.

Finally, the increasing complexity of managing large volumes of digital information, from both within and outside, is exerting significant pressure on the IT organization. Companies which handle this stress better are more likely to gain an edge over the competition. Organizations therefore need to start considering virtual solutions such as cloud computing. In addition, they should deploy tools for prioritized storage as well as security and privacy protection in hybrid (both physical and virtual) environments³⁷.

A DIFFERENT TYPE OF TRANSFORMATION

Every organization is likely to tread a different path in its digital transformation journey depending on its starting point and the digital maturity of its industry and products or services. In addition, with constant technological innovation and competitive activity, crafting a transformation journey is not an event but a continuous process. Our analysis suggests a few best-practice pointers on how to successfully craft and execute a digital transformation.

Lead and Educate

As with most successful business transformations, senior team commitment is essential. Leaders should create awareness and alignment in their top team around the possibilities created by the digital economy. The CEO should take charge and become the principal advocate of the transformation program, with a strong backing from top leadership. For instance, the CEO of US-based print media com-

pany, Journal Register³⁸, spearheaded its turn-around from bankruptcy in less than a year by championing the firm's digital transformation strategy, "Digital First". The company, which filed for bankruptcy in 2009, recorded a \$40 million profit at the end of 2010 by adopting a series of digital initiatives³⁹.

It is also important for management to educate the board on the need for, and benefits of, this transformation in order to achieve complete buy-in on digital initiatives from all stakeholders.

Evaluate and Set Priorities

Organizations need to carefully review their current digital initiatives and conduct a "digital fitness" test on their operations so as to craft a coherent transformation map toward their digital future. Companies should also undertake a benchmarking exercise in order to identify best practices both within and outside their own sectors. Priorities need to be set based on the areas - customer

³⁷ Journal Register Company Owns and operates 18 daily newspapers and more than 150 non-daily publications and affiliated websites.

³⁸ Company Websites; CEO John Paton's Digital First Blog.

³⁹ ScreenDigest: "Netflix dominates physical rental even as it moves toward digital", May 2011.

value, revenues, cost position, etc - where digitization is likely to have the most positive impact.

Communicate and Mobilize on a Large Scale

Communication and mobilization are essential first steps to get the entire organization engaged around the transformation as well as to manage the traditional resistance to change. Enterprise 2.0 tools - such as social media, wikis, and discussion forums - can help mobilize and align the workforce on digital objectives by building awareness, creating transparency, and establishing open channels of communication.

A careful operational balance also needs to be set between managing the digital and the physical side-by-side. For instance, even as Netflix moves toward streaming digital media services, it still dominates the physical rental market and has not lost focus in this area.

In 2010, Netflix had the largest single-company share of the physical disc rental market as it grew from under 26% in 2009 to nearly 35% in 2010⁴⁰.

Invest in Skills and Competency Development

The right digital competences will not be widely available across the organization, so it is important to have a well-articulated talent and people plan to start injecting the right skills in the right places at the right time. Further, it is imperative to develop a mix of digital competences across all functions, such as marketing, HR, sales, and IT. Equally, investing in people development and connecting the workforce to improve sharing and exchange will be key to leveraging the people side of the transformation.

Set the Ambition and Iterate

Once the company is mobilized around a clear vision, leaders

must translate that vision into a set of measures and targets to drive the desired results from their digital transformation. People in all functions need to understand “what good looks like” in terms of customer metrics, cost position, and productivity. Leaders need to decide the timeframe and the level of ambitions based on the particular responsiveness, the competitive situation, and the culture of their organization.

The road toward successful digital transformation is indeed a long one. However, every industry will be impacted at some point so those that do not take advantage of “the power of digital” will be at a competitive disadvantage in the short- to medium-term. Industry leaders have a unique opportunity to start steering their organization from the physical to the digital in an orchestrated way in order to improve their corporate performance. ●

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⁴⁰ ScreenDigest: “Netflix dominates physical rental even as it moves toward digital”, May 2011.

I can't think of any industry sector or company which is immune from digital transformation

Andrew McAfee is a principal research scientist at the Center for Digital Business in the MIT Sloan School of Management, and a fellow at Harvard's Berkman Center for Internet and Society.



*Andrew McAfee
professor at MIT*

How would you define digital transformation?

It is characterized by the ever growing penetration of digital technologies into every facet of business life. By digital technologies, I not only mean classic enterprise applications but also the corporate usage of technologies such as mobile, analytics, web 2.0, localization, ...

Beyond the technologies themselves, the real interesting phenomenon is how corporations and public institutions are using these technologies to deeply transform every facet of their business.

I would distinguish three cate-

gories of usage. The first includes tools that allow companies to become more scientific in their decision-making, to rely less on gut feelings and be more data-driven. Many companies actually commit to projects, initiatives or investments without carrying out in-depth studies to validate them. Or these studies are done with the single goal of confirming the initial objective. Now companies have a fantastic tool kit to test the relevance of their hypotheses with near-scientific validity.

The second category, which I call Self-organization, includes everything that helps people (employees or consumers) come together, increases their ability to communicate and to work together without specifying in advance how they should do so. We include social media and related web 2.0 tools in this category. It's important to note that 2.0 technologies don't have a lot of workflow or hierarchy

built in. Their digital environments are very open; they offer every participant the chance to adapt it at will. But the amazing thing is that the arrival of these technologies hasn't led to chaos or disorganization. In fact, we can see extremely innovative structures and models taking shape. Corporations tend to use self-organization technologies either in the interactions of their employees and partners or in the relationships with their customers.

“ The emergence of social media and interactive websites has served to lessen the importance of traditional experts or brands in favor of our own networks. ”

Finally, the third category, which I call orchestration, is in some ways the opposite of the second.

I can't think of any industry sector or company which is immune from digital transformation

It includes technology usages that allow companies to specify and monitor their operating models on a global scale. This isn't new and typically emerged with the ERP systems that came out in the late 1990s, but we are now reaching out a level of maturity where corporations are able to execute their operating models and processes on a global scale, exactly as they were designed and planned.

“ Technology used to be frustrating and isolating, it has become interesting, intuitive and social. ”

How has the digital revolution transformed consumer habits in the United States?

The way consumers make decisions, especially younger consumers, has profoundly changed. The emergence of social media

and interactive websites has served to lessen the importance of traditional experts or brands in favor of our own networks. Now I no longer rely on a guide written by a food critic to choose a restaurant. Instead, I check out consumer opinions on Tripadvisor and those of my «friends» on Facebook or Foursquare. Trust from consumers is more critical than ever and it has shifted from experts and brands to people whose opinions are more valued.

In some sectors this upheaval requires an urgent response. We noticed in the United States that the major financial institutions – banks and insurance companies – were not very well-perceived by younger consumers. This population doesn't like a sales approach based on a salesperson or a brand which comes to you and proposes a solution. Young people don't trust this kind of expertise anymore, especially when they see how

badly designed these companies' websites are for maintaining their relationship in a satisfactory manner.

Our traditional Marketing model is broken, and not just for young consumers. More and more consumers in older age groups are now changing their consumer habits. The consumerization of technology is a profound phenomenon. Technology used to be frustrating and isolating, it has become interesting, intuitive and social. The gap between digital natives and immigrants is rapidly closing... Companies need to be right there with their consumers.

How are companies responding to this technology revolution? Are they all affected the same way?

Naturally, this phenomenon disrupts some sectors more than others. For example, the music

industry has changed far more than oil transport. It all depends on the products, the market and how things are organized. I can't think of any company or sector which is immune from digital transformation. And the bad news is that the speed of change will only increase as technology adoption and usage further blossom! Economist Joseph Schumpeter's «creative destruction» is taking place before our eyes.

“ What is at stake is the transformation of the 90% of all the ‘traditional’ industries and companies. ”

Now, if we come back to our initial three responses from corporations and institutions, I think we can find different levels of maturity. Orchestration has been around for a while already

and we are reaching out a level of complexity in the management and performance of global operating models and processes which has never been reached before. On the other hand, we are just at the beginning of self-organization. Let's take for instance the innovation process: Many corporations are looking at ways to open up their innovation processes which used to be run from the guys in the labs, into an open ecosystem of employees and partners where even consumers play a critical role!

Do you think we'll face a disruption of traditional business models?

We've definitely seen new business models appear on the scene, often very innovative, for example in media or travel distribution. But we shouldn't overstate things. The Media, HiTech and the internet sectors account for less than 10% of the GDP in the

I can't think of any industry sector or company which is immune from digital transformation

United States! What is at stake is the transformation of the remaining 90% of all the 'traditional' industries and companies. The US economy is still primarily founded on traditional businesses which are less likely to transform their business model than to adapt it. I don't share the opinion some have expressed, that companies will be completely restructured by these developments, or even that what we recognize today as companies will disappear altogether. Traditional structures still have their value, hierarchy and organization are useful. Even newer companies that have perfectly integrated new information technologies rely on experienced managers, rely on full-time employees and organize career planning. In fact, they are very similar to traditional companies. Silicon Valley companies, for example, still face the familiar challenge of continuously seeking out the best talent.

What are the main barriers to change?

There are several. The cost of making these investments can be one. But the most important without a doubt is companies' resistance to change and may be managerial inertia.

“ You should never underestimate the fondness of people and organizations for the status quo. ”

You should never underestimate the fondness of people and organizations for the status quo. Many executives recognize that using new technologies will increase their ability to analyze and effect change within the company, and change how people work, but many still don't really understand what this means for themselves or their company, and don't see where the innovations will come from. Some-

times they're unwilling to enter into a field they know little about. Sometimes they just don't think it's their job to take the initiative. In other words, a little intellectual revolution is needed to draw benefit from these new technologies. This is not only true of the older industries. Unwillingness to change also affects businesses in newer fields.

Is it relevant to talk about digital winners and losers?

Yes, the data shows a growing performance gap between the best digital leaders and the others. We have found a strong correlation between the technology adoption of an industry and its level of competition: the higher the technology intensity of an industry, the larger the gap between the best performers of this industry and the others. So yes, mastering digital transformation definitely makes a difference for corporations. ●

Digital usage



2 billion

internet users in the world (at end-2010), among which:

450 million

are Chinese

240 million are

American

5.3 billion

mobile users (at end-2010)



Half of the

700 million

Facebook users access the website with their mobile devices



Consumer behavior

Multichannel consumers

spend 30% more than

mono-channel consumers

More than 90% of Chinese

consumers between the age of 18 and 54 purchase products online

80% of American

consumers rely on their social networks when searching for products to buy

61% of internet users

go online every day compared with 54% of TV viewers, 36% of radio listeners and 32% of newspapers readers



Chinese entrepreneurs are taking full advantage of the e-commerce boom

Brian Xin, age 40, belongs to the generation that graduated from top universities in China and went abroad to start their professional lives, before coming back and creating their own businesses. For him, it was Tsinghua university and then Silicon Valley, before his return to China where he eventually became Chief Technological Officer of MSN. By 2009, he decided it was the right time for him to found StarryMedia and focus on social marketing and digital research.

How would you define digital transformation?

Digital transformation is a broad concept, but I would define it as follows: getting online, getting social, getting mobile.

It started much earlier in the US, but China is following very quickly, especially in the social arena. Businesses and individuals all are communicating

through the digital chain and keep searching for even easier and quicker access to an expanding volume of content and goods.

On my way here in the subway, I had time to finish several tasks, read my tweets, check your profile on Facebook, and send a presentation on my iPad. Digital transformation is about access anywhere, anytime.

Can you describe to us the revolution going on in China?

The figures for internet in China are quite impressive. By June 2010, there were 420 million internet users including 364 million broadband users, and 2.79 million websites¹. Many are incredibly successful. Baidu, the Chinese equivalent of Google, created in 2000, listed on Nasdaq in 2005, is worth \$44 billion today. Nine out of ten Chinese internet users use Baidu for their searches. Alibaba Group completed its \$1.7 billion initial public offering on the Hong Kong Stock Exchange in November 2007, the biggest Internet IPO at that time since Google's 2004 offering on the Nasdaq.

We must remember that e-commerce only started booming in China two years ago. Before, there was no trust in online transactions. Payment and logistics were initially not ready

to support this revolution. Now the online world is not only the place to discuss and make friends, but the place to do marketing and look for revenue.

“ Digital transformation is a broad concept, but I would define it as follows: getting online, getting social, getting mobile. ”

The first hint came from massive investments by venture capitalists. Some think there is a bubble forming, but make no mistake: a long term trend is emerging. ETC, a Russian investment company that funded Facebook, Groupon and Twitter, is now supporting Chinese digital companies. Lashou, built on the Groupon model, saw its value soar from \$1 million to

\$1 billion, acquiring 50 million users within a year.

However, the main difference with the US is that China's digital market is not consolidated yet. For one Facebook, you have five or six Chinese players: Renren, Kaixin, Sina... Last year China numbered 1,000 Groupon copycats. Now the top three or four are taking over most of the market share. In our case that is a very good opportunity as we provide a transversal social media research platform.

How are the Chinese experiencing this transformation?

Well, don't ask my parents to become digital actors, although they do browse news online. They will never place an order, because they don't trust the online transaction. In fact, most people their age don't even have a payment card.

While people below the age of 50 have grown used to the inter-

¹ Source : Chine Internet Network Information Center

Chinese entrepreneurs are taking full advantage of the e-commerce boom

net, populations younger than 30 are the main users. Most are from the eastern and coastal regions in Tier 1 cities such as Shanghai, Beijing, Guangzhou. Some Tier 2 and 3 cities such as Hangzhou, Nanjing are also highly digitalized. China counts more than 420 million Netizens, with 30% growth each year. Interestingly, 61% of online access is through mobile devices (phone, iPad, etc.).

Each segment of the population has its preference. MSN is used daily by 20 million white collar workers to chat and do business. Renren attracts 140 millions teenagers and recent college graduates.

How is digital transformation influencing Chinese consumers?

There are different profiles, depending on age and on personal experience and proximity to digital tools. In my case, for

example, I buy everything on the internet, both products and services, and I use price comparison sites to make my decisions. The younger generation, also uses the internet for purchases. They are also highly reactive to push mobile promotion. The e-commerce site Alibaba registered transactions for a value of some 200 billion renminbi (€21 billion) in 2010.

“ The main difference with the US is that China’s digital market is not consolidated yet. ”

We developed a model which is quite specific to China. As e-commerce initially faced trust issues, and part of the older population was reluctant or unable to pay for orders online, China ensured home delivery with at-the-door payment for online orders. Your delivery

agent also became a money collector.

How is this transition to an internet digital economy viewed by “traditional” companies in China?

Traditional companies are sitting up and taking notice. They see the strong rise of the e-economy, but they don’t know how to take advantage of the opportunities offered by new digital tools. They are cautious and still skeptical about the results they can achieve. So they’re sticking to traditional media for their advertising. I think they need advice and time to convince themselves of the effectiveness of the new digital media.

Even so, competition increased in the past three years. The focus is on getting the largest market share, rather than on the profit to be made. This is obviously the best situation for consumers.

We could estimate that in China,

around 10% of advertising budgets are devoted to the new media, or probably 15% to 20% for digital transformation pioneers that do lots of e-commerce, and 5% for the others. But things are changing fast. For example, Procter & Gamble just asked its advertising agencies to focus on these new consumer trends. Many companies still need to address the question of their

strategy to cope with this transformation.

What companies also see now is that the growth of e-commerce goes hand-in-hand with the expansion of social networks. The Chinese like to give their opinions and hear those of other people, and the new websites are perfect for this. They contribute to a rise in consumer power.



*Brian Xin,
founder of
StarryMedia*

The social media constitutes pools of consumers that express needs, making it possible to target offers leading to immediate purchase.

You lived in the United States for ten years. What similarities or differences do you see between the Chinese and American approaches?

From a professional point of view, the approaches are quite similar. However, there are big differences in behavior. The Chinese like to ask other people for their opinion. You might say they were predisposed to use social networks, which explains the success of these websites in China. But Western companies have a hard time understanding the specifics of Chinese culture. Their offer is often not adapted to the expectations of Chinese consumers, which limits them in benefiting from this exciting and booming market in China. ●

StarryMedia, a new approach to social media marketing and digital research

KEY INTERNET FIGURES IN CHINA¹

420 MILLION INTERNET USERS
IN JUNE 2010

50% OF THE POPULATION
ONLINE IN 2013

277 MILLION INTERNET USERS
ON MOBILE PHONES

THE CHINESE SPEND **70%** OF THEIR
FREE TIME ON THE INTERNET

¹ Source : Chine Internet Network Information Center, ESSEC / Capgemini Consulting

Brian Xin has an engineering degree from Tsinghua University, known as the Chinese MIT. He worked in Silicon Valley in the US for ten years before returning to China in 2006.

In 2009 he founded StarryMedia, a start-up that aims to use the huge success of social networking in China to carry out extremely targeted mar-

“ THE GOAL IS TO BUILD THE BEST CONSUMER DATABASE AMONG THE CHINESE POPULATION, TO SUPPORT HIGHLY EFFICIENT MARKETING FOR BUSINESS. ”

keting and research. It includes XingDian consumer engagement portal with twitter style user experience and StarrySurvey digital research DIY platform. The goal is to build the best consumer database among the Chinese population, to support highly efficient marketing for business. The consumer engagement

platform with 'social connect' links to all major social networks and communities in China. Segmentation and analysis of consumer groups will lead to very precise understanding of the expectations of Chinese consumers, and give client companies – from multinationals to SMEs – high-added-value information. The participants in this social marketing community receive benefits (coupons, exclusive promotions, etc.) from the companies that commission the research and promotions, to help generate loyalty and stickiness. Reward-based research also brings an alternative payment solution to partnership communities. Such a consumer engagement platform helps businesses move beyond research in the consumer community to carry out effective marketing. On the consumer side, StarryMedia delivers personalized and targeted benefits, such as promotions, coupons, paid surveys, etc., to consumers and builds a strong daily relationship between brands and consumers. It can lead to a next generation Groupon type

of services for each consumer, which means more personalized, targeted, relevant, and enjoyable interaction and offerings.

StarryMedia has already formed close relationships with major internet players. The company plans to develop in the Chinese and Asian markets first.

Client references:

1. StarrySurvey on Kaixin001.com

StarrySurvey is the digital research platforms of StarryMedia. It created the extension app on kaixin001.com (considered to be China's Facebook focusing on high-end white collar people). The StarrySurvey app on Kaixin allows StarryMedia client companies to potentially reach 120 million Kaixin users. Kaixin, one of the largest social network platforms, opened up its APIs for 3rd party apps in late 2010. The StarrySurvey app is the first digital research and marketing oriented app on Kaixin. This cooperation helps StarryMedia locate with a high degree of ac-

curacy many users via the Kaixin network, and provides Kaixin and its users with a good method for monetization. It's a win-win situation for both StarryMedia and Kaixin. StarrySurvey will also work on several deep integration cases with Kaixin to offer an alternative payment solution in other apps, especially games, to Kaixin users.

2. StarryMedia with YesMyWine.com

YesMyWine is the No.1 B2C wine e-commerce company in China. StarryMedia and YesMyWine are carrying out a joint market campaign targeting social media populations. StarryMedia publishes the online survey to recruit potential participants through social network channels. With the survey answers, StarryMedia helps YesMyWine screen participants by preferred criteria and generate target users (Lead generation). YesMyWine delivers free wine sample bottles to the users. StarryMedia follows the

users for feedback and a deeper user/taste experience survey. At the end of the campaign, StarryMedia helps YesMyWine spread the word in social media, get high quality customers, and also maintain customer satisfaction for long term relationships.

StarryMedia will target three client categories at this stage:

- Large companies that understand this type of marketing approach and are willing to try it out, such as retail chains or shopping centers.
- The financial sector: banks that need to promote their products and cards with their customers.
- Major brands, particularly luxury brands that want to expand into China. ●

Business perspective



\$680 billion

expected global e-commerce revenues in 2011 (+19% year on year)

77% of Fortune Global 100

companies have Twitter accounts in 2011, compared with 65% in 2010

100 billion searches each month on Google

3 billion videos

watched each day on YouTube



3 million tweets each day

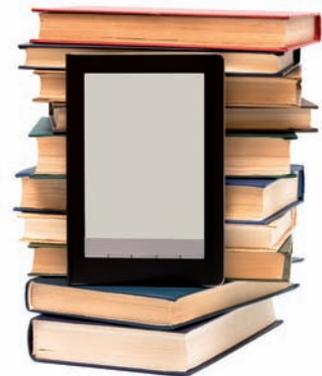
125 pictures

added on Flickr every second

Tipping points

Amazon.com

announced in May 2011 that it is now selling more electronic books through Kindle than printed books



Digital as Bearer of Another Society

By Bernard Stiegler

In 1919 Valéry began “The Crisis of the Mind” (“La crise de l’esprit”) with the following words:

*We later civilizations... we too now know that we are mortal.*¹

We, the earthlings of the twenty-first century, know that *we are capable* of self-destruction. In his analysis in 1919 of what he called a crisis of *spirit*, Valéry emphasized above all the *fundamental ambiguity* of this spirit (of reason, science, knowledge, and even of the moral elevation that made possible so many ruins and deaths, and so much devastation, in Western Europe, beyond anything that could have been imagined in any previous historical epoch):

*So many horrors could not have been possible without so many virtues. Doubtless, much science was needed to kill so many, to waste so much property, annihilate so many cities in so short a time; but moral qualities in like number were also needed. Knowledge and Duty, then, are suspect.*²

This constitutes that which, in what follows, I am going to call the question of the *pharmakon*—that is, of what, as cure for the ills of humanity (for example, as technics and as science), can also become the very thing that poisons it and even threatens it with self-destruction.

This question, one that occupied certain twentieth-century intellectuals around the world, is no longer only an academic issue of concern to scholarly philosophers: it obsesses all of us. It is the fundamental question of the twenty-first century.

It can only be through the capacity to confront this question that humanity will remain human, or will no longer be human.

*

Western knowledge is said to be rational in the sense that it is founded on demonstrative, deductive, cumulative and non-contradictory reasoning, the model of which is geometry, and it is said to be logical in the sense that it respects the laws of *logos*, that is, of thought insofar as it is capable of reaching a universalizable truth.

The broad contours of Western knowledge, and the disciplinary divisions to which it gave rise and that we today know as the natural, the human and the social sciences, emerged from what was produced at the end of the fifth century BCE in Athens, when Socrates, and then those who were called philosophers (the friends of wisdom), began to fight against the way that writing was being used by the Sophists. According to Socrates and Plato, the Sophists, *abusing* the power of writing, prevented the Athenians from thinking—and in particular Athenian youth.

The foundation of Western knowledge—insofar as this took place, through Socrates, Plato and Aristotle, with the establishment of the rational conditions of logical thought—rests on the critique and the rejection of what philosophy presented as false knowledge, as a delusion or a trap, the illusory aspect of which derives, according

¹ Paul Valéry, “The Crisis of the Mind,” *The Outlook for Intelligence* (Princeton: Princeton University Press, 1962), p. 23.

² Valéry, “The Crisis of the Mind,” p. 24, translation modified.

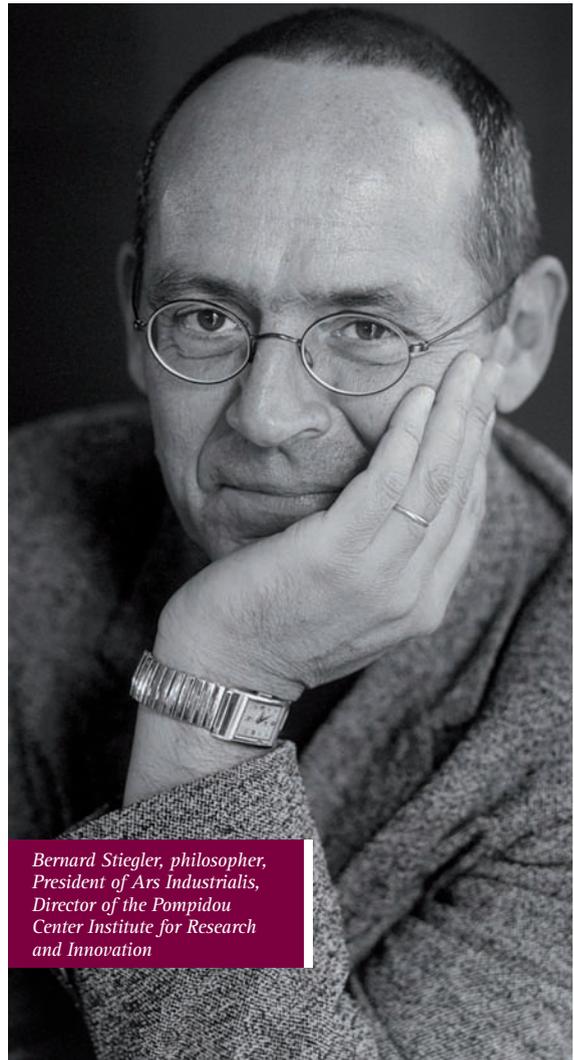
Digital as Bearer of Another Society

to Socrates and Plato, from the practice of alphabetical writing, the usage of which had become massively widespread in the Athenian society of the fifth century.

Now, this historical fact is eminently paradoxical. And this is so because writing, as many authors have established—from Hegel³ to Vernant⁴, and passing through Husserl and Derrida⁵—is also the condition of possibility of the forms of knowledge that we call rational. This is so for the original model of rational knowledge, geometry, but also for all the extensions into fields such as history, geography and, certainly, philosophy itself. And it was doubtless the writing of Plato's *Dialogues*⁶ that made possible the rational and cumulative process that began with philosophy, and through which Plato “immortalized” the figure of his master, Socrates.

But more than anything—and it is primarily on this point that Vernant insists—alphabetical writing is the condition of the establishment of public law, and therefore of a public thing, a *res publica*, which does not mean the founding of scientific knowledge—even if, like the latter, it is subjected to the question of the *criterion of truth* (the courtroom is the institution that aims to establish juridical truth through the application of legal rules): it finds a *new way of life*, the conditions of being-together as citizens, something that also constitutes a characteristic trait of Western society.

Public law, that is, law that is *made public* through wri-



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³ Georg Wilhelm Friedrich Hegel, *The Encyclopedia Logic: Part 1 of the Encyclopedia of Philosophical Sciences* (Indianapolis: Hackett, 1991).

⁴ Jean-Pierre Vernant, *Myth and Thought Among the Greeks* (New York: Zone Books, 2006). ⁵ Edmund Husserl, “The Origin of Geometry,” and Jacques Derrida, “An Introduction to The Origin of Geometry,” both in Derrida, *Edmund Husserl's Origin of Geometry: An Introduction* (Lincoln & London: University of Nebraska Press, 1989). ⁶ Cf., Léon Robin, *Platon* (Paris: Alcan, 1935).

ting, founds the Western way of life insofar as it constitutes a form of political power that is perpetually exposed to critique. This question of critique, that Marcel Detienne⁷ has shown presupposes the written publication of that which is to be critiqued⁸, is here absolutely fundamental: it is *critique* that constitutes the *dynamic principle* which means that societies of public law are incessantly evolving.

In the city of Athens, however, at the end of the fifth century (if at least we are to believe Socrates and Plato), the Sophists implemented a practice of writing that no longer aimed to increase the individual and collective critical capacity of that social group known as the *polis*, but, on the contrary, *short-circuited* this critical activity, and enabled the Sophists to manipulate thinking—that is, to prevent thinking. Because to think is always to think *for oneself*, whereas Sophistic writing consisted in spreading received ideas, commonplaces (*topoi*) that were all the more dangerous in that they granted the illusion of thinking to those of whom they took hold, at the very moment that they in fact prevented them from thinking. This engenders what can then be called stupidity.

*

Those who think only think if they think for themselves, say the philosophers. We all know that we only understand the concepts of geometry and only think

geometrically if we apprehend and reconstitute in ourselves and for ourselves the demonstrative character of the demonstration, and not simply the result that one calls the theorem—that one can, nevertheless, make use of empirically.

In the *Phaedrus*⁹, Socrates, in conversation with the young Athenian who lends his name to the dialogue, explains to him that writing—which the Sophists use and abuse in order to manipulate the minds of the noble and ambitious youth in exchange for money—is both a remedy and a poison: a *pharmakon*.

This *pharmakon* is the remedy for a living memory that is continuously being lost, for a memory that is limited, a remedy that makes up for this flaw in psychic and cerebral memory by adding a memory that is artificial, mnemotechnical (of which alphabetical writing is an advanced stage, but of which there exist archaic forms dating back to Prehistory). It thus makes possible culture in general, that is, the transmission of individual experience from generation to generation, and thus as collective experience: as the accumulation of knowledge, knowledge that, with alphabetical writing, becomes deductive and demonstrative in the proper sense, and transmissible *as such*, that is, *literally, to the letter*.

Writing, however, is also what enables individual mnemonic activity to be short-circuited: instead of *memorizing*

⁷ Marcel Detienne, *Les Savoirs de l'écriture en Grèce ancienne* (Lille: Presses universitaires de Lille, 1988).

⁸ Cf., Jack Goody, *The Domestication of the Savage Mind* (Cambridge: Cambridge University Press, 1979).

⁹ Plato, *Phaedrus*, in Edith Hamilton & Huntington Cairns (eds.), *The Collected Dialogues of Plato* (Princeton: Princeton University Press, 1961), pp. 475–525.

Digital as Bearer of Another Society

and in this sense *learning*—to count, for example—I can simply pick up a calculator, or again, instead of learning and memorizing a telephone number, I can just store it on my phone. This technical exteriorization of my memory can lead to its weakening, to its atrophy, and eventually to the destruction of this *psychic* memory that is the *foundation* of the capacity to think *for one-self*—that is, of the capacity to think full stop.

This is why Socrates and Plato can claim that, even if writing founds the possibility of knowledge as the political way of life, as rational public debate, it remains a threat to all of this just as much as it has made it possible. It is as such that it constitutes a *pharmakon*, that is, a poison as much as a cure.

*

What Socrates and Plato say about writing can be generalized to everything technical—and in the first place to medicines and drugs themselves, the abuse of which leads to a weakening of the capacities belonging to the interior milieu that forms an organism¹⁰, which may thereby become dependent, and which may at that point develop pathologies that we refer to as “side effects”, requiring other drugs that in their turn provoke further side effects, and so on.

This *vicious circle* can now be seen everywhere, in every sphere, with all of technics having in the end these kinds

of systemic perverse effects, leading to the depletion or the exhaustion not only of the interior milieu, but of the exterior milieu itself, that is, the environment, the human world in its totality. And hence the conclusions reached by Paul Valéry ninety-two years ago have now become those of everybody—resulting in a very disturbing apocalyptic climate. Things have moved in this direction because economic as well as political powers are in need of new forms of knowledge, forms that may be required by the development of industrial technologies, but that for the moment remain completely lacking.

The human situation must be understood in its totality, and as the dynamic system that constitutes this totality, from the perspective of a *general pharmacology*, itself based on a *general organology*. Drawing upon a solid basis in scientific evidence, the palaeo-anthropologist André Leroi-Gourhan showed that it was through the exteriorization of their memories that human beings were able to accumulate individual experiences transmissible from generation to generation, thereby forming that collective memory we call culture: this memory is technics.

During the course of the prehistory and protohistory of technics, mnemotechnical forms appeared, and were continually changed and improved, the most important of these being, of course, alphabetical writing: this form has today spread across the planet. Digital is an evo-

¹⁰ Claude Bernard, Introduction à l'Étude de la Médecine expérimentale (Paris & New York: Librairie J. B. Baillière, 1865).

lution and extension—into electronic and multimedia spheres—of this form of writing.

Mnemotechnics, technics in general, and technologies are always two-sided.

Their beneficial side intensifies what the philosopher Gilbert Simondon called processes of individuation, that is, processes of transformation through which beings realize potentials, increases and augmentations of what Spinoza called their “potential to act”—for example, augmenting their memory, and thereby increasing their capacity for calculation, for discernment, for critique, for reason, and so on. This augmentation, which can also mean improvements of the individual’s physical performance, is individual as well as collective, and is even the very foundation of the collective: the distribution through society of technical augmentations constitutes a division of labour configuring social organizations, such as, for example, businesses or institutions.

At the same time that they constitute the basis of the individuation and transformation processes of psychic and social individuals, however, these processes of the technicization of human relations (to which technical developments of every kind always lead) always *also* contain the possibility of short-circuiting relational modes and individual capabilities, and they may, therefore, create phenomena of dis-individuation, that is, of inca-

pability¹¹ and the loss of autonomy, that is, the loss of knowledge.

From writing, as analysed by Plato, up until what is taking place today in the digital field, and having passed through the stage of the machine-tool—which Adam Smith (and then Marx) showed “corrupts” the mind of the worker, sending it into a “torpor”¹², workers being, thereby, transformed into the proletariat insofar as they are deprived of their knowledge, this knowledge having been exteriorized in the machine, and the workers discovering that in this sense they have been dis-individuated¹³—*processes of dis-individuation* are therefore continually operating *at the same time as processes of individuation*.

All this proceeds from the *pharmakon* that, always and irreducibly, *both* individuates (produces individuation, increases of the potential to act) and dis-individuates (produces dis-individuation, deprivations of the potential to act). In this regard, we, men and women of the twenty-first century, find ourselves in a very particular situation, of which I shall here draw attention, essentially, to two aspects.

*

1.

We live in the epoch of industrial technology, and ever since the Industrial Revolution technological evolution

¹¹ Capability and incapability are major themes of the approach developed by Amartya Sen, beginning with Amartya K. Sen, “Equality of What,” in Sterling M. McMurrin (ed.), *The Tanner Lectures on Human Value* (Salt Lake City: University of Utah Press, 1980), pp. 195–220. Among many other works, see also: Sen, *Commodities and Capabilities* (Oxford: Elsevier Science Publishers, 1985); and Sen, *Development As Freedom* (Oxford: Oxford University Press, 1999).

¹² Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: Random House, 1937), pp. 734–5.

¹³ This is Simondon’s analysis of what occurs with the machine-tool in the nineteenth century, in *Du mode d’existence des objet techniques* (Paris: Aubier, 1989).

Digital as Bearer of Another Society

has accelerated and deterritorialized: it slowly but surely emancipates territories, and therefore national political structures.

Ever since the nineteenth century, since this acceleration in the transformation of the relation to time, since the advent of technology, it has become no longer a matter of (empirical) technics but rather of (scientific) industrial technology, the evolution of which is now programmed and organized by the economic world. Whereas, on the territorial plane, and therefore in space in the sense that the technical and now technological system tends to globalize itself ever more rapidly, phenomena of “disadjustment” have been produced.

Disadjustment is a term employed by Bertrand Gille in order to describe the way in which, from one age to another, the evolution of a technical system, which is a dynamic system, leads to a rupture of the system, during which the technical system begins to evolve very rapidly and decouples itself from the social systems that were formed around it during the stage preceding the rupture. Social tensions then arise, at times provoking revolutions and all manner of troubles, disrupting society at the very moment it is reinventing itself: this is in certain respects a moment of great “creative destruction”—and Bertrand Gille himself cites Joseph Schumpeter¹⁴.

Disadjustment is a regular occurrence whenever there is a change of technical system. For a very long time, in any case up until the nineteenth century, technical

systems mostly lasted for more than a century, and in the Palaeolithic era they could last for several hundred thousand years. As for ourselves, however, we live in an industrial world where the technical system *never stops evolving*.

The duration of the first *industrial* technical system, a system we refer to as thermodynamic because it was constituted around the steam engine, was seventy years. Then came chemistry, electricity and the Lenoir engine, followed by the electronic system, so that the technical system of today now seems to be caught in a perpetual process of re-elaborating itself, and to have been stripped of all stability.

To the extent that a form of technics is pharmacological, it always has effects that may eventually be positive, but that in the first place are negative, and Gille thus argues that the only way of constituting a viable socio-technical system—that is, of combining and integrating the dynamics of the technological system with those of the social systems, but also with those of psychic systems, biological systems and geographical systems (with the constraints of such systems, as, for example, their seismic potentials)—*is to organize the readjustment*.

This organization of readjustment is the *modernization* of society founded on the idea of *progress*, which in France was implemented by the Napoleonic state, and which throughout almost the whole world was imple-

¹⁴ Joseph Schumpeter, *Capitalism, Socialism and Democracy* (New York: Harper, 1975).

mented in various ways by the state, in particular by the Prussian state—it is thus a process of becoming at the heart of which states have played a fundamental role.

The process of disadjustment is inevitable, and it must always be assimilated and overcome by a process of adoption through which society must rethink itself, and where the choice of technical orientations (which are always a socio-technical combination) must be elaborated according to the objectives of this readjustment.

*

2.

All this is tied to the history of capitalism: the history of industrial society is also that of capitalist society. Between the nineteenth and twentieth centuries, capitalism passes from productivism to consumerism, that is, from obtaining gains in productivity through the proletarianization of the producer and the rationalization of modes of production through mechanization, to a society in which the central figure becomes the consumer, of whom it is a matter of transforming behavioural modes: of making behaviour plastic, and permeable to technical evolution.

It is no longer simply social systems that are transformed by the organization of readjustment on the scale of the state: it is psychic individuals who are here directly solicited, and this solicitation—through marketing which, as strategic marketing, has become since the

1970s absolutely crucial for large-scale commercial enterprises—short-circuits social systems.

This short-circuit is even more extreme, since it has been accompanied by a process of financialization, resulting in financialized capitalism—which is no longer an investment-based capitalism, becoming instead a speculative form of capitalism—that relates in a direct way to consumers via marketing subjected to the pressure of shareholders, who have themselves become more and more speculative.

Now, what is thus short-circuited is not only the social function of social systems: it is the entrepreneurial function. And all this leads to an accumulation of problems that are not only social but environmental and psychic, and which, combined with the weakening of social bonds, constitute a massive process of dis-individuation, now painfully felt by populations, and perceived by them to be intolerable—a situation that is translated into a regression both social and psychic.

*

It is in this highly “pharmacological” context that, after twenty years of digital reticular technology, there emerges a new electronic form of writing that absolutely affects all individual and collective activities through a constant connectivity that winds up producing everything under the sun. Digital is a *pharmakon*, and all the evidence suggests it

Digital as Bearer of Another Society

is the bearer of another society. It is the bearer of a social organization no longer founded on Fordist consumerism, but instead on the economy of contribution¹⁵.

In order to implement the potentials for psychic and collective individuation brought about by digital, and in order to struggle against its potentially dis-individualizing effects, it is necessary to adopt the pharmacological approach founded on general organology.

General organology is a method of making scientific disciplines work together in relation to three spheres of individuation:

- psychosomatic individuals (a psychic individual always has a body, and its “psychism” is inseparable from the organs of its body, the brain, heart, kidneys, etc., the neuro-vegetative system, perceptual organs, and so on);
- technical individuals (a technical system links together artificial organs each one of which is dependent on the others—a technical object never functions on its own, just as, for example, a brain cannot function without the heart, since it needs to be irrigated by blood, whereas a smartphone needs to be fed either by an electrical network or by a photovoltaic battery—these artificial organs equipping psychosomatic organs: a pair of glasses equips a pair of eyes, a bicycle equips the moving body, writing equips memory, and the

sharpened flint characterizes the first hominid);

- collective individuals, which form social organizations (social systems that have as a goal to make compatible and efficient the connections between physiological organology and technological organology).

It is through the implementation of this dual approach (pharmacological and organological) that reticular society, network society, will be able to confront the collapse of the consumerist model and implement an economy of contribution that is also an economy of the reconstitution of knowledge, that is, of the struggle against the processes of proletarianization that the *pharmakon* tends to spread to “all levels of society.”

Alan Greenspan thus confessed to the House of Representatives that he had lost the possibility of apprehending a financial technology that in fact short-circuited his ability to make decisions, just as the advent of nuclear systems guided and performed by central computers, and linked to radar systems and missile launchers via Arpanet (forerunner of the internet), had “proletarianized” the politician, who was thus deprived of the possibility of knowing and deciding—this being the very reason that, according to Paul Virilio¹⁶, Richard Nixon and Leonid Brezhnev were forced to enter negotiations with a view to limiting nuclear armaments...

Translated by Daniel Ross

¹⁵ The economy of contribution is the principal object of the work of the Ars Industrialis association.

¹⁶ Paul Virilio, *Speed and Politics: An Essay on Dromology* (New York: Semiotext(e), 1986).

About Capgemini Consulting

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