The digitization of everything

An imperative for digital innovation and engagement has emerged: while businesses may have already realized they must use digital channels to engage with stakeholders to maintain relevance and drive the conversation, few have realized how fast that change needs to happen or how transformational it needs to be.
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The real imperative in a world where everything is digitized is that businesses need to pursue innovation to disrupt their own business model before the competition does. Without innovation strategies, companies will lose their competitive advantage in an increasingly commoditized world. There is no time to lose as technology change accelerates exponentially and new digital platforms and devices are emerging. Furthermore, the expectations of the new “Generation Y” or “digital natives” mean that companies must keep up with the pace of change or lose relevance.

The challenge for businesses is to face the implications of digital change: in particular, the loss of control over the customer relationship, increased competition and threat of commoditization, and the need to engage digitally not just with customers but also with suppliers, partners and employees.

The starting point is a structured approach that assesses your digital maturity based on an understanding not just of the technology but a much wider, holistic view of exactly what digital engagement means to the business.

To deal with the challenge of digital change, companies must develop an end-to-end response. They need to build a comprehensive digital strategy and rethink their business and operating models to deliver this. Such a strategy must go far beyond the marketing department; it has to be about ubiquitous, cross-channel connectivity. It must enable continuous engagement with customers, suppliers, employees and investors. It must also be about c-level leadership and, critically, it must be about innovation and differentiation through the business or operating model.

Defining “digital”
Digitization at its simplest means the conversion of analogue information into digital information. As digitization capabilities extend, virtually every aspect of life is captured and stored in some digital form, and we move closer toward the networked interconnection of everyday objects. The impact of this is a real-time global exchange of information between multiple connected devices (fixed and mobile).
1. The issue: the imperative for digital engagement

Businesses must use digital channels to create seamless and consistent engagement

With the introduction of the first commonly used commercial websites in the 1990s, digital technology brought a new level of convenience to customers. However, digital convenience came at the expense of meaningful engagement as digital transactions substituted physical interactions. In addition, digital channels develop in isolation, resulting in inconsistency and dislocation between digital and physical channels. The legacy is one of frustration for today’s customers when, for example, they find they cannot complete an interaction in-store that they began online. The frustration is particularly felt by digital natives who have grown up used to immediacy and convenience and expect to be known at every interaction with a company, regardless of the channel in which they choose to engage. Now, however, new technologies exist (Figure 1) that make it easier than ever before for companies to bring channels together, and to deliver a consistent engagement model whether customers choose to “tweet” or to take their feet to the street.

Innovative companies are taking the elements of each channel their customers value most, and combining them to deliver a more valuable experience overall. For example, Apple stores use mobile point of sale (POS) terminals to add the convenience of “click to pay” to customers’ physical shopping experience and provide them with an email receipt from the POS terminal.

Organizations must focus on delivering a seamless and meaningful cross-channel engagement model for their stakeholders. Figure 2 shows how the engagement model has changed to date, and how it may evolve in the future. Getting this right will require an agile strategy, incorporating the latest technology as it is released, and adopting a test-and-learn approach. Companies should adopt a continuous improvement strategy, launching new digital channels early and iterating based on customer feedback.

Figure 1. How emerging technologies can be used for physical/digital channel integration

<table>
<thead>
<tr>
<th>Example technology</th>
<th>Use for channel integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location-based services</td>
<td>Services to digitally identify a physical location of a person or object (e.g., nearest ATM). Also used to replace coupons for advertising to customers based on their actual physical location.</td>
</tr>
<tr>
<td>QR coding</td>
<td>Allows users to scan a physical object (paper or building wall) and access further information in a digital fashion on their mobile.</td>
</tr>
<tr>
<td>Augmented reality</td>
<td>Information about the surrounding real world of the user becomes interactive when viewed through a digital screen. Often used to make sports spectatorship interactive.</td>
</tr>
<tr>
<td>Electronic paper</td>
<td>A computer that feels and operates like a thin sheet of paper that can interpret text written directly onto it.</td>
</tr>
</tbody>
</table>
Figure 2. How engagement is changing over time

Evolving but disparate fixed/physical and technology channels with a trend toward more meaningful customer engagement

Seamless cross-channel convergence delivers meaningful and consistent customer experiences

Source: Ernst & Young research.
The pace of technology change is increasing exponentially
Most companies understand the need to respond and adapt to the evolving use of technology by their customers and other key stakeholders. What they do not realize is how little time they have to address these changes.

It took more than 70 years for telephones to reach 50% household penetration, compared with 28 years for radio and 10 for internet access.¹ Following this trend, the rate of technology adoption should continue to accelerate so that each new technology outpaces the adoption of its predecessor, and the future will see adoption rates measured in weeks and days rather than years. Google+, the new social media tool from Google, took only 16 days to reach 10 million users, compared with 780 days for Twitter and 852 days for Facebook. It took 10 years for the internet to become a basic and essential part of daily life. The future will happen much faster than that.

The rapidly advancing price and performance capability of computing, storage and bandwidth is contributing to an adoption rate for digital infrastructure that is two to five times faster than previous infrastructures, such as electricity and telephone networks.² By 2020, there will be 50 billion internet-enabled devices.³ Those 50 billion devices will become interconnected into a web of the “internet of things” and could include fridges that can replenish themselves by ordering from the supermarket, and other devices associated with the “intelligent home.” In among the new devices will also be disruptive technologies such as electronic paper, which can be folded and carried in a pocket, and may drastically change the future of printing and other industries.

The proliferation of digital channels, platforms and devices has produced a generation who are born “plugged-in.”⁴ This “Generation Y” already plays a major role in accelerating the emergence of a new, digital world, and their impact is impossible to ignore. Generation Y’s expectations are being formed by the technologies with which they surround themselves. They adapt their lifestyles to each new technological invention and they are unwilling to accept when, for example, their favorite brands or their employer won’t do the same. Generation Y already constitutes a new category of consumers, citizens and employees who are digitally, globally and constantly connected. They are networked, collaborative and highly social. It is also Generation Y who are inventing the disruptive business models that challenge the status quo of existing organizations, as Mark Zuckerberg did with the invention of Facebook. In this way, they are determining how digital communication technologies are being used, and are initiating social behaviors that are transmitted to other generations.

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¹ www.techliberation.com/2009/05/28/on-measuring-technology-diffusion-rates/
² Core edges blog, Core digital infrastructure technologies improve exponentially without stabilizing, 26 June 2009.
2. The challenge: facing the implications of digital change

Loss of control over the customer relationship

Information aggregation and price comparison have evolved. Consumers now have real-time, mobile access to data that they previously relied on brands to provide them with. Today’s consumers have real-time access to competitive pricing information simply by scanning a product barcode into their mobile phone and reading this information through an application such as “Red Laser.” In this way, price transparency is increasing as, wherever they are, consumers can compare the prices of products, placing power firmly in their hands.

As well as relying on brands for pricing information, consumers also used to rely on brand communication and brand values to make informed choices, but increasingly this is no longer the case. Today’s consumers trust each other more than they trust corporations or brands (78% of consumers trust peer recommendations versus 14% who trust advertisements). They advise each other, and what’s more, they take each other’s advice. TripAdvisor, the free online peer-to-peer travel review site, has over 45 million reviews and opinions and 6 million photos of travel destinations. These millions of conversations about a brand, happening between potential consumers, can be a frightening concept for organizations used to controlling the brand message. However, the rise of the “prosumer” is also an opportunity for brands to increase engagement. As well as advising each other, prosumers should be used as a source of vital product development ideas for brands. For example, Microsoft recognizes the benefit of this force with its “Most Valuable Professionals” who provide “real world answers” to solve product difficulties and provide feedback.

Brands are facing a loss in the information monopoly and a shift toward two-way communication and conversation. It is vital that brands embrace this move in consumer power and find ways to make it work for mutual advantage. This is because, as customers gain more power to choose where and how they interact, they will begin to choose a smaller number of organizations with which to maintain primary relationships. These are likely to be collaborative companies that reflect and engage with their values. Other companies thereby risk becoming mere suppliers. Not all organizations can win the battle to retain the customer relationship – the digital world has thrown businesses into an even more competitive game.

The need to engage digitally with suppliers and employees

While companies tend to be aware of the need for engagement with their customers, they are less conscious that this need applies equally to suppliers and employees. The rise of social media is breaking down barriers between these groups. Instead of talking one-on-one to customers, suppliers and employees, organizations are now talking to a crowd of people who are often talking to each other. As well as generating a great deal of noise, this interaction means that information can flow in directions that the company did not anticipate.

In particular, Generation Y’s customer experiences influence their expectations in other business dealings, such as with employers. Hence, digital communication capabilities are becoming a key weapon in recruiting and retaining talent. Gone are the days when an employee enthusiastically received their new work laptop and mobile phone. Today’s employees often have more information communication technology at their personal disposal

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5. Erik Qualman, Socialnomics: how social media transforms the way we live and do business, 5 May 2010.
6. www.tripadvisor.co.uk/
7. www.mvp.support.microsoft.com/
The digitization of everything

than at work. Organizations need to understand the best way to
enhance communication capabilities for their employees. For most
businesses, this will not involve handing out tablets or iPads to each
employee, but it should involve, at a minimum, setting up internal
social networking and knowledge-sharing sites.

The same need applies to suppliers and partners. The
expectations that are being formed in the business-to-consumer
(B2C) world are transferring to the business-to-business (B2B)
world as well and, increasingly, suppliers and partners will look
for ways to engage digitally with each other. There is a need
for greater focus on security in the B2B world, but the same
advantages of collaboration and knowledge sharing are there to
be gained. Organizations should look to integrate eprocurement
into their supplier relationships to reduce manual processes and
improve invoice tracking, or develop secure portals for real-time
collaborative forecasting with suppliers to better manage inventory.

Increased competition and the risk of commoditization

There are two forces coming together: consumers want choice
without the cost of developing and maintaining multiple
relationships; and companies want increased share of wallet
through deeper customer relationships. These two forces are made
possible by digital advance and globalization.

Digital channels lower barriers to entry and increase
globalization, leading to a spiral of intensifying competition
and commoditization. Innovative organizations are taking the
opportunity to diversify, producing a blurring of the boundaries
between industries. What were once very different products and
sectors now compete with one another over less clearly defined
customer bases.

In this way, there is an extension of “superbrands,” such as
Tesco, Google or Virgin. Already, supermarkets compete with
insurance providers, energy companies offer credit cards and
retailers offer energy discounts. Google is now in direct competition
with social networking sites through Google+; it has extended its
search and algorithm capabilities in Google Product Search to allow
shoppers to search for visually similar items, thereby attracting
more online fashion shoppers by bringing favored elements of the
high street shopping to the online experience; furthermore, its
2011 announcement to acquire Motorola Mobility will enhance
competition in mobile computing, and build up the company’s
patent portfolio to enable it to “better protect Android from anti-
competitive threats from Microsoft, Apple and other companies.”
These evolutions in the Google strategy leave organizations in other
industries wondering, or perhaps fearing, what Google will do next.

As a consequence, all industries are facing commoditization,
some sooner than others. This threat arises because, as more
information becomes available to customers and competitors,
and non-traditional players enter the market, prices, values and
product characteristics all tend to converge. Price comparison, and
unbundling of products, means that the margin play is becoming
more transparent and less acceptable to consumers.

To reduce the impact, many organizations are successfully
shifting their focus from products to services as a way of
differentiating themselves and also increasing margins. Companies
should look to create new information asymmetries, making it
more difficult for customers to directly compare providers, and
focus on innovation that can truly revolutionize and disrupt the
market. Successful responses to the commoditization threat include
increased personalization; wrapping a service around a product;
and a re-bundling of products to realize price advantages. Nike
allows customers to personalize large aspects of its product range
through NIKEiD; Apple and Amazon have successfully integrated
their products with service propositions; and publishing houses
such as Random House and BBC Books are partnering to create a
set of re-bundled ebook and television series products.

It is through differentiation and innovation that organizations
can create the shift in mind-set necessary to win in the digital game.
3. What needs to happen: the need for an end-to-end response

Many companies are already developing responses to the digital challenge by moving from a transactional to an “interactional” relationship with their customers. However, forward-looking companies need to do more than this. To succeed in the digital world means to embrace innovation and identify new engagement models and new business models. It requires grasping new opportunities that exist outside traditional markets and looking for the tools that will differentiate between the mere suppliers and the “lifestyle partners” of the digital age.

We believe that the digital revolution and its consequences offer a great opportunity to transform. However, capturing the rewards of a digital world requires considerable commitment and a proactive approach. It is not enough to have a social media strategy. Companies need to develop a comprehensive “digital strategy” that reaches far beyond the marketing department to tackle issues such as ubiquitous cross-channel connectivity, social commerce and the threat of commoditization. Creating and adopting a strategy of this kind requires strong senior leadership, a focus on managing the customer experience, and innovation within the operating model.

The need for new business and operating models

There are important lessons to be learned from the internet revolution. Companies that have capitalized on its possibilities have rewritten the rules of entire industries, such as music and advertising.

It is this transformation of business and operating models that is essential to longevity in the digital era. To be successful now, we believe, requires no less than the creation of enhanced or new business models, new operating models, new ways of interacting with consumers and new ways of selling.

Even the giants of technology are recognizing the need to shift and adapt business models. In recent months, Google has launched social networking site Google+ to rival Facebook, and Microsoft has launched the cloud version of Microsoft Office in Office 365 to stave off competition from Google Docs and similar applications. A commitment to innovation means that even giants need to be agile.

Organizations therefore need to develop end-to-end digital engagement strategies and comprehensive digital operating models that address suppliers and employees just as much as customers. They must decide whether they can enhance or transform their existing models, or whether they need to invent a new model (see Figure 3).
### Figure 3. Exploring the need for new business and operating models

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Example</th>
<th>Benefits</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use digital technology to enhance traditional business models</td>
<td>Use automated and digital services to compete with and extend existing manual services</td>
<td>eBay auction model, Life insurance computing algorithms, Dell/Amazon – dynamic pricing</td>
<td>Make better use of self-service channels including customer service through social media</td>
<td>Reduced cost to serve, Reduced time to revenue</td>
</tr>
<tr>
<td></td>
<td>Shift the core business model from selling products toward offering services</td>
<td>IBM, Streetcar/Zipcar</td>
<td>“Pay as you go” model extension</td>
<td>Increased share of value chain and share of wallet</td>
</tr>
<tr>
<td></td>
<td>Transform hardware offerings into service offerings</td>
<td>Xerox/HP offering “Managed Print Services”, Apple/Amazon integration of product with ongoing service (iTunes)</td>
<td>Integrating products with services engenders combined loyalty, Longer-term relationship with customer</td>
<td>Increased annuity revenue streams from services, Increased customer lifetime value</td>
</tr>
<tr>
<td>2. Transform existing business models digitally</td>
<td>Offer entirely new services that cannot be provided manually</td>
<td>Google/Yahoo – online search capability, Skype – VoIP, Salesforce.com – software-as-a-service, Facebook/LinkedIn – social media marketplaces</td>
<td>Volume of potential customers using the often free service</td>
<td>Shareholder and reputational value</td>
</tr>
<tr>
<td></td>
<td>Offer existing services through new digital channels</td>
<td>100Flowers – purchase through Facebook, Tesco – purchase through smartphone app, Dell – customer service through Twitter</td>
<td>Customer convenience engenders loyalty</td>
<td>Increased revenue streams, Reduced cost to serve</td>
</tr>
<tr>
<td>3. Invent entirely new business models or different engagement models</td>
<td>Offer entirely new revenue-generating products and services, or different engagement models</td>
<td>Virtual currency used in online games and social networks, Google/Yahoo – Advertising revenue linked to search, Facebook – sell digital customer data, Giffgaff – a “people-powered” mobile operator business model</td>
<td>First to market, Fast to market through digital channels, High customer loyalty and low cost to serve with Giffgaff</td>
<td>New revenue streams</td>
</tr>
</tbody>
</table>
A structured approach to planning transformation
Organizations need a structured approach to the challenge of connecting with key audiences. Yet, they must also understand the threats and opportunities that the digital world presents to their business.

One possible approach is through a digital maturity assessment, to help leadership teams to both understand the challenges posed to their particular business and industry and to identify new, digital ways to engage with multiple audiences. Ernst & Young (Figure 4) assess digital maturity using five major dimensions: customers, suppliers and partners, investors, employees and leadership.

Figure 4. Ernst & Young digital diagnostic model and approach

Customers
- Improve customer experience
- Increase marketing, sales and service effectiveness
- Develop multi-channel strategy

Suppliers and partners
- Improve transaction speeds, lower costs
- Optimize the end-to-end digital supply chain process
- Improve supplier relationship management
- Optimize sales and operations planning

Employees
- Manage organizational change
- Develop social policies and governance
- Develop digital skills and capabilities
- Manage recruitment, retention and talent

Leaders
- Develop a digital strategy
- Assess market and competition
- Design operating model and organizational structure

How do we embed digital in our company’s culture?

Source: Ernst & Young model.
A model like this is not a solution, it is the starting point on a transformation journey. It is important to avoid overcomplicating the topic: the primary objective should be a clear understanding of what digital means for the business. With that understanding, it becomes possible to create a prioritized action plan to help toward success and longevity in the digital world.

4. **Conclusion: a new kind of consumer means new ways of doing business**

The digitization of everything is a step change even greater than the invention and adoption of the internet, primarily because of its scale and pace of change. What we describe today as “digital” in a few years time will have no need for the descriptive word. A “digital camera” is already a mere “camera” to those who know no different. In the same way, a “digital” strategy will become “business-as-usual” strategy. This is why it is so important to get a head start and learn while there is still time.

Digital is changing the world, and progress is not linear. In a world where a smartphone is no longer just a smartphone but a potential revolution,8 we invite organizations to explore what digital advances mean for them and their stakeholders.

We support the opinion of executives who view digital much more as an opportunity to be tapped than as a risk to guard against. Not every digital initiative will work for every organization, and it is important to assess capability and capacity for change before deploying a digital strategy. In general, though, the more holistic the initiative, the greater the chance of success. We believe that those who act holistically, and act now, stand to gain the greatest competitive advantage.

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