

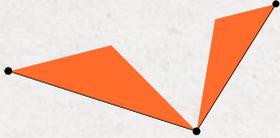
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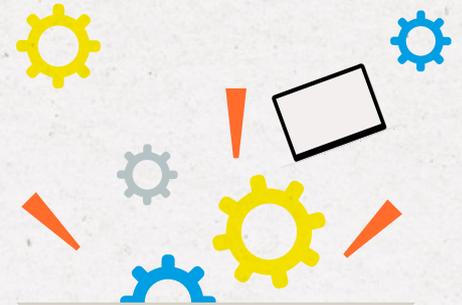
REVIEW



# DIGITAL TRANSFORMATION



Value in the Digital Era  
Business Model Innovation  
Platform Business  
Innovation Blindness  
Crowdfunding  
The Future of Retailing  
Smart Cities  
Display Advertising



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# Editorial



Many of the things that are becoming reality today not only didn't exist before the year 2000 – they were unthinkable or regarded as pure science fiction. Who would have guessed 20 years ago that in 2017 we would actually be paying and navigating with mobile phones, driving in driverless cars, sharing our homes with unknown guests from around the world, having drones deliver our parcels, and posting our photos instantly on different digital platforms? Most of us probably wouldn't.

But technology and the internet are changing the world quickly and dramatically and affect individuals, businesses and society at large. We live in exciting times and a sea change is ahead whether we like it or not. What is welcomed with enthusiasm by some is feared by others, but each one of us has to find their own way of dealing with the transformation that the digitalization of life entails.

In this issue we take a closer look at digitalization and how consumers and companies are handling the ongoing change. No matter what industry we look at, whether it be travelling, transportation, finance, retail, public service, advertising, market research, or even skin care – they are all affected by disruption and subject to monumental changes that penetrate to the core of their businesses. If you are interested in lessons learned and managerial advice, you won't be disappointed with the contributions provided in this issue. Happy reading – possibly of the digital format of our GfK Marketing Intelligence Review!

Yours,  
Srinivas Reddy and Werner Reinartz

*Editors*

Handwritten signatures of K. Srinivas Reddy and Werner Reinartz. The signatures are in black ink and are written in a cursive style. The first signature is 'K. Srinivas Reddy' and the second is 'Werner Reinartz'.

Singapore and Cologne, January 2017

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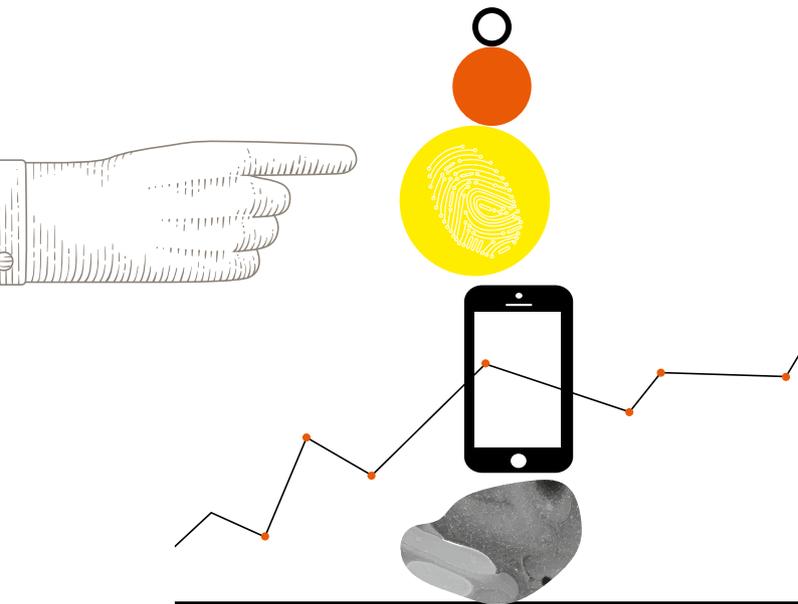


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# Executive Summaries

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## Digital Transformation and Value Creation: Sea Change Ahead

*Srinivas Reddy and Werner Reinartz*

Digital transformation is taking place all around us and there is hardly a single aspect of life that has not been affected. It has an obvious, lasting, and even revolutionary impact, not only on the economic systems and commercial players, but also on the lives of individuals and on society at large. Digital transformation will bring greater tangible and intangible value, but the changes do come with certain costs and risks, sometimes unforeseen.

In terms of business strategy, digital technology has been transforming businesses dramatically. Even young companies that have been at the forefront of digital disruption are forced to reinvent and transform themselves and their businesses permanently in order to survive and thrive. If incumbents themselves don't take advantage of this digital progress to innovate, others will. A new wave of digital disruptors is changing the face of industries. The ability to innovate is thus more important than ever. Entire industries may be threatened if they do not react quickly, while others are emerging almost instantly as if out of nowhere. Handling speed and providing real-time solutions is therefore one of the most critical skills in a digital world.

## Business Model Innovation: How to Create Value in a Digital World

*Christoph Zott and Raphael Amit*

It is not only products or services that are becoming obsolete but also organizational processes and systems because they simply no longer create enough value. To seamlessly account for the digitalization of the business and the customer side, new ideas are mandatory, and the whole business model is increasingly becoming the new source of innovation. A new, smartly designed business model can increase the total value created for all stakeholders, including customers, partners and suppliers.

The three design elements that characterize a company's activity system are content, structure and governance. Changing one or more of these elements means changing the entire model, and if the new business model is "new to the world" and not just "new to the company" it can be considered real business model innovation. Content, structure and governance can be highly interdependent; they need to be in line with value creation and capture the goals of the company, such as its revenue model.





## Platform Business: From Resources to Relationships

*Marshall Van Alstyne and Geoffrey Parker*

The driving force behind our internet economy is demand-side economies of scale, also known as network effects. These arise when users create value for other users and are enhanced by technologies that create efficiencies in social networking. While resource control and supply side efficiency used to be key success factors in the past, building platforms, orchestrating networks and managing relationships determine success in an increasingly digital world.

Successful platforms seek to maximize the overall value of the whole system in a circular, revolving and feedback-driven process. By attracting more platform participants they are able to offer a higher value. The larger the network, the better the matches between supply and demand and the richer the data that can be used to find matches.

Successful platforms put companies that use traditional business models at risk. Many companies are still highly competitive, but when platforms enter the same marketplace, the platforms usually win. Companies that fail to create platforms on their own or to integrate their business into existing platforms will be unable to compete for long.

## Are You Too Successful to Digitalize? How to Fight Innovation Blindness

*Andreas Neus, Fabian Buder and  
Fernando Galdino*

Digital transformation requires a digital mindset and new approaches to dealing with both decision risk and decision speed. Well-entrenched companies seem to hold all the assets needed to adapt and keep succeeding, but sometimes they don't seem to adequately react to a disruptive threat; instead, they show symptoms of innovation blindness. They might overestimate their digital skills or their learning occurs too slowly and resources are being wasted. Deep expertise that used to be an asset turns into a liability because companies are stuck in old mental models.

A few things can be done proactively to avoid major pitfalls in the digitalization of a business. Facts that are taken for granted need to be challenged and checked against reality to identify strategic failure in time. Whenever somebody assumes that something is "surely" true, a company's alarm bells should go off. Moreover, top management needs to check if their digital projects not only scratch the surface but that they grasp the essence of what makes them successful: creating new added value, dramatically increasing speed and ease of use, reducing complexity, and lowering costs substantially. Also, a new approach to innovation, such as design thinking, encourages rapid prototyping and a fast-failure culture.



## Crowdfunding: Financing Ventures in the Digital Era

*Srinivas K. Reddy and Yee Heng Tan*

Crowdfunding is a method of raising funds to support a venture, usually by raising small amounts from a large number of investors. Typically, a project creator posts a project on a platform seeking a certain amount of funds for some venture. Potential backers view the project and contribute money if they are convinced of the idea. In most cases, these backers receive something in return.

Crowdfunding helps facilitate projects that would otherwise have fallen through the cracks. There are many success stories, but the average success rates are moderate. To succeed, it is necessary to manage the expectations of diverse stakeholders during the entire funding and development process. Success factors range from selecting the right platform to accurate communication all along the way. Prior experience helps, as well as a realistic assessment of the chances, so as not to disappoint the community.

## From Point of Sale to Point of Need: How Digital Technology Is Transforming Retailing

*Werner Reinartz and Monika Imschloß*

Digital transformation has a strong impact on the retail industry. Activities that were once retail sector are moving to online stores, and specialized third parties are taking over physical distribution and payment. Naturally, store-based retailers are not taking this sitting down and many are reacting by starting to “digitalize” their point of sale. But in order to understand the true impact of digitalization and to react adequately, one needs to think backwards from the consumer and enter the scene at a much earlier stage. In our digital age, need occurrence, shopping and consumption are moving much closer in time and space and are being naturally integrated into our daily routine. If retailers still want their share, they have to build an ecosystem of presence and organize themselves around consumption and lived reality of their consumers. They have to be present in the mind of the consumer at the very instance a need arises. Being recalled in time matters now more than ever.

## Smart Cities, Livable Cities

*Anil Menon*

Urbanization is a truly global trend, affecting populations in developed and emerging regions across all continents. To keep up with the rapid influx of new city dwellers, city leaders are turning to technology. One of the key challenges in many cities is providing safe drinking water. Other major issues in many cities across the developing world are traffic, parking, waste management, lighting, security, education and health care.

The Internet of Things increasingly offers new ways to make our lives as citizens smarter, more efficient and more informed. For example, city governments can charge appropriate fees, deliver tailored services and manage public infrastructure while considering interdependencies. In order to successfully seize the opportunities associated with the current shifts and to anticipate what's coming, city leaders need to recognize and address the interrelationship of all city challenges and their impact across all constituent groups in seeking solutions.

## Effective Display Advertising: Improving Engagement with Suitable Creative Formats

*Norris I. Bruce*

Online advertisers have the non-trivial job of jointly assessing the effects of banner ad design elements available in a large number of such formats. Our research found that animated formats are superior to static formats in most settings. It confirms that they can improve engagement, since they can generate higher recall, attract user attention, and create favorability for the advertised brand. Yet, static formats can still be effective when it comes to price ads and re-targeting. Most interestingly, we found that re-targeted ads are effective only if they offer price incentives. Another interesting finding is that the tactic of serving blanks – for instance, for page views from foreign countries – can distort simple measures of campaign effectiveness, such as click-through rates.





# Digital Transformation and Value Creation: Sea Change Ahead

*Srinivas Reddy and Werner Reinartz*

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KEYWORDS

*Digital Transformation, Value Creation,  
Innovation, Disruption, Change*

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## **The nature of digital transformation: What exactly are we up to?**

Digital transformation is taking place all around us and there is hardly a single aspect of life that has not been affected. In a traditional sense, digital transformation refers to the use of computer and internet technology for a more efficient and effective economic value creation process. In a broader sense, it refers to the changes that new technology has on the whole; on how we operate, interact, and configure, and how wealth is created within this system. It has become clear by now that the digital transformation has an obvious, lasting, and even revolutionary impact, not only on the economic systems and commercial players, but increasingly on the lives of individuals and on society at large:

**It lowers the cost of interaction.** /// All economic systems and market interactions result in costs for information exchange, coordination, safeguarding, enforcing, etc. Digitalization will lower these costs and therefore unleash value; the more exchanges, the higher the potential benefits. More accessible information will reduce information asymmetry between market participants, which will in turn make markets more fluid and influence competition.

## **The structure of information exchange will change considerably.** ///

We are moving from a predominantly unilateral and bilateral exchange towards a networked form of exchange. In other words, individuals and market participants will be involved in a multitude of exchange networks that easily form, grow, and then dissolve again. As a result, the number of connections in economic and societal systems will grow exponentially.

TABLE 1:  
Overview of potential digitalization benefits and risks

	BENEFITS	RISKS, COST AND CHALLENGES
	OF DIGITALIZATION	
CUSTOMERS	NEW PRODUCTS AND SERVICES, GREATER CONVENIENCE, MORE CHOICE, NEW EXPERIENCES, LOWER PRICES	COST OF LEARNING, COST FOR INFORMATION SEARCH, ACTIVITY OVERLOAD, LOSS OF PRIVACY, PERFORMANCE UNCERTAINTY
COMPANIES	GREATER EFFICIENCY AND EFFECTIVENESS, OPPORTUNITIES TO CREATE NEW VALUE AND ENTER NEW MARKETS	LOSS OF EXISTING VALUE CHAIN CONFIGURATIONS, NEW COMPETITORS, FASTER INNOVATION CYCLES, NEW TECHNOLOGIES
INDIVIDUALS	MORE FLEXIBLE WORK MODELS, GREATER WORK PARTICIPATION, MORE FLEXIBLE LIFESTYLES, OPPORTUNITIES FOR CROWDSOURCING AND CROWDWORKING, EASIER SHARING AND RENTING	AUTOMATION TAKES OVER REPETITIVE AND EVEN SKILLFUL TASKS AND REPLACES THE HUMAN WORKFORCE
SOCIETY	MORE EFFICIENT AND EFFECTIVE PUBLIC ADMINISTRATION, BETTER PUBLIC SERVICES	PRIVACY AND DATA PROTECTION, OLIGOPOLISTIC OR MONOPOLISTIC MARKET STRUCTURES, CHALLENGES FOR TAXATION AND REGULATION

**It produces massive amounts of data.** /// The constantly growing computing power and strongly distributed nature of computing capacity leads to so called Big Data. Predictions by Cisco Systems suggest that Internet traffic in 2016 will be around 1 Zettabyte ( $1 \times 10^{21}$  bytes). In comparison, the information contained in all books worldwide comprises about 480 terabytes ( $5 \times 10^{14}$  bytes) and a text transcript of all the words ever spoken by humans would represent about 5 Exabytes ( $5 \times 10^{18}$  bytes), according to a 2003 study conducted by the UC Berkeley School of Information. In this environment, data is accessible everywhere and in real time, which leads to enormous data processing, storage, and retrieval operations. A key challenge is to analyze and interpret patterns in these large data volumes and to gain insights for actionable decisions.

**It is irreversible and will go on.** /// The digital transformation is pervading and transforming our daily lives fundamentally. Moreover, the developments so far are irreversible.

The core driver of these changes is the underlying computing technology. The cost of computation has been declining at an accelerating rate. While the annual cost decline between 1945 and 1980 was on average 37%, these costs declined even more rapidly with an average annual rate of 64% during the 1980s and 1990s, according to Yale professor Nordhaus. As computing power and capacity continue to grow exponentially, and will continue to do so at least within the next decade, the underlying forces will continue their impact.

#### **New value – at a cost**

Digital transformation is expected to bring greater tangible and intangible value. Given the apparent changes, this promise should easily materialize. At the same time, the changes do come with certain costs and risks, sometimes unforeseen. It is thus important to understand the opportunities and potential challenges surrounding value creation in digital environments for the various groups. We will more or less all be affected and not one stone will remain unturned.

{ Box 1 }

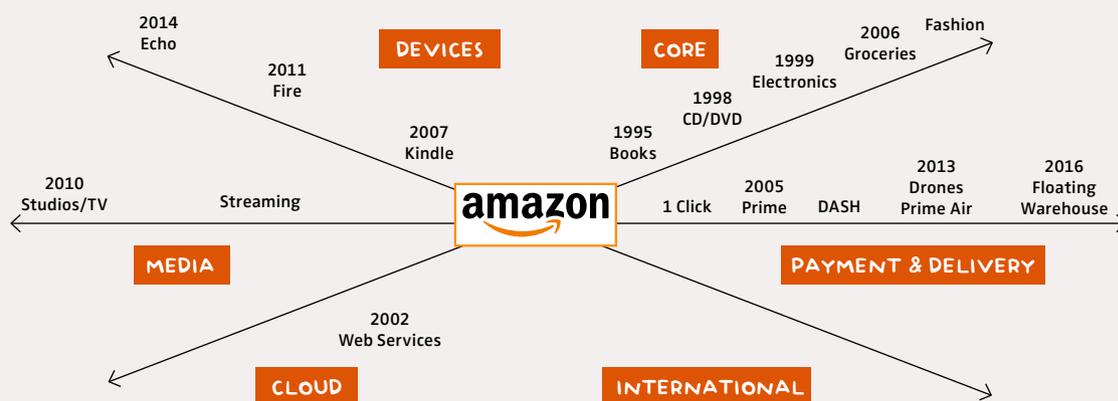


## AMAZON: EVEN YOUNG COMPANIES NEED TO KEEP REINVENTING THEMSELVES

Since its beginnings in 1994 as an e-commerce pioneer selling books and CDs online, Amazon has had to continually transform itself to grow. It has not only expanded its core business by now selling almost everything from electronics to fashion to groceries, but has also evolved into new business areas. Some of those even threatened its own core business: Despite selling physical books, Amazon also introduced the Kindle and eBooks. In addition, it is threatening other businesses like Netflix and TV networks. Also, it became a leader in cloud services and is hugely profitable in this field. Amazon Web Services generates annual revenues of \$10 billion and margins in excess of 80%. It is already bigger than the next four cloud service companies – Microsoft, IBM, Google and Salesforce – combined, and is still growing at 50% annually. Figure 1 illustrates how Amazon kept moving in new business areas over the last 10 years.

One of the lessons from the digital transformation of Amazon is that in this fast changing digital market place, resisting innovation is not an option. Even if some of the innovations fail, as was the case with Amazon's smartphone Fire, you have to keep going. Companies need to cultivate a tolerance for risk and allow themselves to make mistakes. Other lessons for successful transformation are the ability and willingness to go beyond one's core business and the willingness to potentially cannibalize parts of oneself. Amazon's Kindle and offering of eBooks now outsell physical books, and with better profit margins.

**FIGURE 1:**  
How Amazon took advantage of digitalization to  
transform its business and grow



Net sales of books and merchandise in 1995 was \$511,000 and \$148 million in 1997. In 2016, Amazon was selling about 969,000 print books and 1,064,000 eBooks a day. This translates to annual sales of \$3.5 billion and \$2.1 billion respectively.

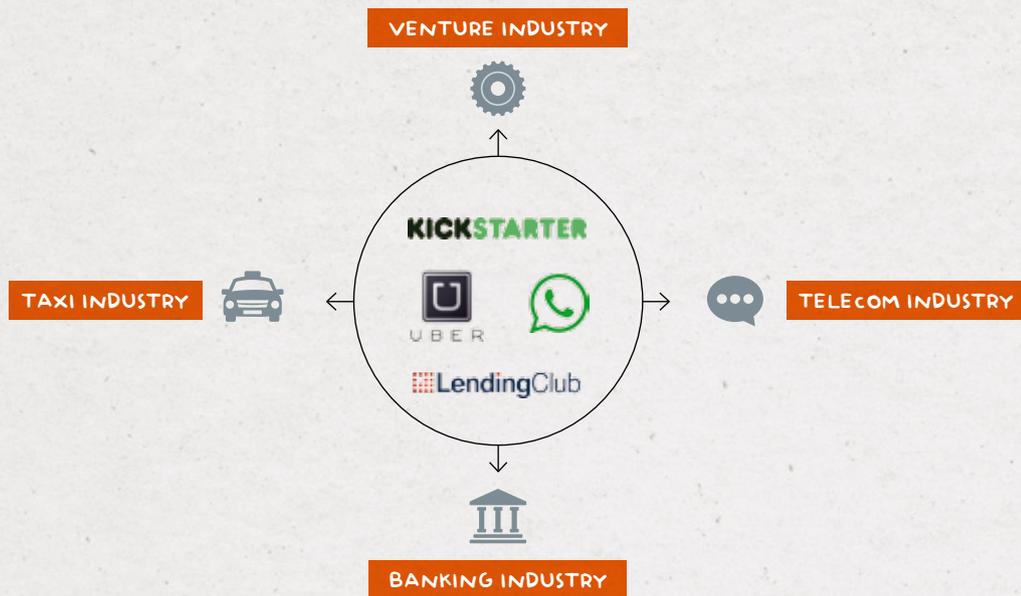
**Customers.** /// For the commercial engagement of customers, the digital transformation brings greater transparency, less information asymmetry, and new customer benefits such as new products and services, greater convenience, more choice, new experiences, and lower prices. At the same time, these opportunities are accompanied by potential costs such as cognitive and/or tangible investments, learning, information and activity overload, and risks such as loss of privacy and performance uncertainty.

**Companies.** /// In business the digital transformation brings greater efficiency and effectiveness of existing value chains, the realignment of value chains, and opportunities to create new value. At the same time, the challenge for incumbents is the potential – and likely – substitution of their core business. The traditional boundaries of companies are evolving – companies may shrink or expand. Furthermore, the competitive landscape is evolving and new competitors,

often from adjacent or even different industries, are now emerging. In addition, the rate of innovation, R&D cycles and product and production cycles is increasing due to customer demands and technological opportunities. Finally, the complexity of operations is surging due to higher speed and the integration of new technology like machine to machine communication or the Internet-of-Things.

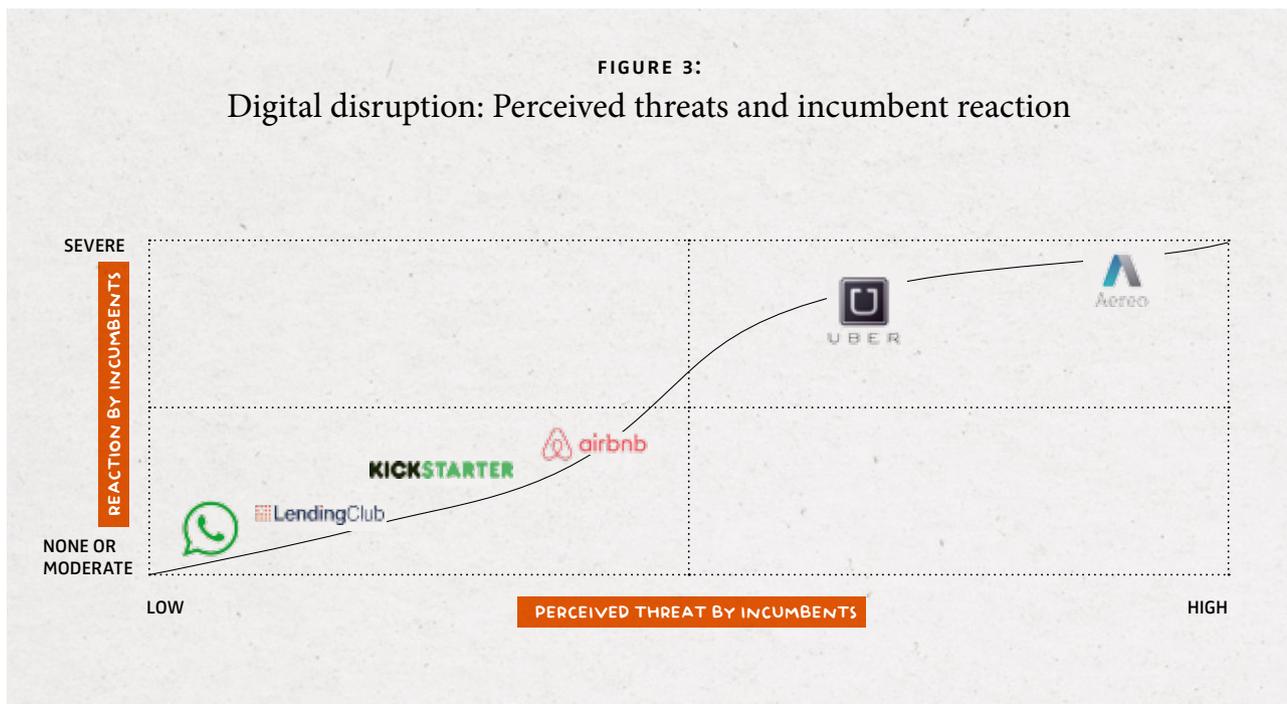
**Individuals.** /// Aside from the commercial advantages, the ongoing transformation is likely to change the nature of employment and physical lifestyles. Digitalization will change the traditionally rigid 8-5 work model and allow for more flexibility in terms of time and place for an increasing share of employed and self-employed people. In addition, individuals will have greater work participation opportunities via crowd-sourcing and crowdworking platforms. At the same time, automation will not only supplant simple, repetitive, and dull work routines but will also comprise more and more “skillful

**FIGURE 2:**  
Digital disruptors in different industries



The **LASIC** principles support successful disruption:  
Low margin, Asset-light, Scalable, Innovative and Compliance-easy

**FIGURE 3:**  
Digital disruption: Perceived threats and incumbent reaction



tasks." Computational machines will be able to accomplish complex activities with high accuracy in ways that had thus not been deemed possible. In terms of lifestyle, sharing and renting will be much easier and is becoming a viable alternative to owning physical goods.

**Society.** /// Lastly, the digital transformation potentially brings value for society at large. It enables more efficient and effective public administration processes and services in terms of providing effective health care, effective city management, and coping with an aging society. At the same time, the digital transformation presents completely untested challenges with respect to privacy and data protection – at all levels that are in dire need for new answers. In addition, one can observe the emergence of certain oligopolistic market structures such as platforms. With all their advantages such as efficiency and global scale, they also carry problems. Potential monopolistic structures may develop and the integrity of taxation might be an issue. In these cases, the net impact on social prosperity still needs to be established. The role that regulation takes with regard to these dynamic developments currently remains entirely open.

#### Transform yourself or face disruption?

In terms of business strategy, digital technology has been transforming businesses dramatically. In some cases, it has provided companies opportunities to reinvent themselves: GE became the "Digital Industrial Company"; Netflix offered

streaming instead of renting out DVDs. In other cases, it has threatened or ended companies' existence, as was the case with Kodak and Xerox. Even "business-youngsters" who were at the forefront of the digital disruption two decades ago are forced to reinvent and transform themselves and their businesses permanently in order to survive and thrive. A case in point is Amazon (see Box 1).

**Digital Disruptors and incumbents' reactions** /// If incumbents themselves don't use digital progress to innovate, others will – and fast. A new wave of digital disruptors and digital start-ups is changing the face of established industries with new technology. Uber is the iconic company that is often cited as the prime example of a digital upstart that has challenged the taxi industry, but Uber is not alone in this: Airbnb is challenging the hospitality industry; crowdfunding companies like Kickstarter are challenging the venture capital industry, and peer to peer lending pioneers like Prosper, LendingClub and OnDeck are challenging some of the traditional functions of the banking industry. All of these technology-based companies have unique features that challenge the status-quo of how business is conducted in established industries.

The researchers Lee and Teo identified five factors – Low margin, Asset-light, Scalable, Innovative and Compliance-easy, which they named LASIC principles – that characterize these new companies and how successful they will be. They suggest

{ Box 2 }

## FIGHT BACK – OR NO? DIFFERENT REACTIONS IN DIFFERENT INDUSTRIES

One example where the established players reacted severely was in the case of **Aereo**. This New York City based technology company developed technology that allowed users to access over-the-air (OTA) HD programs on their internet-connected devices, using a miniature antenna that subscribers rent for a small monthly fee. American Broadcast companies felt this to be an existential threat and battled Aereo in court. After a series of court rulings that were made in favor of Aereo, the US Supreme Court ruled against Aereo for violating copyright laws. Aereo was forced to shut down its operations and broadcasters breathed a sigh of relief.

**Uber** posed a threat to the taxi industry and has faced continuous opposition in most of the cities in which its services have been launched. The perceived threat for small and fragmented taxi and limousine operators was high. They have organized opposition against Uber, sometimes with the help of regulators, but many times without much success. The difference in this case compared to the case of Aereo is that the broadcast industry was more concentrated with big and well-resourced players. In contrast, the taxi industry is localized, small and greatly lacking resources.

On the other hand, **LendingClub**, the peer-to-peer lending platform, which issued over \$9 billion in loans in 2016, received very little attention from the banking industry since it began its operations in 2009. Many banks consider it a drop in the ocean of their consumer lending business of \$3 trillion (in the US) and don't see peer-to-peer lending as a threat – yet!

The Telecom industry has ignored the threat that **WhatsApp** has posed to their messaging business and are, as a result, paying a dear price for it.

that disruptive companies can operate on low margins and have the ability to scale up fast in order to derive profit due to volume. A critical factor in the new disruptive technologies is their asset-light structure. It makes them agile and enables the focus to be placed on technology in order to improve user experience. Innovation of the technology in terms of providing differentiated value is obviously important. As technologies rapidly evolve, they challenge the traditional regulations, which they argue are outdated. In many cases, regulation catches up much later, creating hurdles for the disrupters. It is thus important for these disruptive companies to be either compliant or to work with the regulators and other stakeholders in order to survive and thrive.

And how are the established players in these industries reacting to the challenges and threats that these disrupters are posing and why are they reacting the way they do?

It appears that players in some industries are reacting aggressively and are using different means such as legal measures, regulatory influence, or their own innovation, while others are ignoring these. The reaction or lack thereof appears to depend on how disruptive the incumbents assume the new player will be. If they feel safe in their offering due to their size, existing regulation or assumed customer inertia, the incumbents tend to ignore the threat. If they perceive the new entrant to pose an existential threat, they react fiercely (see Figure 3 and Box 2).

**How to survive ongoing digital transformation** /// This whole issue deals with important aspects of digital transformation and contains valuable insights on how to be successful despite or precisely because of the massive changes. The key recommendations of our select group of researchers and authors from around the globe are as follows:

> **Don't just scratch the surface** /// To become or remain successful, it is not enough to offer a new app or a web shop on top of one's existing business or an old idea. Often, it is the whole business model that needs to be new or reinvented to create real value. In their article (pp. 18), Christoph Zott and Raphael Amit describe how the entire activity system of a company can be reconfigured and which value drivers exist. With Pokémon Go, they demonstrate the profound change necessary to generate a value that hits home in a digital world. In fact, the very basic principles of doing business have changed. The digital world is no longer strictly resource-dominated. Marshall Van Alstyne and Geoffrey Parker describe how platforms are becoming major players (pp. 24). In a platform-domi-



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Digital transformation is expected to bring greater tangible and intangible value, but changes do come with certain costs and risks, sometimes unforeseen.

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nated world, managing relationships is far more important than owning and controlling tangible resources: Uber connects drivers and riders without actually owning any cars, and Airbnb connects hosts and guests without owning any rooms. Scale and value come from the number of external participants, and these join if they get back a fair share of that value.

- > **Innovate – first your mindset, then your actions** /// When everything is new, business ideas need to be new as well. The ability to innovate is therefore more important than ever. Probably, one of the hardest parts is changing one's mindset and avoiding mental lock-in. Assets and success patterns from the past can turn into traps because they foreclose real change. Based on their experience in the market research industry, among others, Andreas Neus, Fabian Buder and Fernando Galdino from GfK offer ideas on how to fight blindness to innovation (pp. 30). New ways of decision making and innovation prepare the ground for future success, as demonstrated by Beiersdorf, the Nivea Company. In our interview, Martin Wulle, who is responsible for global digitalization and e-commerce, illustrates how the company introduces digital thinking to their global, 130-year old business (pp. 58). For a skin-care company, communication in the social media age is a big challenge, and although the media landscape is changing, the essence of their brands needs to be preserved in a re-enacted way. Digital forms of advertising are also a topic discussed by Bruce I. Norris, who presents recent findings on the effectiveness of different forms of banner ads (pp. 53).
- > **Speed up** /// Digital change is happening and it is happening fast. Entire industries will be threatened if they do not react quickly, while others are emerging instantly as if out of nowhere. Traditional retailing, for instance, urgently needs to find its position before digital retailers and other parties take over all their traditional roles. Werner Reinartz and Monika Imschloß discuss the challenges and solutions in this field in their article on pp. 42.

Crowdfunding, on the other hand, is an industry that was virtually non-existent only five years ago. In 2015, its volume already surpassed that of the venture capitalist industry. Srinivas K. Reddy and Yee Heng Tan explain how this fast growing field works and what chances it offers to different market participants (pp. 36). Anil Menon, Global President of Cisco, uses the example of global city growth to illustrate how digital solutions can help governments and societies in handling this pressing issue (pp. 48). In this delicate field, keeping the pace of the inflowing crowds and supplying at least basic services in more and more mega-cities is even a matter of social peace. Handling speed and providing real-time solutions is therefore one of the most critical skills in a digital world.

There is no doubt that we are living in turbulent times, but those who are willing to take some risk and who understand the basic principles of digital change and the impact of technologies will see a bright future. When the sea changes, skillful sailors will still be able to safely steer their boats into new harbors – hopefully into a better world for all of us.

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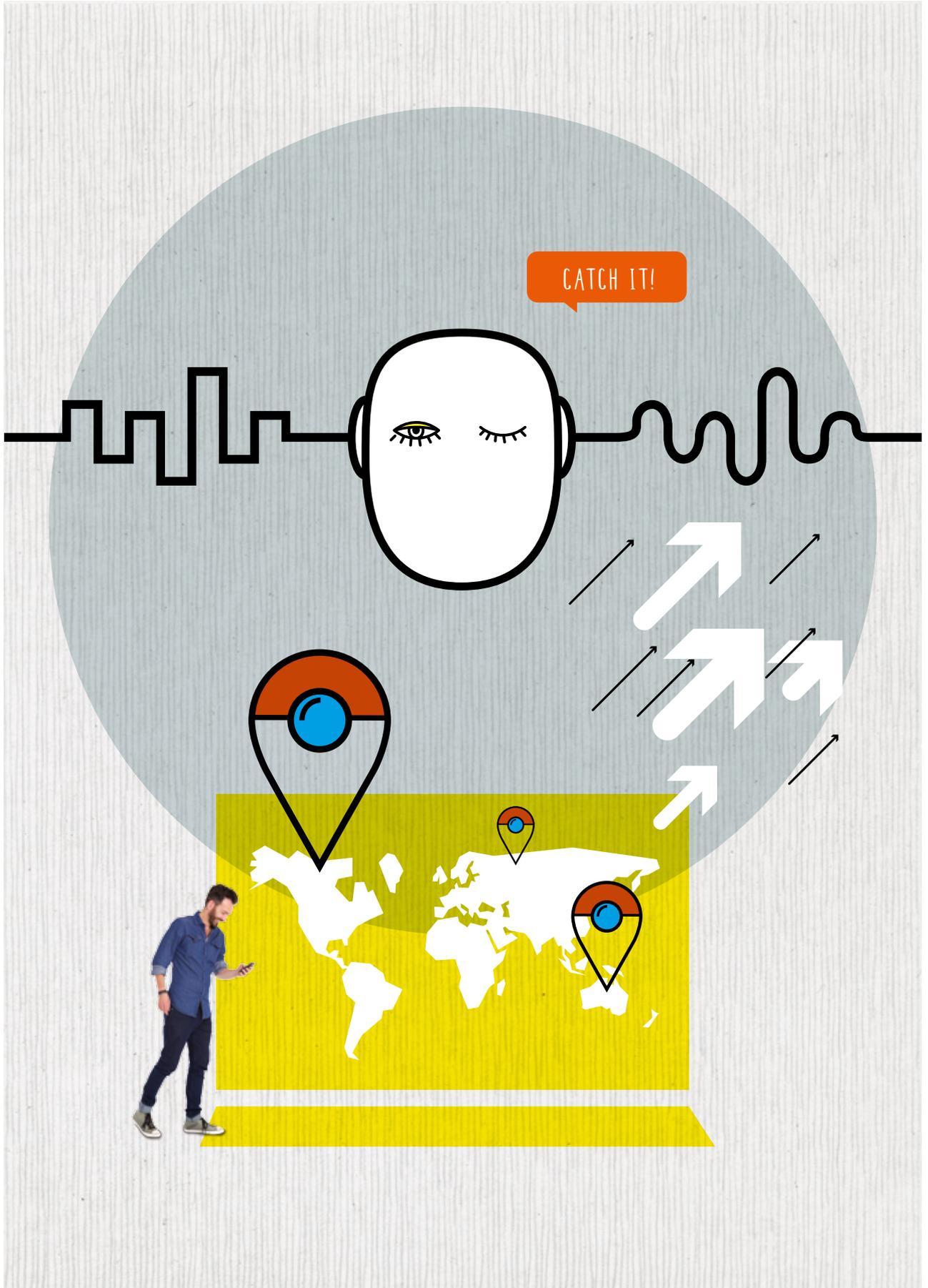
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# Business Model Innovation: How to Create Value in a Digital World

*Christoph Zott and Raphael Amit*

KEYWORDS

*Activity System, Business Model Innovation,  
Digital Innovation, Pokémon GO,  
Value Creation*

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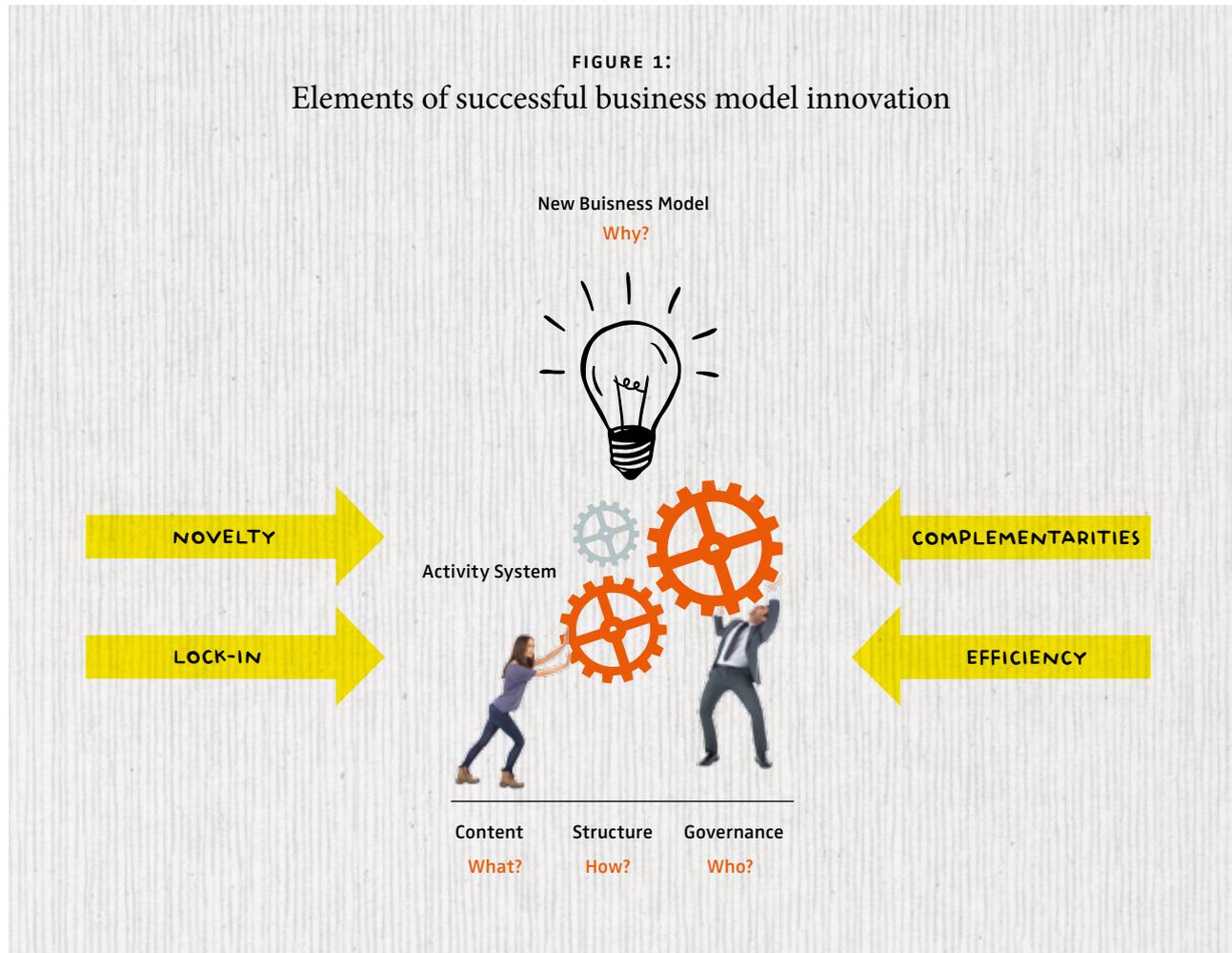
**Digital innovation – one man’s meat is another man’s poison** ///

The digitalization of ever more aspects of consumers’ lives gives rise to enormous opportunities for the creation of new wealth. New apps, new service, new platforms, new data and new devices have become a crowded playground for all kinds of companies that want to tap emerging chances. New companies have entered the scene, sometimes with remarkable success and breathtaking growth. Facebook, founded in 2004, was generating revenues of US\$19 billion by 2015. Or take Airbnb – it was founded in 2008 and was soon nearing revenues of US\$1 billion, also in 2015. While new startups are in a gold-rush mood, many established companies find themselves with their backs to the wall. Traditional retailers, banks, travel agencies, print media and many more are experiencing hard times and fighting to survive. At first sight, entrenched and new players do not have much in common, but when one takes a closer look, it becomes clear that both types of companies face the same challenge: They need to develop new business models that work in the digital world and create value for connected customers.

**New technologies – new value chain** ///

Digitalization came hand in hand with product innovation, from faster personal computers and better smartphones to wearable technology. Now we’re moving towards smart-just-about-everything. But all these new products, applications and services are changing our lives in radical ways. It is not only products or services that become obsolete but also organizational processes and systems because they simply no longer create enough value. To seamlessly account for the digitalization of the business and the customer side, new ideas are mandatory, and, increasingly, the whole business model is the new source of innovation. Business model inno-

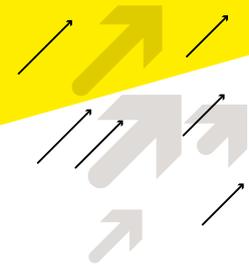
**FIGURE 1:**  
Elements of successful business model innovation



vation is a complete reconfiguration of how a company does business. Its design is one of the most fundamental strategic choices that entrepreneurs and managers can make because it defines how a company taps into the networks of companies and institutions and customers that surround it. It might bring together previously unconnected players; it may link current players in new ways. It can introduce completely new digitally supported activities and drop redundant ones. It stakes out friends and foes and helps companies make crucial decisions when it comes to anchoring their competitive advantage in a digital world. Innovating the business model can bring tremendous value to stakeholders. A smartly designed new business model can increase the total value created for all stakeholders, including customers, partners and suppliers.

**Reinventing a company's entire activity system** /// The business model can be described as a system of interconnected and interdependent activities that determines the way the company "does business" with its stakeholders. In other words, a business model is a bundle of specific activities – an activity system – conducted to satisfy the perceived needs of the market. It specifies which parties within or as business partners conduct which activities, and how these activities are linked to each other. The three design elements that characterize a company's activity system are content, structure and governance. Changing one or more of these elements means changing the whole model. If the new business model is "new to the world" and not just "new to the company" it represents a business model innovation (see Figure 1).

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 A smartly designed new business model can  
 increase the total value for all stakeholders,  
 including customers, partners and suppliers.  
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The content of an activity system refers to the selection of activities to be performed; you can also call it the WHAT of the activity system. For example, after a severe financial crisis in the early 1990s, IBM shifted its focus from being a supplier of hardware to becoming a service provider. Drawing on know-how built over decades, IBM launched a range of new activities in consulting, IT maintenance and other services. The transformation was substantial: By 2009, more than half of IBM's US\$96 billion in revenues came from these activities, which had barely existed 15 years earlier.

The **structure** of an activity system describes how the activities are linked and in what sequence; you can also call it the HOW of the activity system. The online travel agency Priceline.com, for instance, has established links with airline companies, credit card companies and Travelport's Worldspan central reservation system, among others. By introducing a reverse market in which customers post desired prices for the sellers to accept, Priceline developed a fundamentally novel exchange mechanism through which these parties interact and by which items such as airline tickets are sold. Priceline was granted a business method patent on its innovative activity system – a novel structure that continues to distinguish the company from other travel agencies.

The **governance** of an activity system refers to who performs the activities; you can also call it the WHO of the activity system. An example of an innovative governance structure is the recent formation of a consortium of magazine publishers, including Time, Hearst, Meredith and Condé Nast, to develop an online magazine newsstand using multiple digital formats. The resulting company Next Issue Media, is jointly owned by industry rivals and represents a response by competing publishers to declining print circulation and print advertising revenue and to the growth of digital media. Fighting for survival, the publishers are looking beyond their otherwise fierce

competition to their common interests and are offering the app Texture, a new context for magazines in the digital era. Texture plans offer unlimited access to an expansive catalog of magazines – including back issues – for one low monthly price.

**Value Drivers for Business Models** /// But how does a company increase the odds of developing the right business model for its situation? In our earlier work, we identified four major interlinked value drivers of business models: novelty, lock-in, complementarities and efficiency.

**Novelty** captures the degree of business model innovation that is embodied by the activity system. Consider Airbnb's idea of sharing one's living space with paying guests and its sophisticated translation into a sharing platform. This business model was something really new. Or consider Nintendo's remarkable move with Pokémon GO (see Box).

**Lock-in** refers to those business model elements that create switching costs or enhanced incentives for business model participants to stay and transact within the activity system. Imagine, for example, what it would practically mean to switch from the Apple hemisphere to the Android world. Services like iTunes, iCloud and so on not only generate additional income but also encourage loyalty when buying new electronic hardware.

**Complementarities** refer to the value-enhancing effect of the interdependencies among business model elements. Consider, for example, eBay, which offers a platform to conduct sales over the internet among individual buyers and sellers of used and new products. A key requirement for the platform to function properly is a payment mechanism that allows buyers to make credit card payments even when the seller does not have access to credit card services. PayPal, the

{Box 1}

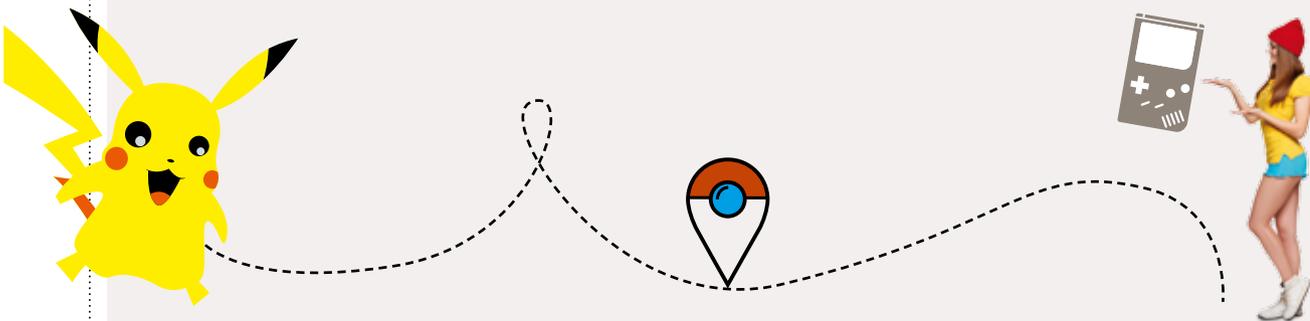
## POKÉMON GO A NEW BUSINESS MODEL FOR NINTENDO

Most people associate Nintendo with the gaming consoles Wii or the handheld DS and with their popular games like Super Mario, Pokémon and others. Only a few years ago DS, 3DS XL, etc. could be found under almost every Christmas tree, but with the increasing omnipresence of smartphones and new and popular gaming apps, less and less was being said about these products. Also the WiiU was associated with modest graphics instead of great improvement.

However, in July 2016, Nintendo opened a new chapter: Pokémon GO was rolled out worldwide within a few days and exceeded all expectation. The monster hunt was suddenly possible in the “real” world with current smartphones, and millions started to move around and chase and fight Pokémon in public places. The Pokémon franchise has always been about wandering a virtual world collecting while training and fighting Pokémon against other players. Replacing the virtual with the physical world was easy enough to think of, but incredibly difficult to execute. The whole business model of Nintendo had to be reinvented.

The only thing that remained the same were the Pokémon characters. They now no longer inhabit Nintendo’s own consoles but appear in a mixed reality created by mobile devices, Google Maps and the physical world. The new platform involved new structures, new governance and new revenue generation systems. A new co-developer, a new distribution system for the app and new forms of monetization had to be installed. At the moment, Pokémon GO’s monetization model is fairly pedestrian -- gamers can buy in-game virtual goods to enhance gameplay. However, more interesting avenues will open up if it is successful in expanding beyond Pokémon fans. Since the game’s mechanics require players to travel to specific locations, sponsored locations might become a massive revenue opportunity. Local businesses could pay to become a sponsored PokeGym or just become havens for rare Pokémon. Based on the foot traffic we have already seen at “hot” Pokémon GO locations, this could soon become a reality.

With their novel way of re-enacting Pokémon fights, Nintendo has succeeded in gaining a significant foothold in today’s mobile world. While it is still too early to estimate the overall success of this mobile venture, it certainly seems that the new business model not only saved Pikachu, Pummeluff, Shiggy, etc. from oblivion but the whole company from a slow steady decline.



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Content, structure and governance can be highly interdependent, and they need to be in line with the value creation and the revenue model of the company.

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online payment company that eBay acquired, offers such a function, facilitating trades that could not otherwise be completed. In other words, PayPal has a value-enhancing effect on the eBay activity system.

**Efficiency** refers to cost savings through the interconnections of the activity system. Consider Wal-Mart, which not only championed the concept of discount retailing but also designed an activity system that supports its low-cost strategy. An important activity within this system is logistics. Over time, Wal-Mart developed highly sophisticated processes, such as cross-docking, unrivaled in the industry. These processes help the company to keep its costs lower than its competitors, giving Wal-Mart an important competitive advantage.

Each of these value drivers enhances the total value-creation potential of a business model but when combined, they can be even more powerful.

**Seeing the whole picture** /// Content, structure and governance can be highly interdependent, and they need to be in line with the value creation and capture goals of the company, such as its revenue model, which could be referred to as the *raison d'être*, or the *WHY* of the business model. Making changes to a company's whole activity system rather than optimizing individual activities such as production requires systemic and holistic thinking, which can be demanding. When responding to a crisis, operating in tough economic times or taking advantage of a new opportunity, rethinking an entire business model may not always be the first thing on a manager's mind. This is particularly true when the level of resistance to change is predicted to be high. As a result, choices about business model design often go unchallenged for a long time – sometimes for too long a time. In disruptive and quickly changing environments, seeing the whole picture and acting upon it early can be a matter of corporate survival.

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(Nov. 21, 2016)



# Platform Business: From Resources to Relationships

*Marshall Van Alstyne and Geoffrey Parker*

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KEYWORDS

*Platforms, Network Effects,  
Digital Transformation, Internet Economy*

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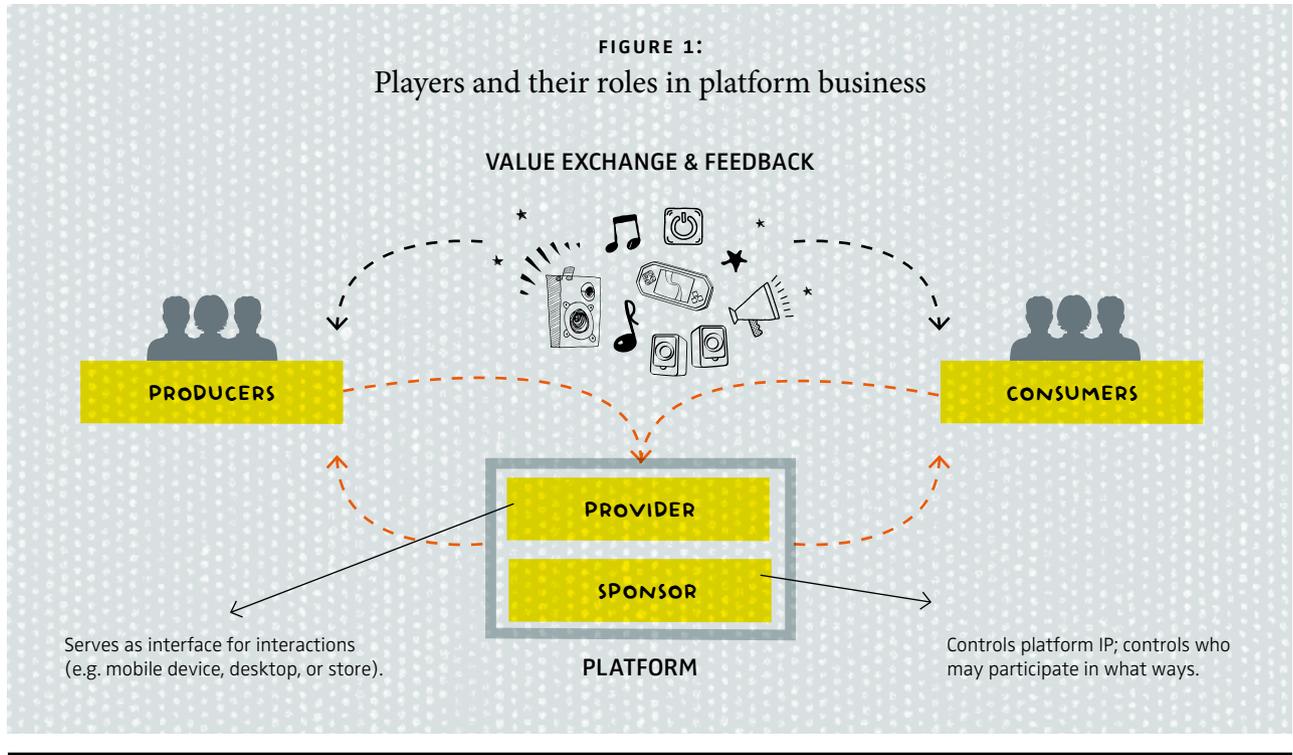
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**From Standard Oil to Google** /// Over time, business success patterns have changed. The engine of industrial era giants such as Carnegie Steel, Standard Oil and General Electric was supply-side economies of scale. These companies achieved market power by controlling high fixed cost resources, by ruthlessly increasing efficiency and by extending their customer bases with competitive prices. Ever since the industrial revolution, a central strategy has been to build a moat around the business that protects it from competition. At the end of the last century, highly successful companies like Coca-Cola, Procter & Gamble and Nike still functioned with this pipeline model of business, controlling a linear series of activities mostly within their own companies – the classic value chain. By investing heavily in mass communication and brand building, however, they stimulated demand and focused more on the power of consumers. Since the beginning of the 21st century, fueled by information technology and the internet, the demand side has become even more important and has, in fact, turned the basic business principles of resource-based pipeline thinking upside down. The new giants, Google, Facebook, Apple, Amazon and the like, function differently.

**Online platforms and the network effect** /// The driving force behind our internet economy is now demand-side economies of scale, also known as network effects. These arise when users create value for other users. They are enhanced by technologies that create efficiencies in social networking, by demand aggregation, by app development and by other network-expanding activities. In the internet economy those companies that achieve higher volume than competitors by attracting more platform participants are able to offer a higher average value per transaction: The larger the network,



the better the matches between supply and demand and the richer the data that can be used to find matches. As users create value for users, value spirals upward, attracting further users. Network effects gave us Alibaba, which accounts for over 75 % of Chinese e-commerce transactions; Google, which accounts for 82 % of mobile operating systems and 94 % of mobile search; and Facebook, the world’s dominant social platform. Platform business has turned the traditional logic of success inside out and has established new rules for success. The reason is simple: Network effects cannot scale inside a company as easily as they do outside. This means that value-creating activities that used to take place inside must now also take place outside companies.

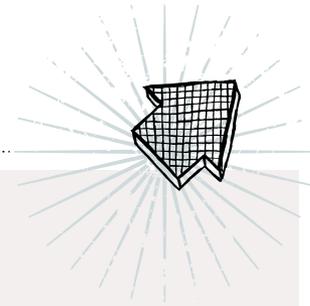
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**How platform strategies work** /// Platform businesses bring together producers and consumers in efficient exchanges of value, and they have always existed: Markets and malls link consumers and merchants, newspapers connect subscribers and advertisers, while travel agencies match tourists with trips. What has changed in the past few years is that, by reducing transaction costs, information technology has profoundly reduced the need to own physical infrastructure and assets. Uber, for example, connects drivers and riders without owning any cars, while Airbnb connects hosts and guests without owning any rooms. Walmart has one of the best inventory management and logistics operations in the world, but Alibaba has grown more valuable without owning any inventory at all.

The main asset of a platform is its network of producers and consumers. In contrast to pipeline strategies, resource orchestration is more important than resource control, and facilitating interactions and managing relationships have a higher priority than internal optimization. Successful platforms seek to maximize the overall value of the whole system in a circular, revolving and feedback-driven process.

Though they come in many varieties, platforms all have an ecosystem with the same basic structure, comprising four types of roles. The owners of platforms control their intel-

{Box 1}



## APPLE: PLATFORM + PIPELINE

When the iPhone was released in 2007, Apple was a newcomer to the mobile phone market. Seven stable, profitable brands like Nokia, Motorola, Samsung, Sony Ericsson, Blackberry and LG controlled 90 % of all handset profits. But within a few years these seemingly entrenched brands were fighting for survival. By 2015 the iPhone generated 92 % of global profits, while all but one of the former incumbents made no profit at all. By the end of 2016, Nokia and Blackberry combined had less than 1 % market share.

How can we explain the iPhone's rapid domination of its industry? Certainly the iPhone had an innovative design and novel capabilities. But that's not the real driver. Apple (along with Google's competing Android system) overran the incumbents by exploiting the power of platforms and leveraging the new rules of a platform strategy. Apple built a platform on top of a product. The iPhone, its operating system and its iTunes store became a conduit for services, connecting participants in two-sided markets – app developers on one side and app users on the other – generating value for both groups. As the number of participants on each side grew, that value increased – a phenomenon called “network effects,” which is central to platform strategy. By January 2015, the company's app store offered 1.4 million apps and had cumulatively generated US\$25 billion for developers.

Apple managed to build a platform business together with a conventional product business: running the app store as well as producing phones and other hardware. Apple shows that companies need not be only a pipeline or a platform; they can be both.



HAVING IT ALL

lectual property (IP) and governance. Providers serve as the platforms' interface with users. Producers create their offerings, and consumers use those offerings. The players might rapidly swap roles or play several roles simultaneously. For instance, users can ride with Uber today and drive for it tomorrow; travelers can stay with Airbnb one night and serve as hosts for other customers the next. Apple provides both the handset and the IP for the iPhone while Google focuses on the IP and lets others provide the handset. Understanding the relationships both within and outside the platform ecosystem is crucial to platform strategy.

**The expansive power of platforms** /// Successful platform businesses tend to move aggressively into new terrain and reframe traditional industries in new ways with little warning. Google has moved from web search into mapping, mobile operating systems, home automation, driverless cars and voice recognition. As a result of this kind of shapeshifting, a platform can abruptly transform an incumbent's set of competitors as well as established rules and success factors within an industry.



Expansion can be fueled by strong relationships within the network. With one foot in the door of a huge customer base, it is fairly easy to expand into new fields, like Google is doing in home automation. Some platforms create new offers, like Uber or Airbnb, attracting customers away from more traditional products. The data collected by platforms can also open doors to new markets – and confront incumbents with new competition – at least in some of the segments they serve. Successful platforms put companies using traditional business models at risk. Swatch knows how to compete with Timex on watches but now also has to compete with Apple. BMW knows how to compete with Ford in automobiles but now is being challenged by Uber. To survive in an increasingly platform-dominated business environment, traditional companies need imagination, a new mindset, new competences and new leadership styles. Plenty of pure pipeline businesses are still highly competitive, but when platforms enter the same marketplace, the platforms usually win. Companies that fail to create platforms on their own or integrate their business into existing platforms are likely to face increasing pressure on their margins as they compete against businesses that can harness multiple revenue streams.

**How to govern platforms successfully** /// The success of platform businesses like Alibaba, Airbnb and Uber is so remarkable that discussion about them often misses just how hard they are to build. For every successful platform, there are many more that struggle or simply don't make it. And even Apple and Google, two of the world's most valuable companies, have had their share of platform failures. Studying success and failure, we identified the following key success factors:

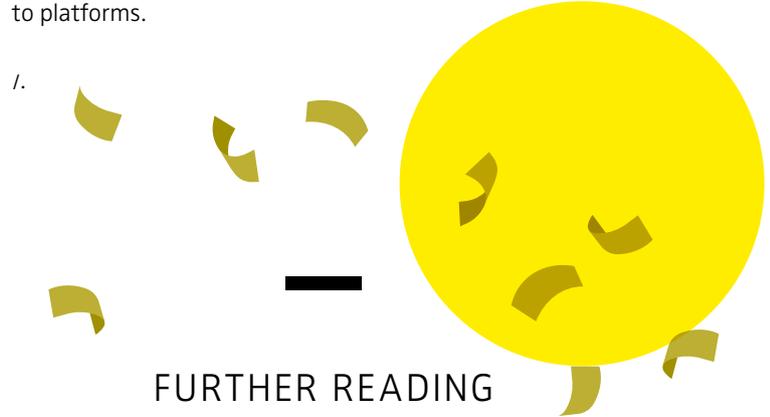
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Successful platforms seek to maximize the overall value of the whole system in a circular, revolving and feedback-driven process.

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- > **Find the right extent of openness** /// Platform owners need to define – and adapt over time – how open they want to be to possible players and how much freedom these will have in framing their interactions with others. If platforms are too closed, the number of participants might be too small to generate attractive network effects. If they are too open, there might be value-destroying effects, such as poor quality contributions or misbehavior that cause others to defect. To be open and ensure quality, Airbnb and Uber use ratings, Twitter and Facebook provide users with tools to prevent stalking and Apple’s app store and Google Play both filter out low-quality applications.
  
- > **Launch small and with the right side** /// Most successful platforms launch with a single type of interaction that generates high value even if, at first, it produces low volume. They then move into adjacent markets or adjacent types of interactions, increasing both value and volume. Facebook, for example, launched with a narrow focus connecting students within Harvard and then opened the platform to college students broadly and ultimately to everyone. Platform managers also have to carefully determine which side of the platform market to emphasize and when to do so. Sometimes at launch it’s important to focus on attracting consumers over producers; sometimes it’s the reverse, and sometime both sides need equal attention from the outset.
  
- > **Focus on critical mass and quality ahead of money** /// If platform monetization comes at the expense of building network effects, it should wait. A critical mass of users is a precondition for creating value at scale. Therefore, other metrics than the traditional financial measures are relevant to assess a platform’s success and potential. Beside the number of participants and interactions, metrics like engagement, interaction failure or match quality should be defined and monitored.
  
- > **Create real value and share it fairly with all participants** /// To create value, committed software developers need to be attracted. They need resources to create a great and valued platform experience. Having valuable interactions is the reason for all players to participate on a platform. The consumer, the producer and the platform all win if the division of value works for everyone. If one party gets insufficient value, they have no reason to stay on board. A simple rule for platform managers is to take less value than they make and to share value fairly with all participants.

In the end, platforms are about relationships. With better relationships come more interactions and with more interactions come more network effects. Orchestrating the value from these interactions is the art of shifting from products to platforms.



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# Are You Too Successful to Digitalize? How to Fight Innovation Blindness

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## KEYWORDS

*Innovation Blindness, Digitalization,  
Digital Transformation, Business Models,  
Mental Models*

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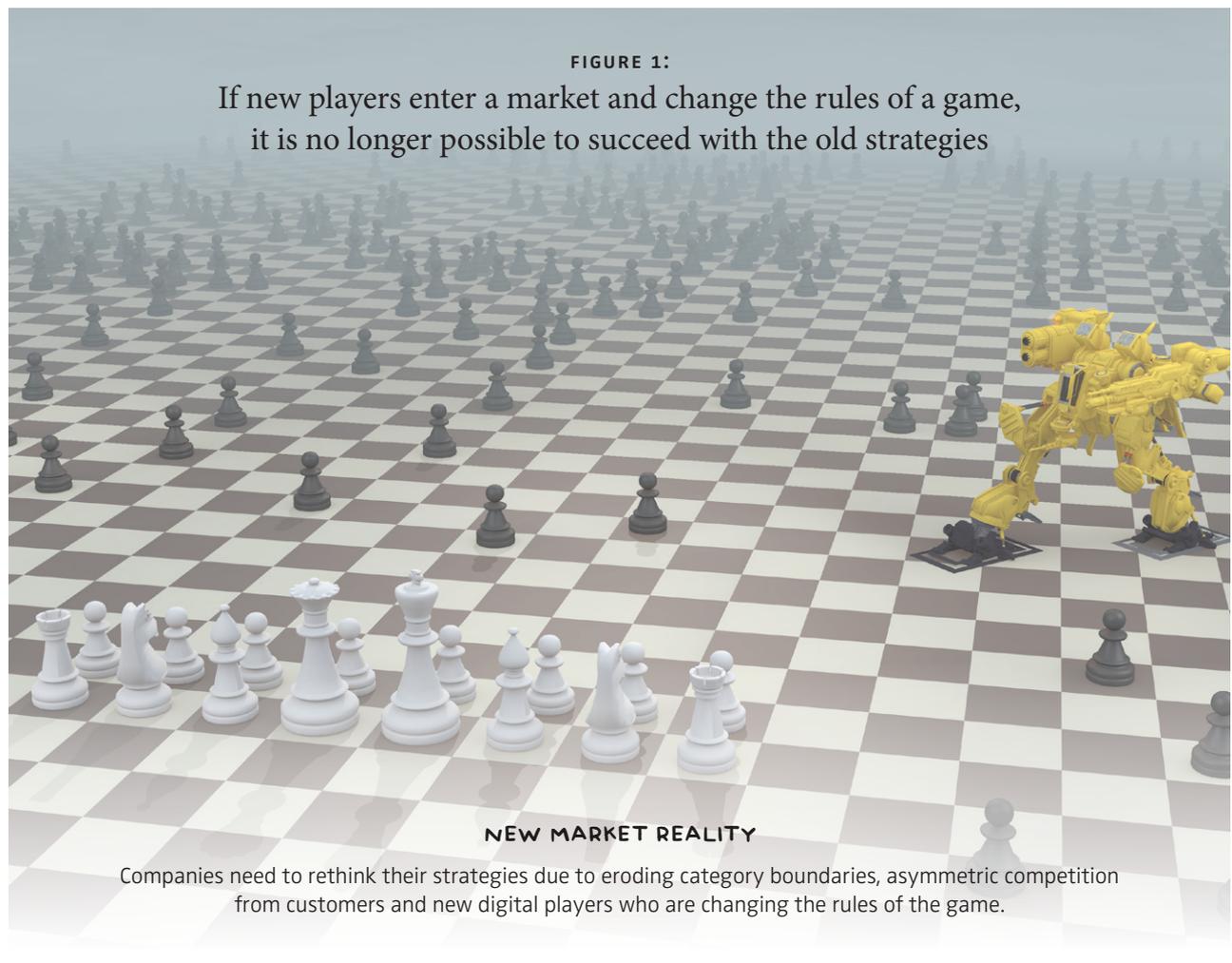
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**The digital turmoil** /// Digitalization is often thought of as a technological challenge, and a seemingly rational response is to hire people with IT and data skills to deal with it. But while it is indeed important to ensure that a company's processes and systems are supported by state-of-the-art information technology, focusing only on this can lead to a false sense of security. The digital revolution is not only changing the way products and services are produced and consumed, but it is also fundamentally changing their perceived value and the competition in an increasingly transparent market. The whole market environment is changing: category boundaries erode, entry barriers are reduced, networks emerge, customers turn into competitors and everything happens much faster. Your company will be affected unless you have a legally guaranteed monopoly – and perhaps even then.

**From technology to a digital mindset** /// What was once considered expertise in the analog world might become a liability in the digital age instead of an asset. Established mental models can sometimes prevent a timely response to digital challenges. Digital transformation requires a digital mindset and new approaches to dealing with both decision risk and decision speed. If we compare the marketplace to a game of chess, then, until recently the players could assume that everybody played by the same basic rules and moved around the same set of pieces. In the digital era, the playing field has become much larger and new pieces have entered the scene, forming new alliances and trying out new moves. Companies that attempt to play the traditional game are in trouble as it is no longer possible to succeed with the old strategies (see Figure 1).



The interesting question is why many traditional companies just don't see what seems pretty obvious: that the game being played is no longer chess. Why are they unable to adapt their mindset, their rules of play to the new realities? What makes them act like a deer caught in the headlights instead of being innovative?

**Causes of innovation blindness** /// Well-entrenched companies seem to hold all the assets needed to adapt and keep succeeding: They have means to attract top talent and should be able analyze their market environment in time to detect and respond to changes. But sometimes even successful companies don't seem to adequately react to a disruptive threat; instead they show symptoms of what we call "innovation blindness." Their blind spots can often be attributed to the following phenomena.

> **Overestimating one's own digital skills: the Dunning-Kruger Effect** /// Many top executives do not have a true digital mindset, and it may be that they are systematically

overestimating their companies' digital competencies. The psychologists Dunning and Kruger found that those highly competent in a task have a good understanding of the limits of their skill and tend to underestimate their abilities. Contrarily, those who are incompetent in a task lack basic insight into how little they know and can vastly overestimate their own skill.

> **Functional fixedness and mental models** /// "Functional fixedness" is when our mental models concerning a problem or a solution are so engrained that we fail to recognize other perspectives or other applications. This is especially dangerous in a rapidly changing market environment. Deep expertise that used to be an asset turns into a liability: Improving push-button-phone functionality won't help against smart phones.

> **Sunk cost fallacy – reluctance to kill doomed projects early enough** /// When companies stubbornly throw "good money after bad" in the hope to turn a failing pro-

ject around, it can be due to a combination of the sunk cost fallacy and a reluctance to document failure. Ironically, if a company culture is too focused on “perfection” – rather than learning from small failures – it can end up systematically rewarding large failures by hiding troubled projects as long as possible. With regard to digitalization, learning happens too slowly and resources are being wasted.

**The end state of innovation blindness: the zombie organization** /// We call the end state of an organization that is unable to read the signs of its market a “zombie organization.” A zombie organization has stopped responding to market feedback. It simply seems to keep doing what it has always done, even though outside observers can see the market no longer values the product or service the zombie organization traditionally offered. It behaves like an organism whose higher cognitive functions have been paralyzed but whose brain stem is still keeping basic functions operational. Once you have reached that state, it will be hard to interest digital talent in the company, and a successful digitalization becomes very unlikely.

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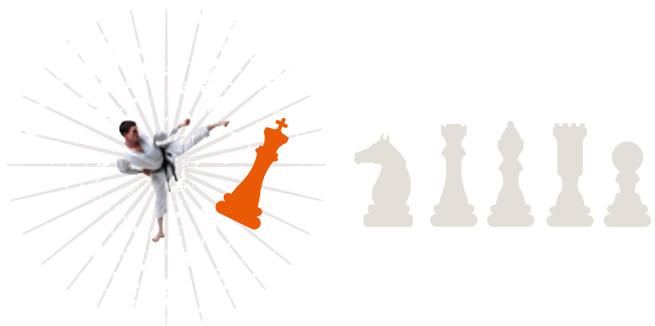


FIGURE 2:

## Unchecked assumptions might be hazardous to your business model



### SURELY ALARM

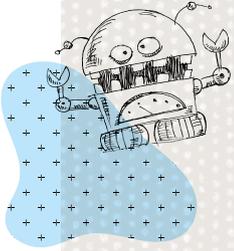
- Surely we fully understand what our clients value us for ...
- Surely people cannot beat our quality, especially not at a lower price point ...
- Surely new entrants in the market first have to catch up before they can overtake us ...
- Surely our customers will not be able to do this themselves ...
- Surely we understand new technology well enough to do our own digitalization ...
- Surely we would know if there was an existential threat to our business ...



USE THE "SURELY ALARM" TO CHECK ASSUMPTIONS ABOUT YOUR MARKET, YOUR CUSTOMERS, YOUR ADDED VALUE AND YOUR DIGITAL SKILLS.



## Zombie Alert: How to steer your organization into the digital age



### RING THE "SURELY ALARM"

Check your business model's assumptions and adjust accordingly

### EXPOSE THE CARGO CULT

Rapidly prototype ideas to test if they hold true or are just make-believe

### MIX WITH THE "NATIVES"

Find digitally talented people and let them guide you in this new territory

**Fighting innovation blindness** /// Innovation blindness is caused by holding onto outdated mental models and assumptions about how the world works. There are, however, a few things that can be done proactively to avoid major pitfalls in the digitalization of a business.

> **Challenge your business model's basic assumptions with the "surely alarm"** /// Business models are built on assumptions about customer wants and needs, unique value propositions, core competencies, market mechanisms, etc. Often the assumptions most fundamental to a business model are not recognized as assumptions but treated as irrefutable facts: "This is just the way our industry works." It is precisely these underlying assumptions that may be challenged by disruptive competitors who use digital tools to their full extent. Therefore seemingly given facts need to be challenged and checked against reality or empirical evidence to identify strategic failure in time.

To catch decision biases due to untested assumptions, the philosopher Daniel Dennett recommends using the "surely alarm." Whenever someone says – or thinks – "surely this is the case..." one should pay special attention to the claim being made and challenge how "sure" this is (see Figure 2). The reverse exercise can be illustrative as well: If you find yourself saying "This will never happen in our industry!" then you should assume that some startup is already working on this because it is a blind spot in the industry.

> **Beware of "digital cargo cults" — market evidence must trump appearances** /// Not every digital action is a valid response to digital transformation. Nevertheless, leaders might be inclined to think that they are on track because they are not familiar enough with the logic of the new system. What happens in such a case can be demonstrated very well with what are known as cargo cults. After temporary airbases in the Melanesian islands had been abandoned after the Second World War, the locals recreated the external appearance of airplanes, landing strips and control towers using wood and palm leaves in an attempt to lure back the military planes that were bringing cargo to the island. The scientist and Nobel Prize winner Richard Feynman used this example to criticize what he called cargo cult science: activities that mimic the appearance of scientific activity to the layperson. Typically, complicated terminology is used – without actually following the essence of the research object and without stringent hypothesis testing.

Companies trying to run digital transformation projects without actually putting digital talent in positions of power are running a similar risk. The result can easily be something that looks digital to the companies' top management – after all, it uses the "IOT" and has a "platform" and even a cool "app" for smartphones! But top management may not realize that under the surface, their activities lack the essence of what makes digital projects successful: creating new added value, dramatically increasing speed and ease of use, reducing complexity and lowering costs substantially.

- > **Apply design thinking for rapid prototyping and a fast-failure culture** /// Design thinking has moved into the corporate mainstream over the last two decades after starting out as a niche for developing new products or services. One of its core practices is a rapid iteration of simple, rough prototypes allowing enough user interaction to elicit meaningful real-world feedback: “A prototype is worth 1000 words.” A key difference in the design thinking approach compared to traditional development is that failure is an accepted – and even celebrated – part of the process. Acknowledging the inherent risk in a truly new development implies making many small bets by seed funding parallel projects and accepting that most of them will not work. The key lies in then selecting and scaling those “minimal viable products” that have shown to work.
- > **Transform decision-making to attract digital talent in time** /// If you want to attract top digital talent, hierarchy can be a strong deterrent. In the 2016 Global Perspectives Barometer, about 800 “Leaders of Tomorrow” cited “hierarchy that slows down decision-making” as the second most substantial risk for established companies in today’s fast-paced markets. The top risk was “innovation blindness,” the inability to recognize the need for a decision and staying passive in a quickly changing environment. When it comes to good decision-making, experience from the pre-digital era is much less valuable in the eyes of the “Leaders of Tomorrow” than openness to new ideas and the ability to manage the flood of digital information. In order to keep their best employees, companies must involve them more closely than before in the decision-making process and delegate more decisions.

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Once you have reached the state of a zombie organisation, it will be hard to interest digital talent in the company, and a successful digitalization becomes very unlikely.

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**The future is already here – it is just not very evenly distributed** /// To get your fair share of the future, do not look at digitalization as an internal technology problem. Look at its impact on your customers, your categories, your markets and transaction costs. Digitalization is a challenge because it creates new products, services and market mechanisms; eliminates barriers to entry; erodes category boundaries and violates some of the basic assumptions on which current business models are built. Therefore, learning from start-ups rather than relying on experience seems more adequate. If you can attract savvy digital natives and give them the authority to be critical, flexible and value oriented, your chances to survive or even grow in a transformed business world will still be good. Leave the zombie role to others!

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# Crowdfunding: Financing Ventures in the Digital Era

*Srinivas K. Reddy and Yee Heng Tan*

KEYWORDS

*Crowdfunding, Digital Interactions,  
Platforms, Online Communities,  
Digital Economy*

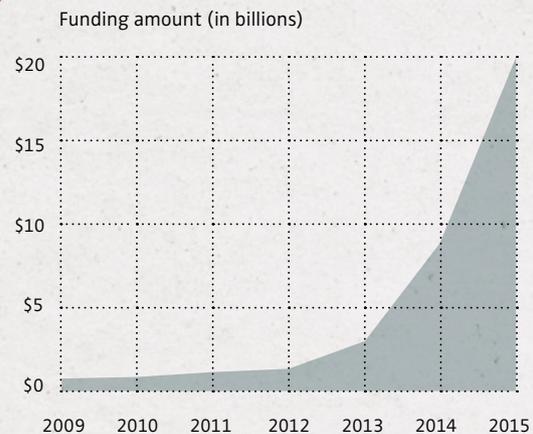
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**Digitalizing the funding industry** /// Over the past few years, digital platforms have emerged as a new way to disrupt industries. These platforms not only connect riders and drivers, like Uber, or hosts and guests, like Airbnb, but also ventures and funders. Crowdfunding platforms like Lendingclub or Kickstarter have gained widespread visibility and acceptance in recent years. Crowdfunding was virtually non-existent until 2010 but has been growing exponentially since 2010. In 2015, the volume rose to US\$34.4 billion, slightly surpassing the venture capitalist industry and is expected to continue growing quickly.

FIGURE 1:  
Crowdfunding growth  
from 2009 to 2015



Source:  
Drawn from Massolution's Crowdfunding Industry Research in 2012, 2015, 2016

### Crowdfunding – using the digital space to raise money

/// Crowdfunding is a method of raising funds to support a venture, typically by raising small amounts from a large number of investors. This whole process is conducted on an online platform that facilitates interactions between project creators and potential contributors, called backers.

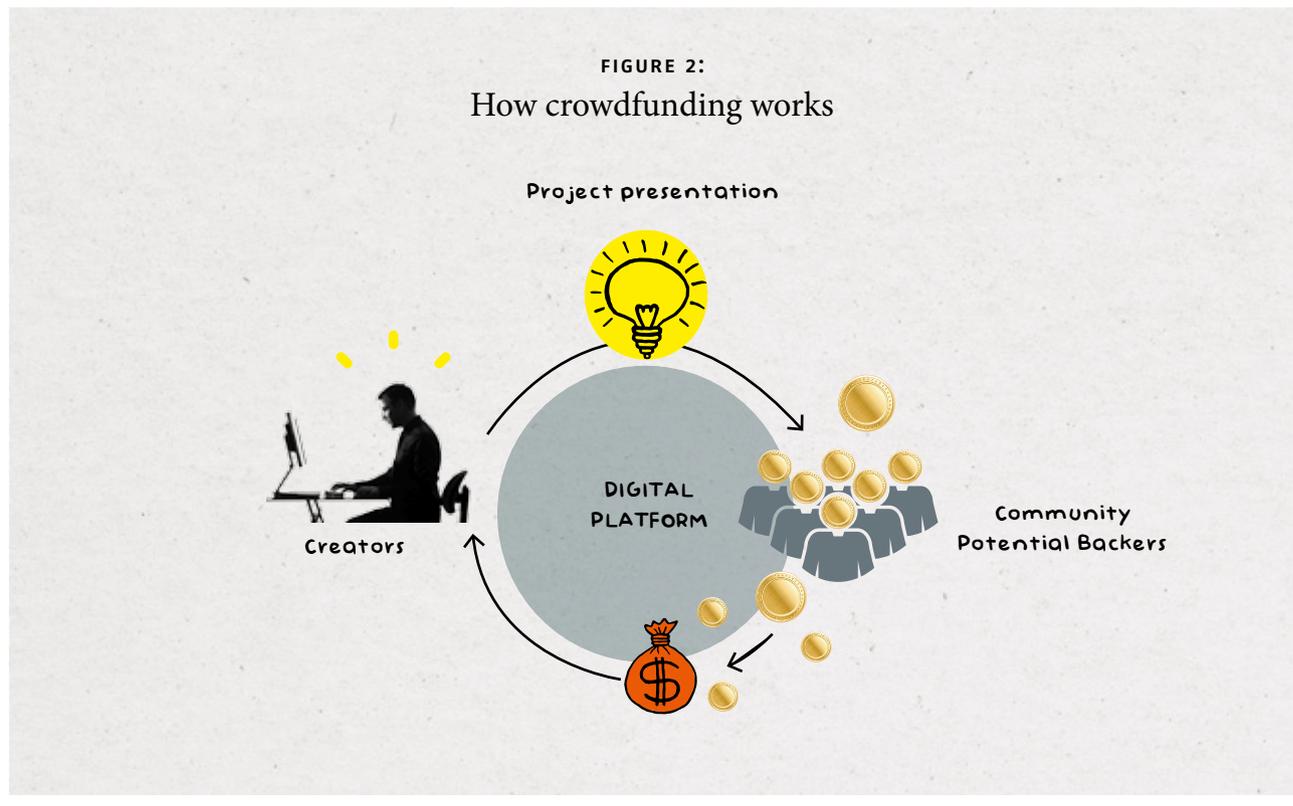
Typically, a project creator posts a project on a platform seeking a certain amount of funds for some venture. Potential backers view the project and contribute money if they are convinced of the idea. In most cases, these backers receive something in return. With many backers contributing different amounts, the projects may meet their funding goals and the project creators can move on with their ventures. Although the crowdfunding model is similar across all platforms, the platforms cater to groups with entirely different motivations. Basically, there are four different crowdfunding models:

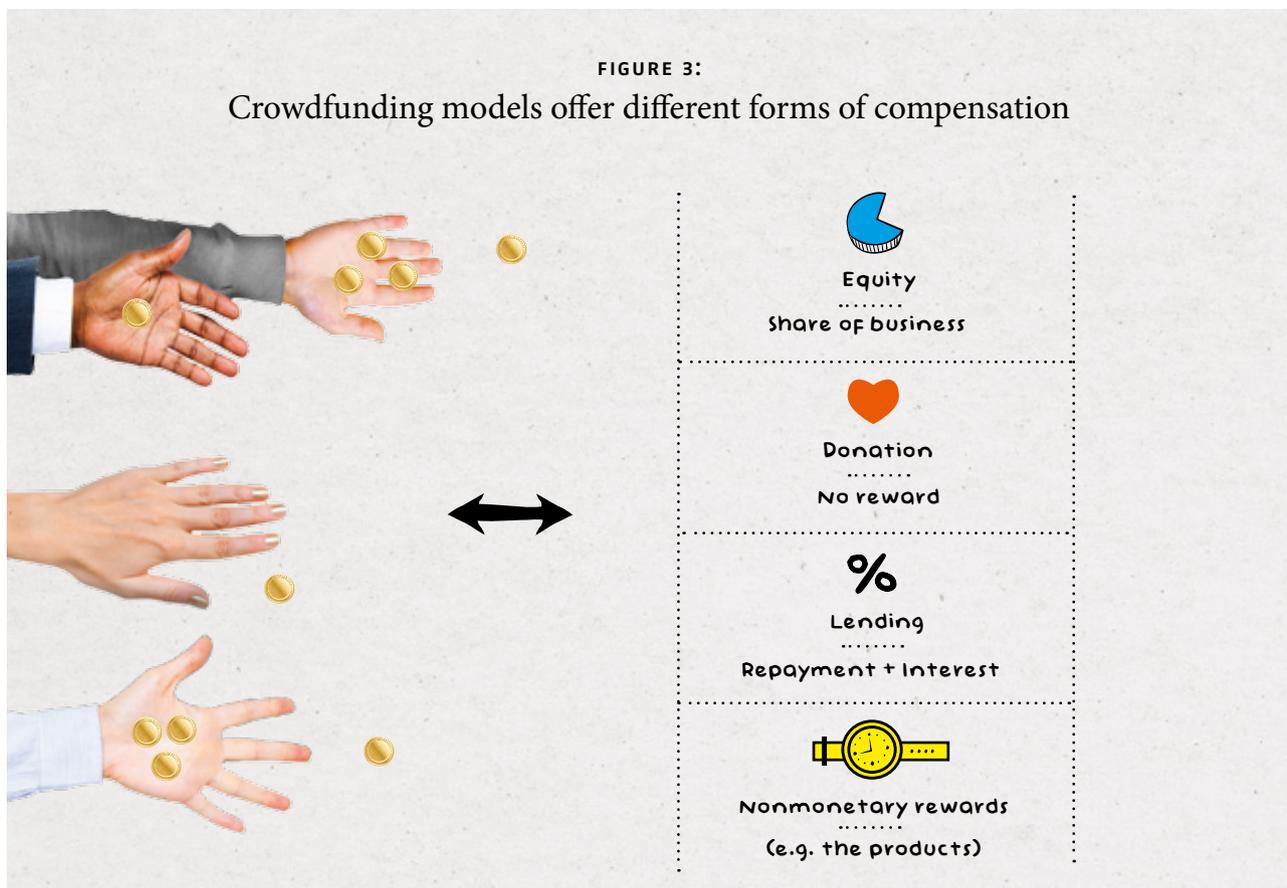
> **Donation-based crowdfunding** refers to charitable causes. Typically, there is no reward and contributors are genuinely

trying to help. An example of this form of project is the Pulse Victim Fund posted on GoFundMe after the 2016 Orlando Shooting.

> **Reward-based crowdfunding** is the most common form of crowdfunding. Typical projects are frequently covered in different media, and sites such as Kickstarter and Indiegogo corner a large proportion of the reward-based crowdfunding market. Their contributors receive a compensation or perk - which can be symbolic, such as mere appreciation; or tangible, such as the funded product. An example of this form is the Pebble Watch (see below), which has raised millions on Kickstarter.

> **Equity-based crowdfunding** shares the profits of a venture by offering contributors ownership in the business in exchange for their investments. Sites such as EquityNet and CrowdCube allow startups and small businesses to solicit funds from potential contributors who are interested in selling their share later for more than their investment. Examples of successful equity crowdfunding projects are





E-Car Club, an electric car sharing business that was sold to Europcar. Its contributors earned a substantial surplus on their investment.

- > **Debt-based crowdfunding** is where people seeking to borrow money apply through sites such as LendingClub and Prosper. Investors who choose to loan money to these borrowers will be able to get back their loan with interest. Their rates tend to be lower than bank rates but still generate strong returns for investors.

**Crowdfunding – supplying more than just funds** /// The main motivation for using crowdfunding is the access to funds from the community. Certain projects may be unable to access traditional funding sources for various reasons – institutional investors may doubt a project’s success, the size of the market may seem too small or the creators may not have an appropriate track record. In inviting communities to act as gatekeepers, crowdfunding effectively allows the free market to regulate project survival.

In addition, crowdfunding fulfills other functions that may be useful for creators. In the words of Richard Branson, founder of Virgin Group, it provides a connection to people by ensuring “market validation, access to new investors, promotion, community exposure and real-time feedback.” Businesses can use community interest as a metric to gauge market response. A project that is unable to achieve funding may indicate failure and thus save creators the time and effort they might otherwise have invested in the project.

Even established companies have used crowdfunding to test the demand for or appeal of new products. It enables creators to engage with communities and to listen to their feedback throughout the entire development process.

**Crowdfunding – success or failure?** /// Crowdfunding is able to help projects that would otherwise have fallen through the cracks, and there are many success stories. In 2012, for instance, Eric Migicovsky crowdfunded his idea of a smart watch, called Pebble Watch, after being rejected by venture

{ Box 1 }



## CROWDFUNDING PATHS TO PROJECT SUCCESS

### > Select the right platform

Choosing the correct platform for a project is important, as the platform itself can influence the expectations for a project. It is important to check the platform architecture – its layout and settings. Certain platform features may impact a project. For instance, the platform's level of privacy control can affect the contribution amount of backers. The community that surrounds each platform may differ as well. Even though some backers may be personal contacts, a lot of other backers will originate from the platform itself.

### > Communicate the project well and accurately

A high-quality project description on the crowdfunding page, coupled with keeping backers updated, will increase the likelihood of project success. The early stages of a project are particularly important and creators should reach out to as many potential or influential backers as possible in order to generate traction for their project. The following recommendations help to ensure that a crowdfunding project remains on track.

EARLY STAGES OF CAMPAIGN:	LATER STAGES OF CAMPAIGN:	POST-CAMPAIGN PHASE:
<p><b><u>GENERATE INTEREST</u></b></p> <p>PROMOTE YOUR CAMPAIGN TO YOUR OWN SOCIAL CIRCLE</p> <p>INCREASE THE VISIBILITY OF YOUR PROJECT</p> <p>BE TRANSPARENT ABOUT THE COSTS OF THE PROJECT, YOUR CAPABILITIES AND WHERE THE MONEY WILL GO TO</p> <p>CREATE A VIDEO AND UTILIZE SOCIAL MEDIA AND THE PRESS TO SPREAD THE WORD</p> <p>DESIGN APPROPRIATE REWARDS FOR BACKERS</p>	<p><b><u>EXPAND OPPORTUNITIES</u></b></p> <p>UPDATE BACKERS ON PROGRESS OF CAMPAIGN</p> <p>ADDRESS CONCERNS OF POTENTIAL BACKERS</p> <p>EXPAND ON THE REWARDS IF NEEDED AFTER BACKER FEEDBACK: OFFER DIFFERENT COMBINATIONS OF REWARDS</p> <p>CAPITALIZE ON MOMENTUM GENERATED IN THE EARLY STAGES</p>	<p><b><u>DELIVER</u></b></p> <p>KEEP IN CONSTANT COMMUNICATION WITH BACKERS</p> <p>GET BACKER FEEDBACK IN THE EVENT OF ANY CHANGES TO THE PROJECT</p> <p>BE UPFRONT WITH ANY POSSIBLE DELAYS</p>

### > Leverage prior experience and personal networks

Previous successful crowdfunding projects by the creator and a large social network can help a project succeed. Social capital is especially important in the early stages of crowdfunding as crowdfunding often exerts a multiplicative effect on backers. Potential backers not only provide contributions but can take the role of marketers as they are able to influence others within their social circle to contribute to the project as well.

### > Don't promise too much

Even if projects succeed at the funding phase, they might be unable to deliver their promise to backers. Most of these cases stem from issues with the manufacturing process - from underestimating the funds needed or from overpromising during the funding phase. Such backlashes may affect the creators' future projects. In some cases, a civil lawsuit may even be filed against them.

capitalists who considered his idea too risky. He set up his project on Kickstarter, and the community rallied behind him. At the end of the crowdfunding period, the project raised US\$10,266,845 from 68,929 backers, exceeding its funding goal of US\$100,000 by more than a hundred times. Following that, the company has earned US\$60 million in revenue just in their first year. Pebble Watch has since gone on to create two other crowdfunding campaigns – a new smartwatch raised over US\$20 million from 78,471 backers in 2015, and a heart rate-enabled smartwatch raised over US\$12 million from 66,673 backers in 2016.



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Crowdfunding enables creators to engage with communities and to listen to their feedback throughout the entire development process.

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However, these impressive cases of success are in the minority. On average, success rates for crowdfunding have been moderately low. Kickstarter, the most popular crowdfunding site, has a success rate of 35 %, with certain categories such as technology garnering only 20 %. As a huge majority of projects fail, it is important to learn from success stories. Crowdfunding is by no means easy. It is necessary to manage the expectations of diverse stakeholders during the whole funding and development process, all of which may affect the success of a venture. Disappointing the community can result in a huge fallout that may adversely affect the business. Box 1 lists important success factors.

**The future of crowdfunding** /// Consumers have often been told to vote with their wallets, and crowdfunding is yet another powerful way to do so. It has given a voice to

the community, in allowing individuals to co-finance projects that they deem promising. Its power has been vastly underestimated until recently. As the crowdfunding scene matures, many platforms are evolving to focus on niche sectors. Innovative sites are on the rise for all of the four basic models. The Threshold site, for instance, allows backers to launch campaigns that petition companies for a change in their behavior in exchange for a large purchase commitment. Crowdfunding platforms continue to give communities with diverse motivations and backgrounds a larger voice in determining which ideas will be given a chance to enter the marketplace. By lowering entry barriers to financing, they will continue to help more people in realizing what they believe in. Typical backers may be more invested in their ventures than typical angel investors, whose main concerns tend to be returns on their investment. By opening doors and supporting projects with committed people, crowdfunding will continue to increase welfare in all parts of our world.

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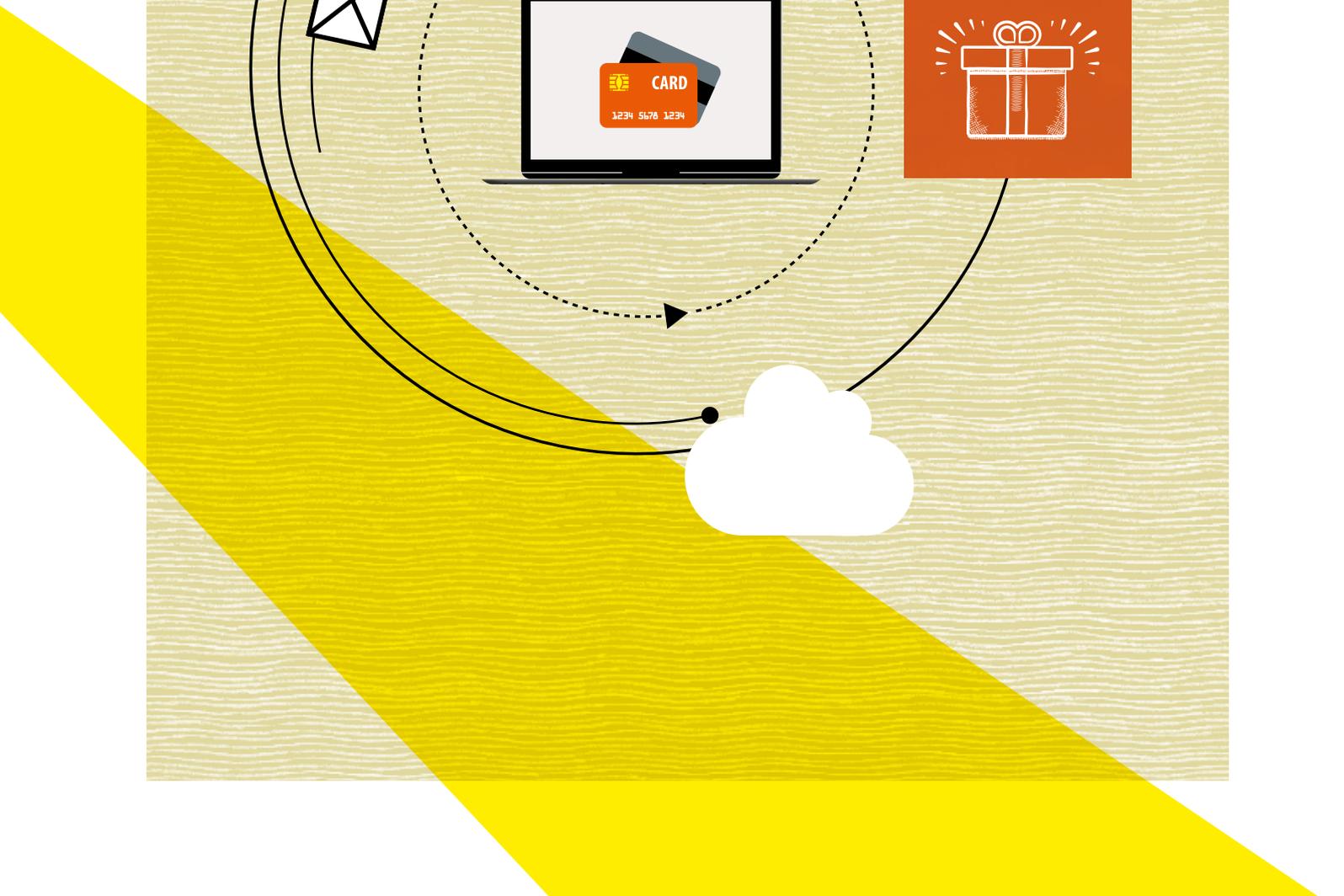
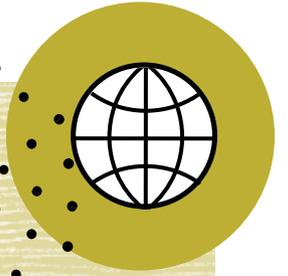
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# From Point of Sale to Point of Need: How Digital Technology Is Transforming Retailing

*Werner Reinartz and Monika Imschloß*

KEYWORDS

*Digitalization, POS, Retailing,  
Ambient Shopping, Customer Need*

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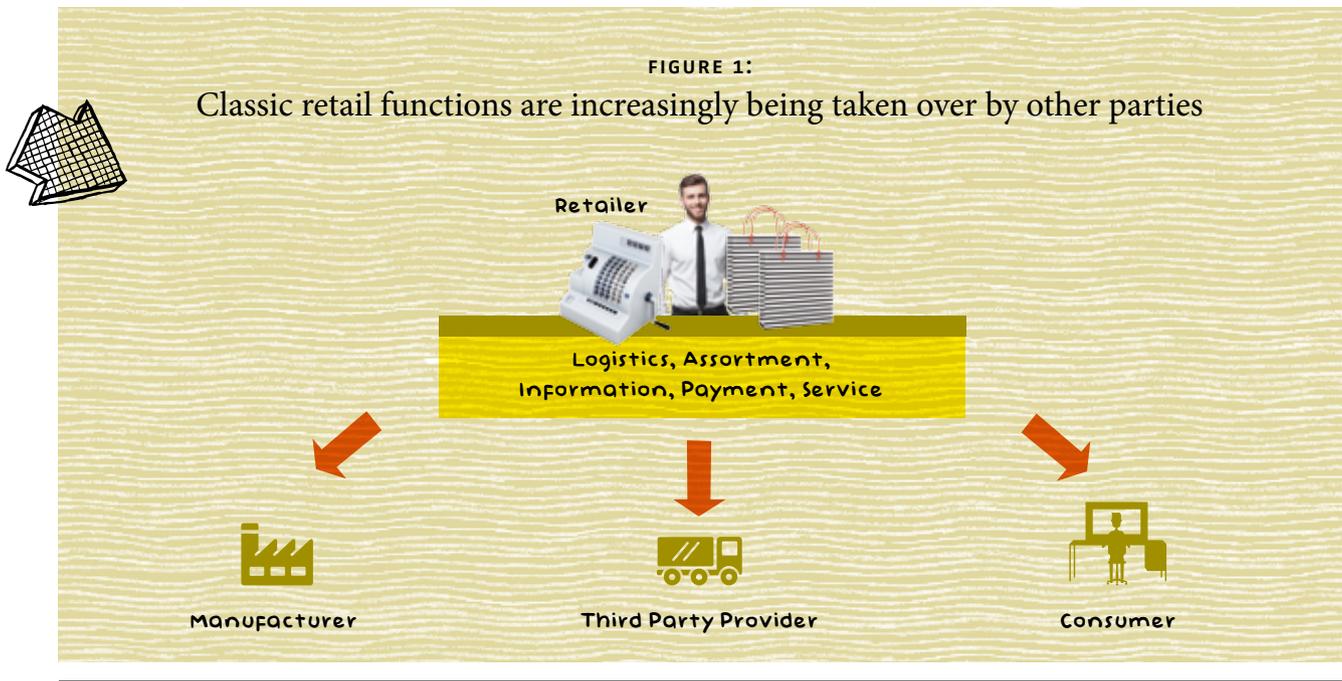
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**21st-century shopping** /// Once upon a time – actually no more than ten years ago – we used to drive to a nearby store to buy the products we needed. At that time the classic, neatly organized retailing value chain was still in place: Manufacturers developed and produced products and brands. The retailers' role was to distribute those products physically, to build an assortment, to inform and counsel customers, to conduct the legal transaction and payment and, finally, to offer additional services.

Today, ever more consumers are acting very differently: To purchase certain products they do not even go near a brick-and-mortar store, and if they do enter a store they are often so well informed that a clerk has little service to add. It's normal that consumers extensively browse online before they purchase, looking at product ratings and reviews, like on Idealo or Yelp, or at manufacturers' websites. More and more they buy online immediately – at Amazon, for instance, or a manufacturer's own online store. As a consequence, specialized third parties take over other previously retailer-bound, activities. DHL and other carriers organize physical distribution and payment is done via PayPal or credit cards.

**Digitalizing the point of sale won't be enough** /// Naturally, store-based retailers are not standing still in light of these developments. Rather, they are reacting by starting to "digitalize" their point of sale. Depending on the product category, this may include measures such as the introduction of shopping apps, RFID-based inventory management, digital loyalty programs, geofencing, smartphone-based in-shop navigation, digital product location maps, intelligent dress-



ing rooms and many other new technologies. While these POS-oriented innovations are a seemingly valid response to the purely online players, they address the consequences of the digitalization only superficially. They still do not address the actual underlying problem – the increasing impact of digitalization on consumption itself and not just on the mere store transaction. Instead of asking how the traditional point of transaction in a physical store can be just digitally augmented, retailers should rather ask how digitalization can be used to bring new value to their consumers along the entire consumption process. This is where the actual competition in the future will take place.

### Starting out with the digitalization of consumption ///

In order to understand the true impact of digitalization, one needs to think backwards from the consumer. The classic consumption model encapsulates the three basic stages of need occurrence, of the actual transaction or shopping and of consumption. These steps tend to be seen as discrete and temporally as well as physically separated. For example, a consumer runs out of cereal, writes this on the shopping list, goes to the store sometime later to buy the product and eventually starts consuming cereal again back at home. According to this model, the traditional role of retailers primarily becomes apparent in the transaction stage when consumers visit the store to buy the product.

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Digitalization offers the opportunity  
to have an impact on consumers'  
decisions much earlier – right when  
a need occurs.

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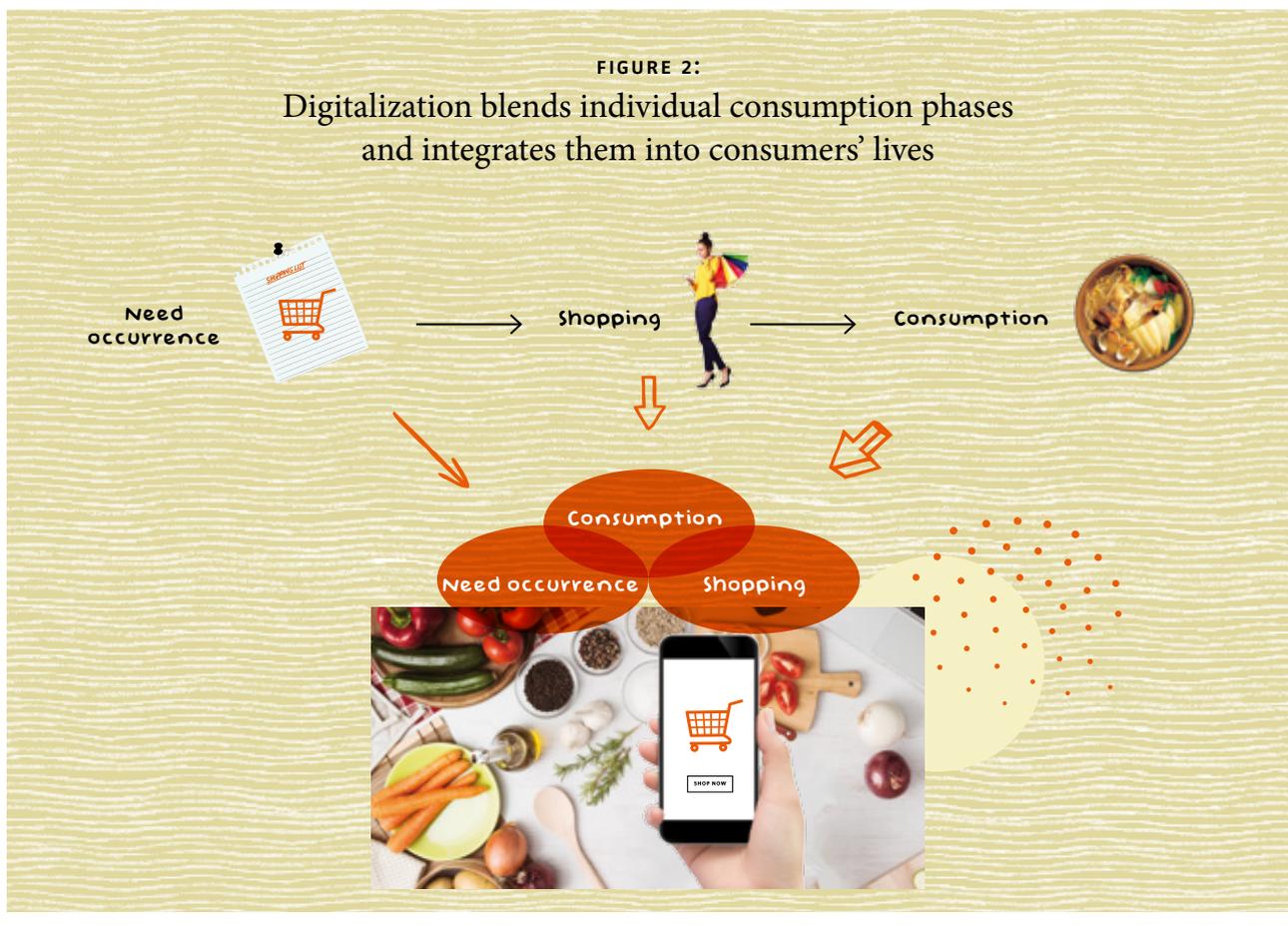
In our digital age, need occurrence, shopping and consumption are moving much closer in time and space and becoming more and more naturally integrated into daily routines. That is, the three stages are becoming blurred and are blending into the life of consumers in real time: Increasingly, we shop right when the demand occurs and consume when we buy. Thus, shopping becomes an ambient activity that is executed everywhere and anytime – at home, on the go and in the store. It satisfies the need for convenience and is executed both in solitude as well as in social contexts, offline as well as online.

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 Increasingly, we shop right  
 when the demand occurs and  
 consume when we buy.  
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Some brands have already developed new forms of retailing that use digital technology to account for changing consumer behavior. If retailers do not want to be bypassed, they need to leverage digital technology at the need-occurrence stage themselves. It is not enough to merely digitalize the point of sale, they need to extend their business models further to catch up with recent trends like the following ones and to develop their own solutions:

**How retailing works in the digital age** /// Digitalization offers the opportunity to have an impact on consumers' decisions much earlier – right when a need occurs. Brands have to be there when consumers like to interact. If retailers want their share, they have to build an ecosystem of presence where they organize themselves around consumption and the lived reality of consumers. And they have to be present in the mind of the consumer, too! In fact, being recalled matters more than ever. Thinking of a brand when the need arises is exactly what Google calls the “zero moment of truth.”

> **Instant purchasing.** Consumers increasingly transact right when the demand or need occurs. Today, when we realize that we have run out of hair conditioner while showering, we can directly order a new bottle through Dash technology then and there. And tomorrow, perhaps, when consumers are watching a streamed movie or browsing Pinterest, they will be able to point and click on a character's suit or tie and buy it right away – without ever going to a retailer's site. On Stylebook, a German fashion blog site, this is already possible.



{ Box 1 }

## HOW ADIDAS USES DIGITAL OPPORTUNITIES TO DEVELOP NEED-CENTERED INTERACTIONS WITH CONSUMERS



The Runtastic app allows consumers to track their physical activities and fitness. Adidas wrapped it around its extensive physical footwear and apparel offering. For example, one customer seeks to satisfy his need for advanced personal fitness by using this digital interface, gauging his performance over time and purchasing smartphone-based coaching lessons from world-class athletes. Another customer is able to address her need for a social fitness experience by finding running mates with the app, exploring new courses and terrains that others have recommended and sharing ratings or evaluations. While the two customers have entirely different needs, both can satisfy them utilizing the digital layer that is spun around the brand and the product. The big advantage for Adidas is that it allows the company to keep up with those customers' activities, their success and failures. It provides topics for relevant conversations and occasional customized selling attempts. Plus, these customers self-select themselves into the benefit category they are seeking, freeing up costly and error-prone marketing tactics.

- > **Subscription-based purchasing.** The growing popularity of subscription-based platforms is also undermining the primacy of the store as the main consumer touchpoint. In various categories – including music (Spotify), video (Netflix), transportation (Zipcar), underwear (MeUndies), groceries (Blue Apron), news (Blendle) and men's wear (Lewk) – a subscriber can either conveniently choose immediately from a broad selection at the moment of need or simply sign up and receive a regular delivery — without having to engage directly with any other intermediary.
- > **Automated purchasing.** We're increasingly seeing many types of products being purchased automatically – on the basis of "intelligent" products. The latest generation of Whirlpool washing machines, for example, can autonomously order a pre-specified amount of washing detergent after a predefined number of cycles. Samsung's new range of refrigerators allows for "food management" by automatically re-ordering when the stock of, say, yogurt

drops below a certain amount. Especially for fast-moving consumer goods, this development will also significantly push non-store-based sales.

Once customers decide to "lock themselves in" with a brand via subscription, dash technology or automated buying, it is much harder to dislodge this brand from the consumer. When consumers don't face the choice at the shelf, a preferred brand's position gets further entrenched. At the same time, competing brands have a much harder time replacing the incumbent. And once locked in, traditional advertising will be even less efficient for competitors.

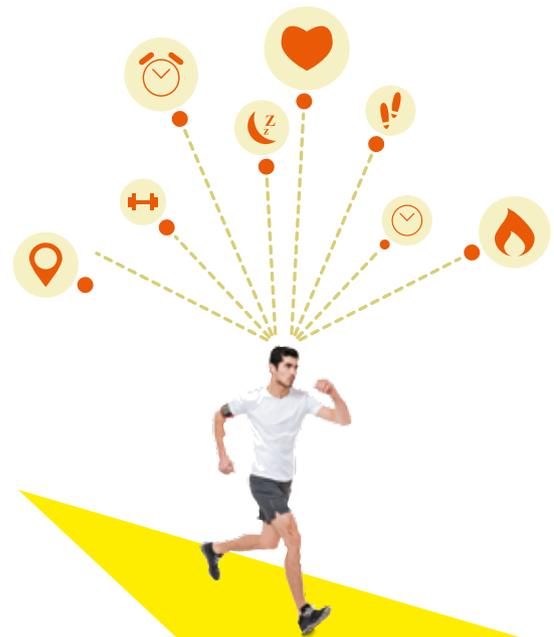
### From influencing transactions to influencing decisions

/// The key consequence of new consumption habits is that buying has become an ambient activity – blending naturally into consumer's lived reality. In contrast, current marketing practice is for the most part still perfecting the strategy of shopper marketing – which rests on the conventional

assumption that most decisions are made on impulse in the store. Many retailers still enter into an arms race of persuasion and hard selling at the point of sale. In order to sway the customer when the time comes to transact they try to “hit hard enough” with prices, promos and presence. Such tactics ignore that the decision about the purchase of a particular product is in more and more cases moving away from the POS altogether. As those purchase decisions happen during consumers’ ordinary daily life and consumption routine, brands as well as retailers have to learn to engage in a much more natural way with their consumers during the entire consumption cycle. These considerations might have been the reason why Adidas decided to purchase the fitness app Runtastic in 2015 for US\$240 million (see Box 1).

New technological and digital opportunities facilitate consumers behaving or consuming in such a way that better meets their true needs. Understanding consumers’ needs and how they relate to the changes in consumption habits is key to adapt retailing and selling practices altogether. Beyond offering value with a solid product, the new digital layer will unlock hitherto unknown levels of consumer engagement and experience. Those brands and retailers that will eventually harvest the returns are those that can master the challenge of engaging with consumers at the point of need occurrence.

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# Smart Cities, Livable Cities

*Anil Menon*

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KEYWORDS

*Digital Transformation,  
Internet of Things, Smart Cities,  
Connected Communities*

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**Harnessing the power of the internet for growing cities** ///

By the middle of this century, the number of people living in cities is projected to climb from four billion to more than six billion people (Figure 1). While Asian cities are at the center of this urban flux, urbanization is a truly global trend, affecting populations in developed and emerging regions across all continents. To keep up with the rapid influx of new city dwellers, the constraints on resources and budgets, the effects of climate change – both environmental and political – and other critical factors, city leaders are turning to technology. As other costs rise, digital technologies continue to become more powerful and less expensive. Faster, smaller and smarter devices are bringing together data in new ways. The connectivity of smart objects – and there may be as many as 75 billion connected devices, machines, processes and people by 2050 – is already beginning to demonstrate some tangible benefits.

One of the key challenges in many cities is providing safe drinking water. Other major issues in many cities across the developing world are traffic, parking, waste management, lighting, security, education and health care. Box 1 focuses on water management and shows how smart digital infrastructure can help to provide such vital services.

**Cost savings plus greater quality of life** ///

Increasingly, the Internet of Things offers new ways to make our lives as citizens smarter, more efficient and more informed. At the same time, cost savings for government are possible. Connected infrastructure – from toll roads to parking spots, from streetlights to utility meters – delivers real-time “actionable” information around costs, conditions, usage and utilization

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Increasingly, the Internet of Things offers new ways to make our lives as citizens smarter, more efficient and more informed.

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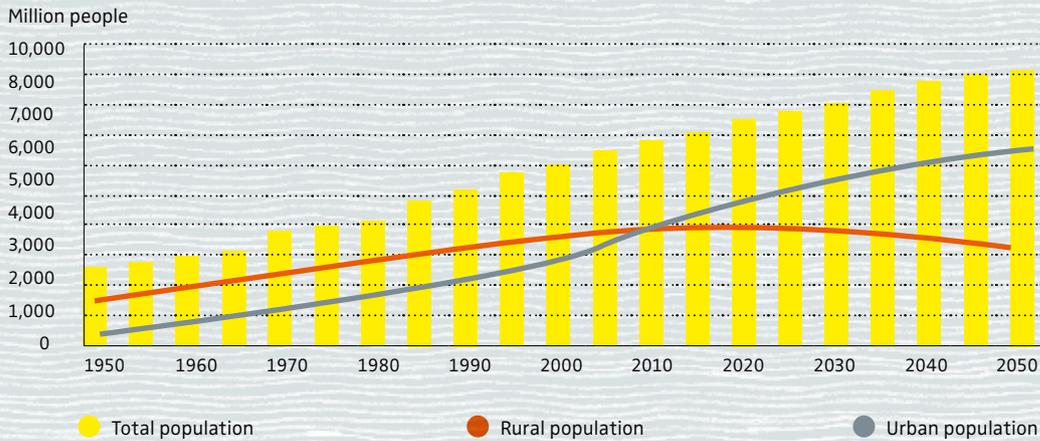
The synergistic value of digitalization in both the public and private sectors has been estimated at US\$19 trillion over the next eight years – with US\$4.6 trillion of that figure attributed specifically to public-sector activities. Already today, the real-world solutions and opportunities created by the exponential new combinations of hardware and mobile devices, software and applications, and the data and actionable information are visible.

to citizens and government alike. Citizens can find available parking immediately or reduce electricity use at home, while governments can allocate the right resources at the right time to a wider range of citizens. They can charge appropriate fees, deliver tailored services and manage public infrastructure while considering interdependencies.

For connectivity to have impact, big data, devices and applications must seamlessly interact. Solutions must support and enhance those processes that connect citizens to the government by executing back-office actions like triggering alerts, creating service requests or producing utility bills based on real-time data from connected devices. The end result is improved efficiencies, more citizen engagement and ultimately the emergence of a truly smart public sector.

**From city basics to city experiences** /// Creating a truly smart city is more than just installing a bunch of hardware and software and calling it a day. When it comes to creating sustainable smart cities, we have to understand what makes a city unique, what makes it tick and makes people want to be there. Therefore, becoming smart includes reinforcing and reflecting the city's uniqueness rather than permitting it to become impersonal, homogenized. New technology must not only increase efficiency but also help to enrich the livability of a city by providing a means for citizen engagement and a respect for resources, the environment and the nuances of a city's cultural identity – the stuff that makes it different from other cities.

**FIGURE 1:**  
Population growth and urban sprawl



Source: Drawn from World Urbanization Prospects the 2011 Revision (UN 2012)

{Box 1}



## SMART WATER: IMPROVING WATER SUPPLY AND QUALITY



Water is a critical concern for all humans. In Israel, water management is a matter of daily survival, and even Californians are affected by shortages during dry weather periods. But the challenges are particularly keen in the developing world where poor-quality water regularly results in illness and death: 443 million school days are lost each year due to water-related diseases and half of the world's hospital beds are filled with people suffering from a water-related disease. Water for People is a nongovernmental organization that helps people worldwide gain and keep access to clean water. Water for People's mobile-based program, called FLOW, allows individuals in developing nations to collect and share location data and photos of water testing and processing facilities in their regions. Data is gathered, analyzed and shared with investors, donors and other stakeholders in more than 300 organizations for field monitoring and for duplicating successes in other areas.

New applications are available or under development to address many water issues including consumption,

quality, leakage and wastewater management. Many innovations rely on the use of myriad sensors, video and connections to mobile and satellite equipment. One application, for example, originally developed for NASA to test water quality for astronauts in space, has now come down to earth. mWater is a free system that leverages an open database, uses a mobile phone's built-in camera to capture microscopic images of water over time, and compares the image to a cloud database of images of colonies of coliform and E. coli bacteria grown on glass plates.

Smart water initiatives not only deliver more reliable benefits to citizens and cost savings and efficiencies to a city, they can also extend the information impact to other agencies and industries that rely on water – fire safety, parks and recreation, manufacturing and health care. Applications – current and upcoming – can harness integrated data to present unrealized relationships, resource patterns and opportunities for optimization and even additional revenue generation.

To successfully seize the opportunities associated with the current shifts and to anticipate what's coming, city leaders need to view challenges differently. Instead of addressing basic supply issues and the needs of different stakeholder groups – like citizens, tourists and companies – in silos, leaders need to recognize and address the interrelationship of all city challenges and their impact across all constituent groups in seeking solutions. The good news is that, increasingly, citizens and government recognize the need to get smarter about the coming challenges and the resources it will take to address them.

One city that is consistently listed among the smartest cities in the world is Barcelona, Spain, which has undertaken a number of smart city initiatives. (Box 2 presents a short overview of activities).

**Opportunities for improvement and growth** /// Effectively transforming challenges into positive results and new opportunities will take the combined efforts of governments, industry, academia and individual citizens with innovative ideas to make it a reality. It will take many layers of expertise. The growing urban services marketplace will welcome

{ Box 2 }

SMART


 SMART  
**BARCELONA**

**The City of Barcelona saves over US\$50 Million and creates 47,000 new jobs with smart city solutions.**

Citizens are demanding more than ever from their cities. The Barcelona City Council wanted to revitalize the city, stimulate the economy and provide an even greater quality of life to attract businesses, residents and tourists. To earn a leading place on lists of the world's most livable cities, Barcelona was determined to reduce its carbon footprint and to be able to deliver government services at a lower cost. The City Council knew that technology could help achieve these goals. Being able to connect to a Wi-Fi network to work from a public park, receive timely updates on current traffic patterns and even reserve a parking spot from a smartphone had all become expected resident services. To make the vision real, the city needed three kinds of technology: a reliable, easy-to-manage Wi-Fi network; a way to track the location and movement of people

and vehicles; and different kinds of connected sensors to capture data on the environment and the infrastructure. These capabilities are already becoming a reality for the citizens of Barcelona. The City partnered with Cisco to deploy a number of Smart+Connected™ solutions for parking, traffic, lighting and more. Today, in-ground and video-based parking sensors communicate with smartphones to help drivers quickly find parking spaces. Information about transportation, local commerce and city attractions can easily be accessed through mobile devices and touchscreen kiosks at bus stops and in other public areas, aiding commuters and shoppers and encouraging tourism. And with wireless sensors monitoring such things as street lighting and environmental conditions, the City can deliver many urban services more efficiently and at a lower cost.

many thousands of application developers – who will have the opportunity to harness data for needs that range from hyperlocal to hyperglobal and everything in between. The sensor development market will also continue to evolve – as devices get smaller and smarter. The energy storage industry is also evolving, creating batteries that will draw power from alternative sources and retain it longer.

It is a very exciting time. And, it's going to get even more exciting as time goes on.

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## FURTHER READING

<http://blogs.cisco.com/news/help-wanted-a-chief-experience-officer-for-smart-cities-everywhere>

<http://blogs.cisco.com/government/wednesdaywalkabout-series-digital-countries-stories-of-success>

<http://blogs.cisco.com/government/wednesdaywalkabout-series-finale-building-a-global-digital-community>

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<http://blogs.cisco.com/government/wednesdaywalkabout-series-big-data-benefits-for-the-digital-citizen>



# Effective Display Advertising: Improving Engagement with Suitable Creative Formats

*Norris I. Bruce*

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## KEYWORDS

*Display Advertising, Banner Ads,  
Targeting, Retargeting,  
Click-Through Rates*

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**The agony of choice for banner ad options** /// Advertisers create ad campaigns with display ads in multiple creative formats. They may target and retarget consumers with product-based messages or price incentives. They may also use simple static formats such as GIF or JPG-based display or simple Flash formats with animation, but no interactivity or rich-media formats that offer both interactivity and animation. The latter uses elements such as sound, video, floating images, takeovers, and so on. As a result, online advertisers have the non-trivial job of jointly assessing the effects of ad design elements available in a large number of such formats; as they decide on budgets, message objectives, and consumer targeting. Now there is evidence that ad size, location, and creative elements such as color, interactivity, and animation may all independently influence banner ad engagement. But what are their joint effects? For example, are product-based messages or price incentives more suitable for animated and static ads? Or which ad formats and messages are more effective for retargeting, the tactic of tracking visitors to the company's site, and then serving ads to them once they visit other sites? Also, long-term effects of display ads might differ with formats.



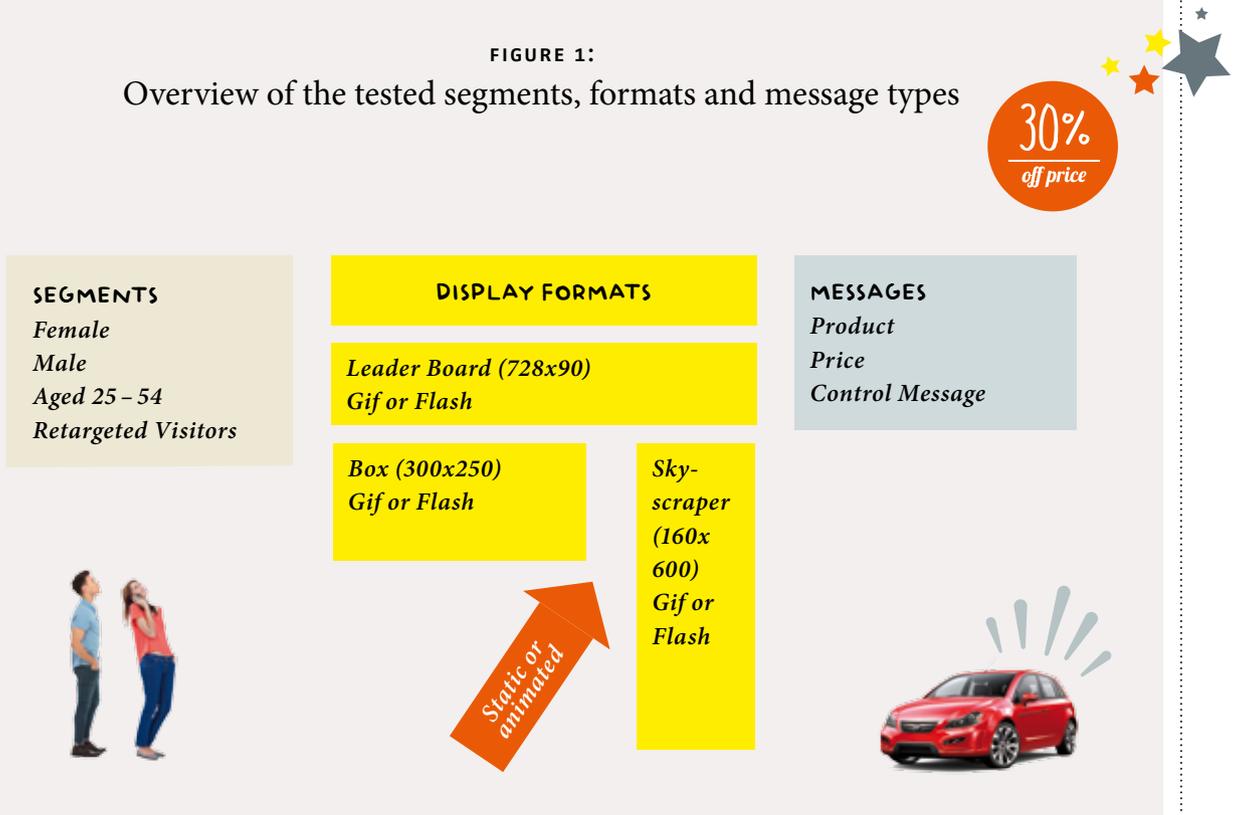
{ Box 1 }

## STUDYING THE EFFECTS OF FORMATS, CONTENT AND TARGETING OVER TIME

In a recent study, we considered how the effects of creative format, message content, and targeting/re-targeting affected the performance of digital ads over time. We acquired panel data from a major U.S. retailer for a period of 154 days, in an industry that provides home products and services. The data was a selection of daily ad impressions and their associated clicks, which we analyzed by consumer segments, by ad format and by either price or product-based messages. Figure 1 shows the four targeted segments. One was behavioral (retargeted customers) and three were demographic

(male, female, aged 25 – 54). We further employed two ad formats – Flash (animated) and GIF (static). Flash ads appeared as a sequence of (~ 4 – 8) time delayed images, with the last identical to the static GIF image. Flash ads not only included colorful, attractive animation but also delivered a longer message than GIF versions. Also, there were three standard size orientations for the ads. The retailer deemed ads as price messages if they mentioned price or price discounts; and product messages if they conveyed product attributes without reference to price.

**FIGURE 1:**  
Overview of the tested segments, formats and message types



**Main results of the study** /// Animated formats are superior to static formats in most settings. Our research confirms that they can improve engagement because they can generate higher recall, attract user attention, and create favorability for the advertised brand. Yet, static formats can still be effective for price ads and retargeting. Most interestingly, we found that retargeted ads are effective only if they offer price incentives.

**Animated ads outperform static ads** /// Animation was found to improve engagement in any advertising setting. We found that Flash ads generate higher average clicks than equivalent GIF ads. These results are consistent across all consumer targets. Specifically, we found Flash ads across the retargeted, male, female, and age segments to be 11.8, 10.4, 16.9 and 12.6 times (respectively) more effective than similar GIF ads.

**Flash ads are superior in the long-term** /// In traditional advertising, carryover for (animated) TV ads was approximately 2.5 times that of static print advertising. We found the same principle to work on websites. Flash banner ads have significantly higher carryover rates than GIF ads across all consumer segments and size-orientations. The increase in carryover rates is roughly three to five times greater when one uses animated ads rather than static ads across target and format. Animated ads simply have the power to engage consumers for longer periods. Another way to assess our results was to compute their wear-out effect. The average number of days it took for the ads to lose 90% of their effectiveness ranged from five to nine days for Flash ads, and two to three days for GIF ads across the four segments.

**Price messages work better than product-related messages** /// Figure 2 reports the effects of display ads by themes, across formats, sizes, and among differing consumer targets in the Flash format. We see that price ads are more effective than product ads within the Flash format, in all sizes and target segments, which builds upon prior evidence that price incentives can motivate engagement. Product ads are nonetheless still effective in the male, female and age segments across all size orientations; and though these effects differ marginally, they are on average highest among targeted females, who retailing studies predict are more likely to be engaged shoppers than men.

**The special case of retargeting** /// Figure 2 also shows that product ads are ineffective among retargeted consumers. On the other hand, the study also showed that price ads in similar Flash format are effective even among retargeted consumers. And while, on average, Flash formats are more effective than static formats, static GIF price ads for retargeted customers perform almost equally well as Flash ads.

### Recommendations for the selection of display ad formats

- > **Use Flash rather than GIF** /// As for formats, one universal recommendation is to use Flash formats rather than static GIF options. As for size, our results are less homogenous because size effects vary only slightly with segments.
- > **Be aware that retargeting seems to work in limited settings only** /// When retargeting consumers, price trumps product-related messages. Price incentives could be useful in making ads more effective by addressing consumer willingness to pay. It is also worth noting that previous findings by the researchers Lambrecht and Tucker found that retargeted ads are on average largely ineffective, unless the consumers' preferences for previously viewed products are well defined and they have a detailed view of what product they wish to purchase.

CLICK! ✨

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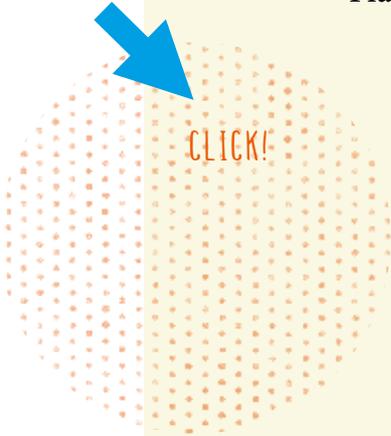
The tactic of serving blanks can distort simple measures of campaign effectiveness, such as click-through rates.

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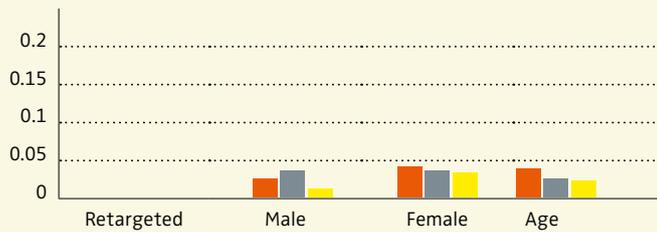
CLICK! ✖

CLICK! ✖

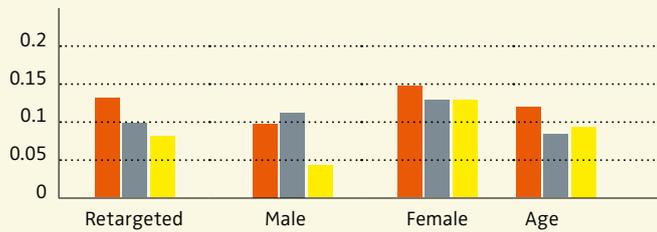
**FIGURE 2:**  
Flash price banners perform better than Flash product banners



**MEAN EFFECTS OF PRODUCT ADS**



**MEAN EFFECTS OF PRICE ADS**



**FLASH FORMAT**

- (160x600)
- (300x250)
- (728x90)

> **Interpret click through rates cautiously** /// Another finding from our study is also worth noting: Blank impressions distort click-through rates. Our retailer’s campaign targeted U.S. consumers, and therefore the ad server sent blank impressions to non U.S. consumers. Nevertheless, some of these consumers still clicked on blank images, usually out of curiosity, but also unintentionally. We kept track of these clicks and they turned out to be substantial in number and significant. While these clicks have no managerial interpretation in terms of ad content, they do show how the tactic of serving blanks can distort simple measures of campaign effectiveness, such as click-through rates.

1.

**FURTHER READING**

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 “When Does Retargeting Work? Information Specificity in Online Advertising,” Journal of Marketing Research, 50(5), pp. 561 – 576.





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#### ABOUT BEIERSDORF

Beiersdorf AG is a listed German consumer-goods company based in Hamburg with operations all over the world. The company was founded in 1882. Since then it has established many well-known brands in the area of skin care and cosmetics. Among the best known are Nivea, Tesa, Labello, La Prairie, Eucerin and Hansaplast.

More than 150 subsidiaries worldwide represent Beiersdorf today. The Nivea brand is sold in over 200 countries. Now, approximately 100 years after its establishment, it is one of the largest skin care brands in the world. With 58 locations, Europe is Beiersdorf's principal market. At the same time, Beiersdorf is strengthening its presence in global growth markets – primarily Brazil, China and Russia. With new regional development centers, for example, in Wuhan, China, or in Mexico, Beiersdorf is taking steps to meet consumer needs in these important markets of the future.

The Beiersdorf Group generated sales of almost €6.7 billion in 2015 with just over 17,000 employees worldwide.

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#### ABOUT MARTIN WULLE

Martin Wulle has been the Corporate Vice President Global Business Unit Digital & E-Commerce at Beiersdorf since 2013. The expert for digital transformation in fast-moving consumer goods (FMCG) companies studied marketing at the Hamburg School of Business Administration (HSBA).

Martin Wulle held various positions in marketing and sales at Beiersdorf in Hamburg before taking on management positions abroad for Beiersdorf in the USA and Eastern Europe. For example, as Beiersdorf General Manager Mr. Wulle established the business in Ukraine. After two stints in corporate marketing as the Corporate Marketing Director for the brand categories NIVEA Bath Care and NIVEA Deo, he assumed the newly created position of Vice President Digital & E-Commerce in 2013.

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#### THE INTERVIEWERS

Prof. Werner Reinartz and Christine Kittinger-Rosanelli conducted the interview in November 2016.

# Nivea and More: Digital Value Added Instead of Buzzword Bingo

*GfK MIR Interview with Martin Wulle,  
Corporate Vice President Global Business Unit Digital & E-Commerce  
at Beiersdorf*



“In our increasingly digital world, more than ever before, brands must be open to a dialogue with their consumers,” Martin Wulle states in our interview. But in the journey into a digital age, brand promise may not fall by the wayside. The digital transformation is bringing many changes for Beiersdorf. Nevertheless, nothing must disturb the core of the many successful brands, particularly the flagship Nivea. It is very important to Beiersdorf that brand values are accurately translated into a digital format and not simply replaced by digital hyperactivity.

**MIR:** Beiersdorf is one of the leading companies in the area of skin care. At first glance, the company seems to be more concerned with beauty and a sense of well-being than technology or digitalization. Overall, how much does the topic of digital transformation have to do with you?

**MARTIN WULLE:** The digital transformation is part of everyday-life at Beiersdorf and a fundamental element of our corporate strategy. Naturally, marketing and sales are affected most of all but so too are areas like the entire supply chain and human resources. We have developed a road map for digitalization within the context of our “Blue Agenda” corporate strategy and set clear targets through 2020.

**MIR:** Tradition-rich companies of a certain size are not really regarded as the most receptive to change. With its 130-year history and more than 17,000 employees worldwide, how does Beiersdorf deal with the digital age?

**MARTIN WULLE:** We engage here at several levels in order to involve as many employees as possible. First of all, we want to increase the digital IQ of our employees through very specific educational programs, such as e-learning and our own digital campus. At the same time, we bring external expertise into the company through digital specialists. We have already been successful with employees collaborating in an agile environment in what we call our digital factory.

**MIR:** Could you describe your digital factory in a bit more detail?

**MARTIN WULLE:** The digital factory has its own location, physically separated from Beiersdorf. We have a wide range of professionals clustered there for developing digital projects, such as user experience (UX) designers, developers, agencies and marketers. The space looks entirely different from the traditional company, and its mode of operation is completely new. For example, there are no longer any fixed workstations. You see the most important project key figures on enormous live dashboards in real time as well as our paid, owned and earned activities, such as our website analytics and our social media activities, made visible through real-time monitoring. There is a relatively good mix of openness, creativity and traditional brand product thinking.

**MIR:** Are they all your own people or independent contractors?

**MARTIN WULLE:** Both. There are Beiersdorf employees assigned to work there. But some are there, for example, only two days per week for special projects. On the other hand, there are also many external parties, such as digital agencies, with which we cooperate openly and flexibly in an agile environment. In any case, the teams are all very interdisciplinary.

**MIR:** And how do you introduce the projects, themes and applications back into Beiersdorf?

**MARTIN WULLE:** We imagine it like a bonfire. I pile up all the wood in one place so the fire catches properly. Once the individual pieces of wood are burning well, I can distribute the embers and ignite a fire in the company itself. If in a few years all Beiersdorf has adapted to the digital world, then the outsourced areas can possibly be dissolved.

**MIR:** And does the digital campus ensure that the embers in the company are not immediately extinguished and that the remaining employees adopt the new topics?

**MARTIN WULLE:** Yes, we really do address all employees and offer both basic information and specific technical advanced expertise for individual areas. We launched the digital campus in 2013, and this year we are expanding the offering significantly again.

**MIR:** During recruitment do you attach particular importance to digital skills?

**MARTIN WULLE:** Naturally, we also search for people with specific expertise, e.g. in e-commerce, UX design or search engine optimization (SEO) – and content experts from media companies. For university graduates we have established our own digital trainee program, and our cross-company trainee program in cooperation with Tchibo has some digital focus areas, for example, on e-commerce. But all these experts are of little use if they do not interact with existing employees. Therefore, we strive to help virtually everyone adapt to the topic.

**MIR:** Expertise is one thing, but the digital world moves much more quickly. How do you incorporate a fast pace and dynamism into internal and external processes at Beiersdorf?

**MARTIN WULLE:** This is indeed very difficult for a large company, but we are trying to accomplish this by forming small, agile project teams that can operate and make decisions as independently as possible. You cannot expedite things with existing processes. We scrutinize such processes, suspend them and create a deliberate vacuum that creates space for entrepreneurship. Yet at a company that has been extraordinarily successful for decades the willingness to change cannot be taken for granted. We have to be creative and really fight for it at times.

**MIR:** Digitalization requires mastering new technologies. Does traditional marketing thinking fall by the wayside and become obsolete?

**MARTIN WULLE:** No. Brands are and will remain an essential anchor given today's flood of information. I simply must know what my brand stands for, how it is positioned and what its benefits and promises are. Only a brand that delivers reliable, constant quality can stay relevant. These things are often brushed aside by too much technology. Everyone hires influencers or produces some kind of content in order to latch onto digital buzzwords. This often creates things that do not bear any relationship to the brand or have any relevance to the consumer.

**MIR:** Christof Baron, the long-term Chairman of the GroupM agency Mindshare, recently described the many disappointments in digital marketing with the notion of “digital drunkenness.” Are the opportunities posed by digital transformation being overestimated?

**MARTIN WULLE:** The fact is that media consumption has already undergone massive changes, and social media are a part of everyday life. I do not regard the fact that companies adjust their communication strategy as “digital drunkenness,” but simply as a necessity. But if digital transformation mutates into pure “buzzword bingo,” as is celebrated particularly at events and conferences, disappointments are unavoidable. The unreflected copying of actions without deeper market analysis does not produce anything good. Many providers are making a lot of money from naive customers in this way.

**MIR:** Of course, Nivea is the undisputed star in your brand portfolio. Using Nivea as an example, could you explain how you ensure the alignment of digital transformation with the brand and with customer needs?

**MARTIN WULLE:** Nivea has been nominated a “most-trusted brand” in Europe for years, and, of course, this should last. Therefore, we have converted our branding strategy into a digital strategy, taking into account today’s typical customer journey. We are trying to understand which touchpoints play what role. For example, when it comes to information processes, we are analyzing the role of online reviews and the relevance of blogs, of search or of individual social media platforms.

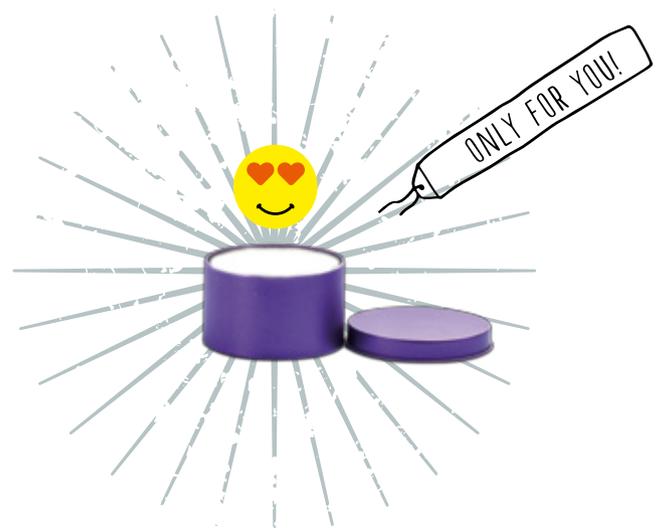
**MIR:** How do these analyses influence the way clients are approached?

**MARTIN WULLE:** We are investing much more in Facebook and YouTube, but at the same time we have completely relaunched our website in Europe, for example. We have combined and integrated relevant content and commerce and are trying to develop customer loyalty programs to be closer to the customer. But we are still learning to estimate better how much we should be investing in individual touchpoints.

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We view our own sales primarily as an opportunity to learn directly from customers and to experience first hand what has appeal.

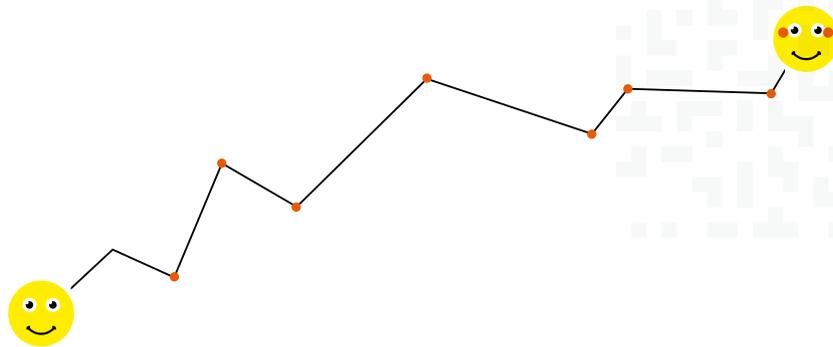
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We have converted our branding strategy into a digital strategy, taking into account today's typical customer journey.

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**MIR:** Earlier you briefly addressed the topic of influencers. What role do such opinion makers play in social media for Nivea?

**MARTIN WULLE:** We cooperate in a variety of ways with various influencers across different individual countries. Here we are also trying out different models of cooperation. In any case the most important thing for us is to select influencers who match the brand. This has priority over reach.

**MIR:** And what about your other brands: Are you developing different digital touchpoints that suit their specific brand identity?

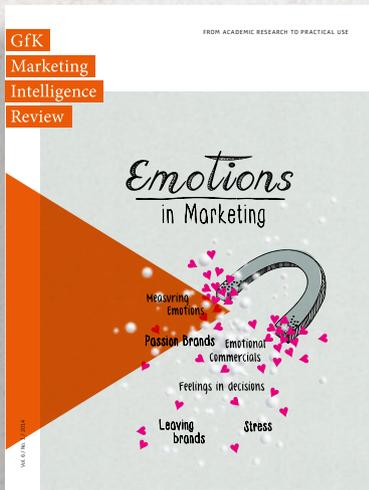
**MARTIN WULLE:** Our brands are all positioned very differently. For example, Eucerin is sold only in pharmacies, where consulting with a professional is naturally very important. We also embrace this in the digital world. We have launched a video skin consultant on our website, for example. In addition, there is a new app, the Atopi Coach that helps customers with neurodermatitis keep a diary of their respective symptoms in order to improve possible treatments. ... Just to cite a few of the more innovative things we are doing here.

**MIR:** In conclusion, I would like to return to the topic of e-commerce. Beiersdorf is a traditional producer rather than a retailer. Should that change in the future? Are you placing increased emphasis on your own online sales?

**MARTIN WULLE:** No. Although we conduct our own online sales for Nivea in Germany and Austria, our retail partners remain extremely important to us. Many of our retail partners are working on their own e-commerce solutions and are becoming multichannel providers. In the process, we provide support to them in the categories relevant to us. We are also working with pure online retailers and actively search for new online marketplaces. For example, China and South Korea are at the forefront of e-commerce development. The universal availability of Nivea is an integral part of its brand. We view our own sales primarily as an opportunity to learn directly from customers and to experience first hand what has appeal and is being used.

**MIR:** Many thanks for taking us along on this journey into the digital world of Beiersdorf. We wish you excellent continued success in the construction of your digital ecosystem for Nivea and all other brands.

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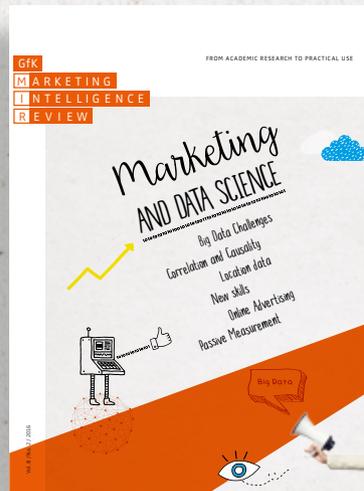
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**ABOUT WERNER REINARTZ**

Werner Reinartz is a Professor of Marketing at the University of Cologne, Germany. He is also Director of the Center for Research in Retailing (IFH) and the speaker of the research initiative "Digital Transformation and Value Creation" at the University of Cologne. His research expertise focuses on the subjects of marketing strategy, retailing, customer management, and advertising effectiveness. He has been ranked as the foremost scholar outside the U.S. in citations in the top marketing journals from 2003-2012. He has published extensively in the top academic journals within the field and his findings have been presented in five different feature articles in Harvard Business Review. He received the 2011 Sheth Foundation/Journal of Marketing Award for his long-term contribution to the field of marketing.

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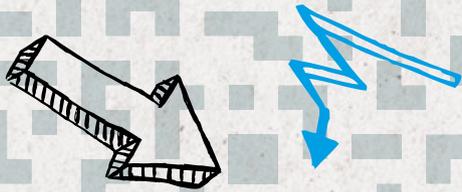
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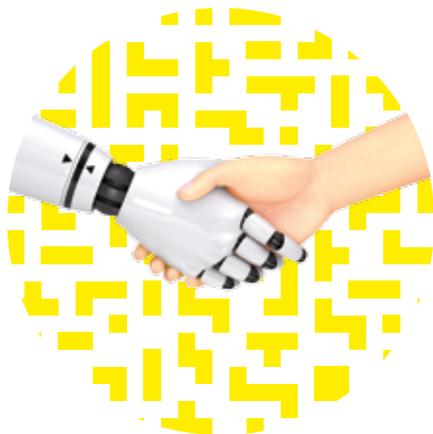
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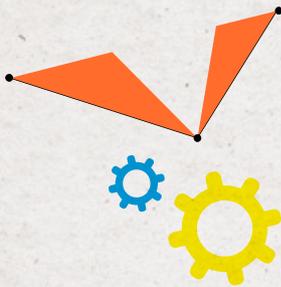
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