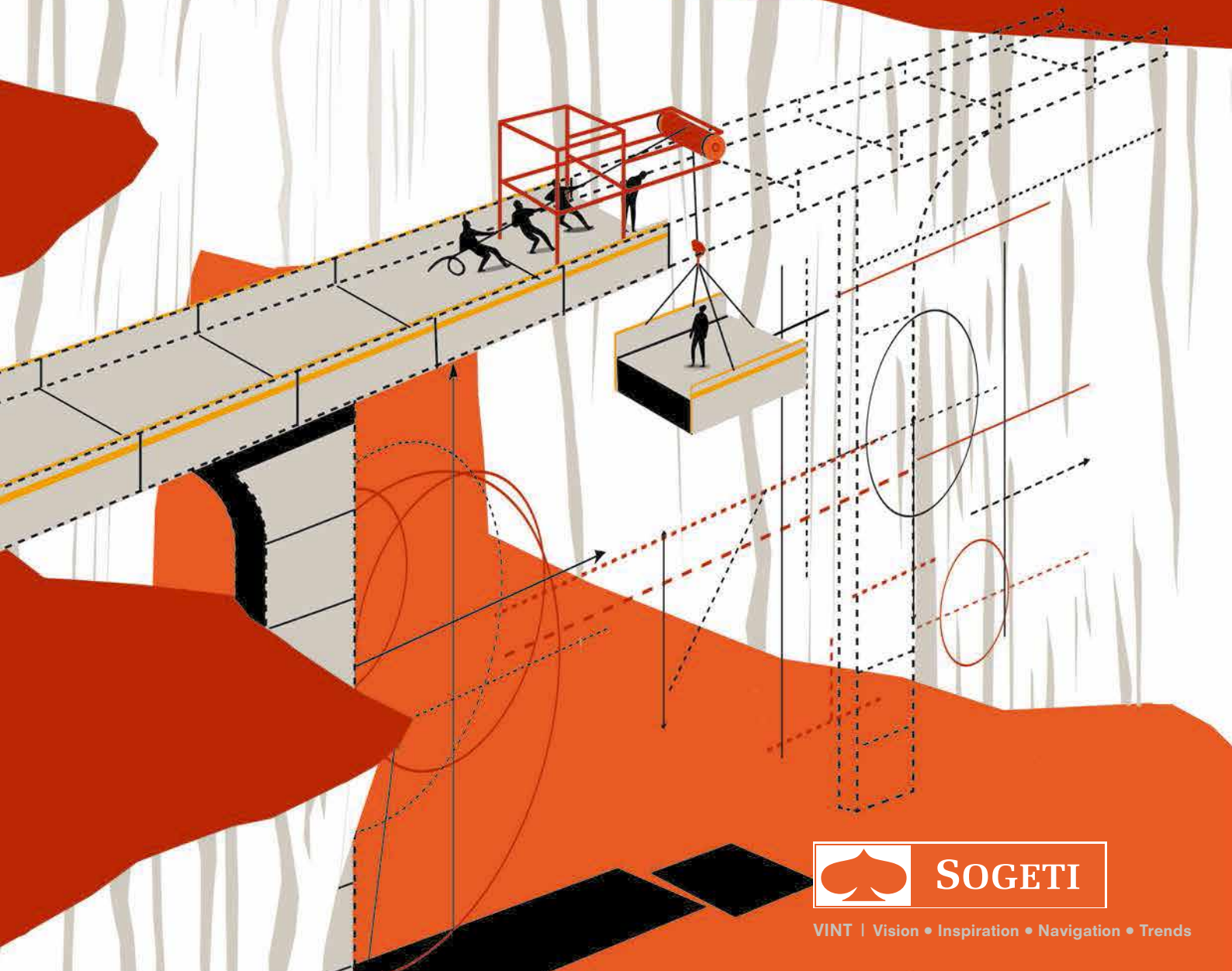


DESIGN TO DISRUPT

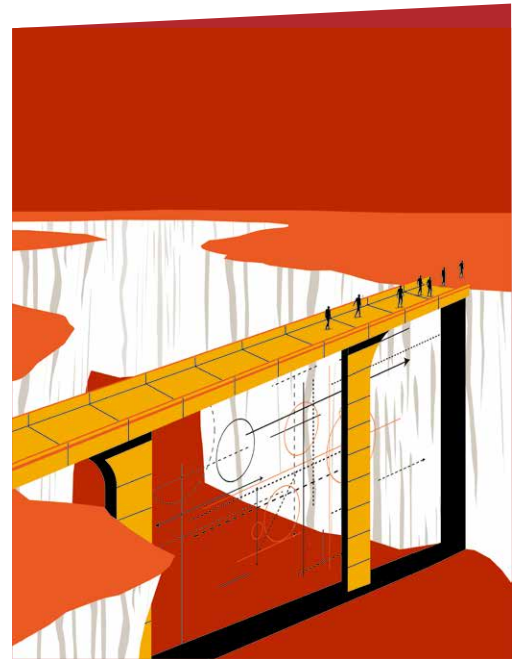
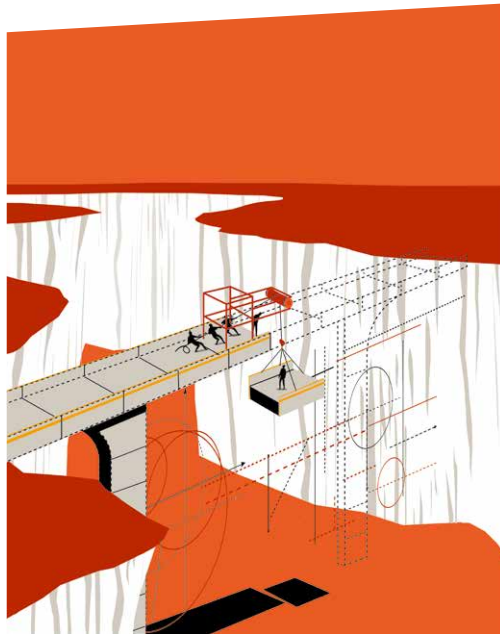
New digital competition

Jaap Bloem, Menno van Doorn,
Sander Duivesteyn, Thomas van Manen,
Erik van Ommeren



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INTRODUCTION

“Disruption is the New Normal.” This is the core message from the executive introduction to this new series of reports. In the first report we outlined the exponential growth of digital opportunities. Startups are keen to fill the gap, challenging the establishment. At the same time the speed with which innovations prove to be successful is increasing. On the other hand, we see a slow response on the part of organizations, which are unable to keep up with the digital storm. More and more organizations are becoming aware of this phenomenon, also known as Eroom’s Law (Moore’s Law, spelled backwards).

In this second report we focus on new digital challengers and competitors. Few established organizations wise up to them at an early stage, as they usually come from outside these organizations’ industries and are not taken seriously at first. Their allegedly inferior propositions confuse prominent players, who should in fact be the very first to be open to disruptive innovation. We outlined this innovator’s dilemma in our executive introduction to the Design to Disrupt theme.

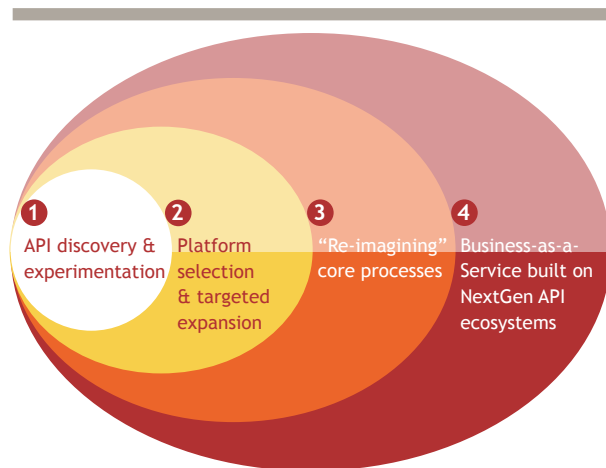
To swing into action rapidly, existing organizations would be well advised to properly analyze anything more or less resembling digital competition. Evidently, there are clear patterns behind the success of startups marking a new techno-economic reality. This New Normal is characterized by ecosystems, Application Programming Interfaces (APIs), and platforms where customers have more freedom of choice and better service at lower costs. It is a specter for traditional market parties and the Holy Grail for organizational innovators.

“Wait plus see equals please make me irrelevant” was our warning in the first report. In this second report we examine how that irrelevance can be

avoided. We outline ten design principles that explain the rapid success of disruptors and can bring it within reach of existing players, including interesting cost-reducing efforts and new ways to build trust. The new digital competitor is a smart middleman who is in the driver’s seat, with an acute intuition for market imperfections, and is a true champion of the network effect.

The conclusion of this research report involves an appeal to the CIO and the IT department to use a Leading Digital approach to take the first step towards mapping out an offensive technological route. From strategic and tactical to the distinguishing operational level of APIs, which epitomize the digital business functionality.

APIs are not merely a technical hobby of shrewd programmers – on the contrary. Anyone – particularly business managers and marketers with a passion for digital innovation – can use APIs to build applications, make visualizations and perform analyses to solve practical problems – privacy- and security-related, for example – and add value, e.g., through direct data acquisition and customer interaction (see also section 6, principle VII).



Source: Kerrie Holley, IBM, 2014

1 ECOSYSTEMS DECLARE WAR

Involving everyone in a new service or product is a perfectly feasible venture nowadays. Simply because the Internet is ubiquitous and there is always some app available to make contact. This is often the starting point for a new provision of services in networks with different relations between producer, consumer and employee. Such digital competitors form the heart of what we call the platform economy. They derive their success from the network effect.

This second report about disruptive innovation outlines ten design principles of these new players, from unbundling organization processes to “Act now, apologize later.” Particularly doing things “on a whim”, without authorization, causes a lot of pain and frustration on the part of the incumbents. Shareholders and supervisors tend to favor clamp-downs, but technology does not take the slightest notice: the disruptions just keep on coming. Therefore, in the final section, we make an appeal to CIOs (and other executives, obviously) to act pro-actively. “Leading Digital” is the advice, in the knowledge that many feel uncomfortable when faced with lots of disruptive activities.

What it is like to be confronted with such a new digital competitor, was articulated expressively in a by now famous memo¹ of 2011 by Stephen Elop, the then CEO of Nokia. The company had to deal with Apple and Google, which had never made a phone before, and Elop experienced their success as fat in the fire of Nokia’s core activity. “Nokia, our platform is burning,” he wrote to his employees.

“Nokia, our platform is burning. We are working on a path forward – a path to rebuild our market leadership. When we share the new strategy on February 11, it will be a huge effort to transform our company.”

Stephen Elop



1 <http://blogs.wsj.com/tech-europe/2011/02/09/full-text-nokia-ceo-stephen-elops-burning-platform-memo/>

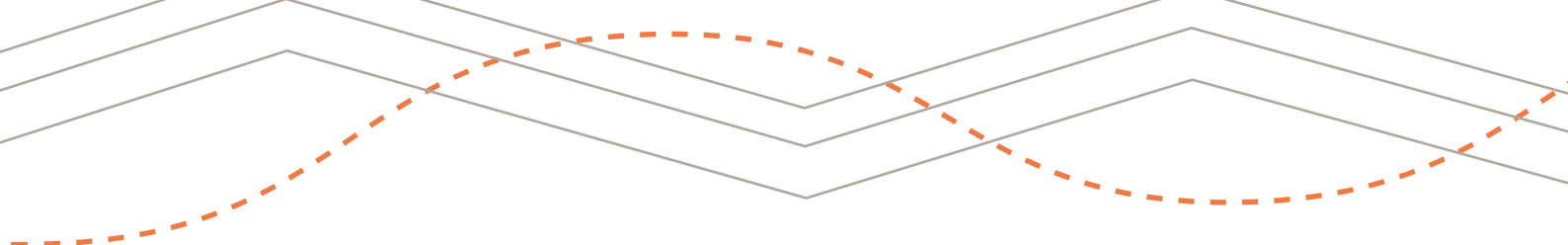


Their actions were wrong and trends were missed. With hindsight things should have been done differently because Nokia was far too slow in bringing its brilliant innovations to market. In his memo Elop hammered away at a radical behavioral change: innovate much faster and promote internal co-operation systematically.

This can happen to any organization: you are doing a fantastic job within your own comfort zone but suddenly you come off second-best. A platform player enters the market and confronts your product – in the case of Nokia the traditional mobile phone – with a complete ecosystem of touch devices and mobile apps.

*“The battle of devices
has now become
a war of ecosystems.”*

Stephen Elop



Ecosystems are the reality everyone has to face sooner or later. Taxis, music, software, meals, money – you name it, it can always be made into a platform.

In our networked society, markets are meeting places that are unlocked digitally. APIs and direct contact between the actors in the network determine the success. This questions any organization that operates as an isolated bastion. Anyone will be faced with platformization, including the national government. That is the implication of an extensive analysis in *The Economist*. In the article “Platforms: Something to stand on” numerous

experts are interviewed, among them John Hagel III of the Deloitte Center for the Edge. He is abundantly clear as to what stance traditional organizations should take:

“Either you become a platform yourself or you become an agile ecosystem, inclusive of startups and accelerators.”

John Hagel

But what is it that is different about platform players? What is it they do differently and better?



UNDERSTANDING NETWORK ACTIVITY IS A TOP PRIORITY

Understanding network activity is becoming more and more important. Albert-László Barabási, professor at Northeastern University in Boston, is the spiritual father of the Network Science Book Project, among other things, which aims to map out the network principles behind complex systems with a view to predicting system behavior and getting complexity under control. (*The finished chapters of the Network Science Book can be downloaded at <http://barabasilab.neu.edu/networksciencebook>.*)

The fact is that we are surrounded by systems of enormous complexity. They vary from our society itself, which is based on the co-operation of billions of people, organizations, communities and institutions, to communication infrastructures accommodating billions of smartphones, computers and satellites. What also comes to mind is the billions of neurons in our brains, which enable people to reason and understand the world around them; or the complex concerted action of our genes; or all kinds of natural phenomena around us. Such complex systems, of which there are many more, play a crucial role in our lives, in science and in the economy. Therefore, understanding them – i.e., the mathematical principles on which they are based and their predictability – is one of the major challenges of the 21st century.

The current advent of the network theory demonstrates that we are able to cope with that challenge. We are gradually beginning to understand that each complex system is hiding

a closely interwoven network with a coded interplay of all constituent components, e.g., the sum of all professional relationships and ties of friendship and family which are the basis of our society. We are all familiar with the global digital network of devices, Internet connections and wireless communications. Such networks form the core of the rapid developments on different fronts that companies such as Google, Facebook, Twitter, Amazon, Microsoft and IBM are experiencing and controlling. Another example are the energy networks, which are getting increasingly interwoven and to which more and more nodes are added which are different in nature. Likewise, economic and financial networks continue to expand on a global scale. They are the nerve center of our prosperity, but just as much of every crisis that presents itself.

The inner workings of networks are far more complicated than most of us can surmise on first thoughts. We will never be able to understand the complex systems that are being fed by network relations without gaining a clear insight into the structure and function of the networks behind them. The increasing interest in network theory is rooted in the discovery that despite all kinds of superficial differences, the advent and development of the majority of networks is controlled by a number of generic patterns, such as organizational principles and reproductive mechanisms.

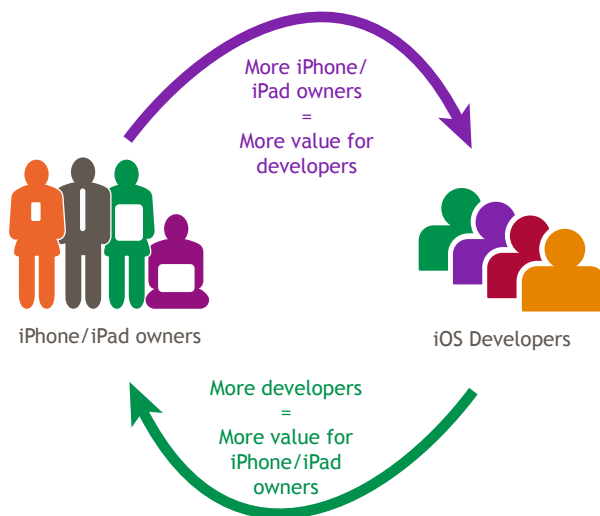
Watch the VINT interview with Barabási
at <https://vimeo.com/album/2150420>
or scan the QR code



2 BE A MULTIPLE CHAMPION

The new digital network competitors are platform competitors that cleverly manage to get supply and demand together by manipulating two or more sides of the market. App stores are a case in point, because they bring together app developers and users. A two- or multi-sided network market is the shortest and simplest definition of a digital platform.

2-Sided Market: the Apple App Store



Numerous other combinations are conceivable: bringers-takers, finders-searchers, sellers-buyers, senders-receivers, players-listeners/watchers, investors-lenders, makers-users, educators-learners, raters-decision makers. Meanwhile, Apple is elaborating on its success: worldwide, over 85 billion apps have been downloaded from its app store, generating a turnover of 15 billion dollars in 2014, i.e., 50% more than in 2013.²

The strength of network markets is that the various parties have a mutually enhancing effect. This is why in this context the word ecosystem is often heard: in an organically growing organization you need and strengthen one another.³

The digital platform companies from Silicon Valley are the most high-profile, but the Internet itself is just as much a platform and so are the credit card companies. The basic principle is simple: the value of Spotify goes up as the number of performers and listeners is rising, and in the case of Airbnb, as the number of homes, rooms and guests is increasing. This is what platform experts such as Marshall Van Alstyne and Jean Tirole call the network effect.⁴

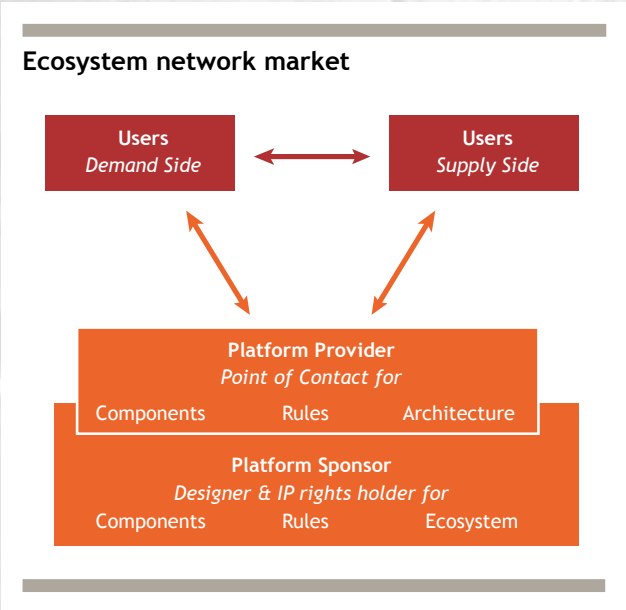
The fact that Jean Tirole was awarded the Nobel Prize for Economics in 2014 for his research into two-sided markets is a clear signal. Even more so when we remember that one of the issues his research deals with is what monopoly strength is behind this kind of players. The usual reason to protect consumers against monopolists is to make sure that prices are not rocketing. But what if the service is free, as in the case of Gmail and Facebook, how and when is the government supposed to take action in case of an excessive concentration of power? Tirole's research points at the considerable disruptive market potential of platforms, as well as the need for new legislation with respect to price-making forces. As a consequence of the attention Thomas Piketty received for his research into the unbalanced growth in prosperity and redistribution of wealth, as well as for thinkers like Jaron Lanier, the author of *Who Owns the Future*, the public debate about the power of platforms is now in full swing. In this context it may be worth looking at the increased role of governments with regard to the development of the economy and the new platforms. Government rules and regulations from the pre-digital era can act prohibitively on a more effective organization of health care, transport and energy, for example.

² <http://appleinsider.com/articles/15/01/08/apples-app-store-generated-over-10-billion-in-revenue-for-developers-in-record-2014>

³ Marc Rysman, "The Economics of Two-Sided Markets," <https://www.aeaweb.org/articles.php?doi=10.1257/jep.23.3.125>

⁴ Marshall Van Alstyne, "The Foundation of Digital Business: Platform Economics," http://digitalcommunity.mit.edu/community/featured_content/platform-economics/blog/2012/03/14/the-foundation-of-digital-business-platform-economics

In addition to the term two-sided or network market, the term MultiSided Platforms (MSP) is equally current. Take Amazon, for example, which brings together supply and demand but uses the very same servers to offer cloud services. Such new ecosystems can also emerge around digitally connected Internet of Things devices, which bring consumers together, or consumers and health professionals, or consumers and providers of services. On the product side, user data can be shared to enable improvements in things and services.



3 DIGITAL PLATFORMS

The spectacular growth of the Uber and Airbnb platforms will hardly have escaped anyone's notice. Within a few years' time, market innovator Uber realized a market value of 40 billion dollars⁵, and rental agency Airbnb 13 billion.⁶ But also less noted players with a similar approach, e.g., DoorDash, Instacart and Munchery, are flourishing. Actually, their success is pretty much in the nature of things:

Platforms Building blocks serving as a foundation on which a variety of companies or business ecosystems can develop supplementary services, technologies and services.⁷

To the generation grown up in a digital environment, other organization forms are common practice: flat structures, being in control themselves and making their own contributions are central. Platform players make the most of the opportunities of the networked society. The twenty-year history and continued development of this phenomenon demonstrate its strength and inescapability.

eBay 1995: everyone is a shop owner

eBay was one of the first digital platforms, founded in 1995 by computer programmer Pierre Omidyar. When the traffic became too extensive, Omidyar was forced to ask money for the service. Three years after starting eBay he became a billionaire when eBay went public. It is currently one of the world's major trading platforms.

oDesk 2003: everyone is an IT entrepreneur

In the summer of 2014 oDesk and Elance merged. This way the platform acquired a perfect position in a market estimated at a revenue between 16 and 46 billion in

2020.⁸ Eight million freelancers and two million companies, including Unilever, Walt Disney and Panasonic, are registered with oDesk/Elance. The total turnover currently amounts to almost one billion dollars. Its motto is simple:

“Post-Hire-Track-Pay”

The platform mainly concerns web and mobile developers, graphic designers and marketing-related positions. Employers can follow the freelancers through a special service. Within an agreed timeframe, every 10 minutes a screenshot is made of the PC used. Employees who repeatedly get a good appraisal, qualify for a money-back guarantee, which means that oDesk refunds the money if the activities are unsatisfactory. The fee for oDesk is 10% and the one for Elance is 8.75%. According to the founders, the attraction of the platform is that the Millennials, the generation that will constitute almost half of the American working population in 2020, wish to be in control of the contract and do not feel comfortable in hierarchic structures.

Deliv 2012: everyone is a courier

“Your car, your smartphone, your customer service skills, your leisure time: you are in control.” These are the attractive words of delivery service Deliv, which was founded in 2012 by Daphne Carmeli. For 5 dollars your items are home-delivered the same day, often within the hour. Deliv employs no staff and arranges everything with an app. A smartphone with a data subscription and a post-1998 car will do to do the rides. Shopping malls and retailers such as Macy's and Footlocker work with Deliv and recently IBM joined the platform. “Meet the Uber of the Retail World.”⁹

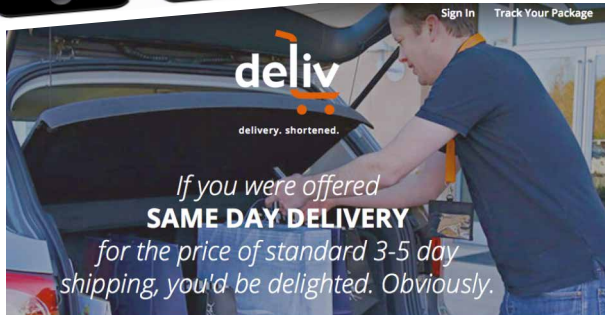
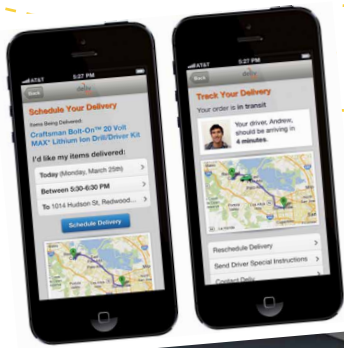
5 http://www.huffingtonpost.com/2014/12/04/uber-40-billion_n_6270908.html

6 <http://www.wsj.com/articles/airbnb-mulls-employee-stock-sale-at-13-billion-valuation-1414100930>

7 Annabelle Gawer (ed.), Platforms, Market and Innovation. Cheltenham and Northampton: Edward Elgar Publishing, 2009.

8 http://www.washingtonpost.com/business/freelancers-from-around-the-world-offer-software-developing-skills-remotely/2014/06/13/f5088c54-efe7-11e3-bf76-447a5df6411f_story.html

9 <http://www.forbes.com/sites/erikamorph/2014/07/19/meet-the-uber-of-the-retail-world/>



The Deliv platform You schedule a delivery through the app and choose the time of delivery. The delivery man can be followed through the app and can be awarded points for his service.

Google's Nest thermostat as the hub of the house

Just like Apple's HomeKit, Google's Nest will shortly be able to work with all sorts of devices, including Hue by Philips. So Nest will be another platform for home automation: your hub in the house. The Hue lamps, for example, flash if they detect carbon monoxide or if there is a fire hazard. Another Nest partner is August, which sells

a lock that can be operated with an iPhone. The August Smart Lock can inform Nest to turn the heat down when you close the door behind you. Ovens, fridges and air conditioners are also part of the system. Nest can tell an LG fridge that it is a good idea to turn on the low-power mode as there is no one home. A Works With Nest oven is switched off automatically if someone forgot to. Other Nest-compatible suppliers, apart from Philips, August and LG, include Insteon, Lutron, Ooma Telo, UniKey, Withings, Beep Dial, Big Ass Fans, Whirlpool, Zuli and Chargepoint. For these parties, Nest is also a way to receive and to analyze user data and pass them back to individual users or groups. All Nest-compatible appliances use the special API, but it has been possible for a while to make Nest compatible through the IFTTT website and app. IFTTT means "IF This Then That" and is a free compatibility platform.

In their article "Outlook 2014: Platforms are Eating the World" Sangeet Choudary, Geoffrey Parker and Marshall Van Alstyne outline how the platform economy disrupts the existing linear world:

"We used to live in a world where commerce flowed linearly. Firms added value to products, shipped them out and sold them to consumers. Producers and consumers held very distinct roles. Value was created upstream and flowed downstream. Now, market upstarts are displacing market leaders faster than ever before as entire industries transform."

Sangeet Choudary, Geoffrey Parker en Marshall Van Alstyne

In addition, people should be alerted to the power of the platforms to avoid even the semblance of techno-optimism that is all too easily created. We all know the debates concerning Facebook, but organizations like Uber and Airbnb are also often in the news in a negative way. The extremely expansive ambitions of these platforms are well-known. On the other hand, there are many examples of organizations that could no longer use certain services after a particular platform had been taken over by another party. Open digital platforms are necessary and wonderful until their interdependence is making itself felt in an unpleasant manner. A case in point is Amazon, which can pressure publishers by blocking access to its platform.



4 INTERFACES FOR THE NEW ORDER

The drive displayed by digital platforms to transform entire sectors is apparent from the ambitions of the Uber taxi firm. This company recently changed its payoff from “Everyone’s private driver” into the far broader “Where lifestyle meets logistics.” Uber aims to fulfill a public service function. Before goods have reached the proper persons, the physical world still has a lot of friction, and it is Uber’s ambition to remove this resistance between objects and people as much as possible with APIs. Thanks to this API strategy other parties can incorporate Uber into their own software:

“Now that we have this fundamental capability in place – a capability we like to think of as converting bits to atoms – in over 40 countries around the world, there are so many things we would love to see built on top of it.”

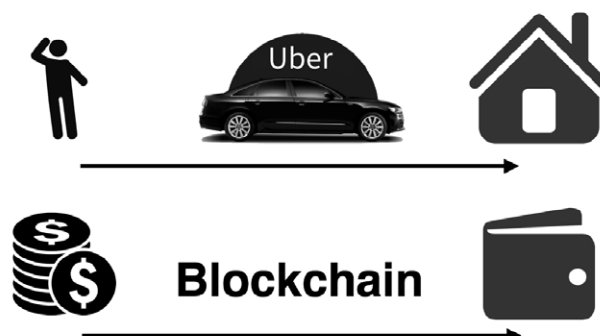
Uber

An example of the new opportunities is the co-operation with KLM. The Uber travel planner on KLM’s website enables you to choose a route, provided the distance is not too long, and produce an overview of the price and estimated duration of the ride. Uber already co-operates this way with Expensify, Hinge, Hyatt Hotels & Resorts, Momento, OpenTable, Starbucks Coffee Company, Tempo Smart Calendar, Time Out, TripAdvisor, TripCase and United Airlines.

“Lifestyle meets logistics” can be applied anywhere. Before you know it Uber will have a service to deliver meals prepared by the home cooks of Meal Sharing to homes for the elderly. Such a service can be installed in the health insurer’s app without any problem and paid for automatically.

“Money meets logistics” could also be set up this way. On a global scale banks make 543 billion dollars out of financial transactions. To transfer money from one account to the other, Bitcoin’s Blockchain algorithm can be used within a context of APIs and apps.

There are many ways to look at digital platforms, to categorize them and look for new creative solutions. It is worth finding out how that debate is held in terms of collaborative, shared and peer-to-peer.



5 TAKE YOUR PICK: COLLABORATIVE, SHARED OR PEER-TO-PEER

oDesk, eBay and Deliv bring supply and demand together by facilitating a simpler and better co-operation between parties. This is why the term “collaborative” is often mentioned in this context.

Rachel Botsman, an international authority in this field and author of the book *What's Mine is Yours: How Collaborative Consumption is Changing the Way We Live*, distinguishes four types of co-operation: the consumption side, the production side, and in addition finance and learning are also important.

Collaborative Economy

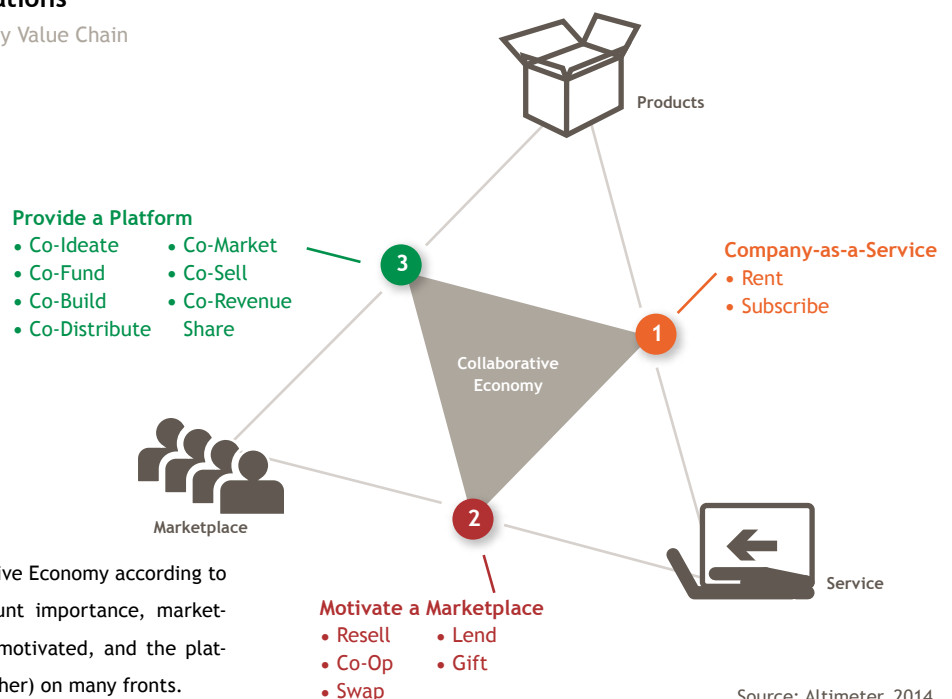
An economy based on distributed networks of member individuals and communities versus centralized institutions. This transforms the way we produce, consume, finance and learn.

Collaborative Consumption

An economic model based on sharing, exchanging, selling or renting products or services that facilitate access to ownership. It is not only about which products or services we consume, but primarily about how we consume them.

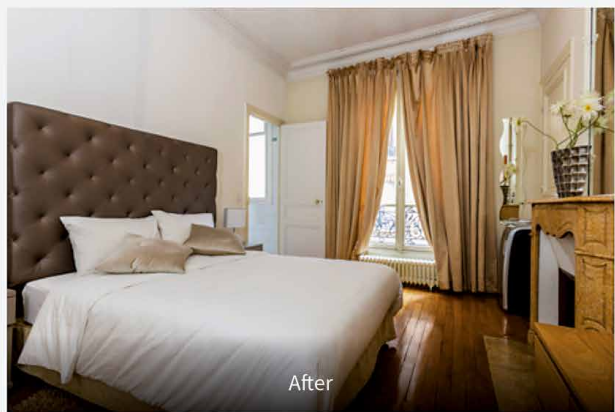
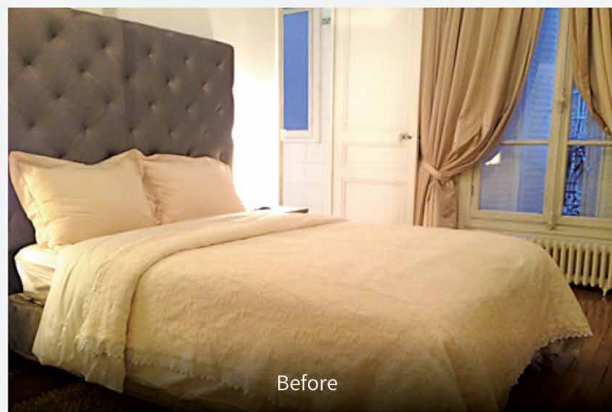
A Framework for Corporations

Adopt the Collaborative Economy Value Chain



The value chain of the Collaborative Economy according to Altimeter. Service is of paramount importance, marketplaces in particular need to be motivated, and the platform's main feature is “co” (together) on many fronts.

Source: Altimeter, 2014



Before and after using Airbnb's free professional photographer.

Collaborative Production Design, production and distribution of goods by collaborative networks such as Quirky¹⁰, where ideas can be posted for desired products that are then actually made.

Collaborative Finance Person-to-person banking (e.g., Lending Club¹¹) and crowdfunding models (e.g., Kickstarter) that decentralize funding.

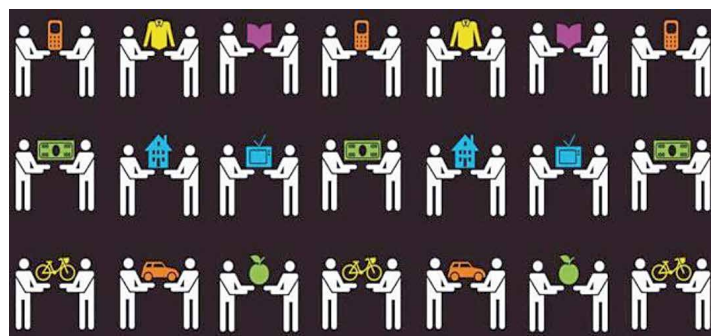
Collaborative Learning Open education and person-to-person learning models that democratize education, such as Coursera.¹²

To a new market player like Airbnb, for example, realizing new ways of co-operation in the production and consumption sides of the economy also implies offering free professional photography. This motivates potential guests to use the service. For Airbnb this is one way to implement the as-a-service concept.

With *Collaborative Production* we see that Botsman has physical products in mind. This explains why she regards *Learning* as a separate category, which obviously also contains a production element, albeit of knowledge. And *Finance* might equally well be considered a special form of *Collaborative Consumption*. More important, however, are the two subtle distinctions that Botsman makes. When assets are brought in (the way Airbnb does with accommodation, Meal Sharing with the kitchen and Uber with the car), we refer to a *Sharing Economy*. And when there is no longer a central party but everything is distributed, we refer to a *Peer-to-Peer Economy*. So these are the two varieties of the *Collaborative Economy*:

Sharing Economy An economic model based on sharing insufficiently used assets: from spaces to cars and labor, in exchange for money as well as remuneration of a different nature.

Peer-to-Peer Economy Marketplaces that trade products and services directly from one person to another, based on personal trust.



The Peer-to-Peer and Sharing Economies can go hand-in-hand.

¹⁰ <https://www.quirky.com/how-it-works>

¹¹ <https://www.lendingclub.com/>

¹² <https://www.coursera.org/>



From “take your pick” to “pick your sector.” This can be done with the help of Lisa Gansky, author of *The Mesh*. Her website Meshing.it contains a worldwide directory of 9,317 companies in 25 categories¹³, from Facebook, Amazon and Airbnb to the relatively unknown BrightFarms and ComeCasero.

Take your pick from almost ten thousand platform organizations or add your own organization on Meshing.it.

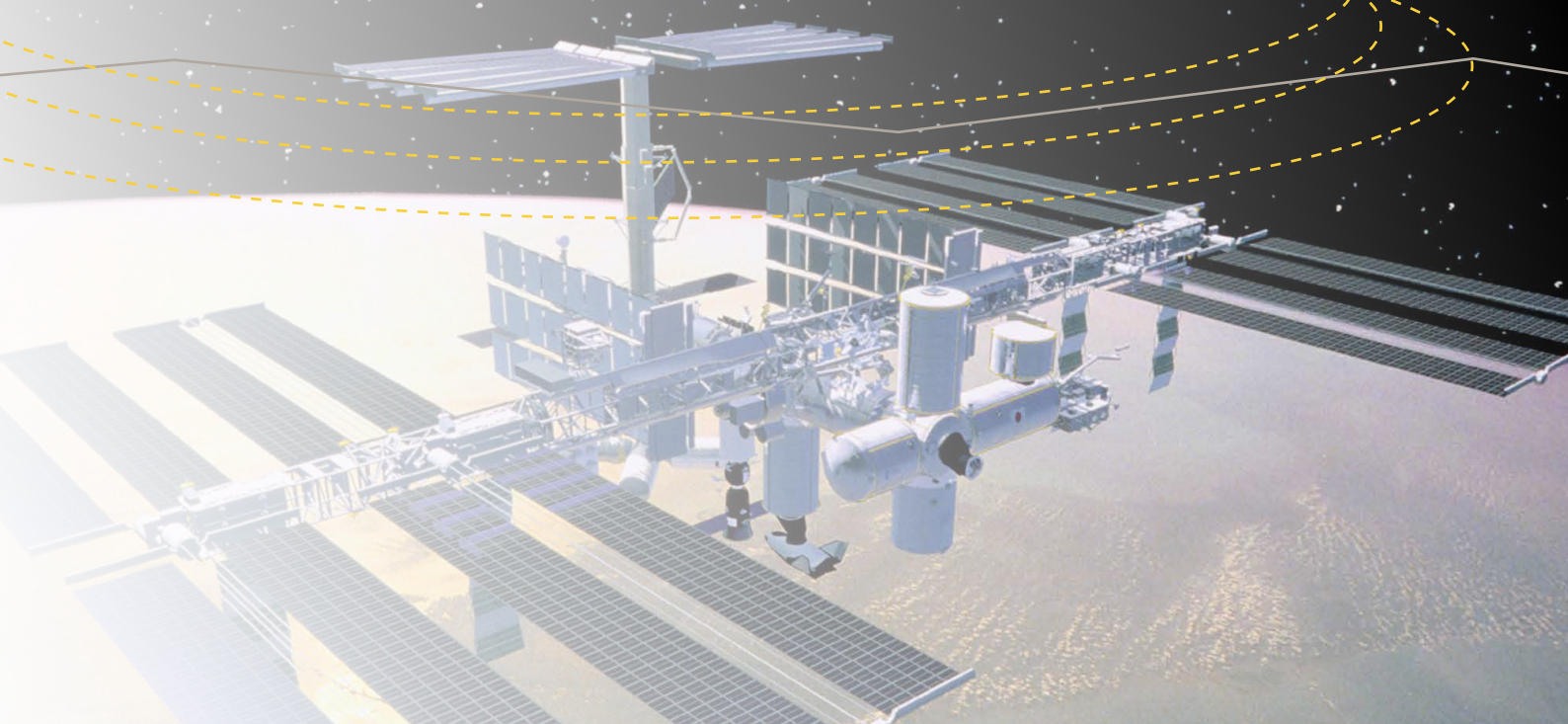
SHARING: ROMANTIC BOTTOM-UP MOVEMENT OR THE NEW CAPITALISM?

On the face of it, the sharing economy only has advantages: a lower price for consumers, people will be more in touch with one another and the world will be a more sustainable place because insufficiently used assets are used more effectively. The positive and progressive connotation of the word “sharing” ensures that many companies are keen to be associated with it. But is that correct?

That is the question that is at the root of the shifting sentiment – from romantic to new capitalism. If an Airbnb room is shared because the owner is on vacation, we rightly refer to sharing. If an Airbnb host moves on a temporary basis to rent out his room as much as possible, it is a matter of running a hotel. Research by the American journalist Tom Slee shows that half of the suppliers on Airbnb are commercial renters, who frequently offer several homes.¹⁴ In addition, the earnings model of the sharing companies is not essentially different from that of the traditional companies: they make a profit by acting as brokers and pruning away part of the transaction costs. Another point is that within a short period of time companies such as Uber and Airbnb have grown into multibillion dollar industries where cost efficiency is considered far more important than sharing.

¹³ <http://meshing.it/>

¹⁴ <http://tomslee.net/2014/05/the-shape-of-airbnbs-business.html>



Gansky is somewhat casual when it comes to the *Sharing Economy* concept, sticking that label on all the platform organizations she has gathered, whereas Botsman reserves *Sharing Economy* for insufficiently used assets such as cars and accommodation. Anyway, the collection on Meshing.it is a wonderful source of inspiration for anyone eager to feed upon the new digital competition. Far more important than how to pigeon-hole things – collaborative, sharing or peer-to-peer – is the question as to the effect. What are they doing properly and what are the benefits? The bottom line is: more options, more tools and more power. This is why digital platforms are successful.

The Mesh

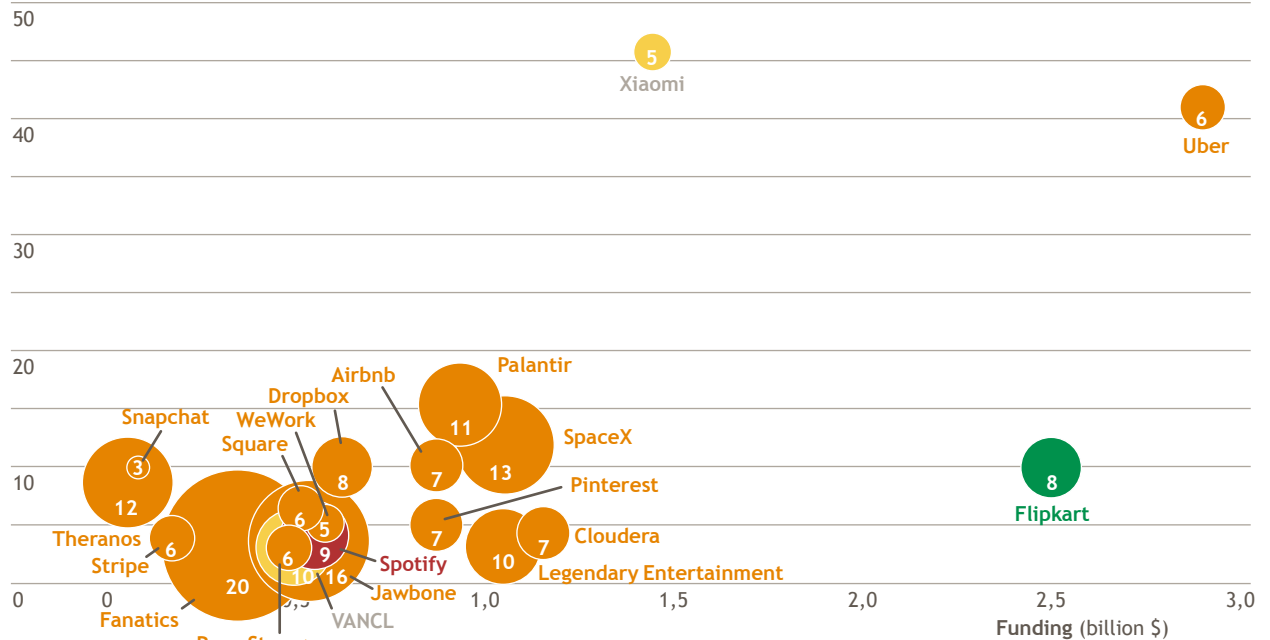
“Around these entrenched businesses, a new model is starting to take root and grow, one in which consumers have more choices, more tools, more information, and more power to guide those choices. I call this emerging model The Mesh.”

Lisa Gansky

Those opportunities to raise the quality are incentives for startups to get cracking. The Orange Institute performed relevant research on this topic, calling the most rapidly growing companies “unicorns”, or billion-dollar startups. A unicorn is an organization that has achieved a market value of one billion dollars and is operating side by side with existing dominant market parties, or has a totally different approach. From insignificant parties, unicorns can grow into disruptive organizations in no time. In 2013 the number of these billion-dollar startups increased by 67% and the total market value of the 60 registered unicorns is 232 billion dollars.

The Three-Billion-Dollar Startup Club

Estimated value startup (billion \$)



The graph shows startups valued at 3 billion dollars or more
 The size of the circle (and the number in the circle) indicate the age of the startup (in years)
 The color of the circle indicates the region: China (yellow) VS (orange) India (green) EU (red)
 Source: <http://graphics.wsj.com/billion-dollar-club>, December 2014

“I believe there will be more Unicorns per year because the markets for technology are larger today than 10 years ago. It’s not just a geographic widening, either. It’s the number of people who use technology today.”

Aileen Lee, VC at Kleiner Perkins Caufield & Byers and founder of Cowboy Ventures

6 TEN PRINCIPLES FOR PLATFORM DESIGN

This takes us to the important question regarding the design principles for digital platform organizations. The next ten principles, combined with a talent for organizing and using network effects, characterize these organizations.

I Sharing is the new having

The costs of preparing a meal are lower when amateur cooks use their own kitchen, as in the case of Meal Sharing. It also goes for using your own car as a taxi, and offering your own home and other assets. Sharing is the new having; access is more important than ownership. Zipcar and Lyft exploit the cars that are driving around anyway. Apart from the costs there is also a social side to the matter. Sharing is more social, you get in touch with people, and as you make smarter use of the available resources, the planet benefits in the bargain. Those aspects are likely to attract certain target groups.

II Access goes beyond ownership

The second design principle follows naturally from the first. Access is the key word: access to a car, access to a work space or access to hands. It is a trend that started in the entertainment industry. Netflix and Spotify rendered the possession of your own CDs unnecessary. In this case, access to music goes beyond the ownership of physical media carriers. Not only does this apply to digital products, but also to people and cars. TaskRabbit offers tens of thousands of hands without employing the people themselves. These companies provide access to skills without having anyone on the payroll. A change in course or optimization is a matter of a software update. A platform company does not run many risks, it requires little in the way of starting or growth capital and the enterprise grows faster than a traditional company.¹⁵ The model of many transactions combined with low operational costs is attractive to investors.

III Lower costs through matchmaking

The so-called end-to-end philosophy that traditional organizations would like to introduce – albeit usually unsuccessfully – is a must for the new digital competitors. The thing is that for the role of intermediary to be fulfilled satisfactorily, a smooth proceeding of the transactions is required. This causes less fuss for suppliers and customers alike: lower costs for finding someone who can do the job, finding out more quickly what the quality of a service is, etc. – a quality that will rise as the hidden costs of a transaction are going down. Clearly, within organizations transaction costs are not a trivial matter. As early as 1937, Nobel Prize winner Ronald Coase stated that they are the rationale of organizations.

IV Butter your bread on both sides

The two- or multi-sided players can potentially make money on both sides. Apple makes money out of the sale of apps and smartphones, for example. Facebook has to rely on advertising but is also engaged in facilitating mobile money transfers with Facebook Messenger. Smart toothbrushes, thermostats and even street lighting promise to become the prelude to numerous new services for interested parties who join these platforms. Thus the possibility to offer services below cost (so-called freemium models) poses a major threat to incumbents.

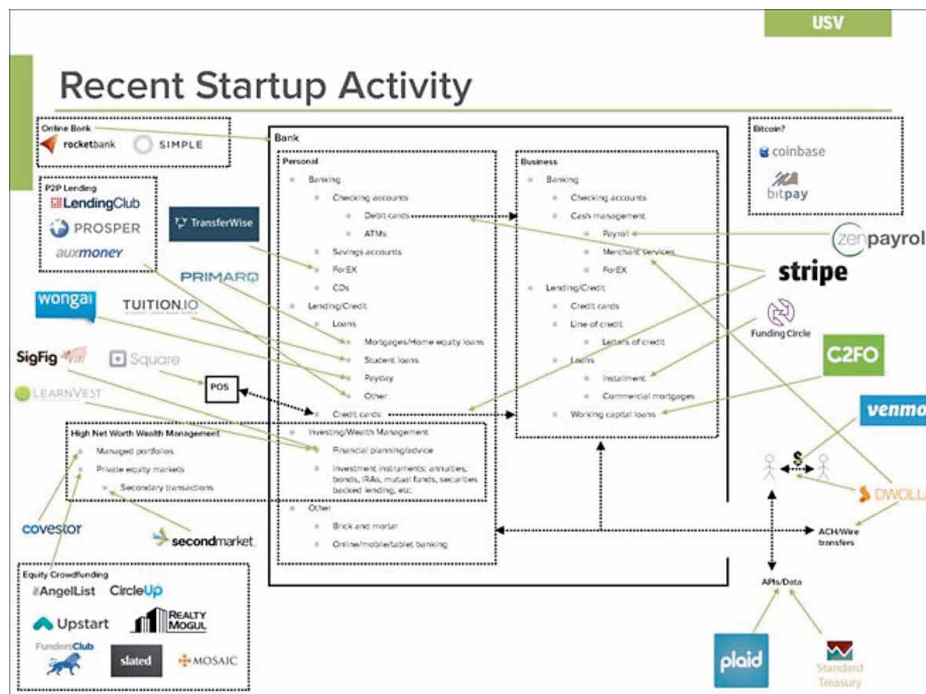
¹⁵ <http://www.economist.com/news/technology-quarterly/21572914-collaborative-consumption-technology-makes-it-easier-people-rent-items>

V Unbundle your organization processes

What is more fundamental is the stripping of layers from a product or service until only the real customer needs are left. This is what we call unbundling. Evidently, a core design principle of many digital platform players is the exposure of friction in a customer interaction process. Uber is a taxi firm minus calls to the control center, the necessity of cash or credit cards and the uncertainty as to the driver's skills. Airbnb is a hotel room without a reception, someone to hold the door for you and a cleaner. Lending Club is a lender without consultants and waiting times. It is all about simplicity for the end users. At the end of the day, this comes down to the service pure and simple, plus an access interface, e.g., an app. Alexander Pease of Union Square, a New York-based venture capital firm, explains how a bank is attacked on all fronts, for example by SigFig and LearnVest when it comes to financial advice and by BitPay and Square when it comes to effecting transactions.

VI Getting the most out of SMACT

The smartphone, apps, the cloud, social media and increasingly the Internet of Things enable new players to innovate much more simply and rapidly. The VINT acronym SMACT stands for Social, Mobile, Analytics, Cloud and Things, plus their platform integration with the help of APIs and apps. This way anyone can enter a shared and cheap infrastructure quickly and easily, save data about identity and supply and demand, and co-ordinate economic transactions. The new players are only too keen to capitalize on this. Uber never had to invest in the infrastructure. The Uber taxi is paid for with the app the moment the customer gets out and Instacart delivers an order to your home that has already been paid for. The only thing that needs to be done is to integrate the proper SMACT APIs with the business model.



Disaggregation of a Bank¹⁶

¹⁶ <http://slideonline.com/presentation/7660-disaggregation-of-a-bank-v1-pdf>

VII APIs first

APIs have an enormous impact on the scalability and distribution of platforms and their services. APIs enable a company to extend the business model cross-sectoral- and cross-partner-wise, and to be placed up front in the distribution chain. This way the Uber API can link the logistic arsenal of drivers to travelers, but also to any app focusing on the delivery of goods. The distribution of data determines the flexibility of the business model. APIs are the integrating link between platforms, apps and services of third parties.

An API determines how software communicates using the Internet. With an API various stakeholders can gain access to data and other digital sources, such as external developers and companies, but also departments and locations within the same organization. APIs are increasingly used this way to co-operate and exchange, in particular externally: with partners and the public. So the function of APIs is to enable software – websites, web apps, mobile apps – as well as devices to communicate with one another through the Internet.

APIs are not merely a technical hobby of shrewd programmers – on the contrary. Anyone – particularly business managers and marketers with a passion for digital innovation – can use them to build applications, make visualizations and perform analyses to solve practical problems and add value, e.g., through direct data acquisition and customer interaction.

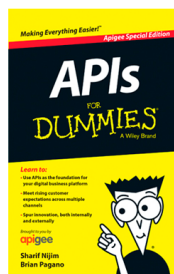
API providers design APIs, roll them out and manage them, while API consumers build websites, web apps or mobile apps, for example, perform data analyses or data visualizations, or make devices communicate with one another. As API communication is increasingly applied on all fronts, more and more people are becoming both pro-

vider and consumer without having to make a profound study of the technological properties of an API and how communication in the cloud is taking place.

Much of the discussion concerning the security of platforms such as Snapchat and Moonpig is API-related. More and more often the activities of organizations take place through the Internet, but that is definitely not always taken into account to a sufficient degree. A good API strategy maps out resources and the way the organization operates online. This is important to get an overview of privacy and security issues and ensure adequate monitoring of all activities.

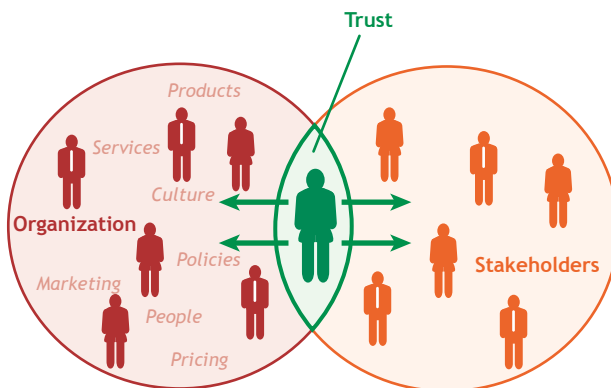
The online problems that companies like Sony and JPMorgan Chase had to cope with, would not have gotten out of hand to such an extent with an API strategy. Users of mobile services should have access to their data, and account management, data portability and identity can be arranged with APIs, for the sake of better transparency and security.

Interested? Then download the instructive book *APIs for Dummies: how to accelerate your business with APIs* at <https://pages.apigee.com/ebook-apis-for-dummies-reg.html>.



Accelerate Your
Business With APIs

The Future of Social Media



Organizations need to build trust with stakeholders through online transparency

IX Ingrained trust with social systems

People are more likely to trust one another than they do institutions. This is something platforms like to capitalize on, deploying new systems based on online signals and evaluations of co-users. To some extent, software has made trust scalable. The individual's reputation is gradually becoming the new currency. Companies such as Lending Club and Uber facilitate reputation management based on assessment systems that are transparent to all and that are mutual at the same time: you can appraise the party that gives money and the party that asks for it, you can assess the driver of a vehicle as well as the passenger. Organizations that do not use direct communication between persons in the network, are missing opportunities and can expect competition. The postman, the bus driver, the plane crew, the pizza delivery boy, the doctor and lots of others are in a far better position to organize customer trust if they take heed of the social design principle. Otherwise, they will be challenged more and more often by reputation platforms such as Yelp and TripAdvisor.

VIII Algorithms for the perfect match

Being intermediaries, platforms will do anything to bring about the perfect match. Spotify alerts you to the fact that your favorite artist will release a new album next week. Facebook, LinkedIn, Airbnb, Amazon or OkCupid, it does not matter: when you are trying to farm out a job or are looking for a partner, a book or a hotel, you are better off with a digital platform than with a traditional company. Every traditional organization that has to accomplish a match, should be aware that this is the very aspect where it runs the risk of tasting defeat. Digital platforms have increasingly smart algorithms to bring together supply and demand. With pattern recognition leading to personalization, the processes are becoming faster, more accurate and more efficient.



X Act now, apologize later

The new challengers are on the look-out for loopholes in the law using the motto “Act now, apologize later.” Google and Facebook are consciously pushing back the borders of privacy. Sidecar and Lyft neither communicate fixed rates nor farm out payments, so as not to be regarded as a taxi company. Many digital platforms are operating in a legal grey area. Who is liable, for example, for an accident caused by a driver in a car borrowed from RelayRides? In California, Oregon and Washington it is RelayRides itself, after a change in legislation. Should foreign guests using Airbnb accommodation in San Francisco pay tourist tax? The hotels think they ought to. Airbnb, however, uses the fact that the law in which this is set down dates back to 1961 as an excuse, claiming that it is not valid in the digital era. New legislation to deal with that is in preparation, and meanwhile, Airbnb is released from the tourist tax. As for paying compensation, after much haggling, Airbnb paid 50,000 dollars to a lady whose house had been vandalized and ransacked by guests. What also comes to

mind is the strikes of taxi drivers in Paris, Berlin and Brussels, and eventually the ban on Uber in the last two cities. Recently, they were joined by India, Thailand and Spain. Uber is now trying to meet cities halfway by sharing data that can improve a city’s infrastructure. The first partner in this context is Boston, which is planning to use Uber’s data for urban development.¹⁷



“Act now, apologize later.” Frustrated taxi driver Albert Zee collects all negative press reports about these challengers on his blog <http://saint-petersburg-florida-taxi.blogspot.com/>

¹⁷ <http://venturebeat.com/2015/01/13/uber-wants-to-use-its-data-to-help-build-better-cities/>



7 CONCLUSION AND CONSIDERATIONS FOR THE CIO

We rounded off the executive introduction to Design to Disrupt with an appeal by Michael Raynor, Clayton Christensen's buddy, to CIOs and CEOs. The message is not to wait and see.

- A. Take control. Lead the disruption.
- B. Deploy technology to break constraints.
- C. Lose out on efficiency and go for effective disruption.
- D. Don't be terrified, the odds are better than you think.

This will make many CIOs feel uncomfortable, not in the least if they are not yet experiencing the discipline of the market personally. And next you need to be able to reserve the funds to embark on a more disruptive course. Losing out on efficiency may create that opportunity, but the area of tension is becoming clear. To what extent are you capable of stretching the existing governance structures? By and large the efforts cost more time and money than you would like.

Nokia's burning platform (or any other hotbed) is the big stick to take digital disruption very seriously for your own market. That the odds are better if you come into action is confirmed by extensive recent research into the chance of success of digital innovations. A team from MIT, in conjunction with Capgemini, has made an analysis of the most successful organizations. The short version of the book *Leading Digital: Turning Technology into Business Transformation* is that companies whose organizational and technological capabilities are functioning properly, show a 26% higher growth. They appear to have the answer to Eroom's Law that we introduced in our executive introduction. The steps are the following:

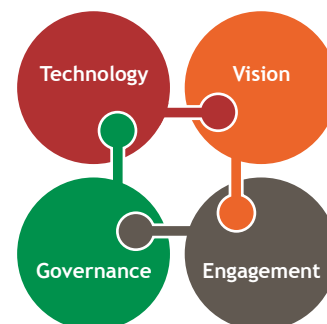
Leading Digital in Four Steps

Fuse IT and business to build digital skills and transform technology platforms

Create a shared transformative vision of the digital future

Establish strong digital governance to steer the course

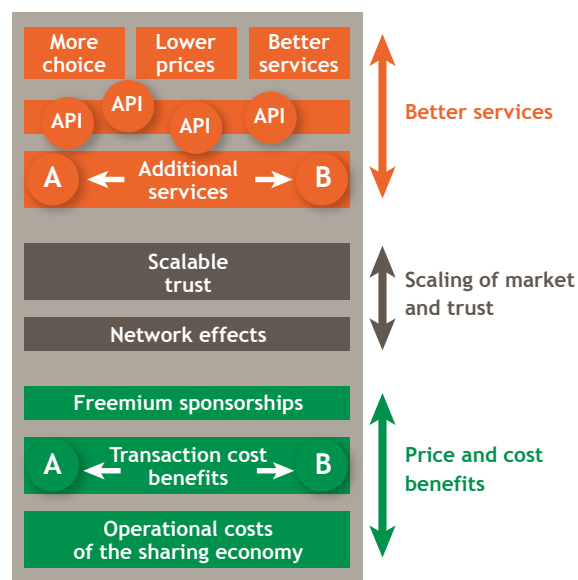
Engage employees at scale to make vision a reality



A fusion of IT and business, a strong digital governance, involving all employees to realize ambitions – but start with a transformative vision of the digital future. Obviously, this statement by no means gives the study into Leading Digital the praise it deserves, but serves as a recommendation to read the book. What the four steps outlined here demonstrate in all simplicity is that the real success of change is on the human side. Organizations that score in terms of technology as well as on the human side, are the most successful, but we should realize that a lot of disruptive power can be achieved with relatively low-tech efforts.

The aim of this study was to contribute material to underpin your own transformative vision. Hopefully, the ten design principles of the new digital competition will guide your strategy. In the model below we summarize the strengths of the platform players.

Success Model for Platform Members




Lower costs, benefits of scale and better service with additional services on either side of the market (A and B, different platform users). If we apply attack or defense tactics to this, the following questions are obvious:

- Are there possibilities to become a platform yourself?
- What network benefits can this generate?
- Can direct contact between customers and staff, or customers and customers, generate more trust?
- Can you deploy the platform economy in specific processes?
- Can you make arrangements in the meantime, before all decisions have been made?

It is clear that very few organizations are in a position to become a platform themselves. Assuming that only a limited number of organizations can actually be directive, the inference is that one should look at the part an organization plays in an ecosystem. This is something you can prepare yourself for, and so the answer to the last question is affirmative. If you intend to join the platform economy, then join the API economy as well.

Platforms and APIs

The well-known platforms such as Facebook, Twitter, Google Maps and Instagram, Uber and Airbnb, all have APIs available to the public to use the platform as a basis for other applications. Can all organizations do this? What's more, shouldn't this be the response of any organization reflecting on the new digital competition? Time and again it boils down to the same thing: together with the business, the IT department needs to devise a thorough API strategy.



A wide range of components and plugins are currently available to websites that can improve the user experience: links with social media, keeping statistics up-to-date, representing data from a variety of sources, maps, multimedia etc. Nowadays, no software designer will claim that all functionality should be home-built – those days are over.

Today, every organization is faced with two API-related questions. First of all, which APIs exist to realize better solutions at a higher pace? And even more importantly: which APIs should be made available to the market? Which processes, functions and data are interesting enough for others to interact with them through APIs and what should be the business case?

How to take the royal API road

You may find APIs rather technical, but basically your own APIs are on a par with your core processes, whereas those by others will be used for less vital functions. In fact, it is a question of sourcing. What is your core and what is ‘nice to have’? And so your royal API road begins with an essential, even existential question about the *raison d’être* of your organization.

“Why are we here?”

And thus we have returned to the popular organization subject matter of Simon Sinek (why, what, how?). Only those organizations that can answer the “why” question can define the appropriate actions (see also Startwith-why.com).

It is all about APIs. Companies make core services available through APIs. New players combine the services, generating creative solutions, and a real market emerges for APIs where function, price and quality can be compared and all kinds of new combinations can be tested. The aim: to have greater dynamics and better opportunities for valuable services. Or the downside: more competition and the kiss of death for mediocre solutions and companies that prove unable to offer their services online.

If you opt for the API route, what does that imply for your IT organization?

- The support, availability, scalability etc. of the interface will be points of address.
- Good version management is imperative.
- Security must be in perfect order.

These are no insuperable challenges, but it is still quite different from making technology available on an internal scale only. Organization-wise there is a lot of work to be done: simply offering an interface is not enough to make sure it is actually used. Much like other services and products, this requires some consideration and joint consultation with regard to marketing, customers and the proposition for clients.

The key question is: what is the rationale of your existence among all the digital platform competitors – present and future!? You will have to follow this game closely and make sure you are on the ball as much as you can.

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Design to Disrupt

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VINT, the Sogeti trend lab and part of SogetiLabs, provides a meaningful interpretation of the connection between business processes and new developments. In every VINT publication, a balance is struck between factual description and the intended utilization. VINT uses this approach to inspire organizations to consider and use new technology.

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