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# Unlocking the value of the platform economy

Mastering the good, the bad and the ugly

November 2018

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## Foreword

Everyone and everything is connected these days. This development has given rise to a new type of organization: digital platform organizations (hereafter simply: platforms) that provide digital infrastructures where individuals and organizations can find each other and coordinate their activities on a very large scale. These platforms add convenience, transparency and trust to all kinds of markets and ecosystems. And in the process, often creates a lot of new consumer welfare.

The platform model is rapidly finding its way into a broader range of sectors, up the value chain into B2B markets and is increasingly driven by large incumbent companies.

In the emerging platform economy, at first glance most platforms are “just an online store” (Amazon, Bol.com), “just a smart taxi service” (Uber) or “just a way to earn something on the side” (Deliveroo, Temper). In reality, such platforms operate as both orchestrators and regulators of multi-sided markets, where they set and enforce their own rules on how this market should function. There’s good and bad news in this: most rules help to make the market (much) more efficient, but many simultaneously increase the power of the platform over its users.

And as platforms move to increasingly important aspects of our lives (from entertainment and shopping to our jobs, housing, healthcare, finances, mobility), their broader impact on the economy and society as a whole, as well as their broader future potential, are now becoming apparent. And while their negative impact on income security, antitrust, privacy and fake news is coming under intense public scrutiny, their positive effects such as their major contribution to consumer welfare seem to be going largely unnoticed. This has created an image problem for the platform model that we believe is not doing justice to the potential it has to create positive value for the economy and society at large.

The ugly news is that, on a global scale, the power balance in the platform economy is heavily tilted towards the US and China, with Europe lagging badly behind in terms of operating large-scale platforms. And while the Netherlands is a relative frontrunner compared to its European peers, most prominent platforms built in the Netherlands were either sold to, or acquired by foreign platforms before they could achieve a significant scale on their own. As a result, economic and public life in the Netherlands is increasingly being influenced, orchestrated and even regulated through platforms operated by foreign companies.

While academics have already been studying platforms for two decades, the aforementioned developments have also led boardrooms, policy makers and regulators to pay serious attention to the platform economy. This has led to a number of initiatives, for instance by the G20, the European Commission and, in the Netherlands, the Dutch House of Representatives and the Authority for Consumers & Markets (ACM).

We are now standing on the cross-roads in terms of how we want to master the good, the bad and the ugly of the platform economy. Will we focus on boosting the good by stimulating the development and growth of Dutch and European platforms developed by entrepreneurs, incumbent companies and public organizations alike? Will we focus on correcting the bad by updating our laws, regulations and institutions to reflect the new type of economic relations and dynamics that these platforms enable? Will we focus on controlling the ugly by keeping the large US and Asian platforms under control and protecting our civil rights?

The best answer is to find a way to focus on all three aspects: the good, the bad and the ugly. With this paper, we hope to provide you as a reader with the basis for an informed debate on this. Rather than providing you with a few quick fixes, we want to offer a perspective on possible ways forward. In the long run, we are very optimistic on the future of platforms in the Dutch economy and society. But to secure this future, we must act now and together to master the good, the bad and the ugly.

We are looking forward to a stimulating discussion with you at the Dutch Transformation Forum 2018,

Stephanie Hottenhuis, Chair Board of Management KPMG Netherlands

Frans Blom, Chairman BCG The Netherlands

Roland Boekhout, Member of the Management Board Banking ING

David Knibbe, CEO Nationale-Nederlanden, and Member of the Management Board NN Group

Derk Lemstra, Managing Partner Stibbe

Rob Miesen, Managing Partner Spencer Stuart

Peter Zijlema, General Manager IBM Benelux and Country General Manager IBM Netherlands

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## Introduction

Platforms are en vogue these days, both in boardroom discussions, as well as in public debate. Some dismiss this as the next buzzword, but this could not be further from the truth.

We are in the midst of a seismic shift in business and society. Understanding platform strategy will be vital to grasp tomorrow's economic models.

To understand this shift, it is important to recognize the factors that contributed to the rise of the industrial model. The industrial model of business was built off the back of three key technological shifts. Firstly, factory automation and the creation of the assembly line enabled mass production. Secondly, mass advertising technologies drove mass consumption. Finally, the rise of container shipping led to the creation of large global supply chains. Our industrial business models were built on large-scale production and consumption with global fulfillment.

But over the last decade, we have seen the rise of two other technological shifts that are driving us towards a fundamentally different economic model. Firstly, the rise of the smartphone has made the world much more connected. Secondly, the digitalization of supply and demand is helping to create entirely new digital markets. Think of how the digitalization of a moving vehicle, using a smartphone, enabled the rise of Uber and Deliveroo. Or take Airbnb, which rose on the back of the digitalization of our identity using Facebook Connect. These markets are managed by platform businesses that provide an open business model that enables external producers and consumers to connect and interact with each other.

As we move forward, two other technological shifts are making these business models stronger and more prevalent. Firstly, a connected world produces huge troves of data, enabling platform companies to invest in artificial intelligence and machine learning, which in turn enables them to learn from these market interactions and make them more efficient. Secondly, the rise of the cloud is also leading to the digitalization of business processes, enabling the digitalization not just of markets but of end-to-end supply chains and internal organizations, enabling platforms to impact every part of the economy and society.

The platform business model is the business model of the future. But not only do we need to understand these underlying shifts; we need a shift in thinking from a mindset of resource control and operational efficiency to a mindset of ecosystem orchestration and enablement. This is not just a key matter for CEOs and entrepreneurs, but also for society as whole, as platforms are increasingly creating and enabling the dominant design of how we communicate, interact and engage in our social and economic relations.

As a consequence of this, we also have new challenges to solve. Opportunities are plentiful, but we need to closely monitor and find solutions for the unintended consequences of the rise of platforms and the concentration of power with a few large firms.

Above all, it will be a fascinating journey.

Sangeet Paul Choudary

# 1. A balanced view on the emerging platform society

There is a new kid on the block and it is rapidly growing up to become an influential adult.

The (digital) platform.

Of course, platforms are no longer in their infancy. These days, platforms are a key topic in business strategy discussions, political debates, numerous publications and research papers. Many business executives are eager to explore the new opportunities to create value, triggered by numerous examples of well-known platform companies. The successes of the usual suspects, such as Amazon, Alibaba, Airbnb, Uber, Booking.com and countless others are both tempting and inspiring. Research shows that more than 80% of executives believe that platforms will be the glue that brings together large groups of users in the digital economy<sup>1</sup> and that platforms are ‘indisputably the leading form of organizing modern digital markets<sup>2</sup>.

One could argue that digital platforms are nothing new, given that they began to emerge in their most basic form some 20 years ago. Think of search engines such as AltaVista or online marketplaces like the Dutch Marktplaats (now part of eBay). While this is true, in recent years we have witnessed a more widespread adoption of platforms and an increase in their sophistication and impact.

## **Better interactions on a very large scale**

Ongoing digitalization is one of the main drivers of this phenomenon. However, the real novelty and added value of digital platforms is not about a specific technology, but about how platforms combine technologies to organize the interactions more effectively between individuals *on a very large scale*<sup>3</sup>. Using an open digital infrastructure, many platform companies no longer own or control resources. Instead, they excel in the orchestration of supply and demand (sides) in large ecosystems. If they combine this with a superior customer experience, they may be able to quickly scale up.

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1 Tas, J., & Weinel, B. (2015). *Digital Transformation Initiative: Unlocking B2B Platform Value*. Geneva: World Economic Forum.

2 Kilhoffer, Z., Beblavý, M., & Lenaerts, K. (2017). *An overview of European Platforms: Scope and Business Models*. Brussels: European Commission.

3 Parker, G., Van Alstyne, M., & Choudary, S. (2016). *Platform Revolution: How networked markets are transforming the economy and how to make them work for you*.

Platforms thereby benefit uniquely from ‘cross-side network effects’ where, broadly speaking, the value of the platform for each user on one side (e.g. demand) increases with the number of users of the other side (e.g. supply)<sup>4</sup>. Under certain circumstances, this dynamic has led to a ‘winner takes all’ situation in quite a number of markets, but certainly not all (as we will examine later). Scaling up platforms not only leads to lower prices – the traditional effect – but also to better products and services (as better matches can be made, and more intelligence can be gathered from the resulting data). The fact that most platforms add value through more effective coordination, rather than production, results in an interesting phenomenon: a large proportion of the benefits platforms have so far generated for the economy and society do not show up in our macro statistics, but rather ‘leak away’ into extra consumer welfare (we explain this in more detail in Chapter 4).

### **Unlocking value requires striking a balance**

Having said this, it is also clear that we are facing a number of new challenges. History also shows that these developments often cause upheaval and turbulence in society. Fear for negative consequences has often resulted in one-sided political debate (e.g. how to keep the US ‘BigTech’ platform companies under control) and has even led to riots in the streets (e.g. the protests against Uber in many cities around the world). Clearly, platforms have the potential to transform sectors profoundly, to organize economic activity in new ways and to change the balance of power. So, policy-makers need to find a proper balance between fostering progress while mitigating the negative impact on society. In fact, this should also be the main goal for business executives. The strategic challenge for companies is to be or become relevant in this new reality by embracing platform strategies. These strategies should bring value to both their own profit & loss account, as well as add value to society as a whole, as their platform strategy will only succeed in the long run if positive effects outweigh negative aspects.

One could therefore say that unlocking the value of the platform society is a matter of dealing with the good, the bad and the ugly.

### **The workings under the hood**

To have an informed debate, we need to fully grasp the fundamental nature of platforms and understand how they work. One of the biggest challenges on this front is the fact that they come in many shapes and across different sectors: sharing (Airbnb) / crowd (Wikipedia) / social (Facebook) / on-demand (Uber) / gig (Taskrabbit) / marketplace (Bol,

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<sup>4</sup> Economists prefer to conceptualize this dynamic as ‘multi-sided markets’, where the presence of one side of the market has direct benefits for the other side of a market. A seminal research paper on this topic is ‘Platform Competition in two-sided Markets’ by Jean-Charles Rochet and Jean Tirole (2003).

Booking) platforms. However, there is a common denominator: they all provide an ‘open’ digital infrastructure to an ecosystem of distinct but mutually dependent groups of users: producers and consumers of value. Depending on the specific type of platform, it has built-in mechanisms – based on data and algorithms – that enable users in these groups to find each other, interact, collaborate and/or transact easier on the platform than outside of it.

Executives and policy-makers who analyze the impact of platforms should clearly distinguish two basic premises.

1. There is a ‘core platform model’ with a set of mechanisms that all platforms share. These mechanisms are simply inherent to the use of platforms.
2. Individual companies have different implementation strategies (‘buttons’) to turn the platform model into a success for their business. These actions aim to improve the workings of the ecosystem and/or increase the power of the platform over the ecosystem.

Only by understanding this separation, do we believe it is possible to assess how to stimulate the positive effects of the platform model, while mitigating the negative aspects. In other words: how to master the good, the bad and the ugly.

## 2. Numbers that count: the rising significance of platforms

Estimating the actual size of the global platform economy in a single number is notoriously difficult, due to a lack of clear definitions of scope, lack of reliable data, the wide variety of types of platform and the fact that many platforms offer (parts) of their services for free.

In our research, we have tried to approximate this through the combined value of the largest public and private platform companies<sup>5</sup>. During our research, we built a database with 242 platform companies<sup>6</sup> that have a reported private valuation or a public market capitalization of at least \$100 mln, which include 187 platforms worth more than \$1 bn.

The most reliable valuation data could be acquired on platform companies whose value exceed >\$1 bn. Furthermore, as data on platforms that are part of incumbent companies (such as Bol.com, part of Ahold Delhaize, Healthsuite, part of Philips) is very scarce, they have been excluded from our research. We categorized the platforms based on valuation: Super Platform +\$250,000 mln, Elite Unicorn +\$25,000 mln, Unicorn+ +\$1,000 mln, Scale-up >\$100 mln.

Some key findings from our research:

### The power balance in the Global Platform Economy

The Global Platform Economy:

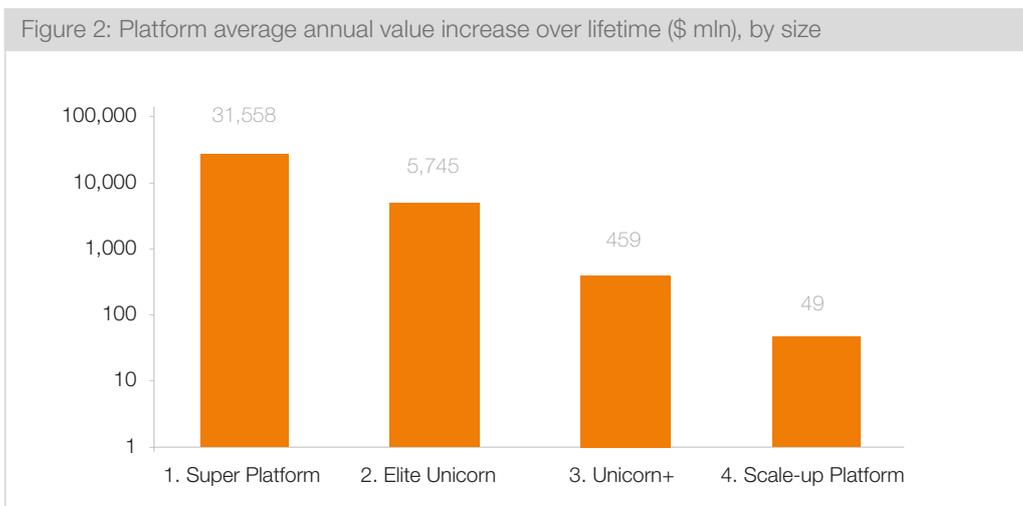
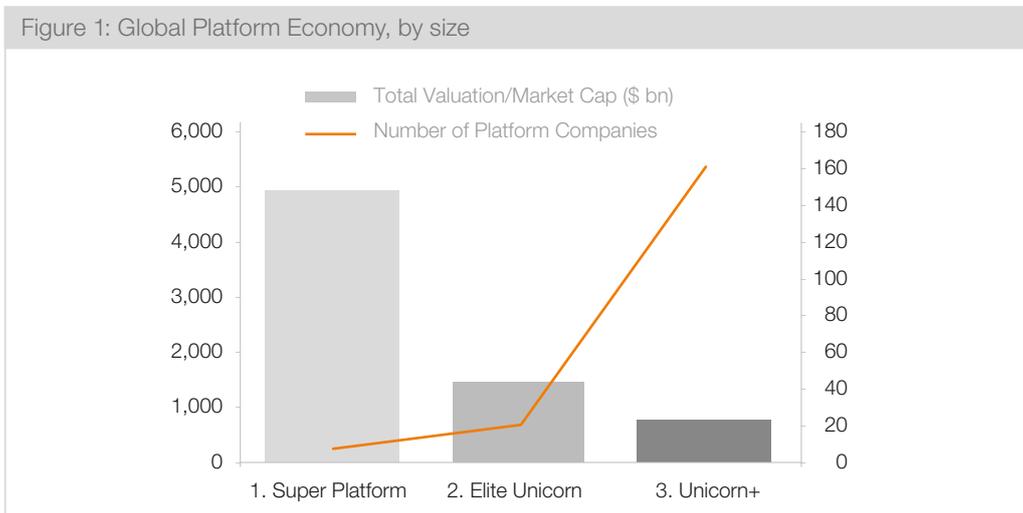
- **Keeps growing.** The top 242 platform companies now represent a market value of \$7,176 bn (more than seven times the total value of the AEX listed companies), a 67% increase from the \$4,304 bn reported by Peter C. Evans and Annabelle Gawer in their 2016 Global Platform Survey .
- **Is highly concentrated around seven ‘Super platforms’** (>\$ 250 bn market value): US-based Apple, Amazon, Microsoft, Google, Facebook and China-based Alibaba and Tencent. Together these firms represent \$4,923 bn, or 69% of the total value of the platform economy.<sup>7</sup>

<sup>5</sup> The authors acknowledge this is an incomplete measure, as it fails to highlight the significance of geopolitical activity occurring through platforms such as those discussed by Sangeet Paul Choudary in various publications.

<sup>6</sup> We define a platform company as any company whose primary source of income comes from one or multiple platforms, as defined in the Chapter one. We also include Apple in this category, as we believe Apple's revenue and profit on hardware sales depend primarily on the size and quality of its iOS platform and app-developer ecosystem.

<sup>7</sup> Crunchbase data, KPMG Platform Database, KPMG Analysis

- **Has strong presence in four sectors:** Internet Software & Services, Ecommerce & Retail, Social and Search. Having said this, in recent years platform companies have also shifted focus to a variety of other sectors.<sup>7</sup>
- **Has focus on both B2C (43% of the platform companies) P2P (Sharing Economy, 31%) B2B and/or B2B2C (25%).** We should note that we do not have data for most current B2B platforms, as they are currently being developed by incumbent companies.<sup>8</sup>
- **Is in private hands for a considerable part.** Two-thirds of the 187 platform companies valued at >\$1 bn are privately owned.<sup>10</sup>



8 Crunchbase data, KPMG Platform Database, KPMG Analysis

Figure 3: Share of private/public platform companies, by size

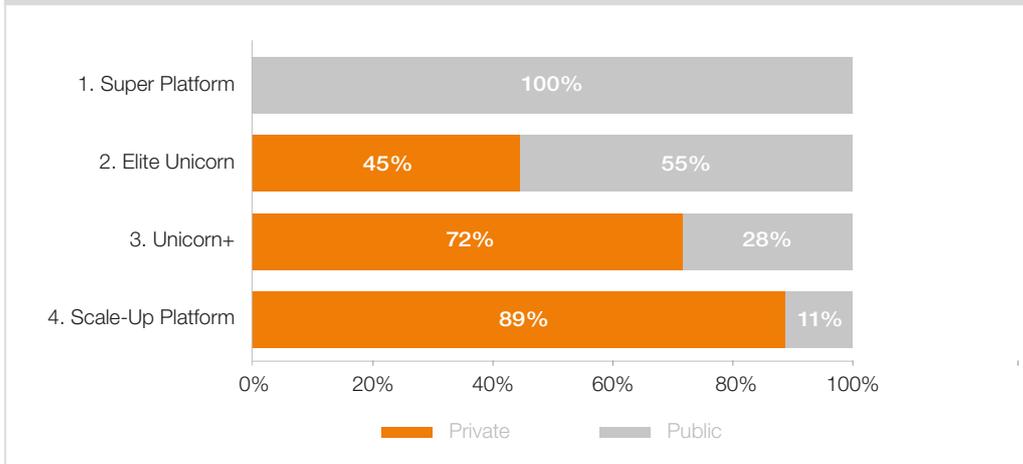
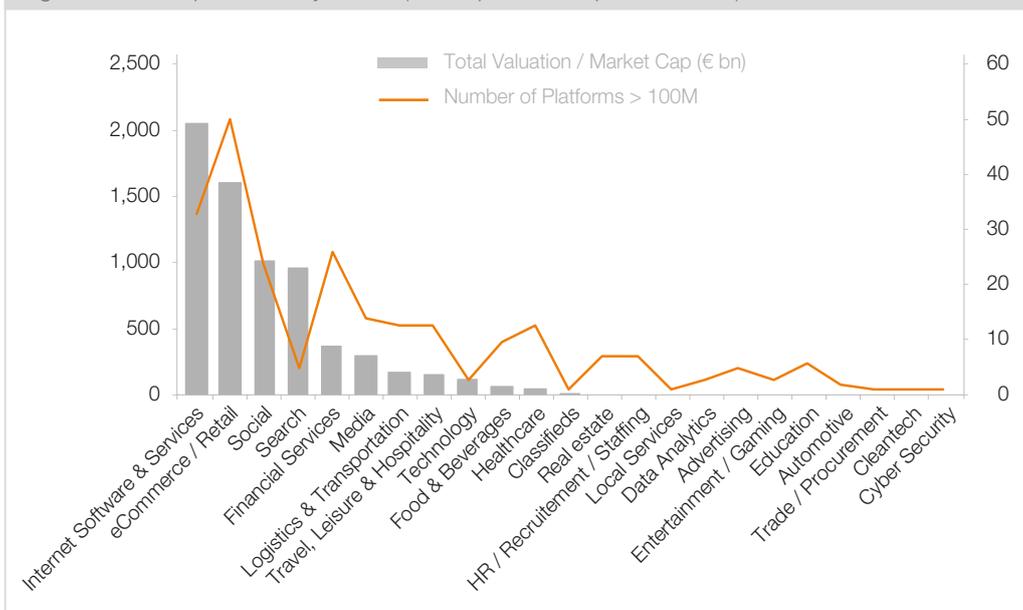


Figure 4: Global platforms by sector (incl. top seven Super Platforms)



### Domination of US and China

The platform economy is dominated by the US and China. Currently 46% of the \$1 bn+ platform companies are based in the U.S., 35% in Asia (mostly China), 18% in the EU and 1% in Latin America. The division of the total platform market value is even more skewed: 72% for the US, 25% for China and just 2% for the EU. So not only has Europe markedly fewer platforms, on average they are also significantly smaller (\$6.6 bn) than their US (\$63 bn) and Asian (\$23 bn) peers.<sup>9</sup>

<sup>9</sup> Crunchbase data, KPMG Platform Database, KPMG Analysis

The risks of this skewed power balance are threefold:

1. **It may undermine our data-driven competitiveness.** Platforms are extremely powerful data acquisition and processing engines, and possess uniquely large, rich and hard-to-replicate data sets. As competing on data is the new imperative in a digitalized world, companies with such unique assets will be able to dictate the market and make other stakeholders (highly) dependent on them.
2. **Lack of positive feedback loops.** As platform companies can reach a large size by themselves (rather than being acquired), this will often lead to valuable output which enhances the input (positive feedback loops) for the environment that hosts them. For example, through equity-sharing arrangements, employees based in the Netherlands who profit from successful platform IPOs are better positioned to start their own companies or invest in other companies. Furthermore, they work as aspirational ‘anchors’ for the next generation of entrepreneurs.
3. **It implies gradually handing over control over our domestic markets and public spaces to foreign (private) companies.** Handing over control makes the aspect of trust more important, resulting in new responsibilities for platforms. Platforms increasingly dictate the terms on which companies and individuals anywhere can interact and compete, as we will explore further in the following chapters.

Figure 5: Distribution of total platform company valuation by region

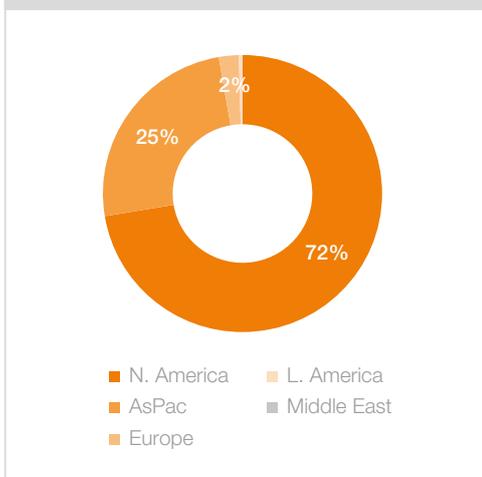
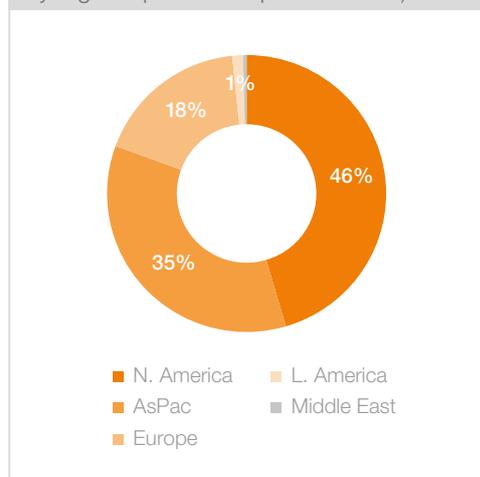


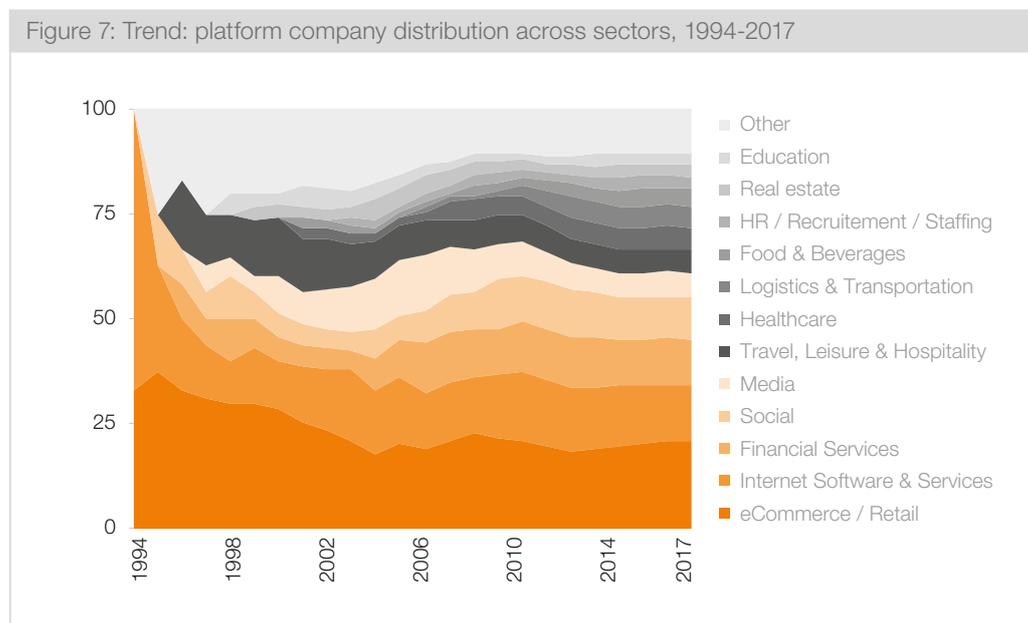
Figure 6: Distribution of number of >100-mln platform companies by region (top seven Super Platforms)



### In-depth analysis of EU versus US / China

What is the reason of the gap between the EU and the US / China? There are multiple possible explanations, some of which are quite obvious, but others are less so. First of all, despite the efforts of the EC via its Digital Single Markets strategy, the European market is still more fragmented in terms of languages, consumer preferences and rules and regulations than more integrated markets like the US and China. That makes achieving scale for platforms more costly in Europe than in other countries. Furthermore, as Peter Hinssen has highlighted, the US tech scene has long been linked with military development from which it has been able to benefit, while China's government strongly supports platforms like Alibaba, which has helped to develop trust and infrastructure in the Chinese market that was largely lacking before they started. Europe has never had either<sup>10</sup>.

However, when looking at our data we also noted a number of other interesting patterns. One important factor is that Super Platform companies are on average twice as old as Unicorn+ platforms (22 vs. 11 years)<sup>11</sup>. So being in the game earlier is clearly an advantage. However, the statistics in our database show that this does not explain why EU platforms are lagging behind.



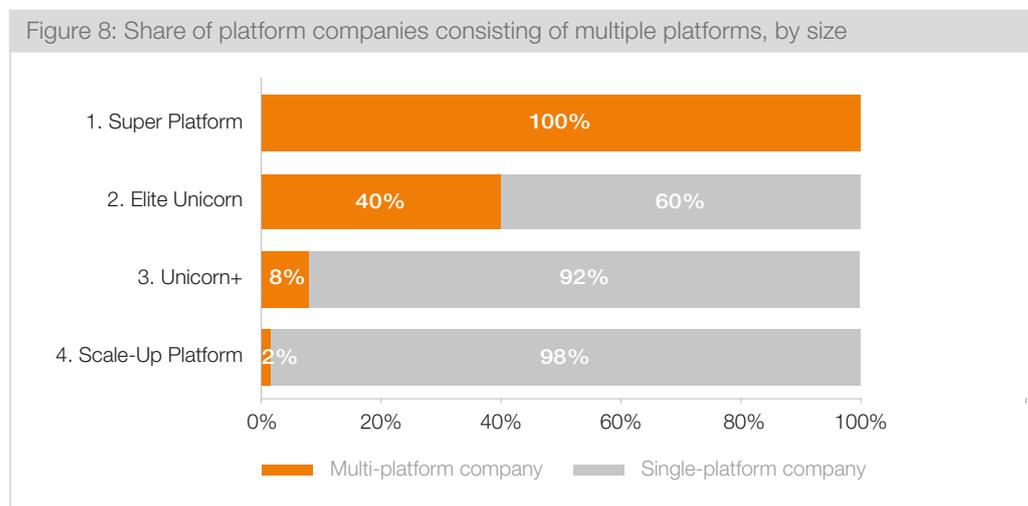
<sup>10</sup> Hinssen, P. (2018). *Has Europe missed the opportunity to build relevant digital platforms players?*

Retrieved from <https://www.linkedin.com/pulse/has-europe-missed-opportunity-build-relevant-digital-players-hinssen/>

<sup>11</sup> Crunchbase data, KPMG Platform Database, KPMG Analysis

Another is the fact that larger platform companies have a greater tendency to be publicly listed. But again, this does not explain the gap between the EU and the US, as EU platforms are more often publicly listed. In this respect, Europe is even leading, with 44% of its platform companies >\$1 bn publicly listed, compared to 35% for the US and 26% for Asia.<sup>12</sup>

A factor that could help explain the gap is the fact that larger platforms companies tend to operate multiple platforms. Indeed, we have noted that platform companies in the US operate multiple platforms twice as often as their European counterparts (15% vs. 7%)<sup>12</sup> and are mostly operated by large tech companies like Amazon, Apple and Google. This is also true when it comes to combining matchmaker platforms (matching supply and demand) with technology platforms (providing a technological capability that third parties can easily use to build complementary products). Like the old conglomerates, operating multiple platforms enables these ‘Super platforms’ to permanently subsidize and grow one platform with the revenues from other platforms. Such is the case for Amazon, which subsidizes logistics through (among other things) their AWS platform, and Alibaba, which subsidizes the development of their Cainiao logistics network using revenues from its advertising and payment platforms. Indeed, Europe does not currently have any platform companies that have integrated these models.



### The importance of financing growth

Large platforms generally provide better value to users than smaller platforms and this turn helps to attract even more users and become even more valuable at an exponential

<sup>12</sup> Crunchbase data, KPMG Platform Database, KPMG Analysis

rate. This effect can best be understood by comparing the average annual increase in market value of the top-seven 'Super Platform' companies with that of the 160 'Unicorn+' platform companies. While the Unicorn+ platform companies have added an average of \$460 mln to their market value every year since their foundation, a Super platform company has added an average of \$31.6 bn (69 times more) in market value each year since their launch.<sup>13</sup>

This is a significant take-away: it is more important to fuel the growth of a few very large platforms than to create numerous small ones. However, there is a gap in the European financing infrastructure for the scale-up phase of tech / platform startups. Most experts we interviewed for our research agree this is not an availability problem, but an accessibility problem. Several investors singled out the funding infrastructure for the scale-up phase (after the initial investment rounds) in Europe (including the Netherlands) as an area that has plenty of room for improvement; they see a mismatch between where investment capital is currently going and where it is needed (when it comes to technological innovation). Important factors in this respect are:

- Risk averseness in European / Dutch investment culture. Investors are therefore less likely to take long-term, riskier bets on disruptive technologies that are prerequisite for the serious scaling of platform organizations.
- A relatively underdeveloped understanding of how digital technologies work and how digitalization is restructuring the economy. This might also reduce the investment appetite of institutional investors.
- Lower returns in EU companies, as the costs of scaling in a more heterogeneous Europe are widely cited as higher than in the US. With the absence of any additional incentives, this makes more difficult to attract capital. Indeed, we have noted that across all stages of VC funding investment rounds in Europe are smaller than in the US or China.<sup>14</sup> However, as Katharina Herrmann (Head of Platforms at ING) points out: "Platform propositions are not dependent on their native country sizes or the strength of their 'home' economies. Look at Booking.com, Spotify, Adyen, etc., which originate from small countries but are spread across the world".

### **The potential of the Netherlands**

Within Europe, the Netherlands is actually performing relatively well in the platform economy and has a high adoption rate across different types of platforms. For example,

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<sup>13</sup> Crunchbase data, KPMG Platform Database, KPMG Analysis

<sup>14</sup> KPMG VC Pulse Q2 2018.

Newcom measured that 82% of the Dutch population (age 15+) use social media platforms such as Whatsapp, Facebook and Instagram in 2018, compared to 58% 6 years ago<sup>15</sup>. On e-commerce platforms, 70% of the Dutch population (age 13+) has bought a product / service on an ecommerce (marketplace) platform such as Marktplaats and AliExpress, of which 50% do this monthly<sup>16</sup>. Furthermore, 48% has offered a product via a platform. And the the Rathenau Instituut calculated in their report 'Eerlijk delen' that the adoption of (peer to peer) sharing platforms by Dutch increased from 6% in 2013 to 23% in 2016.<sup>17</sup> For example, the use of Airbnb in Amsterdam increased from 600.000 nights in 2016 to an estimated 2.1 million nights (+350%) in 2018. And in 2017, there were 31.000 sharing cars available on platforms such as Snappcar compared to 5.700 in 2016 (+540%).<sup>18</sup>

Most investors and other experts we consulted certainly see no lack of capable, risk-taking entrepreneurs / startup founders in the Netherlands and generally praise its startup climate. Another positive sign is the fact that we currently host four independent platform companies that are valued (close to) \$1 bn or more: Adyen (\$18 bn), Thuisbezorgd (\$2.5 bn), Cnova (\$1.5 bn) and Catawiki (\$940 mln). The Netherlands also scores relatively high on the development pipeline front. Our analysis shows that 38% of all startups supported by the Dutch startup accelerators Rockstart and Startupbootcamp in 2015-2017 were digital platform companies.<sup>18</sup>

On a more negative note – in the light of the previously described importance of financing growth – we saw some relatively early acquisitions of Dutch platforms by foreign companies. Both Booking.com and Marktplaats are examples of high-growth platforms that were acquired in an early phase. Booking.com was acquired by Priceline for € 110 mln in 2005 (nine years after the platform was founded) and its value is now 600 times higher.

### To conclude

The Netherlands is doing well on the creation and the adoption of platforms. However, (especially in the past) platforms have been sold (mostly to US companies) before they could achieve a large scale. The funding infrastructure for the scale-up phase in particular needs to be improved.

On a more general note, Europe is lagging far behind the US and Asia in the global Platform Economy and in the mid to long term this could have negative impact on our competitiveness and the level of control over our own markets and public space.

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15 van der Veer, N., Boekee, S., Hoekstra, H., & Peters, O. (2018). *Nationale Social Media Onderzoek 2018*.

16 de Gier, M., de Beer, T., & Kuperus, A. (2017). *Onderzoek deelname aan de platformeconomie*. Kantar Public.

17 Frenken, K., van Waas, A., Smink, M., & van Est, R. (2017). *Eerlijk Delen*. Den Haag: Rathenau Instituut

18 Crunchbase data, KPMG Platform Database, KPMG Analysis

## 3. How platforms are reshaping society

The numbers in chapter 2 speak for themselves. However, to assess the importance of platforms, we need to look beyond their size and look at their characteristics. At first glance, a platform may look like any other app from a service provider that offers their users digitally personalized products or services. However, in reality the stakes are much higher than that. In fact, many platforms are not just creating and orchestrating markets; they also operate as private regulators on these markets. As such, they are reshaping the economy and society on numerous fronts.

### Fundamentals of a platform

At their core, platforms govern interactions between participants. Typically, they fix market inefficiencies (costly interactions) or outright failures (due to a lack of trust between parties). Platforms therefore always focus on increasing trust and transparency and decreasing the cost of interacting and transacting.

To this end, most digital platforms follow the same pattern and take the following steps:

1. Making all types of ‘markets’ (goods, services, labor, assets, content, news, ideas, communication, capital) data-rich<sup>19</sup>. They facilitate the creation and capturing of the required data, such as profiles, preferences, reputation systems, content, and process metrics (like the location of an asset). In this way, platforms use data and algorithms to bring trust into a market.
2. Digitalizing the process of matching users with each other. This can either be done in a more decentralized way (through searching / filtering by the user – example: Booking) or more centralized way (through recommendation algorithms – example: Uber).
3. Facilitate the digitalized interaction of value between the users. For example, Dutch homework service platform Scribbr advises both students and reviewers on how to best interact with each on the platform so the process goes smoothly. This also implies varying degrees of private rules and regulations to govern these interactions.

One of the most profound effects is that platforms make all kinds of ‘markets’ (including

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<sup>19</sup> Mayer-Schönberger, V., & Ramge, T. (2018). *Reinventing Capitalism in the Age of Big Data*. New York: Basic Books.

those for public goods as news) more transparent and efficient and thereby amplify the dynamics of free market forces in organizing society. Platforms can set policies and regulations and enforce how users in their ecosystem are supposed to behave. More specifically, through these policies, platforms determine who is allowed on the platform, what they can offer, how they can offer it and how they are supposed to interact with each other.

The use of data offers platform owners a range of (new) possibilities in this respect. By 'tweaking the algorithms', they can influence side effects and achieve an optimum situation. Algorithms are in fact the new 'marketplace shapers'; they are the evolution of Lawrence Lessig's 'Code is law' principle: it is in fact programmers and data scientists who determine how society functions. They may even program ethics into their algorithms.

In other words, platforms have a strong governing effect on society. We are starting to see the effects of this phenomenon in virtually every aspect of society, from the effect on labor markets to the influence on the media landscape. The impact on society is extensive and will probably become even more extensive – both for the good and the bad.

### **Strategic buttons**

Given these profound effects, it is vital to have an informed debate on how to harvest the good (positive effects) of platforms while limiting or mitigating the bad (negative side-effects). To do so, we must have a basic understanding of the strategic considerations for platforms. The ultimate underlying goal of any platform is to maximize successful interactions between users on the platform. To achieve this, they have three types of strategy 'button':

1. Improve ecosystem effectiveness: actions to increase the number of successful interactions between users, and by doing so optimizing the value created for them. These actions include curation, such as the use of reputational / ranking systems (e.g. how well you worked on Temper, or how well a seller acted on Bol.com), which contributes to effective matchmaking and trust between the actors in the interaction. Nudging users towards desired behavior also falls into this category of strategic considerations.
2. Increase platform power and lifetime: actions that are aimed solely at increasing the share of value a platform can extract from the ecosystem. Platforms may for instance lock in users through high switching costs or by preventing the so-called multi-homing (e.g. using both Uber and Lyft) by preventing you from taking your reputation score / reviews and network to other platforms. Another option is circumvention by blocking out mutual contact details until a transaction has been completed and paid.

3. Actions that improve both ecosystem effectiveness and platform power. Actions in this category aim to increase user engagement (more and/or longer visits and activities on the platform), to improve data acquisition (more and richer data to enable better matching and personalization) and to increase scale (higher market 'liquidity' increases the odds of successful matching). And perhaps one of the most vital considerations is the monetization strategy. Platforms need to continuously balance which side of a multi-sided market they charge (monetize), which side they subsidize (e.g. give services away for free) and what share of all the value created in the ecosystem they can keep for themselves<sup>20 21</sup>. Their ability to determine this gives them powerful instruments to incentivize actors to contribute to the ecosystem, but also offers them the option to increase their own market power.

### Linking strategy to the good and the bad

Using the aforementioned strategic buttons, platform owners can contribute to both 'the good' and 'the bad'.

While button 1 actions (ecosystem effectiveness) are mostly aligned with the majority of users, most negative side-effects stem from the fact that previously hidden market mechanisms (such as discrimination) become visible for the first time. When taken to the extreme, type 1 strategies often benefit the platform consumers at the expense of platform producers.

The second category of strategic decisions is often in favor of the platform itself at the expense of all users (producers and consumers alike). Finding the right balance in regulation is vital: too much regulation may decrease the incentive for innovation and risk-taking by entrepreneurs and investors. Too much freedom may end in extreme concentration of power in a few very large platforms with corresponding negative consequences.

Type 3 strategies are the most complex: in the short term, they often benefit both platform users and the platform itself, but in the long run they mostly strengthen the position of the platform. Their diverse effects make it harder to design suitable regulations, as regulatory restraints risk affecting both good and bad effects.

In the next chapter, we will elaborate on the good and the bad to obtain a solid basis for discussions on policies and regulations.

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<sup>20</sup> Evans, D., & Schmalensee, R. (2016). *Matchmakers: The New Economics of Multisided Platforms*. Harvard Business Review Press

<sup>21</sup> Parker, G., Van Alstyne, M., & Choudary, S. (2016). *Platform Revolution: How networked markets are transforming the economy and how they make them work for you*. Ww Norton & Co.

## 4. The good and the bad

Media coverage on the negative effects of platforms has been extensive in the last couple of years. The contrast with the positive impact of platforms for the economy and society could hardly be more striking. One of the reasons is that the positive effects are not so visible or measurable. In fact, many of us are now used to many digital services, not realizing that platforms have brought us phenomenal ease of use, superior value for money and an enormous wealth of choices. It is the new normal, but we are not linking this in our minds to the emergence of platforms.

To develop a balanced approach towards policies and the regulation of platforms, we need more in-depth insight into both the positive and negative effects. Perhaps even more importantly, we need to connect these effects to the strategic buttons, so that we gain a unique insight into how strategic choices are related to negative effects. To this end, we point out in the following sections how effects are related to the strategic buttons.

### **On the bright side: consumer welfare and other effects**

The impact of platforms is on the whole more positive than one would expect at first sight. The major positive impact is largely invisible in statistics: consumer welfare.

The positive contribution does not show up in GDP figures, as a large proportion of it 'leaks away' into new consumer surplus. This means the contribution made by platforms goes unnoticed. This may lead to misinformed policy decisions.

A recent study by Brynjolfsson, Eggers and Gannamaneni (2017)<sup>22</sup> shows how effects do not show up in conventional economic figures. The study demonstrated that the disutility that users get from no longer being able to use certain free digital services (offered by digital platforms) is for many services up to **50-250 times** as much as the average revenue per user (ARPU) that these platforms generate. In other words: digital platforms generate tremendous amounts of value for their value-consuming users which they are not monetizing.

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<sup>22</sup> Brynjolfsson, E., Gannamaneni, A., & Eggers, F. (2018). Using Massive Online Choice Experiments to Measure Changes in Well-being. *AEA Papers and Proceedings*, 108, 473-476.

We can distinguish a non-limitative number of other effects in three categories:

There are several positive effects for workers and entrepreneurs. Smaller enterprises may achieve a customer reach normally reserved for large companies by using platforms, thereby leveling the playing field with larger companies. These platforms often offer new opportunities for entrepreneurs to become consumer-to-business-to-consumer (c2b2c). One example is companies managing the entire listing and hosting process on Airbnb for hosts. We also note that platforms provide additional opportunities for groups of workers to complement their income in a flexible way, especially for those who wish to do (standardized) work without large upfront investments in training or job application processes.<sup>24</sup>

For **consumers** there is more than the above-mentioned welfare effect. Lower barriers for entry in many markets means more competition, and research has shown that this may contribute to higher customer service. One example is the fact that Uber's competitive pressure has encouraged traditional taxi drivers to improve their customer service.<sup>25</sup> On a more general note, we should also consider that a (near) monopoly position of a platform would not necessarily have a net negative impact on consumers / producers in that market, provided they do not (mis)use this position to prevent the entrance of competitors in any unlawful way. The large scale of a (near) monopoly also has potential advantages for all participants.

For **society and public goods**, we can see how quite a few (mostly European) platforms seek to promote social goals, such as helping disabled citizens, supporting elderly people, increasing neighborhood cohesion or improvements in other domains. Another effect is that platforms enable more direct participation in society and democracy, for example through mass online petitioning for public causes. This is already possible on numerous platforms such as 38Degrees (UK), Avaaz (international), Change.org (international). Furthermore, on the healthcare front, we are seeing how self-organizing, online communities of patients, caregivers, clinicians, researchers, academics, and industry players offer benefits for patients and help to level the patient-healthcare provider power imbalance.

### **On the dark side: Winner takes all and other effects**

Many of the negative effects can be traced back to the so-called winner takes all effect. This effect is based on a noteworthy difference between traditional and digital markets.

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<sup>24</sup> ter Weel, B., van der Werff, S., Bennaars, H., Scholte, R., Fijnje, J., Westerveld, M., & Mertens, T. (2018). *De opkomst en groei van de kluseconomie in Nederland*. Amsterdam: Sociaal Economisch Onderzoek (SEO).

<sup>25</sup> Codagnone, C., Blagi, F., & Abadie, F. (2016). *The Passions and the Interests: Unpacking the 'Sharing Economy'*. Brussels: European Commission.

In traditional markets, the income of a baker, for example, is maximized by how many loaves of bread he can bake in a day. This principle does not apply in many digital markets. The additional costs of serving each new user on a platform are negligible. Even more so, the value of their services often increases as more people make use of them: the network effect. This implies that companies who excel in utilizing this network effect can get so far ahead of the competition that they can no longer be overtaken. This may even give them a monopoly position with the concomitant negative effects. Indeed, Google was recently fined over €4 bn for an abuse of market power on the Android platform, and in the US the dominance of Amazon in the ecommerce market is now receiving public scrutiny.

There are other effects (often linked to the winner takes all effect) that also need to be considered:

For **workers and entrepreneurs**, we have identified an adverse impact on income security (mostly in cases where platform work is not a complementary source of income) and reduced social welfare protection for platform workers. The use of independent workers, rather than employees with permanent contracts, on gig and on-demand platforms is mainly driven by the fact that this puts fewer constraints on platforms in terms of matching supply and demand, thereby increasing market efficiency.

This is strongly related to the topic of a greater deal of control over platform workers, exercised through continuous, individual-level monitoring<sup>26</sup>. This can be related to strategic button 3, as this implies a combination of better customer experience and the higher dependency of workers.

Platforms do this in numerous ways, such as withholding detailed information from drivers on market demand (Uber). This is also a button 3 action, as it forces drivers to offer more supply for riders, while at the same time it gives Uber more power over their drivers. Another practice is benchmarking workers on the basis of detailed performance metrics with their peers (Deliveroo) or pre-determining prices (Uber and Deliveroo)<sup>26</sup>. Furthermore, both platforms provide workers with a relatively low degree of freedom in terms of the ability to refuse work once they are scheduled to work.

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<sup>26</sup> Sundararajan, A. (2016). *The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism*. MIT Press

<sup>27</sup> Wijnen, J. F. (2018, April 13). *Europa kan platforms als Amazon reguleren*. Retrieved from Financieel Dagblad: <https://fd.nl/morgen/1248528/europa-kan-platforms-als-amazon-reguleren>

Another example of a button 2 action is raising commission tariffs once a platform has built a solid volume and market domination (example: Takeaway.com), which has an adverse effect on producers and workers.

A relatively new phenomenon is platforms using data from platform producers to develop new products and services that are in effect competing with the products and services of the platform producers. One recent example is how Margrethe Vestager opened an investigation into how Amazon uses data from smaller merchants they host for their own benefit.

Essentially, workers control the means of production (and also the associated risks), but do not control the terms of production.<sup>28</sup> Media reports sometimes frame this as 'modern slavery'.

For **consumers**, there is the important topic of platforms extracting inappropriate amounts of wealth from (personal) user data, mostly in models based on free services (a typical button 3 action). Platforms may use data to engage in discriminatory pricing and behavioral discrimination<sup>29</sup> (also button 3) and may violate privacy and other rights. The Facebook and Cambridge Analytica scandal is a well-known example of this.

For **society and public goods**, we have noted the effect that essential public services and the associated data are increasingly being managed by commercial, often internationally operating platforms<sup>30</sup>. These are either from China or the US and are not necessarily protecting the interests of Dutch or European citizens. Moreover, platforms may amplify differences in quality, resulting in the uneven distribution of rewards, with a relatively large share of the returns for a small share of 'star' platform producers on the platform (button 1 action). Another effect is that platforms may not be able to properly fight distribution of 'fake news' and - closely related to that - they may create 'echo chambers' as a consequence of hyper personalization. This means that users are exposed only to content, news or other information that they are likely to engage with<sup>31</sup>, which simply confirms their existing world-view, rather than helping them to appreciate other (sometimes opposing) viewpoints.

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28 Choudary, S. (2018, June 7). *Digital manipulation: How platforms like Uber and Deliveroo exploit workers*. Retrieved from Noteworthy the Journal Blog: <https://blog.usejournal.com/digital-manipulation-and-the-future-of-work-how-platforms-like-uber-and-deliveroo-exploit-workers-bc80339fc271>

29 Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

30 Frenken, K., van Waes, A., Smink, M., & van Est, R. (2017). *Eerlijk Delen*. Den Haag: Rathenau Instituut.

31 Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

## 5. Future developments: the next wave of platforms

Although market figures presented in chapter 2 are quite impressive, the development of platforms is still in its infancy.

### **Short term: platforms focus more on B2B and conquer more sectors**

Experts expect a next wave of platforms in the near future. IDC predicts that more than half of large enterprises, and more than 80% of enterprises with advanced digital transformation strategies, will create and/or partner with industry platforms by 2018<sup>32</sup>. Sangeet Paul Choudary expects the next wave to be the turn of the financial sector and asset-heavy industries, such as the automotive industry, construction and energy<sup>33</sup>.

Van Alstyne, Parker and Choudary state that we are just at the start of the Platform Society, which will very quickly expand to all kinds of industries and domains<sup>34</sup>

One important driver in the short term is the ongoing digitalization. Markets will become even more data rich and the fragmentation of production will increase. In nearly every sector there is an abundance of data on market participants, assets and their interactions. Platforms can and will orchestrate these markets into ecosystems. Sectors such as banking, mobility, logistics and (alternative) energy are expected to see the next wave of platform adoption. This wave will likely look quite different from what we have seen so far: more business-to-business, more incumbent-initiated and more consortium-driven.

The authors also foresee (much) less global 'winner-take-all' dynamics. This is based on the premise that platforms are expected to move more into less fragmented, more heterogeneous and less scalable B2B sectors and that new data exchange standards and regulations will limit opportunities for data lock-in. These factors all make global winner-take-all in these domains less likely.

### **Long term: redefining economic relationships**

In the longer term, we expect a broader shift on how all economic activity is coordinated, moving from organizations with centralized decision making towards (much) more

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32 Tas, J., & Weinel, B. (2015). *Digital Transformation Initiative: Unlocking B2B Platform Value*. Geneva: World Economic Forum.

33 Wijnen, J. F. (2018, April 13). *Europa kan platforms als Amazon Reguleren*. Retrieved from Financieel Dagblad: <https://fd.nl/morgen/1248528/europa-kan-platforms-als-amazon-reguleren>

34 Parker, G., Van Alstyne, M., & Choudary, S. (2016). *Platform Revolution: How networked markets are transforming the economy and how they make them work for you*. Ww Norton & Co.

working together across markets with decentralized decision making. This will be governed and regulated by platforms using algorithms.

Platforms will start to stitch separate industries into multi-sector ecosystems, a trend already visible around themes such as personal finance, smart living and mobility. Classic boundaries between sectors, markets, organizations and workers will fade. Ecosystems will increasingly cut across industry verticals and individuals will increasingly switch between being employees, platform producers/workers and platform consumers. The existing economic and societal order that assumes a clear separation between all these roles will then no longer suffice.<sup>35</sup>

One of the effects of all of this will be a renewed focus on core capabilities for many companies: they will only be able to create value in domains where they can excel based on being specialized / best-in-class.

Another effect is the element of trust. Platforms can only realize their full potential when users put their trust in them. Recent media coverage on several cases has once again proven that this trust is fragile, and platforms are considering their options to enhance trust. These options include oversight and/or audits on their processes.

Last but not least, we will need to alter legal / regulatory frameworks to anticipate and respond to this tectonic shift in how economic activity will be organized. This means that we must look beyond today's issues.

### **At the crossroads of fundamental choices**

Policy-makers and business executives are starting to become aware of both the profound impact of platforms and the fact that we will witness an even stronger impact in the near future.

In Europe, the community of politicians, policy-makers and investors now stand at the crossroads of deciding how to deal with the good and the bad (in the longer term), while also focusing on the ugly (the gap with US and Asian platforms).

Will we focus primarily on keeping the large US and Asian platforms under control and protecting our civil rights? Or will we make a more autonomous move forward by stimu-

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<sup>35</sup> van Dijck, J., Poell, T., & de Waal, M. (2016). *De Platformsamenleving*. Amsterdam: Amsterdam University Press

lating the expansion of (Europe-based) healthy digital ecosystems? Ecosystems that consider the interests of all societal stakeholders and focus on creating social/public value as well? Ecosystems that are built on trust and prepare us for an era in which economic activity is coordinated in a completely different manner.

Business executives are also facing an important decision. Many of them have been struggling with how to adapt their business models to a digital age. Platform strategies offer them a route to monetize the data in this digital age. It is however not a quick fix and needs thorough preparation. Basically, it boils down to three questions: the first and most important strategic issue is to assess how a company can be relevant to customers and society as a whole, in the light of the previous analysis of this shift. Having a crystal-clear vision on this, the second question is where the company can offer propositions to generate value based on this relevance. It is only after they have a clear view on this issue that they will be in a position to ask the final question: how can we deploy platform technology to harvest this value, either by building a platform or by using existing platforms.

Looking at it from this perspective, the interests of policy-makers and entrepreneurs may in fact be more aligned than one might think. This is especially true if we consider how negative effects relate to the strategic buttons: most of these strategic buttons aim for a combination of more effectively and efficiently functioning markets and gaining market power. In fact, there are hardly any negative effects on consumers, and most are confined to workers and society as a whole.

In the following chapters, we will go into greater detail on the options that would help us create an optimum situation.

## 6. Governance principles for next generation platforms

The digital revolution that gave rise to the platform economy may not be as unique as we sometimes think it is. There have been earlier dramatic dislocations of the economy, like the industrial revolution, that also required substantial changes in regulatory frameworks<sup>36</sup>. These also resulted in very challenging issues in terms of regulation and governance.

### Next generation

We now face a new economic phase and need principles – translated into rules and regulations – for the next generation of platforms. The underlying objective is clear: to design platforms that act more effectively in the interests of its users while at the same time offering (sufficient) commercial and financial rewards for the platform owners. The stakes are high and focusing on fixing the symptoms may backfire and frustrate innovation. We believe it would be more effective to improve the fundamentals of how platforms work.

### Two main directions

We have roughly two main options. One option is a structural separation, whereby platform managers would not be allowed to engage in activities that put them in direct competition with producers on their platform<sup>37</sup>. While such a rule could work for match-maker platforms such as Amazon Marketplace, this would likely be problematic for technology platforms such as iOS, as updates to these platforms often include new functionalities that initially require the use of an external app. We therefore conclude that the second option – developing a suitable and balanced set of regulations – would be better or may in fact be the only viable option. We explore this option in more detail in the remainder of this chapter.

### Solution

Do we have the magic solution for proper regulation?

No. There is of course no silver bullet. However, based on research and interviews with experts, we have been able to distinguish some important principles.

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<sup>36</sup> Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

<sup>37</sup> Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

## HOW

First of all, we need to make sure that the process to develop these regulations is appropriate.

### Balance interests

Attempts to regulate platforms should balance the societal concerns of individuals and governments with the need to foster innovation and commercial growth<sup>38</sup>. The EC has long recognized this principle<sup>39</sup>. Any regulatory measures should enable platforms to create an efficient market but also protect and empower workers and small and medium-sized enterprises and help the bodies that represent them<sup>21</sup>.

Balancing these interests also means creating a more level playing field: between platform managers and platform producers, between platforms and 'classic' incumbent organizations and between established and new platforms.

To live up to the promise of balancing the interests of all stakeholders, we must design a process for developing rules and regulations in which all stakeholders participate. We therefore believe it is important that platform managers, users and regulatory bodies jointly engage in the development of outcome-based metrics (e.g. related to equal distribution of profits) to regulate platforms, such as the extent to which a platform has a data monopoly.

### Develop governance regime 'on the fly' and learn

Another important 'process aspect' is that the regulatory process should leave room to consider evolving developments through time. This is especially relevant, as technological developments and their broad influence are still in their infancy and are likely to create new issues in domains that we can barely imagine at this point in time.

One important principle could be the proportionality principle: enforcement regulations are conditional on an up-to-date test (to include network effects, switching costs, etc.) of a platform's significant market power.

Another principle is that we need a continuous process to assess how new types of economic relations and assets created by platforms should be reflected in our legal and

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38 Tas, J., & Weinel, B. (2015). *Digital Transformation Initiative: Unlocking B2B Platform Value*. Geneva: World Economic Forum.

39 Kilhoffer, Z., Beblavý, M., & Lenaerts, K. (2017). *An overview of European Platforms: Scope and Business Models*. Brussels: European Commission.

21 Choudary, S. (2018). *The architecture of digital labour platforms: Policy recommendations on platform design for worker well-being*. Geneva: International Labour Office.

social frameworks and make adjustments where necessary. An example of this is the planned review of labor laws in the Netherlands.

Furthermore, regulations would be applicable to all organizations that employ the strategies that trigger them in the first place, such as a high degree of automation through algorithmic decision-making, hyper personalization, and monetization of data. While earlier researchers have already concluded that the creation of platform-specific regulations is not desirable, it is unavoidable that existing legal and regulatory frameworks are going to be adapted to the new economic and societal order that platforms create<sup>22</sup>.

To conclude, we point to the option of a “regulatory sandbox” for platform initiatives, conditional on regulators’ access to a platform’s data to employ usage-based regulations<sup>40</sup>. Such a testing environment to isolate experimentation creates room for cooperating platforms in terms of applying and challenging existing regulations, as long as this does not create an unequal playing field in which existing players in a certain market cannot profit.

## **WHAT**

Second, we have distinguished a number of substantive principles. In the regulatory process, policy makers and stakeholders should jointly decide on the degree to which we need to safeguard these substantive principles.

### **Using open standards: power to the people**

Data is a crucial element to be considered in terms of regulation. The use of open standards reduces lock-in effects and transfers power from a platform to its users, as it gives them options to choose from (data portability). These also enable a more decentralized platform governance structure, where competition between various service providers is possible, again giving users options to choose from. This is in fact fully in line with the fundamentals of a market economy. A market economy is a decentralized system: it has no central economic plan headed by an organization, but instead acts through distributed interactions at a local level. Currently, many platforms still have a much more centralized structure, as they have grown from single companies rather than from consortia of multiple companies.

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22 van Dijck, J., Poell, T., & de Waal, M. (2016). *De Platformsamenleving*. Amsterdam: Amsterdam University Press.

40 (Choudary S., *The architecture of digital labour platforms: Policy recommendations on platform design for worker well-being*, 2018)

Important topics to address in this respect include:

- Enforcement of the right of ownership and practically feasible (e.g. API-based) portability of reputation data (platform producers / workers), preference data (platform consumers) and network data ('social / business partner-graph' – producers and consumers) from one platform to another for platform users, irrespective of the type of platform<sup>41</sup>. We are already seeing such debates around connected car data, and to what extent different stakeholders in the mobility ecosystem should be allowed (paid) access to certain unique data that connected cars (or their parts) produce.
- Granting platform users (both individuals and businesses) a minimum level of ownership rights over their data<sup>42</sup>. The Dutch Secretary General of the Ministry of Economic Affairs and Climate Policy, Maarten Camps, has even argued in favor of a new industry data standard based on open access<sup>43</sup>. To achieve a suitable balance in the incentives for the platform to gather unique data sets and data ownership rights, layered portability of data might provide a solution. In this way, users might be able to transfer a level of detail of data that effectively prevents a lock-in, but the platform might still retain control over the lowest level of user data detail that gives it an edge on competing platforms.
- Regulate platform usage through open data: this could be done by monitoring data on the usage of platforms against ex-ante defined metrics and stepping in once these metrics are exceeded. This data could be gathered on multiple levels. One option is the use of massive online surveys among platform users as a highly practical way to gain insight into the actual market distortions they experience. Another measure could be to incentivize or even enforce anonymized transaction-level data transparency from marketplace platforms to regulators<sup>44</sup>.

### Reducing information asymmetries

Information asymmetry (one part of the market knows much more about the market than the other part) between organizations and individuals has been manifest throughout history. The emergence of platforms has made this a more pressing issue. This is because while platforms generally reduce information asymmetry between users, they

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41 Frenken, K., van Waes, A., Smink, M., & van Est, R. (2017). *Eerlijk Delen*. Den Haag: Rathenau Instituut.

42 Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

43 Autoriteit Consument & Markt. (2018). *InSight 2018*. Amsterdam: Autoriteit Consument & Markt.

44 Choudary, S. (2018). *The architecture of digital labour platforms: Policy recommendations on platform design for worker well-being*. Geneva: International Labour Office

vastly increase the asymmetry between their users and themselves. For example, Amazon's A9 analytics engine gives the company much deeper insights into what products sell best to whom at what time than they provide to their marketplace sellers. Options to reduce the asymmetry are:

- A **'platform neutrality regime'** could require a platform to treat all commerce flowing through its infrastructure equally. This would prevent a platform from using the threat of discrimination to extract and extort producers on its platform, or to favor its own supply over that of other platform producers in its ranking algorithms. In other words: if Amazon were to create a private label furniture line, their ranking algorithms would not be allowed to give this a preferential ranking over those of other suppliers.<sup>45</sup>
- To stimulate and facilitate the collective bargaining power of platform workers and platform producers<sup>46</sup> at a cross-border, cross-sector level<sup>47</sup>. Examples developed by platform workers include turkernation.com, a worker-driven forum in which platform workers meet virtually, exchange information and network across national borders. This is becoming increasingly important as platforms and the ecosystems they drive cut across industries, and classic industry-oriented representative bodies are no longer aligned with the user bases of platforms.

### **Improve transparency and auditability through shared governance.**

Public trust in platforms has been damaged by a number of incidents. Restoring that trust is essential. In some cases, this will require increased transparency, although we should be careful about putting too much focus on transparency, as data overloads could also reduce trust. In some cases, we will also need audits / oversight activities under the hood (algorithm audits, privacy audits) to restore trust among users.

One aspect is the establishment of rules on reputational systems. These rules should provide clarity on what constitutes a 'reputational score' on a platform, enforce transparency and the auditability of how reputational scores are defined and how they are being used by a platform's algorithms to improve matching.<sup>48</sup>

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45 Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

46 Fabo, B., Karanovic, J., & Dukova, K. (2017). In search of an adequate European policy response to the platform economy. *European Review of Labour and Research*, 23(2), 163-175.

47 van Dijck, J., Poell, T., & de Waal, M. (2016). *De Platformsamenvleving*. Amsterdam: Amsterdam University Press

48 European Commission. (2017). *Online Platforms: How to Adapt Regulatory Framework to the Digital Age?* Brussels: European Commission.

Another very important option is improving the shared governance of platforms. While the centralized nature of many existing platforms (led by one company) has helped meet their financing needs and the speed of decision making, they have obscured their internal governance. As argued by Sander Klous and Nart Wielaard<sup>49</sup>, it would help if the governance of platforms (on determining and enforcing policies towards their different user groups, such as marketplace sellers, drivers, etc.) was based on a shared governance model. In such a model, platform users would also be represented in a certain governance body (e.g. a ‘Custodian’ or other type of consortium) that at the very least oversees the enforcement of existing policies on the platform. In other variants of this model, such bodies could also have voting rights on adjusting / introducing these policies, or even have equity stakes in the platform. Indeed, many blockchain-based platforms or platform cooperatives champion such a highly decentralized governance system, although it is also perfectly feasible for ‘classic’ platforms that are not built on decentralized technology.

### **An international perspective**

From an international perspective, we have seen major (cultural) differences in how politicians and policy-makers deal with new issues that arise when platform companies – or more broadly: tech companies – gain influence on society. The US and Asia typically put less focus on stringent measures to safeguard civil rights, while in Europe the debate on topics such as privacy is much more intense.

One could argue that this will give US and Asian companies a clear head start and/or a competitive advantage and that further (tightening of) governance measures in Europe would increase this advantage. However, one could also argue that society as a whole is waking up to the fundamental impact of platforms and realizing that the only way to harvest the economic potential in the longer term is to start from the perspective of users. This people-centric view could serve as the basis for the expansion of healthy digital ecosystems. And it could actually give Europe a head start in a few years’ time if it is well executed.

The challenge is to update our existing legal and regulatory frameworks to reflect the new economic structures and relations that are emerging. This will then stimulate the development and proliferation of a new generation of platforms that take the interests of all societal stakeholders into account, and also focus on creating social/public value.

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<sup>49</sup> TNW (2018). Trust in a Smart Society [Recorded by S. Klous]. Amsterdam, The Netherlands.

## 7. The à la carte menu: options to stimulate platforms

Chapter 6 summarized the principles for building ‘next generation’ platforms that could contribute to a new optimum in society. We do realize that this is quite a conceptual and fundamental approach, which at the very least will take some time to develop into reality from scratch.

In the meantime, the platform economy is developing rapidly, and we cannot afford to let this happen without stimulating actions in the right direction. This chapter therefore presents a number of options that would strengthen the position of the Netherlands in the global digital platform economy, based on our interviews and desk research. Given the cross-border nature of platforms, these actions should of course be discussed and/or implemented at European level. Nonetheless, there is also ample room for actions at a national level.

This chapter is more practical than chapter 6. We believe that a well-balanced effort between the conceptual approach of chapter 6 and the concrete measures in chapter 7 will unlock the most value from the platform economy in the Netherlands. You cannot have one without the other.

Rather than being prescriptive and presenting very concrete action plan, we would like to give a broad range of possible actions that we consider worth evaluating, in five main domains.

### **1. Develop collective knowledge on (the impact of) platforms**

Given the fundamental impact on society – as described in this publication - we need to invest in a better understanding of the technologies and new economic models that come with platforms and how they are shaping society. This better understanding is necessary within corporates, government, institutional investors and the public.

We should therefore facilitate and bundle knowledge development and distribution on platform mechanics and impact to educate corporates, entrepreneurs, consumers, civilians on the (hidden) downsides and opportunities of platforms. This will also require a cross-disciplinary approach from academics, across computer sciences, economics, political science, psychology, sociology, communications and other disciplines<sup>50</sup>.

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<sup>50</sup> Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

## 2. Recognize the need for a broad approach towards regulation

The emergence of platforms is creating new types of economic relations and dynamics. This calls for more clarity (and changes) in many aspects of national and European regulation, ranging from labor laws and consumer protection to liability, IP and tax laws, rather than attempting to regulate platforms in 'isolation'.

One important aspect is the need for clarity on the legal status of platform managers, platform producers / workers and platform consumers with respect to employment, mediation, social protection and liability issues. For example, labor law experts at Dutch law firm Stibbe have suggested reducing the importance of employment status when assessing access to social protection schemes.

Another important topic is the fact that current regulatory frameworks may impede the nature of platforms, as they have been designed from a perspective of traditional and often local service provision. We must be aware that platforms are not always trying to circumvent existing laws and regulations, but also provide fundamental new ways for service provision that warrant a closer look at the applicability of existing regulations (like labor laws for gig platforms).

Furthermore, interviewees suggest that it would be better for the EU to follow an independent route – developing 'local heroes' – rather than curtailing US-based examples. In this respect, we should develop a regulatory framework that embeds principles such as Security, Accountability, Transparency, Auditability, Fairness and Ethics in platforms<sup>51</sup>.

## 3. Improve pre-conditions for digital entrepreneurship and the development of platforms

Suitable pre-conditions will help propel the development of platforms. This calls for:

- Building more collective awareness on the importance of platforms for the future and our position in relation to the United States and China – making sure 'we are awake'. Based on this awareness and by fostering deep understanding at investors, we can improve access to 'scale-up' capital.
- Intensifying EU-level cooperation on Digital Single Market initiatives and breaking down barriers to allow businesses to enter and scale-up rapidly in Europe rather

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<sup>51</sup> Tas, J., & Weinel, B. (2015). *Digital Transformation Initiative: Unlocking B2B Platform Value*. Geneva: World Economic Forum.

than move elsewhere<sup>52</sup>. This could include renewed attention to preventing data-localization laws that enforce the primary processing of data within a country. This could avoid increasing computing costs for local platforms by 30%-60%.<sup>53</sup>

- A “small country platform strategy” for the Netherlands, based on existing strengths. One example is the logistics infrastructure around the Port of Rotterdam.<sup>54</sup> In a broader context, the Netherlands could focus on B2B logistics platforms that support the coordination between parties around warehouses.
- Positioning the Netherlands as an attractive country for foreign technology talent, especially given changes in policy on this in for example the US. This is not only important in the education phase, but even more so in the professional development phase.

#### **4. Incumbents to cooperate on ecosystems rather than opt for isolated efforts**

Rather than simply trying to create ‘the next Facebook’, incumbent companies should focus on jointly developing platform-based ecosystems in cooperation with startup scene, public interest bodies, the research community and peers from the corporate sector. This ecosystem perspective has a strong focus on value creation for the customers of incumbent corporates and improving the efficiency in value chains. This will require a sharp shift in mindset for many incumbent organizations, from ‘pushing’ specific products and services within a fully controlled customer journey, towards providing your stakeholders (customers, employees, partners, suppliers) with access to the orchestration of a trusted and valuable (platform-powered) ecosystem, in which a significant share of the products, services and innovations they require might be provided by other parties.

Potential stimulating initiatives include:

- Stimulating the development of (consortium-driven) B2B platforms around national small and medium-sized enterprises (SMEs) and exporting businesses, and innovative value propositions in sectors where the Netherlands is traditionally strong, like logistics, alternative energy, water management, agriculture / horticulture.

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52 European Commission. (2017). *Online Platforms: How to Adapt Regulatory Framework to the Digital Age?* Brussels: European Commission

53 Matz, S., Rolnik, G., & Cerf, M. (2018, April 10). *Solutions to the Threats of Digital Monopolies*. Retrieved from Pro Market: <https://promarket.org/solutions-threats-digital-monopolies/>

54 Wijnen, J. F. (2018, April 13). *Europa kan platforms als Amazon Reguleren*. Retrieved from Financieel Dagblad: <https://fd.nl/morgen/1248528/europa-kan-platforms-als-amazon-reguleren>

- Efforts by business leaders and policy-makers to strengthen collaboration by sharing insights into platform strategies and their impact on the common good<sup>55</sup>.
- An evaluation by incumbent companies, to determine the ecosystem in which they wish to participate, the role they want to play, their value proposition and to ensure that their business model allows them to fulfill this role<sup>56</sup>.
- More focus on building ecosystems with built-in 'control points' that provide the platform manager with a certain level of control over the ecosystem and thereby its potential to generate revenue. This includes a willingness to give up certain control and 'open up', plus the risk-appetite to prioritize long-term ecosystem growth and development over own profit.

## 5. Stimulate a multi-stakeholder approach based on public values

Europe and the US differ in culture and economic models. We could use the traditional European model by having platforms offer a multi-stakeholder approach that is both unique and competitive in the light of changing societal attitudes towards platforms. Initiatives to build upon this include:

- Ensuring a multi-stakeholder approach that takes the maximization of public value, not the maximization of profit as a starting point, for instance by stimulating Rhineland model-based platforms that consider all stakeholders (not just shareholders). This is especially helpful for platforms that coordinate and orchestrate service delivery on top of essential infrastructure, such as energy, mobility, housing and healthcare.
- Government stimulation of civil-oriented platforms, such as online patient communities. Few of these are attractive for investors and entrepreneurs due to their tendency to be fragmented, but they often create (a great deal of) social value. Government could focus support on social entrepreneurs that are looking to build platforms or lower barriers to start new platforms<sup>57</sup>.
- Encouraging 'Living Labs' around new platforms that enable a multi-stakeholder approach towards balancing the interests of all stakeholder groups involved in the

<sup>55</sup> Tas, J., & Weinel, B. (2015). *Digital Transformation Initiative: Unlocking B2B Platform Value*. Geneva: World Economic Forum.

<sup>56</sup> Tas, J., & Weinel, B. (2015). *Digital Transformation Initiative: Unlocking B2B Platform Value*. Geneva: World Economic Forum.

<sup>57</sup> Frenken, K., van Waes, A., Smink, M., & van Est, R. (2017). *Eerlijk Delen*. Den Haag: Rathenau Instituut.

platform and embedding public / societal values and ethics in the design of digital platforms right from the beginning.

- Stimulate broader application of platforms, especially in the public/social domain and in regulated sectors. One of the measures here could be to review and update regulations to reflect new ways to protect the interests of various stakeholders using data and algorithm-driven technologies. For example, assessing whether existing licensing / certification requirements in certain sectors could be (partly) replaced by digital curation / quality management processes and platform algorithms.

One important principle extends across all these domains. Stimulating the platform economy is very definitely not just a matter of waiting for a government to act by introducing new policies. It is a joint effort for governments, corporates, investors, academia and representative bodies.

## 8. Dilemmas to address

As stated earlier, there is no silver bullet for solving the problems that are associated with the emergence of platforms. While we saw a clear alignment in the type of measures suggested by different researchers and commentators, these also create a number of key dilemmas. We think it is valuable to highlight these, as they should be main topics in the debate:

- To what extent and if so, under which conditions, should platforms be allowed to reduce the free agency of the producers / workers involved in the platforms? This is very much a challenging topic in situations where reducing free agency improves the effectiveness of the market as a whole.
- To what extent should platforms be used to implement public policies? Marketplace platforms can be very powerful instruments in the implementation / enforcement of policies, for instance in the field of equal opportunities in a labor market. And how should we then define / develop the relationship between public market regulators and 'private market regulators' (i.e. platforms)? Now that platforms are becoming markets in themselves, should they perform regulating activities, possibly in cooperation with public market regulators?<sup>58</sup>
- What is the best option for coordinating and orchestrating service delivery on top of essential infrastructure such as energy, mobility, housing, healthcare, where we need to consider the interests of all the stakeholders involved and need to avoid limiting the accessibility of these infrastructures for certain groups? Should such platforms be forced to be non-profits, have an open governance structure, be managed by the government, or a combination of these?
- Where should we draw the line when it comes to control over data and the accompanying potential lock-in effects? To what extent can platform managers keep control over certain unique data they helped to generate – and which gives an incentive to innovate? To what extent can we require them to share data with other platforms, and if so for what type of data and how deep? To what extent do we define fair use of user-generated data by a platform provider, and when does it

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58 Sundararajan, A. (2016). *The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism*. MIT Press.

cross the line into exploitation (not only in a consumer environment, but also in a B2B context)?

- How do we deal with 'free' services offered by platforms in the context of predatory pricing? As platforms serve multiple sides in a market, they are often able to subsidize one side (e.g. giving services away for free) using the revenues they generate on another side of the market (e.g. advertisers).

## To conclude: opportunities for an exciting new era

The shift towards a platform society is very exciting. It is a far more profound shift than many of us tend to think, as platforms are more than just a new type of business; they are reshaping society as they offer new and fascinating ways to organize all forms of economic activity. This phenomenon might be largely invisible or still relatively small. As Rene Steenvoorden (Chief Digital Officer at Randstad) states: “They may be ‘a killer in the night’, but they are becoming too large and impactful to ignore and therefore deserve our attention”.

The profound impact of platforms implies that they have a broad effect – positive and negative - on consumers, workers and society as a whole, which is expected to become even more manifest in the future. It is therefore a matter of dealing with the good, the bad and the ugly.

The shift is also exciting as we are now in a transition period, with excellent opportunities to start strategic initiatives and develop balanced policies for regulation. We can design platforms that act more effectively in the interests of its users, while at the same time offering (sufficient) commercial and financial rewards for platform owners. This may be the only option for building and maintaining trust in the longer term, a prerequisite for unleashing the full potential of platforms. In the Netherlands, we are well positioned to use this window of opportunity. We are not doing badly – based on a number of success stories – but we can do even better. Fundamental to this is a joint approach and a debate based on deep insights. And that is exactly what the DTF initiative and this paper aims to facilitate. It shows that we have the potential to be one of the winners.

Let's do it.

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### **Responsibility**

KPMG N.V. would like to make a constructive contribution to discussions about important social issues. The conclusions in this report are our own and not those of the reviewers or interviewees who have collaborated on this paper.

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