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A Platform Society

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A
PLATFORM
SOCIETY

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COLLOQUIALLY SPEAKING, a **digital platform** generally refers to a relatively new phenomenon, i.e., commercial, data-driven actors whose business idea is to connect buyers and sellers using Internet technology,¹ and to continuously keep a log of the resulting data. This process has been revolutionised partly through mobile Internet technology which allows geographic position and other sensory data to be used commercially, and partly through the emergence of an Internet infrastructure that enables companies to store the identities of individuals and keep logs of their behavioural data. The term “platform” originates from the literature on technology e.g. where it has been used in connection with operating systems, but has, in recent years, morphed into a synonym for all kinds of data-based services. It is important to analyse and survey the power structure that this leads to, as well as the societal effects of a few platform-based corporations (Google, Apple, Facebook, Amazon, Microsoft) that have gained enormous global influence – in the present report, we refer to these as mega-platforms. Smaller, newer platform-based companies occasionally try to compete with them while often being dependent on them, such as when apps developed by smaller platform-based companies must be approved by Apple’s App Store or Google Play in order to work at all.² This geopolitical arrangement is a key issue which entails a need to understand the significance of the North American origins of the largest platform-based corporations in which American politics and regulations have an impact on countries than the US, including EU member states, and where recent EU regulations – primarily competition law, the Data Protection Regulation (GDPR) and most recently the Copyright Directive – have led to extensive debate on the matter. Similarly, it is important to observe digitisation developments in China and the specific characteristics of the

1 Seen from a media economics perspective, social media sites such as Facebook act as brokers between media users and advertising revenue that finance platforms; in fact, Facebook’s entire business model is fundamentally based in said brokering. If you apply the platform concept to smaller, less commercial services such as online providers of civil-service mail (in Sweden, *Kivra* or *Mina meddelanden*), then these too can also be seen as “marketplaces” or matchmakers with the reservation that the “profits” in these cases are more related to organisational rationalization rather than conventional understandings of revenue.

2 cf. Andersson Schwarz (2017), van Dijck et al. (2018).

Chinese platform-based society, with its authoritarian governmental intervention, the world's largest domestic market and rapidly growing Internet giants such as Baidu, Alibaba and Tencent.

When sectors of society and industries are increasingly becoming dominated by platform-based actors, what are the ensuing social effects? The following phrase, originally coined by Tom Goodwin,³ has by now become worn out: *Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate.* To be sure, these ways of running companies and organising work and capital investments are all new; but with regards to the preservation of social institutions, the following questions are important: Does this **platformisation** in effect constitute a template for technocratic control and administration of society? And what are its effects? They seem to be far-reaching, but difficult to predict. And, in that case, how are these effects manifested? Who actually benefits from the new modes and systems of control that these platforms represent? New innovators and entrepreneurs (who see possibilities in developing unexpected, leading platforms), leading global Internet corporations (that dominate markets in several areas), users (who benefit from dramatic increases in efficiency and available products), or the authorities (which, in theory, now have access to perfect surveillance and formalisation systems)? These are all important questions – and they beg some perhaps even more urgent questions: Which groups become disadvantaged, and how? Does the market dominance of platform actors have an unhealthy impact on competition and innovation? Are our national authorities, unions and trade organizations being deprived of influence as platform operators transcend national borders and reorganise society? If the financial value of data-driven platforms is largely based on collecting and storing personal data, does this mean that they in actual fact have created a “surveillance economy”, as some critics argue? What about transparency? Has there been an increase in

3 Goodwin (2015).

transparency as a result of the users' options to manage their own settings on websites or has it decreased as a result of an opaque corporate culture in which the platform operators only make public such information as serves them?⁴

Recently, in public discussions in both the USA and Europe, focus has increasingly been directed to platform corporations in general and mega-platform corporations in particular. This is no surprise given that the issues concerning this technological upheaval that is being driven by these corporations have also emerged as some of our era's most important social issues: automatization, inequality, trust, privacy, and security. The platform giants have absolutely vital roles in all these areas and are often portrayed as "bad guys," not only by left-wing and right-wing populists, but also by a growing number of liberal opinion leaders, who view monopolistic tendencies as deeply troubling. Many people oppose a "Big Tech" industry that employs cross-subsidization and predatory pricing by way of covert synergistic effects; they hamper competition and innovation, they argue, as well as the well-being of citizens and fair and equal trade. However, others welcome the rationalization effects and "seamlessness" that emerges when these actors occupy many different positions in market ecologies, and when common standards and currencies benefit transaction opportunities.⁵ This means that there is disagreement on how to formulate relevant regulation, whether it should be based in compulsory legislation and governmental intervention by providing incentives for commercial third-party actors, or by the platform giants practising various forms of self-regulation – or even, perhaps, using new, unproven methods.

What is a platform, and what do we mean by the "Platform Society"?

Digitisation is a phenomenon that is fundamentally revolutionising the world, and is expected to continue to have a powerful structural impact on

4 These questions have been problematized by, among others, media researcher and Professor of Law, Frank Pasquale (2015).

5 Pasquale (2018), working in an American context, has identified the former group as "Jeffersonians" and the latter as "Hamiltonians".

all aspects of society. Naturally, such a revolution has the capacity to provide many fantastic opportunities for societal progress. At the same time, it creates great uncertainty, since many of the changes that are occurring today have effects that are difficult to gain a comprehensive understanding of. Additionally, in some cases, there is an apparent lack of consensus on some fundamental concepts, such as the concept of *platforms*. Briefly put, we argue that a digital platform is a software-based, centrally controlled space, with a considerable degree of capacities for automation, in which various third-party actors can meet and conduct market exchanges.

There is much talk about the so-called *sharing economy*. The generally accepted, and optimistic perspective of this phenomenon, is that digital platforms should be capable of enabling a more efficient use of available resources by allowing actors to share the use, or allocation, of them in a manner that is flexible and saves time and space. With regards to Sweden, for example, a recent report states that:

BY USING INTERMEDIARY, digital platforms to distribute resources in the form of capital investment, manpower and information, the sharing economy has paved the way for new patterns of consumption and production. Often, the purpose is to reduce environmentally unsustainable consumer behaviours. Many transactions communicated via platforms are only possible due to systems and structures that create trust between suppliers and customers – conditions that allow more decentralised structures to replace traditional ones in a number of areas. With regards to the labour market, this means that jobs can be mediated between individuals more easily, and involve fewer intermediaries.⁶

But in an era when commercial corporations, whose corporate philosophy is to maximise profits, also own the most successful platforms with regards to exploiting digital resources, the sharing economy concept becomes far too imprecise and uncritical. It would be better to discuss

6 Söderqvist (2016: 4), our translation.

what constitutes the “catalyst and lowest common denominator” of this phenomenon⁷ – the actual **intermediary platform** itself. This enables us to continue to address the **platform economy** at a general level, as well as different kinds of **platform-based markets** and even a **platform society**.

The concept of intermediary platforms has existed in the business world and technology sectors for at least a decade, but in recent years it has also emerged in public discussions. A narrow definition of a platform usually refers to a software-based, and sometimes also hardware-based, digital infrastructure which is intended to allow users either to run computer programs on it (i.e., run applications on it or retrieve data from it), or to apply human behavioural patterns to it (behavioural patterns that, like computer programs, are clearly delimited, formalised and based on the design of the platform). The aforementioned report claims that platform solutions will allow methods that are conceptually simple but in many respects consist of new ways of mediating and organising, for example, labour:

THE INTERMEDIARY PLATFORM can be assumed to have great technological potential, but perhaps even greater organisational, innovative potential. This potential is based on the fact that platforms are used to reduce **transaction costs** in various markets, which means that costs arising from mediating and conducting transactions between two parties can be reduced. Often, this is carried out by refining the roles of contractors [or suppliers] and the marketplace, but can also entail making procedures and conditions standardised in order to simplify matters for suppliers and customers when carrying out a transaction. In addition to the significant environmental rationalization benefits, they also have great potential to increase productivity.⁸

To begin with, we need to consider the important, fundamental difference between **proprietary** and **open** software. Proprietary systems are private property and/or are designed for a specific supplier, in contrast

7 Ibid, p. 5.

8 Ibid, p. 5., emphasis added.

with open source code, open contents or open technological standards. The kinds of digital platforms we focus on consist almost solely of proprietary systems, and these are almost always protected by intellectual property restrictions (copyrights and patents) which we all encounter when we accept the platform corporations' terms and conditions of use.

The definition of digital platforms by which we take our starting point refers primarily to **proprietary platforms developed for individual users**, but it also covers **operating systems** and **business-to-business systems** (B2B). Many contemporary platforms are hybrids and can be difficult to clearly define as belonging to either category. Apple's App Store is in a sense a B2B platform since it allows companies to develop and adapt apps according to the terms and conditions of Apple's digital store space, but it also targets consumers; after all, they are the ones who log on and download individual apps to use on their connected appliances. Moreover, the App Store, in common with iTunes, is also a core component of Apple's operating system in terms of integration between the apps and the software structure of the app.

A fundamental aspect of digital platforms lies precisely in the characteristic nature of the process of producing data – i.e., **datafication** – from the interactions that take place on the platform.⁹ Events that previously were conducted interpersonally become **quantifiable artefacts** that are analysed, managed, traded, and used as means for management and trade in the digital economy. Interpersonal interactions that used to be transient and sometimes allowed for a high degree of ambiguity are remoulded to leave traces that are permanent, traceable and, by all appearances, unequivocal. What used to be highly informal exchanges become significantly more formalised. Exchanges that take place via digital platforms are rarely as non-mediated or informal as non-digital exchanges; in fact, exchanges that are mediated via digital platforms are formulated in accordance with technically unrelenting rule-systems, since binary technology by definition sets limits for what is possible to

9 See, e.g. Kitchin (2014) and Mayer-Schönberger & Cukier (2013).

do. This is relevant in cases where software programming expresses normative stances that the user is obliged to comply with, and is sometimes expressed as “code as law”.¹⁰ Take, for example, second-hand trading which, when negotiated using platforms like Ebay, Facebook, Gumtree, or Swedish platforms like Blocket, become highly formalised compared to earlier methods of similar trading. While simplifying conventional, informal, small-scale market trading (car boot sales, flea markets etc.) digital services that mediate transactions, such as the Swedish payments service Swish, simultaneously render these transactions quantifiable, traceable and formalised.

It is important to keep in mind that platforms are, to a large degree, subject to **centralised control** – in contrast with digital standards and protocols which are often radically decentralised and are based solely on voluntary adaption. Therefore, we exclude standards (e.g., file formats such as HTML, PDF or hardware standards such as USB) and protocols (e.g., Internet communication protocols such as TCP/IP, SLL, BitTorrent). Such centralized control is of interest not least in relation to normativity and the values that regulate the use of the platforms.” For example, sometimes social media platforms such as Facebook are criticised for being all too influenced by North American culture and values in which the platforms are steeped, as platform usage develops into local and social infrastructures for millions of users around the world.

Seen from a classical liberal perspective, another tendency can be observed in services that provide access to **large-scale instrumental user exchanges**. There is a clear risk of so-called “absentee ownership” in which social and ethical aspects of interpersonal interactions are weakened or ignored when transactions are mediated at a distance

¹⁰ This argument and terminology has primarily been developed by American Professor of Law and Creative Commons founder Lawrence Lessig (2006). Cf. Larsson (2013) for a socio-legal perspective on this.

¹¹ Caplan & boyd (2018) view platforms as administrative mechanisms which reassemble relations between organisations and individuals. Users benefit from reliability and efficiency, but pay for this by way of increasing homogenization and adaption.

by large-scale, automatized and centralised mediators.¹² Small-scale exchanges are often characterised by moral contracts where the actors seldom have any incentive to trick each other since everyone is dependent on maintaining a good reputation. However, dramatic changes to the economic infrastructure can create crises in these moral contracts and be detrimental to the legitimacy of ongoing communicative and financial exchanges.¹³ Perhaps this is exactly what we see happening right now: not only in the economic sphere,¹⁴ but also in political discussions where platform infrastructures seem to give malicious actors a voice, thus enabling them to grow rapidly.

Therefore, it is important to study **the type of business model** on which a platform's growth or administration is based, and to what extent a specific, digital platform is considered **commercial**. Collecting and using large quantities of personal data, often gathered through free services, is generally seen as being at the core of the digital economy and the fundamental base for the benefits and added value that individualised services give to consumers in terms of matching services and having relevance to individuals. The collection of demographic data, Internet behaviours, networks of contacts, consumer patterns etc. therefore often represent the financial value that the platform, by way of extension, provides – via data trading, the production of consumer profiles, targeted advertising, etc. With regards to transparency, the growth of large-scale consumer profilers, so-called **data brokers**, present a great challenge to consumers

¹² Eckhardt and Bardhi (2015), Jenkins et al. (2013: 52-53), Pasquale (2018).

¹³ Andersson Schwarz (2016: 147-148).

¹⁴ To adopt a critical stance toward Uber and Amazon, these companies' business models can be seen as a form of predatory pricing in relation to other competitors by allowing finance capital to cover losses and lower the production costs of these platform actors – particularly wage costs. Additionally, the American Supreme Court recently granted credit card companies *carte blanche* to implement a business model based on high fees with rewards (bonus points, special offers, etc.) to their users, while consumers that do not use credit cards are forced to pay higher consumer prices caused by these kinds of fees, but without receiving the benefits. Both of these business models can be seen as different ways of subsidising wealthy consumers; in the first case at the expense of producers (the workers who make the product) and in the second case at the expense of the extraneous community of consumers (those without credit cards) who bear the brunt for the externalised costs (cf. Turow 2006). See Andersson Schwarz (this volume) for further discussion.

– partly because the data-driven markets are so complex that they have become highly opaque, and partly because these institutions are rarely sufficiently overseenable, transparent and open about the data they collect or how they use it.¹⁵ For those who are not aware of this, it became obvious during early 2018, when the British consulting firm Cambridge Analytica was found to have collected enormous amounts of data on Facebook users – this data was used, among other things, to tailor information pertaining to the Brexit vote, as well as regards the American presidential election of 2016. The significance of the value that personal data represents is discussed and sometimes problematized in terms of said personal data being exploited as currency for services which are otherwise seen as free services.¹⁶ Digital media researchers have voiced criticism about how business models such as Youtube’s may prioritize radical, click-baiting videos, thereby contributing to a form of sensationalism,¹⁷ as well as the fact that Facebook’s business model and lack of transparency in purchased targeted advertising involving so-called dark posts probably contributed to misleading voters in the USA presidential election of 2016.¹⁸

An additional aspect worth considering with regards to the development of platform solutions is when phenomena that were previously **digitalised to a small extent** (e.g., taxi rides, home deliveries, residential rental properties, sales of second-hand goods between private persons) are **increasingly being digitally mediated**. This is sometimes described in terms of a trend¹⁹ with reference to cases such as Amazon’s acquisition of the Whole Foods supermarket chain, various actors developing drone deliveries, etc. Digital platforms automatize market exchanges and mediate social behaviour; but, when relations are mediated via digital platforms, they are forced to comply with a software-based template and will, in addition, leave traceable data.

¹⁵ Cf. Larsson (2018 and 2017).

¹⁶ For a consumer protection perspective, please see Larsson (2018).

¹⁷ Gillespie (2018b).

¹⁸ Vaidhyanathan (2017). We should point out that since 2018, Facebook has begun to implement several changes with regards to searchability and other aspects in order to increase transparency in advertisement purchases.

¹⁹ For example, please see Dolata (2017).

IN SUM, we can establish a schematic of important characteristics that should be emphasized in the context of digital platforms. In addition to connecting third-party actors within a comprehensive, interactive digital space, digital platforms are also:

1. Software-based
2. Connected to the Internet
3. Datafied/data-driven
4. Automated (employing algorithmic categorization of mediation/distribution)
5. Scalable
6. Proprietary (often commercial, i.e., based in an underlying business model)
7. Centralized

What, then, is *not* a platform? A platform is not just any old software product. The concept is sometimes incorrectly used to describe integrated bundles of software products which purpose is to provide vertically integrated services or products. This definition ignores the financial aspect mentioned above, i.e., connecting different markets, as well as the technological aspect, i.e., that the system allows third-party actors to develop new functions based on the platform. Web shops run by the owners who sell products from their own inventory therefore do not constitute platforms. With regards to Amazon, we note that this company actually began as a linear web shop and that their original services could hardly be described as a platform. However, Amazon Marketplace, which allows third-party vendors to market their products via Amazon's digital trading site in exchange for a fee is, in fact, a platform actor; and the same applies to Fulfilment By Amazon, where third-party vendors can rent access to Amazon's inventory and distribution infrastructure; as well as to Amazon Web Services which allows Internet users to rent space on Amazon's extensive, global server infrastructure.

Whether Netflix constitutes a platform or not is debatable. In a strictly technological sense, some researchers argue that so-called media-on-demand, or “over-the-top media services” (OTT) – i.e., services that overlay the fundamental infrastructure of the Internet – are primarily linear and should not necessarily be seen as platforms since the users’ possibilities of interacting or developing new third-party services on top of such services are limited.²⁰ In financial terms, however, services such as Netflix and Spotify should be seen as multi-sided markets that are of great analytical interest in relation to the markets they operate within, not least with regards to the tension between regulation, innovation and legitimacy.²¹

As has been argued by Tarleton Gillespie,²² the **platform metaphor** is, in many ways, misleading. It risks making things look more orderly and stable than they actually are, and it may deceive people into believing that it refers to equal, fair, and undifferentiated spaces for market exchanges when, in actual fact, they may employ very different terms and conditions for different actors, while the seemingly “flat” technical infrastructure of the platform might be characterised by much more complex arrangements “under the surface” than its users would suspect. In theory, everyone may have the same opportunities to participate, but in practice, some events (and some actors) may benefit from this while others are at a disadvantage. Furthermore: How does the ownership of the space that they all act within affect the socioeconomic arrangements? Whose interests does the owner serve and for what purposes? These are the kinds of knotty questions this report seeks to unravel.

Platforms, politics and policies

Much of what has been said about digital platforms is full of praise since platforms in many salient ways constitute spaces for **technological**

20 Snickars et al. (2018).

21 For example, please see Fleischer & Snickars (2017). For a comparative analysis of entrepreneurship and legitimacy of Spotify, Skype and The Pirate Bay, please see Palmås et al. (2014).

22 Gillespie (2017).

innovation. New actors are able to develop additional services or products based on them, and they also have an aura of modernity and efficiency, since they enable completely new services or simplify a number of services which have previously been hard to simplify. Digital platforms also seem to provide discernible public benefits since they facilitate **new social functions and business opportunities.**²³ From an economics perspective, platforms constitute so-called multi-sided markets in which transactions occur between actors who would otherwise encounter difficulties when identifying or communicating with each other. Platforms hence reduce transaction costs that previously either blocked exchanges completely or made them very costly. At the same time, platforms do not only work as spaces for people to act within, but in fact, they also **shape our actions** based on a number of factors: open and concealed algorithms that are built in to the design of the platforms; the terms of access to the platforms services; the data that is created by the platforms; financial and/or political side-effects as certain platforms become dominant in different sectors of society; etc.

Many digital platforms have immense innovative and generative potential²⁴ since they have been constructed to **enable new product developments.** The term “platform” indicates a physical property with similar characteristics as those the material world; it refers to a surface that objects can be placed upon – often with less effort than placing it on the platform’s underlying base. The open, standardised Internet is an extremely large and general system and constitutes the grounding on which the digital platforms we are discussing here reside. Many digital platforms allow for applications (including other platforms) to be laid on top of the surface, but not all of them. An important difference between the open Internet and the platforms overlaid on top of it is that the latter tend to strengthen their position in comparison

23 An example of this is the investigation *Delningsekonomi på användarnas villkor*, SOU 2017:26, or the EU commission’s agenda with regards to the “collaborative” economy, as part of a strategy for an internal market.

24 “Generativity”, in the context of digital design, is a term that has primarily been developed by American professor of law and computer expert Jonathan Zittrain (2008: 62).

with smaller actors who are dependent on the platform infrastructure in question. For example, in 2012, Twitter acquired the software client Tweetdeck and effectively started a policy of discouraging third-party Twitter clients, and in 2014, Twitter acquired the social media aggregation company Gnip which sells access to archived tweets. Subsidiaries of Facebook, like Instagram, have restricted access to its application programming interfaces (APIs), making it harder for third-party developers to build new services in conjunction to, or atop of the existing (proprietary) infrastructure. And subsidiaries abound. At the present time, Facebook has acquired over 70 companies, including competitors such as Instagram and WhatsApp, while Google's parent company Alphabet has acquired over 200 companies, including cell phone manufacturer Motorola and GPS service provider Waze. Previous acquisitions of companies such as DoubleClick and YouTube have greatly contributed to Google's current market dominance in the media sector.

The innovative potential of platforms should therefore be considered in the context of other values that are sometimes at odds with sheer economic profit. One good example of this is the kind of standalone software that many of us use, i.e., so-called apps, each of which must be approved by Apple and Google in order to be allowed to run on their operating systems. The mega-platforms' infrastructures for such apps – Google Play and Apple's App Store – function as portals for other actors to introduce their apps. This is an absolutely vital nexus in the digital ecosystem since smaller, newer platforms such as Uber function by way of specialised apps, each of which needs to be approved and allowed to operate by the mega-platforms. Attempts to separate policy from implementation has, in many cases, proven to have problematic consequences. Apple has been criticised for the power it yields over which apps it allows in the App Store since this blocks or obstructs apps produced by competitors, for being inconsistent or simply for making incorrect assessments of various apps.²⁵ Apple's strict control of their Apple Store does assure a level of quality with regards to the apps that have been approved, not least with

25 This is further elaborated on by, among others, Gillespie (2018a: 84–85).

regards to functionality, but it also means that local or national innovations in the relevant area are dependent on Apple's policies and implementations which are in some cases unpredictable: In June 2016, Apple implemented updates to their App Store user policy which resulted in the temporary suspension of apps that were dependent on the BankID app, a Swedish e-identification service used by millions of Swedes to transfer money, pay bills and access the authorities' e-services. Apps that can only be logged onto via BankID, such as Swish, were deemed to be in violation of Apple's rules, since apps are formally not supposed to be dependent on other apps for their functionality. A wave of concern and indignation swept over the Swedish technology sector, and Apple's head office decided to act quickly by once again allowing an exception for the BankID app.²⁶ This demonstrates an aspect of dependency on the platform society we live in, with regards to **security, societal provision, and durability**: Sweden's capacity as an IT nation is, in large parts, dependent on American, multinational platform corporations and the sometimes arbitrary ways in which they implement their own terms and conditions. This can be problematic, both with regards to rule of law aspects as well as geopolitics – not least in the context of platform corporations that are endowed with the powers of infrastructural control and surveillance by non-democratic states, such as China. Nevertheless, in light of the previous example concerning the BankID app, we can however note that nationally-ran services like BankID in many ways provide Swedish organisations with considerably more power to control for their own security, durability, and provision of e-identification (e.g. for logging onto public services) than they would have been able to do in the case of having been wholly dependent on mega-platforms, e.g., resorting to using Facebook as an “identity provider”.

It is important to identify digital platforms' comparative degrees of difference in terms of **active and passive mediation** in relation to other

26 Apple's general user terms for actors that wish to market their software via App Store stated that an app may not be dependent on other apps; this theoretically forbids apps such as Swish, which are completely dependent on mobile BankID in order to work. Cf. Andersson Schwarz (2017) for a system theory perspective.

infrastructures. When code becomes law, the system also begins to exert more concrete, “hard” methods of control than would be the case in social negotiations, characterised by “soft” norms. Traditional policies, i.e. legislation, may also prescribe certain behaviours, but when taking place in the physical, analogue world, implementation of said prescribed behaviour occurs in a different, less binary manner. Certainly, analogue spaces and environments have clear boundaries with regards to what can or cannot be done; some boundaries are highly concrete and insurmountable, while others are softer and can be negotiated. These boundaries have different characteristics within different digital and analogue spaces, as well as between different kinds of digital and analogue spaces. With regards to platforms, this kind of control has decidedly proprietary and centralised characteristics. Therefore, not least from a policy perspective, it is important to ask: What should an actor be able to regulate unilaterally? At what point does centralised control become problematic for innovative challenges or other societal values? Should big platform corporations be allowed to act as both judge, jury and executioner? Even if the benefits of rationalisation and increased efficacy are great, are all of them really compatible with liberal and democratic values?

According to platform theory, users comprise “inputs” to the system since their participation creates value for the system as a whole (both for other users as well as for the owner of the digital platform).²⁷ Digital platforms are, therefore, not just software-based media, they also **control systems** that compel users to adapt their actions to predetermined code-systems and templates, in order to extract economic value from these behaviours. They transform markets (social, often partially informal, networks of exchanges that do not necessarily leave data traces) into substantive, material infrastructure (system-engineered, formalised arrangements where all activities can be logged). The ensuing **data traces** are stored – and they accumulate into an ever-increasing glut of behavioural data.

A precondition for the **scalability** aspect that is often pointed out as an

27 Jullien (2008).

innovative advantage of digital platforms is that sorting and matching becomes **automated**. This means that variations of artificial intelligence (AI) are increasingly becoming the tool for administering platforms, primarily **machine learning** which is used to train algorithms on vast quantities of data. For mega-platforms, this has become a necessity since the user base amounts to hundreds of millions users and countless interactions every day; and for smaller startups, including Swedish ones, this potential scalability is an important component when targeting an international market at a relatively early stage. However, the challenges are great, perhaps particularly in normative contexts where platforms are forced to make decisions on what may or may not be allowed, thereby interacting with both cultural norms and legislation in different jurisdictions. Social media platforms, for example, have developed different mixes of editorial review when moderating their contents: user flagging and automatized facial recognition, video ID systems and language analyses.²⁸ There is a growing awareness, including within the social sciences, of the risks of autonomous systems reproducing already existing norms, prejudices and discrimination, as well as the challenges of allocating responsibility when outcomes sometimes turn out to be illegitimate, unlawful or offensive.²⁹

Additionally, there is a power aspect that becomes salient as individual platforms become immeasurably popular and dominate the market. This becomes even more obvious for individual companies that own platforms which are **key resources in the global ecosystem of products and services**, such as operating systems and platforms that control which applications can be run on mobile and connected appliances. By owning a range of market-dominating platforms, corporations are able to use – and in the worst-case scenario, exploit – the cumulative effects that arise when different platforms are interconnected, or create strategic advantages in other ways – for example, by owning the exclusive rights to user data and behavioural data which, in turn, can be used to

28 For a more in-depth discussion on this, see Gillespie (2018a).

29 See, for example, Caplan et al. (2018), Noble (2018) or Larsson (forthcoming).

develop far more sophisticated functions than less established competitors are capable of. It is not hard to envisage the synergic effects between data on real-time mobility (smartphone geolocations) and granular geodata (maps) when mapping traffic jams and patterns of urban movement (i.e., getting an advantage in potential markets for urban transport and self-driving cars). These exclusionary market advantages are referred to in the tech industry as “moats” and are often viewed positively by the market actors involved. But in cases where leading actors’ platforms block other actors from interacting with each other, competition can quickly become distorted. There is a tension between what may be seen as infrastructure – where the importance of net neutrality is often emphasized – and market dominance, that may lead toward different kinds of monopoly.³⁰

Synergistic effects that arise when different digital platforms interact with each other and with the surrounding world may be difficult to predict in advance. The number of platform solutions that interact in different ways is constantly increasing, and global giants such as Apple and Alphabet often act as umbrella organisations that each have **their own ecosystems of interacting digital platforms**³¹ – e.g., when Internet users browse the Internet on a Chromebook using the Chrome browser, in order to be exposed to advertising via Google’s advertising infrastructure, and search for a film using Google’s search engine which is then streamed via Google Play and/or Chromecast, while the viewer posts comments about it online, using her Google username.

30 The concept of monopsony is enlightening: If monopoly infers that there is only one seller that many buyers, monotony entails that there is only one buyer of a product but many sellers. This is becoming a serious problem with regards to wage developments in the American labour market; and it is being caused by a high degree of consolidation and concentration of the market economy among a small supply of dominant employers (Naidu et al. 2018). The degree to which platformization contributes to these tendencies, specifically in the labour market, is an open question, but digital market leaders such as Amazon, Spotify and App Store are typical examples of platforms that would be expected to cause monopsonic effects in their respective markets.

31 Andersson Schwarz (2017).

Conclusion

In recent years, the concept of platforms has emerged as one of the most central concepts in the digital economy. Platforms enable a wealth of new, effective ways of organising society – but they are also based on certain intrinsic elements of governance and technocratic control, as one of their key premises is how human actions have to adapt to computer code, and how the proprietary, centralised mode of organisation that platforms give rise to entails a considerable degree of opacity and secrecy. A handful of platform-based companies (Google, Facebook, Apple, Amazon, Microsoft) have gained enormous global influence, who wield power not only over their end-users but also numerous other societal actors, who in different ways either directly rely on, compete with, or have to take into consideration the workings of these platform giants. Many of the smaller platform actors in the digital ecosystem are in many respects depend on these mega-platforms.

We see how algorithm-based systems affect and even configure entire industries. Likewise, technocratic systems affect the minutiae of people's daily lives. Perhaps more importantly, important social relations are transformed due to the sometimes whimsical priorities and unexpected side effects of digital platforms. Moreover, what are the macro economic repercussions when more and more sectors and industries are dominated by platform-based actors? What role does personal data play in the new economy, and are external actors really able to assess the relevance, representativity, and efficacy of said data?

As traditional market actors (that is, those that were born long-before the digital era) embrace *platformisation* as defined above – utilising and analysing consumer data, in order to predict particular outcomes, and automate and outsource decisionmaking – the vital policy challenges are growing in significance. Note, for example, how insurance companies are transitioning into so-called InsurTech and perform granular, individual-level rather than traditional demographic, aggregate-level risk-assessments and, moreover, sometimes trade in personal data on

an increasingly complex market. Platformisation affects banks and financial industries, it affects healthcare and precision medicine, as well as automated decisionmaking in the public sector. It affects property management and real-estate brokerage, an expressly slow-moving sector, as they take on so-called PropTech. Part of this development is fuelled by the megaplatform companies, those that were indeed born online; note, for example, how Google and Amazon engage and experiment with domestic environments, collecting data from households via microphones and speakers, or offer payment solutions in place where banks and credit cards companies might previously have been controlling the monetary flows. And, it is also fuelled by startup ventures, smaller and newer, aiming for pieces of the market where incumbents fail to be relevant.

What then, ultimately, is a “platform society”? Are we seeing the emergence of genuinely new ways of running companies and organising human work and capital, and what does it mean for innovation skills, nationally, regionally, and worldwide? Rates of innovation were, according to some measurements, higher at the beginning of the millennium – when many of the now incumbent platforms were founded, while rates of innovation would arguably be lower given an increasingly consolidated economy dominated by functional gatekeepers, raising barriers of entry for new entrepreneurs. At the same time, the platform business model appears to be a template for technocratic governance and automated administration, enabling the scale, security, and speed required for machine learning and algorithmic behavioural nudging. The effects are likely to be far-reaching, but difficult to comprehensively predict. Is this even the case of new forms of monopoly? What lessons can we learn from contemporary developments in major global power blocks such as the USA, the EU, and China? What does this mean for singular countries’ own domestic abilities to make policy and retain sovereignty? What should a desirable regulation of the digital economy look like, and what legal spaces are there for this to be implemented, realistically?

There are so many questions to ask, and a report like this one is barely skimming the surface. Nevertheless, let us conclude this report by looking forward and noting three key areas of policymaking.

THREE KEY ISSUES

1. Law

Does the platform society need new regulation? In such case: what type, and why? If we look at the largely diverging (yet, in some aspects, converging³²) US and European policy contexts, what should a platform-conscious regulation look like? As digital platforms tend to challenge traditional legal categories, it becomes important to judge large platforms based on the various concrete features they offer and the effects that they evidently generate, and propose regulation based on the distinct (but sometimes partially overlapping) features. For example, Facebook operates as an e-identification, as a matchmaker for small and medium-sized businesses, as well as a disseminator of editorial content: These are all very different functions that each would adhere to partially different legal systems. Moreover, regulation is unavoidably something that needs to anticipate and balance different, sometimes mutually incompatible social values – we therefore suggest that future regulation should not only be feature-specific, but it must also be preceded by comprehensive democratic discussions about what values one wants to determine, why and how. How should we, for example, prioritise security, both on the individual level (personal integrity) and on the national level (general legal compliance as well as geopolitical considerations) versus economic and technical efficacy? Can such considerations differ from case to case, area to area, or are there also some generalizable basic conditions that could be observed?

2. Economy

What is the price of “free”? Many people look no further than the possible inconvenience caused by customised advertising. With customised (personalised) advertising, personal data acts as a kind of currency, but at the same time it is difficult to evaluate what the cost really is for the platform users (i.e. for the ad buyers as well as for the end-users who

32 See Andersson Schwarz' chapter (this report).

are exposed to advertising and whose data is extensively collected).³³ It may be that transparency is inadequate regarding personal data, and how it is used – something that the recent EU data protection law is intended to address. What do the underlying business models look like and are their societal impacts only net positive? What possible negative effects could be observed – negative for whom, and why? How could, and should, these negative effects be remedied? How to combine low barriers to innovation with strong consumer-friendly services (premised on winner-take-all tendencies where one and the same provider offers a superior range of supply) while at the same time setting limits to profit from rent-seeking behaviour, anticompetitive cross-subsidization and predatory pricing?

3. Politics

What ideological approaches should be taken, with regard to the platform society? Despite the apparent efficiency gains that platformisation begets, from a liberal point of view, if the platform society is in effect a control society and in many respects a dream scenario for central planners, as well as a catalyst for monopoly tendencies and rent-seeking behavior, this cannot be compliantly and uncritically accepted. At the same time, it is a society of potentiality, where digital technology makes a lot of exciting, even life-changing developments possible. The devil is in the detail: It very much comes down to the ways in which the infrastructures are designed. Are they making innovation conditional on the goodwill of large actors? Are we already living in far more of a surveillance society than many would be inclined to admit? The balance between those who benefit and those who become disadvantaged or, for that matter, what values are gaining traction at the expense of other values – these are political considerations. What is “right” and “left” in a digital platform context – or is it even possible to make that distinction in a platform society? Who or what institutional actors should look after citizens’ rights and obligations in the platform society? Is there even a need for a digital “reclaim” movement?

33 E.g. Larsson (2018).

This ELF report is part of a much larger assignment, conducted throughout the last year, in which we have sought to address the social relevance and importance of digital platforms for the liberal and democratic society – with a series of follow-up questions regarding innovation, policy, and regulation. This has taken shape in the form of an anthology, soon to be published by Swedish think-tank Fores, on the subject (Eds. Jonas Andersson Schwarz and Stefan Larsson). At its core, we argue that we need to get collectively better at understanding what platformisation (as a specific subcategory of digitisation at large) really means for society as a whole. What promises, challenges and threats are there? The publication of this ELF report also happens to coincide with the publication of another book, *The Platform Society: Public Values in a Connective World* (Eds. José van Dijck, Martijn de Waal, and Thomas Poell) which addresses the same topics from a decidedly European perspective. We would like to express our sincere gratitude to professor van Dijck for letting us take part of the manuscript of that volume at such an early stage of this process.

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What is a digital platform economy and what are its key policy implications? This report on Developing Platform Economies collects four chapters from researchers in the fields of economy, media and law to define, scrutinize and draw empirically based policy-recommendations for a European context, particularly in comparison to the US.

INTRODUCTION:
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