

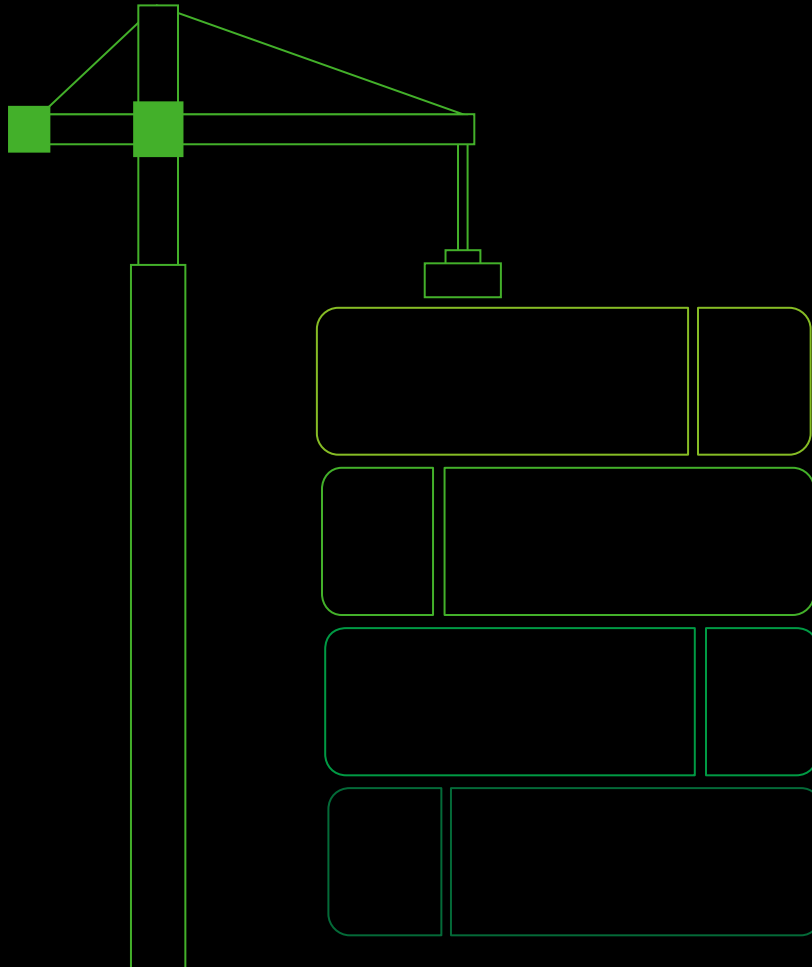
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# Competition on Digital Markets: An Introduction

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# Preliminary remarks



Less than a decade ago scholars started to investigate the interaction between the fourth industrial revolution and anticompetitive practices to speculate about what new anti-competitive conducts might develop in digital markets.

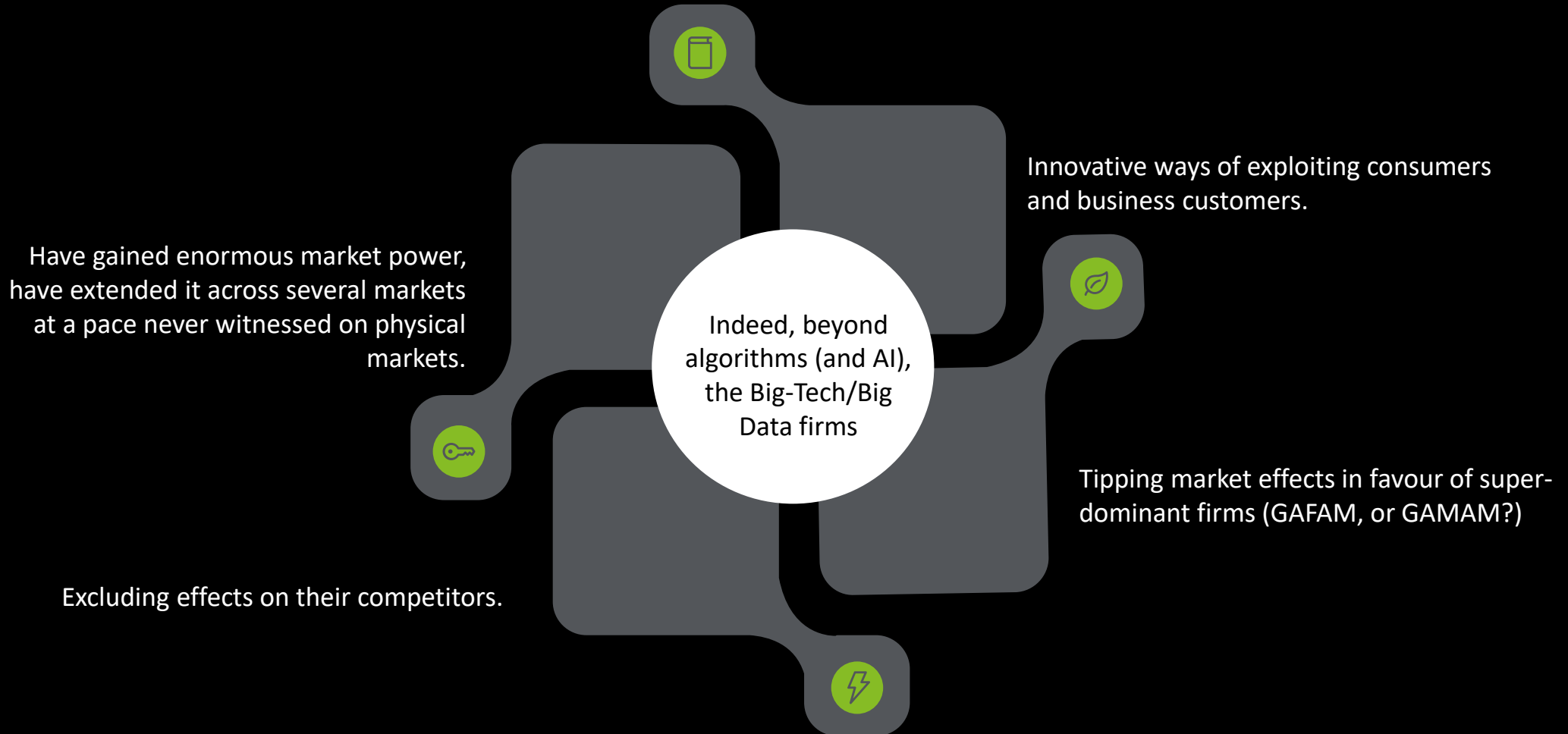
Issues then considered had to do with algorithms capable of colluding, or other forms of artificial intelligence capable of fragmenting the market by offering different conditions to virtually every user (thus discriminating between them).

Reality, however, has probably exceeded what had been anticipated:

- Enforcement of competition authorities around the world has spread in very different areas: in the EU, several cases dealt with by the EU Commission and the Member States' NCA, concerning multiple examples of digital infringements of Article 101 and 102 TFEU.
- Merger control has been identically called upon in many cases.

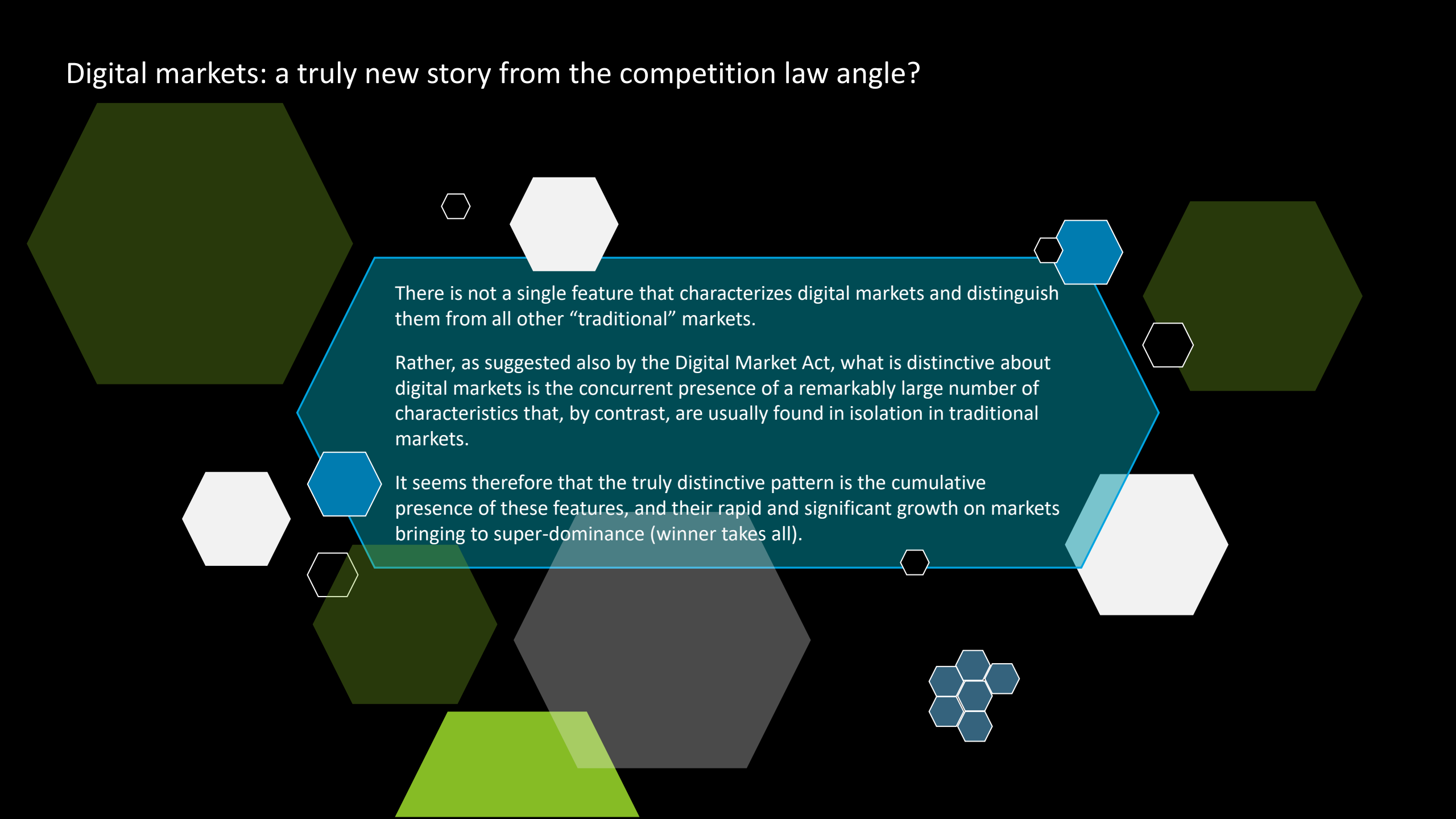
And yet, the overall results are unsatisfactory: traditional antitrust tools do not seem fit for the purpose.

# The super-dominant undertakings



Is it due to specific features of digital markets? Can we better focus what is going on?

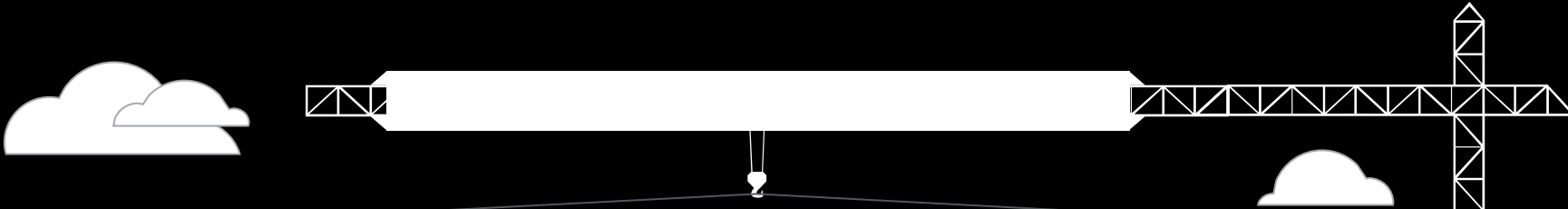
# Digital markets: a truly new story from the competition law angle?



There is not a single feature that characterizes digital markets and distinguishes them from all other “traditional” markets.

Rather, as suggested also by the Digital Market Act, what is distinctive about digital markets is the concurrent presence of a remarkably large number of characteristics that, by contrast, are usually found in isolation in traditional markets.

It seems therefore that the truly distinctive pattern is the cumulative presence of these features, and their rapid and significant growth on markets bringing to super-dominance (winner takes all).



### **Economies of scale and negligible marginal and distributional costs.**

Digital markets are usually characterized by strong economies of scale, complemented by the absence of marginal and distributional costs.

In the analogic world, the decrease in unit cost when outputs increase is not a forever process and indeed it experiences limitations.

On digital markets the cost of production is much less than proportional to the number of customers served.

In addition, in the digital world there are essentially no distribution costs for online services. The lack of distributional costs for digital services contribute to explain why generally new markets have from the very beginning a worldwide dimension (unless non-market restrictions apply).



## Indirect Network effects

In digital markets, however, direct network effects are often coupled by strong indirect (or cross-group) network effects.

The reason for this lies in the fact that the market structure is very often two- or multi-sided, i.e. a given network is used by two (or more) different groups of users that are interrelated and somewhat interdependent one with each other. Thus, the benefit that users belonging to one group derive from the network becomes greater when the number of users belonging to another group increases. Again, nothing new in this (brick-and-mortar shopping malls, newspapers, and yellow pages).

However, the phenomenon becomes exponentially larger in the context of the digital economy, both quantitatively and qualitatively. This is not a coincidence: the digital economy is based precisely on the role of online intermediaries, namely digital platforms, which are able of connecting end users with business users.

Indirect network effects can be:

- Reciprocal.
- Asymmetrical.



## Direct Network effects

Many digital markets experience very strong network effects, i.e. the value of their products (a good or, more often, a service) increases with the number of users who use it.

Network effects are not new in physical markets (e.g. the telephone) But network effects create multiple gains:

- The individual and private gain to that user, who can begin to use the product benefitting from the community of the other users already on the network.
- There is a collective benefit occurring in favour of the other users that are already on the network, who not only can now interact also with the new user but can also benefit from the higher appeal of the whole network.
- There is a private gain for the network itself and therefore its owner: the increase of the number of the users makes the network more desirable not only to existing users but also to each additional user, thereby rendering the network more valuable.

Direct network effects cause the network to grow and their owners strengthen and consolidate their market position: the more the number of users increases, the more attractive the social network becomes.

# Multi-sided market structure

Two- or multi-sided markets involve, by definition, indirect network effects, as the value that one group of users obtain from the network is determined not by the size of the entire network, but rather by the size of the other group of users.

Again, the economic operator, acting as an intermediary, can connect business users with end users precisely in the light of the multi-sidedness of the services that it offers. The greater the number of economic sectors that are brought into communication by platforms, and the more the number of platforms themselves is reduced in favour of a small number of dominant players leading a few “digital ecosystems” (the “gatekeepers” as per the Digital Market Act).

Gatekeepers have thus the power to pick winners and losers in adjacent markets, discourage switching to rival services, and punish undertakings that come too close to their domain.

In the pre-digital world, some examples existed already (credit cards, newspapers).

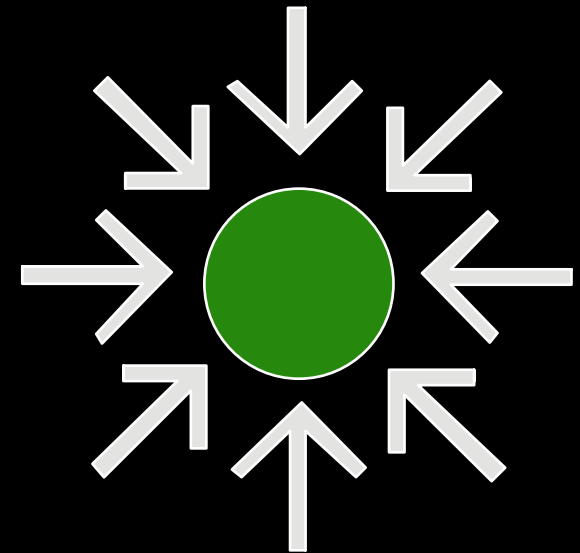
And yet, in digital markets multi-sided markets are the realm of online platforms. Regardless of their activity, online platforms facilitate interaction, coordination, and exchange among these – two or more – distinct and interdependent groups of customers.

Multi-sided platforms and multi-sided markets are a sort of synonymous of the digital economy.

Relevant for competition is however that:

- The optimal pricing and output strategy to be adopted by the intermediary on one side of the market depends on the demand and supply conditions on the other side.
- The optimal price and output strategy for one kind of customers may therefore depends on how competition works on the other side.

This leads to the possibility to have “**Zero Price Markets**”: “free services” to one kind of users paid by other kind of users



# The Value of data



However, «there ain't no such thing as a free lunch» and data are the price paid by customers in exchange for allegedly free services

When a given online service attracts more and more users, the platform that provides such service also gathers more data.

The nature of data:

- A by-product of any digital activity.
- Key input to provide digital services.

Data can be examined through analytics tools in order to extract knowledge and value. For a platform, reaching a critical threshold of users and data is therefore critical to its operation and to become and remain competitive on the market.

The collection and availability of data is therefore relevant from several perspectives, including the antitrust one.



## The value of data: an entry barrier? As such maybe no but...

At a first glance, one may believe that thanks to their ubiquity, replicability and non-rivalry, data are unlikely to represent per se a source of market power nor a barrier to entry of competitors in a given market.

However, let's pick search engines. They rely on the analysis of a very specific kind of data, i.e. past search queries. By exploring the links between (past) search queries and the subsequent clicks by (past) users, search engines learn from their users' behaviors to deliver more relevant and higher quality results for each query: the more data on past search queries they have, the better their services become. These data are not available to competitors.

Without data from past search queries, new and smaller providers of search engines services cannot offer the same quality as larger providers and incumbents, irrespective of the quality of their services.

And the learning by doing patterns continuously enhance market power (let alone the prospective impact of AI).

Moreover, the availability of large dataset may also allow the platform to expand its business quickly and easily into other sectors and markets adjacent to the core one in which it already operates. I.e. digital markets experience also strong economies of scope.





### **Economies of scope and vertical integration.**

Economies of scope occur when the costs that a company already sustains to produce a given product reduce the costs that shall be born to produce a different product.

Similarly to economies of scale, thanks to the variety, larger firms offering more types of products can lower their average costs

In digital markets, economies of scope seem particularly intense.

Online platforms can quite easily offer more products and services to users at a lower cost than a firm that offers only one service by using their existing digital infrastructure and user base. (Amazon: from books to everything...).

As long as a digital platform has a sufficiently large user base on its primary market, the data collected on such market can be used by the platform to design and improve the products offered on other markets and therefore to expand their activities into new areas. And to do so with higher quality products compared to the ones that could be created by the “ordinary” newcomers that do not have at their disposal big data.

This brings vertical integration, and “frenemy relations”, competitors’ ex-ploitation and foreclosure. And brings to the “ecosystem scenario”, i.e. a few alternative quasi-integrated systems among which users can choose.

Competition is no longer on individual activities or services, but among eco-systems.

## Digital competition: from tipping markets to digital ecosystems (1/2)

All the above features render a market subject to “tipping”.

Tipping existed also in the past and was reversed (Betamax v. VHS; Altavista v. Google, Nintendo v. PlayStation/Xbox, My Space v. Facebook).

It may also occur in the future in AI models: who will be the winner among ChatGPT, Bard and Bing? And yet, no such reverse is plausible in the past 15 years: GAFAM continue to gain (and not only maintain) market power.

Why tipping is an antitrust concern?

Because of the level of super-dominance of the major platforms and in their level of vertical and horizontal integration

Hence, it seems less and less true that the success of newcomers can be achieved because its products are better than the existing ones. The lack of competitive pressure after a market has tipped can lead the winner to adopt monopolistic behaviours (e.g. price increase and no innovation, especially because they are zero-price markets, and the users have less incentive to switch to better offering).

## Digital competition: from tipping markets to digital ecosystems (2/2)

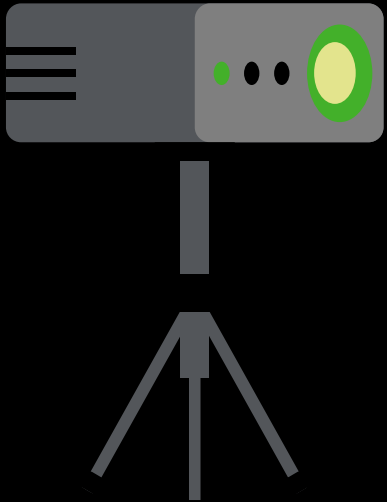


Each of the ecosystems created by GAFAM will therefore have at its core the main platform of each GAFAM, and from this nucleus, like spokes, other services will be offered.

The ecosystems protect the core business of each of the dominant market players. Competition seem to occur mainly with reference to those services that the different platforms offer “on a secondary basis”, where competition from third party specialist firms can also be present. But this competition may be hampered by Big-Tech (*Amazon Prime* is an example). By contrast, less likely that dominant undertakings could decide to fiercely compete in each other’s primary markets.

Ecosystem competition means that digital platforms compete not only with other platforms in the same category, but also with platforms in different categories that serve the same or overlapping groups of users (e.g. a social media plat-form may compete with an online dating platform for the attention and time of users, or with an e-commerce marketplace for the advertising revenue of sellers).

# Conclusion



The market structure in the digital realm has enormously changed: notwithstanding the attention paid by competition authorities worldwide, GAFAM have almost “monopolized” the markets.

- Art. 102 TFEU and non-EU peers have not been able to significantly affect the behaviors of the most important digital platforms, to limit the growth of their market power and to ensure that markets remain contestable.
- Merger control has been incapable as well to achieve its purposes (more than 500 acquisitions made by GAFAM over the past 15 years, only eight investigated and no prohibition decision has ever been issued).

The reasons: the digital markets make life difficult for antitrust authorities and courts, especially when faced with the

- consumer welfare standard
- the definition of relevant market to analyze market power
- the development of a theory of harm
- the speed in which these “markets” change: the antitrust enforcer is on the pursuit, but seems often late....

**Do we need an ex ante approach? Or new tools for antitrust? Or both?**

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