



Global Internet Report 2019:

Consolidation and the Future of the Internet

Global Internet Report 2018

Overarching question:

Are there trends of consolidation in the Internet Economy, and if so, how will consolidation impact the Internet's technical evolution and use?



Before we get started...definitions:

“Internet Economy” = the economic activities that either support the Internet or are fundamentally dependent on the Internet’s existence

“Trend of consolidation” = trends of market concentration, vertical and horizontal integration, and fewer opportunities for market entry and competition.



Outline of the Report

Introduction

Section 1:

Section 2:

Section 3:

Section 4:

- **Scope of the report:** 40-50 pages
- **Audience:** ISOC community; policy makers; broader public



Section 1: Slicing the Internet Economy in 3 domains

Application/Service Economy

- Applications and Services, e.g. Google, Amazon, Facebook, Baidu, Tencent

Access Services

- ISPs/Last mile; e.g. AT&T; Safaricom; Telefonica

Service Infrastructure

- Transit providers, e.g. Level 3; DNS Hosting, e.g. Dyn; CDNs, e.g. Akamai; Hosting services, e.g. Amazon Web Services;



Section 2: Five Key Features

Total service environments

Interoperability as a function of scale

A changing Internet topology

Deep dependencies

Responses to consolidation



Total service environments

Summary

- Internet platforms are expanding into new service and content areas, both to retain customers and to continue to grow revenues.
- Total service environments for business and innovators operate at a scale that will allow entrepreneurs to do things they couldn't otherwise.
- Platform environments unleash huge opportunities, but because innovation and entrepreneurship remain within the platform, competition to the dominant players will effectively be impaired.



Interoperability as a function of scale

Summary

- Organisational scale and market share play a significant role in the development and deployment of the open technical standards on which the Internet depends.
- Large organisations can accelerate the adoption of existing but under-deployed standards.
- The growing use of APIs puts more of the Internet's innovation, functionality, and interoperability into the hands of the dominant Internet platforms, whose interests may not always align with those of the broader technical community and other players.



A changing Internet topology

Summary

- The ability of a small number of content and cloud services to invest in their own networks and deploy their servers close to the broadband network edge is amplifying the existing trend of a flattening Internet
- Access networks are evolving rapidly, driven by the Internet of Things (IoT) deployments and other demands for processing on a range of user devices, including evolving technologies such as autonomous vehicles.
- Big cloud providers like Amazon, Alibaba, Google, and Microsoft are well-placed to dominate the new era of IoT and edge computing, further driving a changed Internet topology with less international transit and more complex, private, specialised networks and services.



Deep dependencies

Summary

- The characteristic of the Internet having “no permanent favorites” could be challenged as dependencies continue to grow.
- The development of new applications, services, and businesses across the global economy is increasingly dependent on a small number of private platforms owned by the largest Internet companies.
- As platform environments expand further, entering and often dominating more sectors and markets, combined with an exceptional economic power, there is a risk of growing societal dependencies on a handful of powerful economic actors.



Responses to consolidation

Summary

- Responses to the negative effects of consolidation have been distributed across the applications, services, and access domains of the Internet economy; in different sectors, regions, and by different institutions.
- Countries have adopted different strategies. Some have a higher tolerance for the risk of dominance if it also delivers Internet access and services, and they may have a traditionally lower tendency to regulate. Others, such as those in the European Union, are mobilizing more concerted, cross-agency responses (often spanning competition, consumer protection, and data protection regulators).
- Similarly, different stakeholder groups have also focused on different issues as far as dominance is concerned.



Section 3: Implications

- Trends of consolidation are visible in all parts of the Internet economy.
- The limitation of choice will likely also indirectly affect a broader set of abilities, with different implications depending on the economic domain, specific parameters of the geographical region concerned, and the degree of competition.
- Trends towards an increased dependency on well-known proprietary platforms for interoperation also imply a shift towards a qualitatively different environment than one defined by permissionless innovation
- The degree of concentration in one or more platforms or services, and the substitutability between them, is a strong determinant of the security and trust implications that will arise from unchecked consolidation

But...we need to learn more....



Section 4: Outcome Questions

- What are the relevant indicators for assessing the impact of consolidation over time?
- How are current trends of consolidation impacting different regions, and are they exacerbating or mitigating digital divides?
- Could our increasing reliance on just a few companies in the Internet economy make them “too big to fail”? Are there economic and technical dependencies on services that cannot be substituted that effectively create a set of permanent favourites?
- To what degree is concentration, and in some instances near monopolies, on the Internet a result of particular characteristics of the service involved? Are there natural monopolies for some Internet [enabled] services, for which the most efficient number of firms is one? And if so, why?
- Does the current trend of new traffic patterns, what has been referred to as a “flattening Internet topology”, constitute a concern or an opportunity for the long-term viability of the open Internet?
- Do new protocols, standards, or practices championed by especially large organisations have positive effects for all or only some? How does concentration in particular services effect the development of standard and non-standard protocols on the Internet?
- If regulation were needed to address consolidation, would it be better to go via the route of consumer protection, competition, or administrative law?
- How do we ensure that any regulatory responses do not interfere with the Internet's underlying properties, i.e. that they do not “break” the Internet?



What we do in 2019:

- Special issue of the Journal of Cyber Policy together with Chatham House (publication Q1 2020)
- Funding for data-collection (available from 1 March - for more info, please visit our website)
- Community engagement
- Further research

If you have thoughts, recommended readings, data or other material you want to share, please reach out to foti@isoc.org

– We need your views, tips, and thinking!



Thank You.

