Internet of things and competition law: main challenges

Extended abstract

Provisional version to be presented at the 15th annual ASCOLA Conference

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Abstract

The paper will analyze the connection between three themes of great importance to digital markets: competition law, internet of things and data-driven economy.

More specifically, the article will study issues affecting competition between companies operating in the internet of things markets, focusing especially on the following aspects: 1- interoperability between smart objects produced by different companies and 2- the importance of data portability to enhance competition between different brands of smart objects and. 3- whether competition authorities should take into account issues related to the use of personal data collected and processed by smart objects, in particular related to privacy.

The essay concludes that innovations brought by internet of things, especially the intensive use of data, require reflections on improvements, adaptations and modifications of traditional antitrust standards. On the other hand, the enforcement of competition law contributes to the enhancement of the positive effects brought by the internet of things and the data-driven economy to improve the digital market.

KEYWORDS: Competition law, internet of things, data-driven economy, digital markets, data portability, privacy.
Summary: 1. Introduction. 2. Internet of things and digital markets. 3. Importance of interoperability. 3.1. Lock in effects. 3.2. Intellectual property and competition law. 3.3. Would mandatory interoperability be enforced or regulated? 4. Internet of things and data-driven economy. 5. Importance of data portability for the internet of things. 6. Data privacy as a competitive concern. 6.1. Data processing should be analyzed on merger control? 6.2. Privacy violation as an abuse of dominant position? 7. Bibliography.

1. INTRODUCTION

The paper will analyze questions related to the competitive impact of the internet of things, focusing especially on three themes: a- interoperability between smart devices and b- importance of data portability to stimulate competitiveness and c- feasibility and convenience of using competitive law for personal data protection.

The competitive interest of interoperability stems from the feasibility of objects manufactured by the same or different producers communicate with each other.

Interoperability is a variable that the consumer usually takes into account in the decision of which trade mark to acquire.

In this context, there is a clear competitive differential in the development of interoperating systems between smart objects. Thus, if a manufacturer can develop a system that is interoperable with everyone else, it will have a competitive differential.

On the other hand, the manufacturer of product with a dominant position may have the incentive to develop mechanisms that prevent interoperability as a way to force consumers to purchase the other products of their brand. In this case occurs the lock in effect, which is usually limiting competition.

Therefore, the paper will examine the importance of interoperability for competitiveness in digital markets, analyzing if regulatory authorities should establish

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measures to stimulate or even impose interoperability\(^3\), as well as the possible capitulation of the refusal to implement interoperability mechanisms by a dominant company, an extremely controversial issue\(^4\).

The other two topics covered in the article (data portability and protection of personal data) derive from the relationship between the internet of things and the data driven economy.

Indeed, the internet of things depends heavily on technological advances and the collection and processing of personal data for your development\(^5\). Smart objects rely heavily on the collection and processing of personal data for their best performance\(^6\).

In this context, the essay will analyze the competitive impact of data portability, that is, the possibility of the data subject enabling his transfer to a new smart object acquired by him, to stimulate competition and innovation in the Internet of Things markets\(^7\).

The analysis will prioritize jurisdictions where there are legal provisions establishing the right to portability.

The paper will review of the existing literature and analysis of legislation and decisions of competition authorities will be carried out, with emphasis on Europe, the United States and Brazil.

\(^3\) The interoperability is an issue that raises concerns, for example, to European authorities. See: European Commission, *A Digital Agenda for Europe*, Brussels, 19.5.2010, COM(2010)245 fin., p. 3.


This is the case, for example, of article 20 of General Data Protection Regulation of European Union⁸ as well as article 18 of Brazilian General Law of Data Protection⁹.

The article will examine whether competition law should also be enforced to strengthen the effectiveness of the right to data portability¹⁰, in the hypothesis, for example, of a company with a dominant position in its market refuses to comply with the right of portability.

Finally, the paper will analyze the peculiarities of the application of competition law in the merger review and analysis of alleged abuses of a dominant position involving big data companies that act on the internet of things markets.

The analysis of the topics elected will demonstrate that the transformations brought over the internet of things, especially the intense use of personal data, require the necessary adaptations in the design and use of traditional antitrust law tools, such as assessment of market power, merger notification thresholds, measurement of big data merger effects on consumer privacy and investigation of abuse of dominant position.

With such adaptations, enforcement of competition law can be useful to enhance the positive effects brought by the internet of things on the development and improvement of the digital market.

The provisional bibliography presented in the last item of the extended abstract will be expanded until the completion of the paper.

2. Internet of things and digital markets.

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⁹ Brazilian law establishes the right of the holder of the personal data to request at any time the portability of the data to another service provider or product in accordance with the rules of the national authority, observing trade and industrial secrets.

I indicate, in a summarized way, some of the findings already made in this item, which will be deepened in the completion of the paper.

The term internet of the things is used to designate the interconnection of several objects that act in an integrated way\textsuperscript{11}. The expression had its pioneering definition effected by Kevin Ashton, who used it to call for a presentation that took place to present supply chain optimization solutions\textsuperscript{12}.

The creation of the infrastructure to disseminate internet access, the improvement of products and computing systems, the development of artificial intelligence, the possibility of collecting and processing huge amounts of data, allowed the development of smart objects and thus the consolidation of the internet of things. It is estimated that currently in the world there are more than 20 billion internet-connected things, not including smartphones or computers.\textsuperscript{13}

The article will explore the economic impact of the internet of things and its essential characteristics in order to demonstrate the fundamental importance of interconnection, as well as the necessary harmonization of various laws regulating the theme\textsuperscript{14}, such as for the purposes of this paper, competition, personal data and intellectual property laws.

3. Importance of interoperability.

The main objective of the item is to highlight the importance of interoperability for the digital market, for consumers and for the competitive dynamics of the internet of things markets\textsuperscript{15}.

The competitive interest of interoperability stems from the feasibility of objects manufactured by different producers communicate with each other.

\textsuperscript{11} In Brazil, Federal Decree 9,854 defines internet of things as “the infrastructure that integrates the provision of value services added with physical or virtual connection capabilities of things with devices based on existing information and communication technologies and their evolutions, with interoperability”.
\textsuperscript{12} Ashton, Kevin. The internet of things’ thing. RFID Journal, June 22, 2009 \url{http://www.itrco.jp/libraries/RFIDjournal-that%20Internet%20of%20Things%20.pdf}.
\textsuperscript{15} Kerber, Wolfgang and Schweitzer, Heike. Interoperability in the digital economy, op. cit.
Interoperability is a variable that the consumer usually takes into account in the decision of which trademark to acquire\textsuperscript{16}.

Therefore, in the item will be examined to what extent the consumer takes into account interoperability. For example, if there is no interconnection between various branded devices and the consumer wishes such interoperability, he will probably be prisoner of the brand of the smart device he acquired for the first time.

Thus, there is a clear competitive advantage in the development of interoperating systems between smarts objects. In this context, if a manufacturer can develop a system that is interoperable with everyone else, it will have a competitive differential.

But, on the other hand, the manufacturer of a smart product with a dominant position could have the incentive to develop mechanisms that prevent interoperability as a way to force consumers to purchase the other products of their brand.

In this context the paper will explore findings concerning the lock in effect, which is usually limiting competition\textsuperscript{17}, although there are authors that relativize the deleterious aspects\textsuperscript{18}.

Therefore, the paper will examine the importance of interoperability for competitiveness in digital markets\textsuperscript{19}, analyzing if regulatory authorities should establish measures to stimulate or even impose interoperability\textsuperscript{20}.

As many of the smarts objects systems may be protected through the prerogatives of intellectual property legislation, the consequences of this fact for interoperability will also be studied. The approach to the issue will have to face the

\textsuperscript{16} Rossi, Gus and Slaiman, Charlotte. “Interoperability = Privacy + Competition”, op. cit.

\textsuperscript{17} Farrell, Joseph and Klemperer, Paul, Coordination and Lock-In: Competition with Switching Costs and Network Effects, op. cit.


\textsuperscript{20} The interoperability is an issue that raises concerns, for example, to the European Commission. See: European Union Commission, A Digital Agenda for Europe, Brussels, 19.5.2010, COM(2010)245 fin., p. 3.
controversial and dynamic relationship between intellectual property and competition defense.21.

There is also the issue of manufacturers with dominant position developing systems that are purposely incompatible with others in order to force consumers who wish interoperability to acquire all equipment from the same manufacturer. Would such conduct be harmful? Would it generate anti-competitive effects? To answer such questions the paper will analyze a possible capitulation of the conduct as an abuse of dominant position, an extremely controversial issue22.

4. Internet of things and data-driven economy.

The internet of things depends heavily on technological advances and the collection and processing of personal data for your development. Smart objects rely heavily on the collection and processing of the personal data of their acquirers and users to perform their functionalities.

Data collection and processing allows companies to improve their products and services, which makes it possible to consider the data as a productive input.23

Of course, data-driven economy improves consumer welfare24. However, there are many concerns that may arise, concerning for example, to decreased privacy and any distortions in competitive dynamics, which thus deserve to be analyzed25.

The paper will focus on two issues derived from the intense use of data in the internet of things markets: data portability and privacy concerns.

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5. Importance of data portability for the internet of things.

The first theme inserted in the relationship between competition defense and data driven economy to be addressed by paper is data portability.

The main objective of the chapter will be to investigate whether such a right is exclusively a prerogative of the holder of the personal data or whether there is also a competitive impact.

Such a question is very relevant in jurisdictions that have personal data protection legislation establishing the right to portability.

This is the case, for example, of the member countries of the European Union, since art. 20 of General Data Protection Regulation establishes the right to data portability\(^26\).

Likewise, it is the example of Brazil, since art. 18 of Brazilian General Data Protection Law establishes the right of the data subject to obtain its portability\(^27\).

I present some preliminary findings, the rationale of which will be deepened in the preparation of the paper.

It seems clear that the original design of the portability was to entitle the data subject with a personal right. Notwithstanding, there is also a competitive dimension drawn from the right to portability, mainly from the fact that it lowers consumer exchange costs, which may have access to data collected by the former controller (the company that manufactured the smart product) in order to make them available to the new controller (the company that manufactures the purchased product). Thus, portability helps mitigate the lock in effect \(^28\).

\(^{26}\) Article 20,1 of GDPR determines that: “The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided”.


This conclusion makes even more complex questions that are commonly made in relation to the right of portability, especially those related to exactly what data can be made available (only those collected or also the processed, for example). which will be analyzed in depth in the paper.

There will also be an analysis of whether it would be possible on the basis of competition protection legislation to require data portability, as well as if it would be possible to capitate as abuse of dominant position the refusal to comply with the right of portability by company with market power.

6. Data privacy as a competitive concern.

The last session of the article will be dedicated to the study of the impact of the data-driven economy on techniques, instruments and the enforcement of competition law. The paper will highlight two controversial themes.

The first one is whether the analysis of the effects on consumer privacy should integrate the review of mergers involving big data companies.

In other words, the paper will investigate if in merger reviews involving big data companies it would be important to analyse not only the possible effects on the price alone, but also the consequences to privacy policies.

There is a wide divergence over the scope of the analysis of antitrust authorities in merger review involving big data companies. Should the investigation of competition authorities reach concerns related to consumer privacy? Alternatively,

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should merger control analyse only possible effects of the merger on the price\textsuperscript{34} of services or products of big data companies?

In this context, the article studies decisions of competition agencies which reviewed mergers in big data-driven markets, such as Facebook/WhatsApp\textsuperscript{35} and Microsoft/LinkedIn\textsuperscript{36}.

The second theme is the controversial possibility of consider as abuse of a dominant position the imposition of terms and conditions of use that are harmful to the holders of personal data by a company with market power.

The article will analyze investigations of alleged abuse of dominant position associated with big data, in particular the proceeding opened by the Bundeskartellamt against Facebook\textsuperscript{37}, in which the German antitrust authority prohibited the data processing policy imposed by Facebook on its users. The paper will study the academic articles that analyzed both the final decision\textsuperscript{38} and the preliminary findings\textsuperscript{39} of Bundeskartellamt investigation, as well as the decision of the Higher Regional Court of Düsseldorf, which granted temporary injunction and ordered the suspensive effect of the Facebook complaint\textsuperscript{40}.


\textsuperscript{40} Higher Regional Court of Düsseldorf . VI-Kart 1/19 (V). https://www.olg-duesseldorf.nrw.de/behoerde/presse/Presse_aktuell/20190826_PM_Facebook/20190826-Beschluss-VI-Kart-1-19-_V_.pdf.
7. CONCLUSION

I present preliminary conclusions, which will be refined throughout the development and completion of the paper.

There is a mutual benefit in the joint study of competition law, the internet of things and the protection of personal data. Indeed, innovations brought by the Internet of Things and data-driven economy require modifications and adaptations of traditional competition law standards, like, for example, measurement of merger effects on consumer privacy.

In this context, enforcement of competition law contributes to the enhancement of the positive effects brought by the internet of things and the data-driven economy to improve the digital market.

8. PROVISIONAL BIBLIOGRAPHY


