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USING MARKET STUDIES TO TACKLE EMERGING COMPETITION ISSUES – Contribution from Romania

- Session IV -

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More documentation related to this discussion can be found at: oe.cd/mktcomp.

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Using market studies to tackle emerging competition issues

- Contribution from Romania -

1.   Market studies can be used by competition authorities for advocacy purposes, to pursue enforcement actions, to assess effects of decisions and, more generally, to gather information about the market.

2.   While the digital economy offers abundant opportunities to customers and retailers alike, it is also fast moving, brings about disruptive innovation and raises a number of competition concerns. This is why, as detailed also in previous contributions on competition policy in a digital environment, the Romanian Competition Council has used market studies to examine emerging issues related to the recent advancements of the digital revolution, such as online platforms, sharing economy or the Big Data technology. The need to gather information about these issues stems from the need to exercise great care in balancing the protection of the markets from anticompetitive behavior against causing harm from interfering in complex businesses that are fast moving and not fully understood.

3.   These studies provided a deeper understanding of the issue and helped RCC deciding on the opportunity of furthering the analysis with a sector inquiry, or choosing an advocacy or enforcement path to address potential dysfunctionalities or anticompetitive issues identified.

4.   The first study was conducted in 2017, an internal study regarding platforms and their impact on competition. The study aimed to present an overview of the online platforms concept and the way in which these business formats are present on the Romanian market. It identified the main platforms, how they influence the economic development and eventually the economic efficiencies generated by them. At the same time, RCC tried to pinpoint the risks and possible anticompetitive practices that can affect the online environment in Romania.

5.   Somewhat concurrently, but building also on the know-how acquired and the preliminary results of the study, RCC conducted a sector inquiry to evaluate the impact of the development of online commerce on the competitive environment, by focusing on the marketing strategies (especially pricing strategies) adopted by the active companies on this particular segment.

6.   The conclusions of both studies were presented in Romania's contribution on Implications of E-commerce for Competition Policy[1]. However, an additional point worth mentioning given the purpose of the present contribution is that the methodology used in the studies was adapted to the specificities of the sector. Apart from the analysis of business models (degree of vertical integration, degree of sales diversification) and the traditional indicators usually taken into account, such as market share or the degree of market concentration, the team focused also on indicators which are specific to this sector, such as conversion rate or bounce rate. This change in methodology is something to be considered also in future activities in this sector.

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[1] DAF/COMP/WD(2018)40 - Implications of E-commerce for Competition Policy - Note by Romania, submitted for Item 5 of the 129th OECD Competition committee meeting on 6-8 June 2018. https://one.oecd.org/document/DAF/COMP/WD(2018)40/en/pdf

7.   Another aspect worth mentioning is that, in the spirit of fighting fire with fire, RCC experts used a "techie" method to collect pricing data in the sector inquiry. First, they compiled a list of products and online platforms and then they used web crawlers to collect and store daily prices for the respective products from the targeted platforms, for an entire year. This method of collecting information for a study mimicked the possibilities of gathering information of an enforcement tool, such as investigations, without shifting the burden of providing information on the undertakings in question.

8.   Both aspects support the idea that market studies are an excellent way to provide information necessary for competition authorities to adapt to new challenges posed by the markets, but also provide a more flexible environment to work with.

9.   The main findings on the pricing strategies were that there were definite signs of manipulative marketing. Products were in a quasi-continuous sale as compared to the advertised reference price, as most were "discounted" 74% of the time. Moreover, the advertised reference price was in some cases artificially inflated, i.e. 82% of the instances the advertised reference price was higher than the legally defined reference price and in 29% of the cases even higher than the maximum actual price outside the "discounts" period.

10.   The obvious asymmetry of information between buyer and seller heavily influenced the decision to buy, since the customer would be swayed by the apparently huge discounts he is getting and would not choose based on real value for money. Thus, prices were not set according to the basic economic rule of demand versus offer and the competitive mechanism was off-balance.

11.   Whether this pricing strategy was just a matter of consumer protection or had further implications that may lead to anticompetitive behavior was a matter of further investigation for the Romanian competition authority and further cooperation with the consumer protection authority in advocating more transparency regarding reference prices.

12.   Following the study on online platforms, at the end of 2017 RCC launched an *ex officio* investigation regarding a possible abuse of a dominant position on the market of online intermediation services in Romania via marketplaces platform. The investigation is still ongoing, currently in its final stage, however RCC will present its preliminary findings in the contribution submitted for 2020 GFC roundtable on „Abuse of dominance in digital markets".

13.   A subsequent study analyzed the implications of the sharing economy on the competitive environment. The study started in mid-2018, in the context of major challenges induced by the need to regulate new business models as a result of the element of novelty and innovation in the sharing economy, both at national level and at the level of the European Union.

14.   The results of the study show that, at European level, the quality of the regulatory framework has a significant impact on the development of the collaborative economy. Thus, countries where there is sufficient legal clarity on new business models (and market access conditions are less restrictive) tend to see a faster development of the collaborative economy, in terms of revenue generated or number of users, to those markets where collaborative platforms are covered by traditional services legislation or operate in a "gray" (unregulated) area.

15.   In Romania, the steps to regulate the collaborative economy focused mainly on defining the conditions for entry and operation on the market of individual service providers, in the context of the Law on alternative transport activities with car and driver

and two bills (the draft law on the access economy, initiated within the Chamber of Deputies, respectively the draft law on tourism, at the initiative of the Ministry of Tourism).

16.   RCC advocated for the need to remove any restrictions on the ability of users to choose the collaborative platforms on which they want to operate (multi-homing). Imposing exclusivity conditions can lead to problems related to allocation efficiency, which can translate into longer waiting times for consumers or drivers, implicitly higher dynamic rates (in the case of collaborative platforms that use these calculation methods). From this perspective, multi-homing reduces the chances of a platform becoming dominant in a market due to network effects. These network effects refer to the tendency of drivers or consumers to use only the dominant application on the market, due to the increased number of users, which could also lead to the reduced possibility of entering the market of new platforms or even closing market.

17.   RCC also recommended that collaborative platforms conduct all due diligence, both to maintain a neutral, transparent and rigorous role in moderating reviews and the rating system, but also to take action when the rating falls below a certain limit, both on the demand side and on the supply side of services. The ultimate goal of rating systems should be to discourage harmful behavior by market participants, reduce the risks resulting from information asymmetries for consumers and asset owners, and ultimately to ensure quality services.

18.   Following the completion of the study in December 2019, taking into account the importance of alternative passenger transport services in the collaborative economy, the challenges that this type of innovative and disruptive services generate at international level, in terms of competition, the specificity of operating mechanisms, regulations issued in 2019, as well as the fact that in recent years there have been market entries of important players, RCC considered it appropriate to deepen research in this area.

19.   This is why the authority opened a sector inquiry into ride-hailing services, which is currently still underway. The inquiry will focus on the relationship between platforms and service providers, in particular in terms of multi-homing (the possibility for drivers to use multiple platforms) and, implicitly, on the price policy (the mechanism for setting the dynamic tariff).

1. The Big Data study

20.   A more recent and detailed example into how market studies can contribute to help RCC deal with new issues is the 2020 study on the effects of competition of Big Data platforms. The study was completed in November 2020 and is currently under public debate.

21.   The use of BD technologies has made its presence felt in a number of areas that have one thing in common: the analysis of large volumes of data in order to make predictions for the future. Lately, the main feature of BD is no longer the large amount of data available, but the use of specific methods of analyzing them, such as predictive, behavioral or social network analysis, which provides a quick way to manage information from the digital environment. There is a growing trend to integrate intelligent processes into applications (algorithms, mathematical models), based on large computing capabilities. A specific feature of these technologies is the inclusion in the analysis process of unstructured data in various formats (video, audio, geographical locations, smart devices, etc.).

22.   BD technologies become a defining element in increasing the competitiveness of companies, which can collect more accurate and detailed data, both structural and behavioral, to understand the needs and preferences of customers, but also the phenomena that influence performance and obtain superior results. Today, more and more companies are turning to customer experiences to improve and diversify their offerings. This new approach is called the "experience economy". Such approaches require new perspectives extracted from another type of data - experience data that assesses consumers' feelings and preferences.

23.   In this new approach, large volumes of data must be processed on a reliable and repeatable basis, using machine learning (ML) models in identifying the best option for users. The algorithms used by companies use both structured and unstructured data. Online queries and consumers' shopping preferences can provide valuable information. Based on this information, companies can identify and improve the most important features of products and services to better meet the needs of consumers.

24.   Without neglecting the positive effects on the activity and results of companies, BD technologies raise possible concerns about how data is used. From the point of view of competition policy, the implementation of these technologies can affect consumer welfare, through possible distortions of the competitive environment, thus attracting the interest of competition authorities to investigate the effects generated.

25.   Given the above mentioned considerations, the study focused on the following main aspects:

- general characteristics, structure and operation of BD technologies, as well as of digital platforms;

- position of the competition authorities on the BD technologies;

- identifying the main users and suppliers of BD technologies on the Romanian market and evaluating the degree of their implementation in the economy;

- evaluating the functioning of digital markets and identifying new market monitoring tools that mainly use BD technologies;

- identifying the effects on the competition of the BD technologies and analyzing possible malfunctions identified in digital markets.

26.   Dealing with a very broad phenomenon, the study may not cover all important aspects of the field or describe with the utmost rigor all technical features, but it is a first step of RCC towards understanding the implications of BD platforms and related technologies.

27.   Compared to other similar studies, the novelty of this study is brought by the presentation of the implementation degree of BD technologies in different sectors of the Romanian economy, which includes an example of how algorithms/artificial intelligence can be used by undertakings in general activities, such as: optimization of operational processes, reduction of costs, improvement of the decision-making process, monitoring of the market, predictive analysis. Also, the study highlights the methods for analyzing large volumes of data used in different types of activities specific to each analyzed sector.

28.   In addition to the internal benefits, the study may also be of interest to the business environment, as it presents both the advantages and the risks related to the implementation of the BD technologies, from the perspective of its involvement in possible violations of

the competition law. This reflects also the advocacy potential market studies may bring to a competition authority.
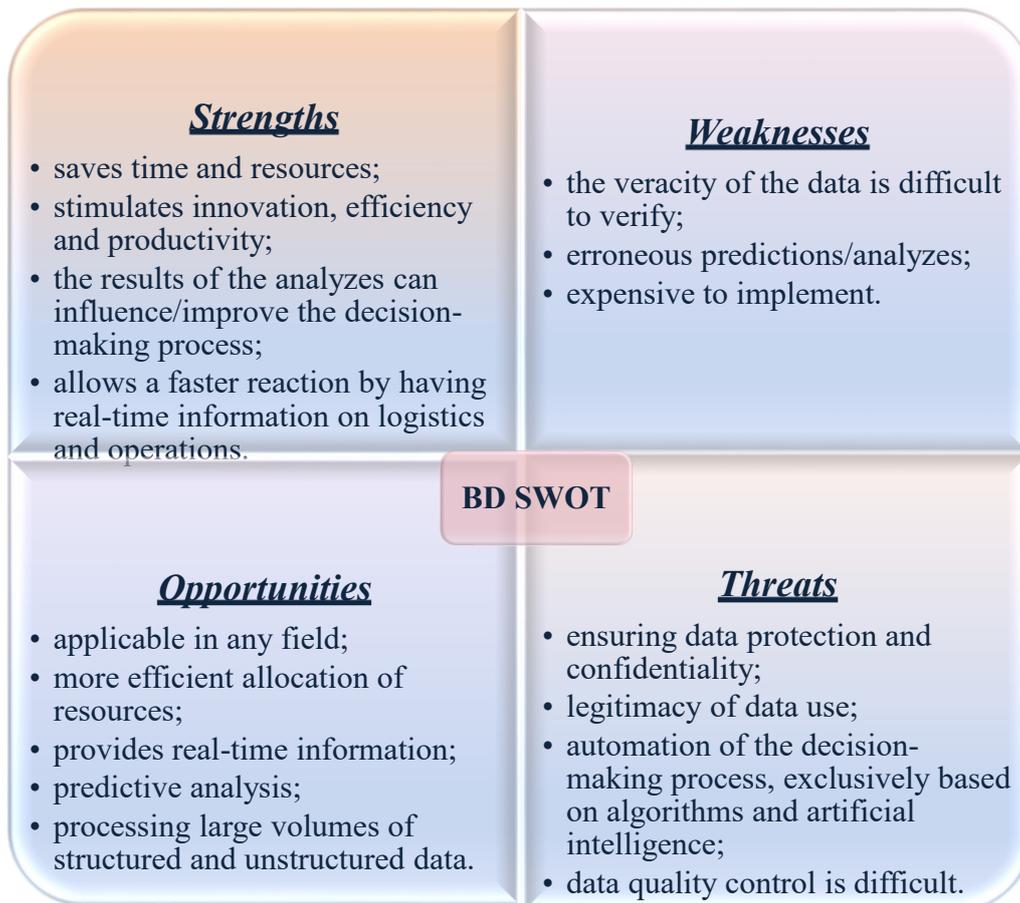
29.   From an organizational perspective, the study advocates for the need to adapt RCC resources in order to increase the analytical capacity of the institution, so that the competition authority can respond to the new technological challenges and keep pace with the clear advance of the companies in this area of interest.

30.   *Main conclusions of the BD study*

31.   The use of BD technologies and the development of capacities for analyzing and processing large volumes of collected data have generated substantial benefits for undertakings, in the sense of streamlining the activity and improving the quality of services, resulting in benefits transferred to consumers, employees and to the society, in general.

32.   However, the implementation of BD solutions also presents a series of risks and barriers.

Figure 1.

Strengths	*Weaknesses*
• saves time and resources; • stimulates innovation, efficiency and productivity; • the results of the analyzes can influence/improve the decision-making process; • allows a faster reaction by having real-time information on logistics and operations.	• the veracity of the data is difficult to verify; • erroneous predictions/analyzes; • expensive to implement.
Opportunities	*Threats*
• applicable in any field; • more efficient allocation of resources; • provides real-time information; • predictive analysis; • processing large volumes of structured and unstructured data.	• ensuring data protection and confidentiality; • legitimacy of data use; • automation of the decision-making process, exclusively based on algorithms and artificial intelligence; • data quality control is difficult.

BD SWOT

33.   Following the analysis performed in this study, the following can be concluded:

- BD technologies and/or complex data analysis solutions are used in digital platforms that intermediate alternative passenger transport (ride-hailing), in the

communications sector and by large retailers, but much less in the banking sector, price comparison platforms and e-commerce;

- the implementation of BD solutions brings general benefits, valid to any sector in which they have been implemented, such as: optimization of decision-making, operational and technical processes, efficiency of operational costs and resources, benefits are also brought for a series of activities specific to each field of activity, which have been detailed in the study;

- investments in digitization are consistent, involving significant resources and long implementation periods;

- the barriers/risks linked to the implementation of the BD technologies are generated by the high costs related to the acquisition/development and implementation of solutions, the inherent complexity of data, the lack of skills within the companies as regards the interpretation of data, the difficulty in hiring specialized staff, ensuring security and maintaining data confidentiality;

- the implementation of the solutions was done internally by the companies or by the group to which they belong, but, in most cases, with external developers/solution providers, based on open source products, open source technologies protected by copyright, or COTS (commercially off-the-shelf) products;

- the use of BD technologies can bring competitive advantages to companies, such as:

  o for the owners of digital price comparison applications: platform visitors and new retailer partners - attracted by the application's ability to update prices in real time and automatically and by the continuous improvement of the way the platform works, cost reductions - by automatizing and optimizing the operations;

  o for the intermediary platform operators (ride-hailing): new customers - attracted by the digital component of the service and by the benefits of using the platform, cost reductions - by automating and optimizing tolling and routing operations, the use of the rating system - so that the platform operator can guarantee the security of transactions between the parties, maximized revenues - by using pricing algorithms to adjust the dynamic tariff;

  o for the operators in the telecommunications sector: optimizing decision making/operational/technical processes, streamlining costs and resources, quality of services and customer relations, differentiation from competitors;

  o for the companies active in the online commerce sector: the ability to collect, process and analyze simultaneously and centrally market data, customers, prices, products and services, the ability to make decisions based on a large amount of information, improving the ability to operate, in real time, between the different sales channels (online, mobile, traditional) and the reaction speed, in the conditions of activating on a market in permanent dynamics, the adjustment, in real time, of the prices to any modification of the variables by using the algorithms, optimizing marketing strategies, the marketing process focused on customer segments and personalized offers - by knowing the behavioral patterns of users of online trading platforms, knowing competitors and the possibility of differentiating from them.

34.   The research also revealed potential risks for the competition, generated by the use of the BD technologies:

- gathering a large number of users and partner retailers registered on the platform leads to the decrease of the competition pressure between price comparison operators, which can generate an increase of the commissions/fees charged to the partner retailers;

- besides benefits, high price transparency through the use of comparators can facilitate anticompetitive agreements between retailers;

- the transparent availability of the prices of competitors on the price comparators represents data sources for retailers that use dynamic ML algorithms for setting their own prices, which can lead to a tacit alignment of them.

- attracting a large number of unique users by a platform can lead to the creation of a dominant position within a certain geographic market;

- the difficult understanding of machine learning algorithms decisions, their unpredictability and continuous evolution hampers the process of assessing and verifying the correctness of deductions;

- similar algorithms used by the platform operators for setting their dynamic prices or tariffs may facilitate the collusion and/or their simultaneous adjustment in areas with a temporary imbalance of the demand and supply, to the detriment of the final consumer, even if the algorithms are not explicitly programmed for this purpose;

- financial barriers may limit new market entries - the entry of new platforms on the market depends on the financial power of the potential operator to invest in applications that use BD solutions and machine learning algorithms to set dynamic rates and estimate the distance/duration of a ride, and in other innovative technological solutions designed to attract users of other platforms already active on the market or new users.

- in the retail and e-commerce sectors, similar pricing strategies may be adopted, aligned with those of competitors, by means of algorithms, given that one of the calculation variables is the prices of the competitors.

35.   BD solution providers are, in particular, large companies with foreign capital, with or without presence in Romania through subsidiaries/branches.

36.   Domestic suppliers are mostly start-up companies, which develop dynamic and artificial intelligence algorithms for specific analysis needs or which implement various projects based on BD solutions developed by third parties.

37.   As regards the business model, it was noted that different strategies are being implemented: if the Romanian capital undertakings focus on the development and implementation of new BD solutions, those belonging to the groups with foreign capital generally distribute BD solutions developed by the group directly or through approved partners. They also provide their customers services designed to adapt these solutions to the specific needs of each client.

38.   BD solutions require support and maintenance services, therefore generate switching costs for customers who sometimes can become captive.

39.   Algorithms are considered to be the intellectual property of the solution developer, who does not want to make them public, often to third parties who have purchased the BD solution, on the grounds of protecting its trade secrets. In fact, revealing the source code can create security issues for the BD solution.

2. Competitive concerns about the use of price-setting/adjusting algorithms

40.   When competitors use identical algorithmic models, a common database and similar pricing strategies, this can lead to tacit coordination, generating higher prices.

41.   If competitors end up implementing machine learning algorithms, which automatically adjust the price, the collusion becomes difficult to prevent and identify.

42.   Machine learning algorithms permanently improve their performance, depending on the data they process, without the need to follow explicitly programmed instructions. To a large extent, their internal operation is non-transparent, both for the algorithm developer and for the end users. They are programmed to achieve a certain legitimate aim of the company (e.g. maximizing sales, profits, etc.), but they can adapt themselves to market developments by adopting anticompetitive behavior. Legal liability in case of a collusion based on identical static or machine learning algorithms, developed by specialized third parties will be difficult to identify.

43.   These developments also bring challenges to the competition authorities, which will need specialists and dedicated tools to analyze the extent to which the pricing algorithms used by firms active in the same market are similar, when it is suspected that their use has as a result a tacit coordination or is facilitating anticompetitive agreements.

3. Next steps, supported by the findings of the BD study

44.   In order to face the challenges posed by the accentuated development of the business environment, the increasing complexity of the economic activity, as well as the major changes produced by the technological innovations, RCC is currently implementing its own information system based on BD technology.

45.   The general objective of the system is to integrate, operate and capitalize on large volumes of data, in order to support investigative activities.

46.   In addition, as mentioned above, the findings of the study support the need for RCC to develop its data analysis capabilities for early detection and in-depth analysis of action patterns associated with anticompetitive behaviors, both in the business environment and in its interaction with public institutions.

47.   In this regard, RCC is in the process of developing an analysis methodology based on behavioral, structural and logical indicators to screen bid riggings, cartels, non-notified mergers, structural and commercial links between companies.