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Challenges and Recommendations for Government Authorities in the Regulation of Technological Consortia

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Abstract: This document seeks to identify the main challenges and recommendations for government authorities to regulate technology consortia and prevent them from failing or causing negative effects on consumers.

Keyword: Patents, technology consortia, licenses, technology transfer, intellectual property management, complementarity, substitutability, technology.

1. INTRODUCTION

The creation of technological consortiums has been increasing in the last two decades, however, in many countries the normativity that allows its creation and operation has not yet been developed. It is important to emphasize that a technological consortium is part of a broader category: research and development agreements. In them two or more companies carry out research and development activities and exploit in common the results obtained, including the licensing of patents and technologies.

According to the European Free Trade Association ([1]):

“The concept of technology consortium encompasses agreements whereby two or more parties decide to share their technologies and grant global licenses to them. The technology consortium concept also includes agreements whereby two or more companies grant a license to a third party and authorize it to license the technology package “(paragraph 56).

In developing countries, the first challenge for government entities in technological consortia is to identify those existing at the international level and the patents they hold. This in order to establish which of them are useful for the technological and social development of the country, and that those interested at the national level can benefit from the advantages of negotiating the licenses with a consortium.

Secondly, the precise definition and regulation of the operation and scope of the national consortiums is required, in accordance with the objectives of public policy and the protection of competition. After appropriate regulation, the responsible institutions would need to define the appropriate incentives for the formation of patent consortia and other technology transfer mechanisms within the country and promote: the diffusion of innovation and the development of capacities for Integrate and use complementary technologies. This is taken as indicated [2] that the creation of a technological consortium includes business, technical and legal will and coordination.

This document focuses on the second phase, ie: identify the main challenges and recommendations for government authorities regarding the regulation of technology consortia.

2. METHODOLOGY

In order to identify the main recommendations for government authorities to regulate technological consortia and prevent them from failing or causing negative effects on consumers, a review of the academic literature and related European legislation was carried out, following the following protocol of According to the scheme of systematic reviews: (i) identification of the field of study, subject and period to be analyzed; (ii) formulating the problem; (iii) definition of search criteria for information; (iv) selection of references and studies; (v) critical reading and risk assessment of bias in included studies; (vi) extraction of relevant information and data; (vii) analysis and synthesis of scientific evidence.

3. RESULTS AND DISCUSSION

The European Commission is the body with the greatest progress in regulating both patent consortia and technological consortia. A regulation on the operation of technology transfer agreements was issued on 21 March 2014 and has been in force since May 2014 ([3]). A directive on the applicability of Article 53 of the EEA Agreement to technology transfer agreements ([1]) was also issued on 4 February 2015.

Among the main changes associated with technology consortia are: (i) extending the “essentiality” criterion beyond the production of a particular product by extending it to compliance with a standard or standard; (ii) consideration of a consortium as a multi-party agreement, (iii) explicit statement that patent agreements are pro-competitive.

From the review of the most recent European Commission regulation on the subject ([1], [3]) and what was identified in the academic literature identified the challenges and recommendations for the authorities in the legislation of technological consortia.

A. Challenges

One of the major difficulties faced by the authorities is that they do not have the information necessary to establish the degree of substitutability or complementarity of the technologies ([4] and [5]) that are part of a consortium or are Essential or not, in this regard, it is not possible to establish which collaborative arrangements can lead to positive or negative impacts ([6]).

Also, from the analysis of experiences of several patent consortia in the academic literature, the following risks have been identified as the main risks due to anti-competitive effects ([7], [8], [9], [10], [11]). This implies that authorities should be in a position to identify and control such behavior:

- (a) Control of prices by the members, on the technologies that they license. This can happen mainly if they are substitute technologies.

- (b) Creation of barriers to entry for firms that are not part of the consortium.
- (c) Collusive practices to slow the introduction of new technologies.
- (d) Loss of consumer welfare in the face of possible price increases and access to lower technologies.
- (e) Abuse of position of collective dominion, for example: not granting licenses or doing so in a discriminatory way; Or by limiting the creation of alternative consortia.
- (f) Market share.
- (g) Risk of protection of invalid patents.
- (h) Exclusive and unique licensing, which may lead to the creation of an artificial monopoly or promote dominance if the licensee has significant market power (in the case of the European Union, it corresponds to 20% of the market) .
- (i) Possibility of sharing sensitive information on prices and quantities, given the proximity of members, which may facilitate collusion scenarios.
- (j) Possibility for the licensor to impose on the licensee restrictions on sales, production or application sector.
- (k) Practice of sale tied of licenses, also denominated, bonding or grouping. This is to impose on the licensee “as a condition for the transfer of a certain technology (binding product) the obtaining of another license relating to another technology or the purchase of a product from him or a third party designated by him (linked product)” ([1]).
- (l) Creation of industrial norms proposed by a specific consortium, which may lead to: (i) members not having incentives to develop new technologies and have in the long term a stagnation process, associated with the existence of a captive market ; (ii) it becomes more difficult than other new and improved technologies, but outside the norm, to enter the market.

In this sense, the authorities should be able to identify both the efficiencies resulting from the agreements and the possible anticompetitive effects.

Another element to consider is that in some countries there are problems related to antitrust legislation, when dealing with the definition of agreements and coordination between competitors, prohibited in some countries. Hence the opportunity to take into account previous experiences, so that the regulations and regulations include all the aspects and elements mentioned in the following section.

B. Recomendaciones

However, in order to have clear regulations on technology transfer agreements, on all associated instruments, that is articulated with the laws on the protection of free competition [12], and respond to the challenges mentioned in the previous section. The following are the main recommendations:

1. Ask the proponents of the consortia to fulfill the following characteristics.
 - (a) Transparency in the creation process, that is, that the call for inclusion is open and that all the holders of technology rights that are interested may participate in the creation process.
 - (b) The choice and the nature of the shared technologies, that is to say, using a criterion of complementarity and attending to its quality and price. Ensuring that only the consortium are valid, essential and complementary technologies whose essentiality criteria can be reviewed over

- time or challenged by members or licensees. This is mainly because of the progress in product development, which can lead to the essential character being lost over time.
- (c) Inclusion of independent experts in the creation and operation of the consortium, who can evaluate the type of technology,
 - (d) The existence of clauses on the exchange of information between members and against third parties, to avoid the sharing of sensitive information on prices and quantities.
 - (e) Independent dispute resolution mechanisms.
 - (f) Clear and expeditious criteria for licensing applications by third parties.
 - (g) Licensing on a non-exclusive basis, to all interested and non-discriminatory licensees, considering package or individual licensing, according to the needs of potential licensees, without applying excessive fees.
 - (h) Possibility for firms that provide technology to the consortium and the licensee to develop competing products and technology.
2. Ask those interested in creating the consortium an in-depth analysis of (i) how to meet objective economic benefits for firms and consumers (associated with the integration of complementary assets and technologies to develop and market new or improved products or To produce products at a lower price, reduce costs of production or distribution, and others), and (ii) the safeguards that the consortium will have to avoid restrictions of competition.
 3. Request the interested parties the report of an independent expert, which establishes if the technologies that would be part of the consortium are: complementary or substitute and essential or non-essential.
 4. Ensure that the patents that form part of the consortia do not include more than necessary, according to the purposes for which the consortium (test d'essentialité) was created ([5], [13], [14, 15]) . That is to say, to guarantee that the patents of the consortium are the essential ones and is not intended to create a tangle of patents.
 5. Require patent consortia to authorize separate licensing by their members, thereby avoiding the accumulation of royalties from consortia, favoring the use of proprietary multi-use technologies ([4], [5] and [9]) and reduce incentives for the creation of substitute patent consortia.
 6. Assess whether the agreement may have adverse effects on other firms, such as eliminating competition for a substantial part of the products concerned. Before that could be done an approval of the creation of the consortium, conditioned and monitored for a specific period.
 7. Allow potential partners to examine the feasibility of collaboration more openly, as well as define the costs and benefits of collaboration ([9, 16]).
 8. To promote full-fledged licenses, that is, those that allow the holder of the patent to reduce annual fees and grant the status of non-exclusive licensee.
 9. Suggest to the proponents that the licensing agreements of the consortium with third parties have at least the following obligations, in order to reduce the failures of the agreements resulting from poor negotiations:

- (a) Confidentiality
- (b) Non-granting of sub-licenses by members of the consortium and third licensors
- (c) Non-use of licensed technology rights after the expiration of the agreement, if they are not already in the public domain.
- (d) Accompaniment to the licensor to guarantee the respect of the intellectual property rights related to the license.
- (e) When licensing to third parties to agree on the payment of a minimum fee (percentage of sales price, fixed amount or based on the number of users), or the production of a minimum quantity of products that incorporate the licensed technology.
- (f) Use of the trademark or name of the licensor in the product that uses the licensed technology.
- (g) Agreement between the parties on the restriction of captive use, ie the licensee's obligation to use the products containing the licensed technology as inputs for its own production and not that of third parties.
- (h) Inclusion of an external dispute resolution mechanism or conflict resolution agreements, including non-opposition clauses.

4. CONCLUSION

This document identified that the regulatory authorities' challenges go through different phases: creation of the consortium, operating conditions and effects before third parties. The recommendations included in the article are intended for policymakers who define the regulations of developing countries mainly, so that they can take into account the above aspects when proposing legislation that respects free competition, but recognizes the Benefits and potential efficiencies of technology consortia.

As future research scenarios are those destined to carry out successful or non-successful organizational case studies; Impact studies in specific sectors of application of licenses of technological consortia and elaboration of ex ante and ex post regulatory impact analysis.

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