



Economic Regulation Oriented to the sharing economy: An approach from target 10.3 of the 2030 agenda

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ABSTRACT

This work is focused on target 10.3 of the 2030 Agenda, which seeks to “Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies and action in this regard”. To analyze the economic implications of this target, this study focuses on the Sharing Economy, and in public passenger transport industries. As target 10.3 is associated with regulation, it is considered that the theory of neo-institutional economics is valid and appropriate for the identification of economic concepts for regulation. Consequently, the analysis of the chosen documents was developed from the four main concepts of the neo-institutional economy: institutions, property rights, transaction costs, and contracts. As a result, a conceptual model was obtained in which the institutional environment is regulated by 1) property rights, which affect the flow and distribution of the benefits of those who make up the industry; 2) transaction costs, represented in tax payment and different market entry costs such as licenses, fees, certificates, quotas, among others; and 3) contracts, related to the nature of the traded assets, so it will be necessary to establish the substitution level of the services offered (perfect substitutes, imperfect substitutes) and the control of user-provider interactions. From the conceptual model, a series of propositions are derived and validated through a case study, which identifies the gaps between theory and practice to provide regulatory alternatives for governments. Future work should be oriented towards validating the specific relations derived from the conceptual model obtained in this study.

1. Introduction

In September 2015, the United Nations General Assembly launched an ambitious agenda, called the 2030 Agenda for sustainable development made up of 17 goals, 169 targets and 232 indicators (Srivastava, 2018). Attempting to address all the topics included in the 2030 Agenda becomes complex and therefore unmanageable (Håk et al., 2016; Jain and Tiwari, 2017; Shaaban and Scheffran, 2017), especially in public management matters, since governments prioritize their investments in the most urgent problems due to the existence of opportunity costs (Londoño and Cruz, 2019). Therefore, this work is focused on target 10.3 of the 2030 Agenda, which seeks to “Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies and action in this regard”. To analyze the economic implications of this target, this study focuses on the Sharing Economy, and on the hospitality and public passenger transport industries, as they remain the industries with the most information available to analyze (Wallsten,

2015).

The concept of Sharing economy, which was introduced by Marcus Felson in 1978 in the document entitled “Community Structure and Collaborative Consumption” (Wu and Zhi, 2016). Since then, defining its object of study and its scope has been uneasy, because of the lack of knowledge of the concept and for it tends to be mistaken with other associated concepts such as “Gig Economy”, “Peer Economy” or “Collaborative Consumption” (Martucci, 2015). In 2013, when the Sharing Economy concept was just beginning to become popular, a survey about its meaning was conducted at the World Economic Forum held in Davos, Switzerland. The results showed that 90% of the attendees were unaware of the term, 5% related it to the barter or exchange economy, and the remaining 5% associated it with the development of business models mediated by the information and communication technologies (ICT), as well as with the rise of the use of social networks (Eckhardt and Bardhi, 2015). The key to understanding the concept of Sharing economy is to articulate the use of underutilized assets, whether they are monetized or not, with the possibility of living

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new experiences considering the ownership of the assets is not a limitation (Bardhi and Eckhardt, 2012; Wallsten, 2015). To achieve this articulation, technological platforms are required (Cohen and Sundarajan, 2017; Hawlitschek et al., 2016; Muñoz and Cohen, 2017), which allow consumer-to-consumer (C2C) interactions and temporary access to physical goods (Frenken and Schor, 2017). Besides, the Sharing Economy discourse tends towards a more sustainable world because the principle of efficiency avoids the underutilization of assets (Eckhardt and Bardhi, 2015).

Nevertheless, it has also been discussed that the Sharing Economy reinforces neoliberal capitalism due to the lack of regulation, as this leads to risks such as unfair competition, tax evasion and the development of gray and illegal markets, which become triggers of a wide variety of social conflicts between groups belonging to the formally constituted sectors and those that lack regulation, even in some cases, the sharing economy is understood as a kind of “neoliberalism on steroids” (Martin, 2016), and that is why one of the main objectives of governments in economic matters is to regulate competition. For this, a balance is required to prevent creating excessive regulations that undermine competition and avoid granting “light licenses” that do not consider critical aspects such as unequal competition, tax evasion and third-party responsibilities (Ranchordas, 2015). This work focuses on regulation because it is the most related concept to meeting target 10.3 since some form of regulation is required to guarantee equal opportunities and reduce inequality of outcomes in the sharing economy.

In the public passenger transport industry, taxi companies represent conventional competitors (Wallsten, 2015), who are affected by the entry of companies of the sharing economy sector (Zhang and Nazareth, 2018) and who they accuse of unfair competition for not adhering to the regulations stipulated for transport companies (Sánchez, 2016). The sharing economy companies represent the new competitors, who use innovative business models through technological platforms (Cai and Lo, 2020; Muñoz and Cohen, 2017), and argue they are not part of the transport sector, rather, they represent technological platforms that connect driving partners with service users (Dinero, 2020). This situation reveals that technology advances faster than the laws of the countries, which gives rise to legal loopholes that are mainly exploited by new competitors (De Haro and Torres, 2019) and that on many occasions generates economic and social conflicts, as well as outbreaks of violence (Navarro and Ortiz, 2016), for which alternatives should be sought to overcome this problem.

In this sense, Sutherland and Jarrahi (2018) presented some regulatory trends that include proposals for centralization and decentralization of digital platforms. In this regard, Barry and Caron (2015) distinguish the proactive approach, in which governments change existing regulations to encourage the growth of new industries, and the traditional approach, seeking to place new business models on equal terms and limiting the advantages agreed with existing business models. Even, Cohen and Sundarajan (2017), propose to use digital platforms as partners in the regulation of exchange, instead of perceiving these platforms as adversaries or entities that require government regulation. Accordingly, Chand (2015) proposes that the capitalist system requires novel regulatory approaches and qualifies as regrettable that much of the current discussion of regulation falls too easily into conventional business models. On the other hand, Berkowitz and Souchaud (2019) highlight the importance of joint regulation between governments and participating agents as a strategy for the consolidation of the sharing economy. Therefore, regulators assume a more proactive position to legitimize new business models (Chalmers, and Matthews, 2019).

However, Koopman (2015) highlight that to decide between adopting a proactive regulatory approach or a traditional approach, it is necessary to analyze the asymmetries of the information, and it requires to evaluate the net benefits for society since it has been shown that problems affecting social welfare have occurred in the most dynamic markets of the sharing economy (Yuniastuti et al., 2019), both positively and negatively (Gal, 2019). This situation suggests that, although

governments should allow the growth of sharing economy businesses, this should be done under appropriate regulations (Cui, and Aziz, 2019), which requires that regulators must at least strive to be neutral (Biber et al., 2017).

This study considers that adequate regulation should be oriented towards stakeholders (Cai and Choi, 2020), which in turn implies knowing their perceptions (Seidl, 2020). For this reason, this work validates some propositions derived from a conceptual model constructed from a literature review. For this, a case study applied to an emerging economy such as Colombia is presented, revealing the existing gaps between literature and practice to provide alternatives to local governments in terms of regulation for the sharing economy sector of the public passenger transport industry. The case study takes as a benchmark the relationship between conventional competitors and new competitors since they demand equal opportunities and reduction in the inequality of outcomes, which are key aspects in target 10.3 of the 2030 Agenda. For this purpose, the remainder of this paper is organized as follows. Section 2 presents a literature review including the main actors and concepts of neo-institutionalism in the sharing economy. Section 3 presents the methodology, which includes the construction of the conceptual model derived from the literature review, the formulation propositions, and the description of the case study. Section 4 shows the results of the case study. Section 5 provides the discussions and implications for private management and public management. Conclusions are presented in Section 6.

2. Literature review

Since the target 10.3 of the 2030 Agenda is approached from the perspective of the Sharing Economy, it is necessary to define its main actors and the framework of the neo-institutional economic theory based on the limited rationality of the agents that seek to satisfy their interests.

2.1. Actors in the sharing economy

According to Yaraghi and Ravi (2017) and Parente et al. (2018), the main stakeholders involved in the sharing economy are legally constituted conventional competitors, new competitors entering the industry, service providers, users, and local governments, which oversee regulating the markets. However, as this work focuses on the 10.3 target of the 2030 Agenda, the description of the agents is oriented towards traditional competitors and new competitors.

2.1.1. Conventional competitors

Parente et al. (2018) mentioned the need for more research on the different stakeholders of the sharing economy, and one of these stakeholders are the conventional competitors (legally constituted) which receive the impacts of new business models based on technological platforms (Zhang and Nazareth, 2018). For Wallsten (2015) and Rodríguez-Antón et al. (2016), the most affected industries are the hotel and taxi industries, interested in institutions being at least neutral (Barry and Caron, 2015; Koopman, 2015; Ranchordas, 2015).

The main claims of the conventional industries are oriented towards the existence of unfair competition (Theurl et al., 2015; Sánchez, 2016), which is synthesized in three aspects: 1) in most cases new service providers do not pay taxes (Falcón-Pérez and Fuentes-Perdomo, 2019; Migai et al., 2019); 2) new competitors evade some entry barriers in these markets (Pawlicz, 2019); 3) the new business models do not have clearly defined how to guarantee protection to third parties, especially consumers or users of the services (Frenken and Schor, 2017). Furthermore, if the existence of unfair competition is viewed from the neo-institutional perspective, conflict predominates instead of the stability of harmonious relations in society (Mercuro and Medema, 2006), so collective action of the agents that participate in the sector will require rules that advise individuals what they can and cannot perform,

establishing social sanctions for those who do not comply with these mandates (Commons, 1931).

These rules seek to reduce uncertainty in human interaction (North, 1990a, 1990b, 1990b), but being both formal and informal, they can translate into new conflicts. For example, conventional competitors could exert pressure towards more restrictive regulation by exercising violence against new competitors (Williamson and Winter 1996). For these reasons, traditional competitors would be interested in governments reducing inequality of outcomes, which is stated in target 10.3 of the 2030 Agenda.

2.1.2. New competitors

New competitors use innovative business models that require technological platforms to allow exchange between providers and users (Cohen and Sundarajan, 2017; Muñoz and Cohen, 2017). In this regard, Koopman (2015) question the innovative nature of these new competitors since they typically enter conventional industries such as public transportation and hospitality. Parente et al. (2018) argue the internationalization of these industries should not be studied through the concept of transactional costs because assets in the sharing economy are not rare or difficult to imitate. For instance, in the hospitality industry, the assets comprise houses or apartments, and in passenger public transport, the assets comprise vehicles. However, these new business models also imply new ways of creating and redistributing wealth which can represent meaningful solutions to persistent economic and ethical problems (Albescu and Maniu, 2017).

These competitors will demand proactive regulation (Barry and Caron, 2015) for rigorous regulation diminishes their interest in entering new markets. For this reason, it is not difficult to expect that this type of competitors will demand new regulatory approaches (Chand, 2015), such as those in association with government entities (Berkowitz and Souchaud, 2019), or even self-regulation arising from these competitors (Cohen and Sundarajan, 2017; Yaraghi and Ravi, 2017). Regarding target 10.3, these agents would demand equal opportunities from the government which conventional legally constituted competitors already have.

In summary, traditional competitors demand from the government a regulation that protects their property rights, while new competitors and service providers will strive for a proactive, or at least neutral regulation allowing them to offer their services.

2.2. Neo-institutionalism concepts in the sharing economy

The neo-institutional economic theory is appropriate for analyzing the information presented in the selected documents because in the sharing economy the agents have limited rationality (Simon, 1957), and instead of pursuing the maximization of their utility in the short term, they seek to satisfy their interests. In this sense, conventional competitors and new competitors will behave opportunistically (Williamson and Winter 1996). Furthermore, it has been discovered that neo-institutional theories are relevant to the study of the sharing economy, due to the ethical problems that arise in this sector (Hossain, 2020).

2.2.1. Institutions

North (1990a, 1990b) states that institutions are both formal and informal, and it is expected from conventional competitors to appeal to formal institutions to defend their interests since these competitors could previously have generated transaction costs, contracts, and property rights. New competitors and service providers would prefer more proactive regulation that legitimizes the new business models that they hope to develop (Brugnoni et al., 2016; Rodríguez-Antón et al., 2016; Lacey, 2017). In this sense, the sharing economy has a paradoxical nature (Acquier et al., 2017; Richardson, 2015; Schor et al., 2016; Martin, 2016), and the government faces an ethical problem (Laamanen et al., 2018; Hossain, 2020), which can be solved with three options: ignore, prohibit, or implement regulations to new business models

(Pawlicz, 2018). These regulation options will depend on the phenomenon considered and its context (Netter et al., 2019), and may include models of centralization, decentralization, and self-regulation (Kumar et al., 2018; Murillo et al., 2017; Sutherland and Jarrahi, 2018).

In the options to ignore or prohibit, new competitors and service providers will claim equal opportunities concerning conventional competitors (target 10.3). These new competitors in most cases are not legally registered and operate according to their standards (Tescasiu et al., 2018), because technological platforms emerge as a novel tool capable of building trust between the parties that perform the exchange through a decentralized structure (Chang and Chi-Ying, 2018; Hou, 2018). It means the most common mechanisms to build trust are reputation, scores, and feedback mechanisms (Einav et al., 2016). Additionally, Berg et al. (2020) mention that trust is a determining factor in the success of new competitors and providers since they can contravene existing standards as these business models receive public support, which sometimes allows them to be illegal but legitimate businesses for the users (Böcker and Meelen, 2017; Chalmers and Matthews, 2019; Frenken and Schor, 2017) due to the confidence in the operation of these platforms (Räisänen et al., 2020).

However, the acceptance of new competitors must not exclusively come from users, but also from local governments, since these companies tend to generate favorable impacts in environmental and sustainability terms (Zvolska et al., 2019). Some examples are the case of carpooling (Zhou and Park, 2021), shared housing (Lim et al., 2021), shared bicycles (Ma et al., 2018), and other activities that contribute to compliance with the 2030 Agenda (Rosato et al., 2021). If governments reveal an accurate perception of these companies, it will facilitate refinement or reformulation of current legislation (Mair and Reischauer, 2017), considering that digital platforms advance faster than laws (Muñoz and Cohen, 2017), and Governments play a role as regulators, and indeed can be users or providers of such services (Kathan et al., 2016; Hofmann et al., 2019).

On the other hand, when the government decides to implement regulations to the dynamics of the new business models, the conventional competitors will claim this new situation will generate inequality in economic outcomes (target 10.3). According to conventional competitors, this situation would generate some unfair competition (Theurl et al., 2015) because new competitors avoid paying taxes (Laurell and Sandström, 2017; Pawlicz, 2018; Hossain, 2020), licenses (Hou, 2018; Tescasiu et al., 2018) and other standards and controls of each industry (Einav et al., 2016). In this way, an institutional environment is required, consisting of formal and informal institutions, which influence a favorable institutional system to avoid inequality in the outcomes for conventional competitors or promote equal opportunities in new competitors and service providers.

2.2.2. Property rights

Mercuro and Medema (2006) state that property rights are related to the flow and distribution of benefits among the agents participating in an economic sector. In this regard, the conventional business model structures are designed to support the interests of the conventional competitors (Lacey, 2017; Hou, 2018), since the entry of new competitors would force them to share property rights (Liu and Chen, 2020), which are transferred as users use technological platforms (Sedighi and Baharmand, 2020). In this sense, property contexts are significantly different from traditional ones (Akbar and Tracogna, 2018), since property is centered on the right to exploit a resource (Ritter and Schanz, 2019), so it will be expected for new competitors to act against conventional regulations due to limitations on benefits distribution. Therefore, new competitors will demand a reduction in regulation (Pawlicz, 2018, 2019) since they will allude to the fact that this situation generates an unfair income distribution (Hossain, 2020). This constitutes an opportunity for new business models to gain a market share (Zhang and Nazareth, 2018), while legally constituted conventional competitors pressured their governments to implement protectionist

policies (Biber et al., 2017) or seek that legal loopholes do not call into question their property rights (Albergaria and Jabbour, 2020). Therefore, due to the increase in competition and supply, the prices will decrease (Haucap et al., 2017) and in this new scenario, the owners of the digital platforms will capture most earnings (Theurl et al., 2015).

Accordingly, property rights regulations would affect the flow and distribution of benefits in the industries of the sharing economy, which is why the conventional competitors will demand regulation from the government when their monopoly structure is affected, and to do so, their claims will be aimed at avoiding equality in results, whereas new competitors and service providers will invoke a decrease in regulation to have equal opportunities in the flow and distribution of profits in the industry.

2.2.3. Transaction costs

Williamson (1979) defines transaction costs as the ex-ante or ex-post costs derived from the exchange of goods and services; these, in turn, are classified into search, fix, and execution costs (Cooter and Ulen, 2016). In this sense, the sharing economy generates alternatives to reduce transaction costs (Cocola, 2016; Parente et al., 2018) because services are traded instead of goods, and transaction costs in services are generally lower (Akhmedova et al., 2020; Theurl et al., 2015; Zhang et al., 2018). Furthermore, technology platforms allow the elimination of distributors and intermediaries, reducing transaction costs considerably (Hou, 2018). This means that sharing is associated with a reduction of transaction costs (Curtis and Mont, 2020), and these costs for consumers could be related to variables other than the price, such as the convenience of the choice and the time reduction in the search process (Jin et al., 2018; Pawlicz, 2018; Xu, 2020), the reduction of uncertainty (Akbar and Tracogna, 2018), the robustness of the digital platform (Kung and Zhong, 2017), and the facilitation of payments (Gong et al., 2020).

For these reasons, new competitors and service providers will be in favor of eliminating all types of transaction costs, including regulatory costs (Biber et al., 2017), but especially tax payment made by legally constituted competitors (Einav et al., 2016; Hossain, 2020; Pawlicz, 2018) and market entry costs (Tescasiu et al., 2018; Del Mar Alonso-Almeida et al., 2020) such as operating licenses and entry quotas (Kortum, 2016; Hou, 2018; Pawlicz, 2019). Consequently, it is understandable that conventional competitors claim the protection of the government through more stringent regulations, because, for instance in the taxi sector, taxi owners must pay expensive quotas that frequently represent their life savings (Brugnoni et al., 2016). Therefore, the conventional competitors will request regulation when the entry of new competitors generates inequality in the outcomes and when the new competitors demand equality of opportunities from the government or assume opportunistic behavior (Tussyadiah and Park, 2018), which in terms of transaction costs are reflected in the elimination of tax payment and market entry costs like licenses, quotas, certificates, fees.

2.2.4. Contracts

According to Jaramillo (2015), contracts are related to the nature of the asset being traded, with its economic attributes and knowledge of the agreement. Regarding the economic attributes of the good or service, it is necessary to define the type of substitution that new competitors and providers offer compared to conventional competitors. Mhlanga (2019) argues that Airbnb could cause a negligible effect on the hotel sector, as it can appeal to a different group of customers and promote a new market. In this case, it would be an imperfect substitute, and rather it could compete and directly affect small hostels, instead of large hotels, even in suburban and rural areas it could be a complement to the hotel industry (Beghelli, 2020; Mont et al., 2020). This similar situation could occur with the UberPool service, since this is a shared passenger service, so it would be an imperfect substitute for not competing directly with taxis (Mohamed et al., 2019). In the hotel sector, renting apartments for long-term accommodation is more assimilated to a perfect substitute

(Cocola, 2016), although this fact generates a negative externality since many residents will prefer to stop living in those neighborhoods where visitor accommodation is increasing because it can jeopardize the protection of cultural heritage, and in the time of Covid-19, the spread of the virus could increase (Stabel, 2021).

With the arrival of digital platforms, employment contracts have changed, going from being formalized with traditional companies to short-term and self-employed contracts (Ganapati and Reddick, 2018; Murillo et al., 2017). Some contracts may be subscription-based, although most are commission-based (Ritter and Schanz, 2019), as in the case of sharing economy companies associated with the passenger transport industry like Uber, Didi, Indriver and Beat. In these contracts, the sharing economy companies are intermediaries between the partner drivers and the users, returning to the drivers as external contractors who do not enjoy the benefits of a worker linked to a company, which increases the risks of a labor dispute due to the fact of not having a stable contract and payments to social security (Cohen and Kietzmann, 2014; Gao and Chen, 2019).

Likewise, in the collaborative economy, users assume risks like fraud, liability, and unskilled service providers, which is why it is necessary to protect users (Ranchordas, 2015). For this, it is necessary to inform consumers on the risks and nature of peer-to-peer transactions (Yaraghi and Ravi, 2017) and to raise awareness among providers that they must generate loyalty from customers, despite high customer turnover (Kumar et al., 2018). Following the above, it is necessary to build a solid relationship of trust between providers and users (Hawlitschek et al., 2016). For instance, for many users of hospitality services, the most trust-worthy factor of the host is their photo (Elert and Henrekson, 2016), whereas other users trust in rating and reputation systems that appear on digital platforms (Frenken and Schor, 2017). Nonetheless, in the study of Berg et al. (2020), it is argued that consumers reflect a bias in the rating system since many people do not like to complain and therefore, hesitate to give negative ratings.

Another aspect related to the nature of the assets is the control of the user-provider interactions (Parente et al., 2018). A low control of these interactions will decrease the risk for new competitors and service providers of being detected by conventional competitors and governments, which will encourage their participation in the industry (Smorto, 2018; Hossain, 2020). If these interactions are detected, the risk of outbreaks of violence will increase. This can be seen in public passenger transport, especially in the competition between taxi services and gig work companies such as Uber, where taxi drivers follow suspicious cars, making them stop, and in more critical cases, assaulting drivers or passengers, or burning the vehicles of the service providers. Regarding knowledge of contracts, it is important that users carefully comprehend the responsibilities that sharing economy companies have with third parties. Users must consider these responsibilities because difficulties could arise in the event of a claim due to the illegal nature of many of these companies (Yuana et al., 2019), and in many of these companies, user protection regimes are made through self-regulation based on online rating and reputation systems, which generates uncertainty in user-provider negotiations (Berg et al., 2020). For this reason, the lack of information on the security and quality of services is considered a failure in industries of the sharing economy (Govindan et al., 2020). Only in some cases, such as in certain Chinese cities, subregional governments have allowed digital transport platforms to execute contracts for the provision of public transport services, but in many places, these activities are still considered illegal (Zou, 2017).

In general, as the substitution level of the services provided by sharing economy companies concerning the conventional companies increases, the conventional competitors will demand greater government regulation to avoid inequality in outcomes. In turn, as the control of user-provider interactions becomes greater, sharing economy companies will request greater protection to obtain equal opportunities concerning conventional competitors. Lastly, the issue of third-party protection is crucial, but it is not directly linked to target 10.3 since

this issue is oriented mainly to users and employees of sharing economy companies, which is why it is not considered in the conceptual model proposed in this study.

3. Methodology

The methodology proposed for this study is summarized in Fig. 1, highlighting the development of a conceptual model for target 10.3 of the 2030 Agenda focused on the sharing economy, validated with a case study involving conventional competitors and new competitors of the public passenger transport industry in Colombia. As a result, the proposed model establishes implications for private companies and public management.

A literature review is performed in the Scopus database using the search equation: TITLE-ABS-KEY "Sharing economy". This initial search, called Round 1, yields 2823 documents, which must be refined in accordance with the target 10.3 of the 2030 Agenda, which seeks to "Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies, and practices and promoting appropriate legislation, policies and action in this regard". As it is a subject associated with regulation, the documents obtained must be filtered following some theory or economic trend that allows the analysis of this topic in depth. For the economic theories of welfare, the technological development generated by the sharing economy companies can be conceived as an externality that alters the Pareto equilibrium. According to the Coase theorem, this externality would be eliminated by clearly defining property rights (Coase, 1981), recovering again the Pareto equilibria. However, the return to equilibrium is supported by the assumptions of the perfect competition model (gs5: Varian et al., 2010), where the passenger transport industry does not behave as such, and it is being aggravated by the participation of new competitors and service providers, and due to the legal gaps in this matter (De Haro and Torres, 2019). Due to the characteristics described, an economic theory is required that allows an accurate analysis of the sharing economy phenomenon.

Accordingly, in Section 2.2 the neo-institutional economic theory was presented. However, it is uncommon that in the documents of the sharing economy the key concepts of neo-institutionalism appear explicit. For this reason, Table 1 presents the central concepts of neo-institutionalism used to filter the documents obtained in Round 1.

Table 2 presents Round 2 that refines the results obtained in Round 1, which includes the concepts, the search equations, and the number of documents resulting from involving the concepts in Table 1.

In Round 3, the documents obtained in Round 2 are filtered to avoid repeated documents, detecting 20 repeated documents among the different concepts of neo-institutionalism, then obtaining 200 documents. Finally, in Round 4, the 200 documents are analyzed in depth, excluding documents focusing on issues other than regulation like blockchain, marketing, the study of base communities, among others, thus obtaining 69 definitive documents. Table 3 presents the documents obtained in Round 4, highlighting that several documents contribute to two or more concepts used for the construction of the conceptual model. Consequently, documents from Round 4 are used for the construction of a framework for the concepts of Institutions, Property Rights, Transaction Costs, and Contracts, which were presented in section 2.2.

3.1. Conceptual model and propositions

Based on the economic concepts analyzed in documents from Table 3, the conceptual model of sharing economy and target 10.3 is

Table 1

Central concepts from the neo-institutional economic theory.

Concepts	Authors supporting the criteria
Institutions	(Commons, 1931; Williamson, 1979; North, 1990a, 1990b, 1990b; Williamson and Winter 1996; Coase, 2000)
Property rights	
Transaction costs	
Contracts	

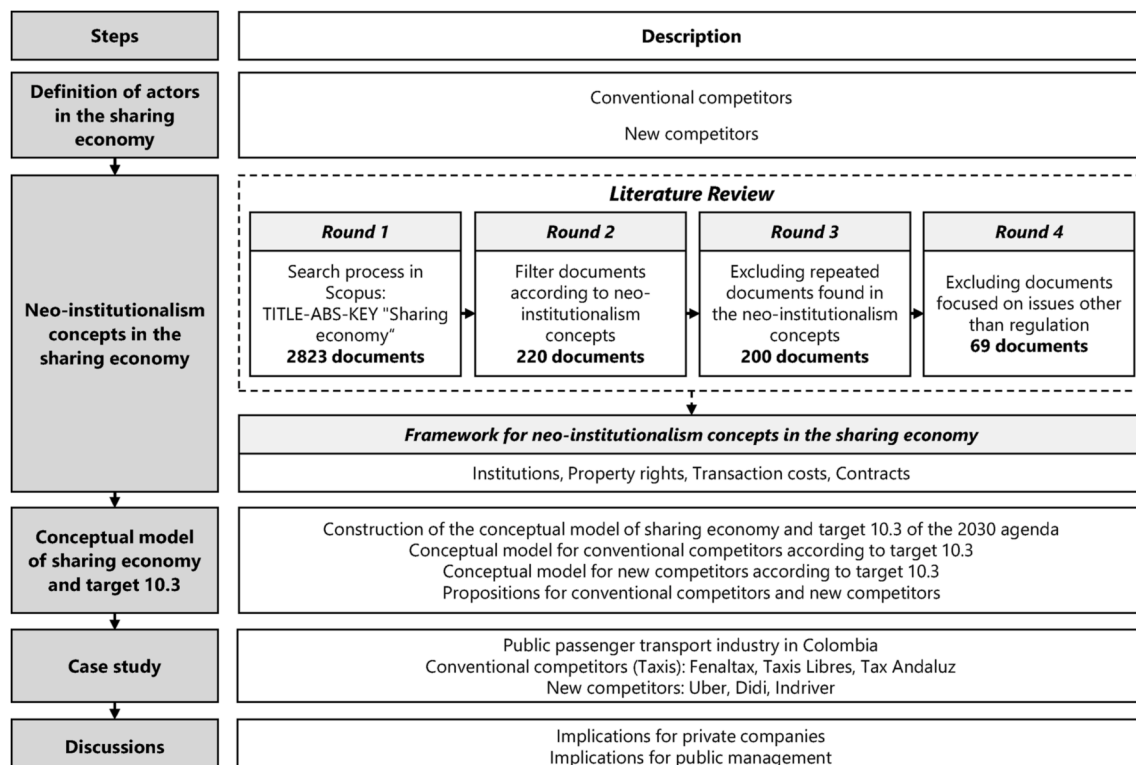


Fig. 1. Methodology for the analysis of the sharing economy and target 10.3 of the 2030 Agenda.

Table 2
Main concepts of sharing economy and the neo-institutionalism.

Concept	Equation	Documents
Institutions	(TITLE-ABS-KEY ("Sharing economy") AND TITLE-ABS-KEY ("Institutions"))	87
Property rights	(TITLE-ABS-KEY ("Sharing economy") AND TITLE-ABS-KEY ("Property rights"))	14
Transaction costs	(TITLE-ABS-KEY ("Sharing economy") AND TITLE-ABS-KEY ("Transaction* cost*"))	32
Contracts	(TITLE-ABS-KEY ("Sharing economy") AND TITLE-ABS-KEY ("Contracts"))	87
Total documents		220

Table 3
Documents for a framework for neo-institutionalism concepts in the sharing economy.

Concept	Authors
Institutions	(Acquier et al., 2017; Berg et al., 2020; Böcker and Meelen, 2017; Brugnoni et al., 2016; Chalmers and Matthews, 2019; Chang and Chi-Ying, 2018; Einav et al., 2016; Frenken and Schor, 2017; Hofmann et al., 2019; Hossain, 2020; Hou, 2018; Kathan et al., 2016; Kumar et al., 2018; Lacey, 2017; Laurell and Sandström, 2017; Lim et al., 2021; Ma et al., 2018; Mair and Reischauer, 2017; Martin, 2016; Muñoz and Cohen, 2017; Murillo et al., 2017; Netter et al., 2019; Pawlicz, 2018; Theurl et al., 2015; Räisänen et al., 2020; Richardson, 2015; Rodríguez-Antón et al., 2016; Rosato et al., 2021; Schor et al., 2016; Sutherland and Jarrahi, 2018; Tescasiu et al., 2018; Zhou and Park, 2021; Zvolška et al., 2019)
Property rights	(Akbar and Tracogna, 2018; Albergaria and Jabbour, 2020; Biber et al., 2017; Hossain, 2020; Hou, 2018; Haucap, 2017; Lacey, 2017; Liu and Chen, 2020; Pawlicz, 2018, 2019; Ritter and Schanz, 2019; Seddighi and Baharmand, 2020; Theurl et al., 2015; Zhang and Nazareth, 2018)
Transaction costs	(Akbar and Tracogna, 2018; Akhmedova et al., 2020; Biber et al., 2017; Brugnoni et al., 2016; Cocola, 2016; Cooter and Ulen, 2016; Del Mar Alonso-Almeida et al., 2020; Einav et al., 2016; Gong et al., 2020; Hossain, 2020; Hou, 2018; Jin et al., 2018; Kortum, 2016; Kung and Zhong, 2017; Parente et al., 2018; Pawlicz, 2018, 2019; Theurl et al., 2015; Tussyadiah and Park, 2018; Xu, 2020; Zhang et al., 2018)
Contracts	(Beghelli, 2020; Berg et al., 2020; Cocola, 2016; Cohen and Kietzmann, 2014; Elert and Henrekson, 2016; Frenken and Schor, 2017; Ganapati and Reddick, 2018; Gao and Chen, 2019; Hawlitschek et al., 2016; Hossain, 2020; Mhlanga, 2019; Mohamed et al., 2019; Murillo et al., 2017; Mont et al., 2020; Parente et al., 2018; Ranchordas, 2015; Ritter and Schanz, 2019; Smorto, 2018; Stahel, 2021; Yaraghi and Ravi, 2017; Yuana et al., 2019; Zou, 2017)

presented in Fig. 2.

Fig. 2 indicates that the agents participating in the sharing economy associated with target 10.3 (conventional competitors, new competitors, and service providers) require an institutional milieu, which is influenced by formal and informal institutions, that is to say, by a series of tacit and implicit laws, policies and business rules derived from the interaction between the agents. This institutional environment is mainly regulated by economic concepts such as property rights that affect the flow and distribution of benefits of those who make up the industry, transaction costs represented in the tax payment and different market entry costs (licenses, fees, certificates, quotas), and contracts that must establish the degree of substitution (effective substitutes, imperfect substitutes) offered by competitors, and determine the degree of control of user-provider interactions.

Although the participating agents have limited rationality (Simon, 1957), they will pursue their interests and will present an opportunistic behavior (Williamson and Winter 1996), which in the case of the conventional competitors will be reflected in the demand for government regulation to reduce inequality in economic outcomes, as a result of the entry of new competitors, and in the case of new competitors and service

providers, they will demand government regulation associated with obtaining at least equality of opportunities against the conventional competitors.

The conceptual model presented in Fig. 2 serves as the basis for building the specific model for both traditional competitors (Fig. 3) and new competitors (Fig. 4). As a result of the entry of new competitors belonging to the sharing economy, Fig. 3 indicates a traditional regulatory approach would help reduce income inequalities for traditional competitors. Otherwise, Fig. 4 indicates a proactive regulatory approach would contribute to generate equality of income opportunities for new competitors of the sharing economy.

Based on the conceptual models presented in Figs. 2, Figs. 3 and 4 derived from the literature review, several propositions are formulated and then will be validated through a case study.

3.1.1. Propositions for conventional competitors

Considering a traditional regulatory approach tends to benefit conventional competitors, the following propositions are established:

Proposition 1A. *Conventional competitors consider a traditional regulatory approach to property rights reduces inequalities in results.*

Proposition 1B. *Conventional competitors consider a traditional regulatory approach to entry barriers, licensing, fees, and taxes reduces inequalities in results.*

Proposition 1C. *Conventional competitors consider a traditional regulatory approach based on the control of the substitute services reduces inequalities in results.*

Proposition 1D. *Conventional competitors consider a traditional regulatory approach based on high user control reduces inequalities in results.*

3.1.2. Propositions for new competitors

Considering a proactive regulatory approach usually benefits new competitors of the sharing economy, the following propositions are established:

Proposition 2A. *New competitors consider a proactive regulatory approach to property rights guarantees equal opportunity.*

Proposition 2B. *New competitors consider a proactive regulatory approach to entry barriers, licensing, fees, and taxes guarantees equal opportunity.*

Proposition 2C. *New competitors consider a proactive regulatory approach based on the provision of substitute services guarantees equal opportunities.*

Proposition 2D. *New competitors consider a proactive regulatory approach that eliminates user control guarantees equal opportunities.*

3.2. Case study in Colombia for the public passenger transport industry

According to Yin (2013), case studies are valuable for research when the phenomenon is not clear, either because it has not been widely studied or because there is a lack of data to carry out robust research. Consequently, since in many economies the regulation of the sharing economy sector is still being debated, and there is not abundant data on this subject (Fajar, 2020), the case study is considered a pertinent method for the purposes of this work.

To validate the propositions of this study, a sector of the sharing economy is chosen following the relevance criterion, establishing the most relevant sectors are those that have more information, such as the hospitality and public passenger transport industries (Wallsten, 2015). Regarding propositions 1C and 2C, some studies have shown Airbnb represents an indirect competition of hotels in the hospitality industry (Beghelli, 2020), and in suburban areas it becomes a complement to the hotel industry (Mont et al., 2020). Likewise, in this sector user control becomes more difficult due to the considerable number of people who

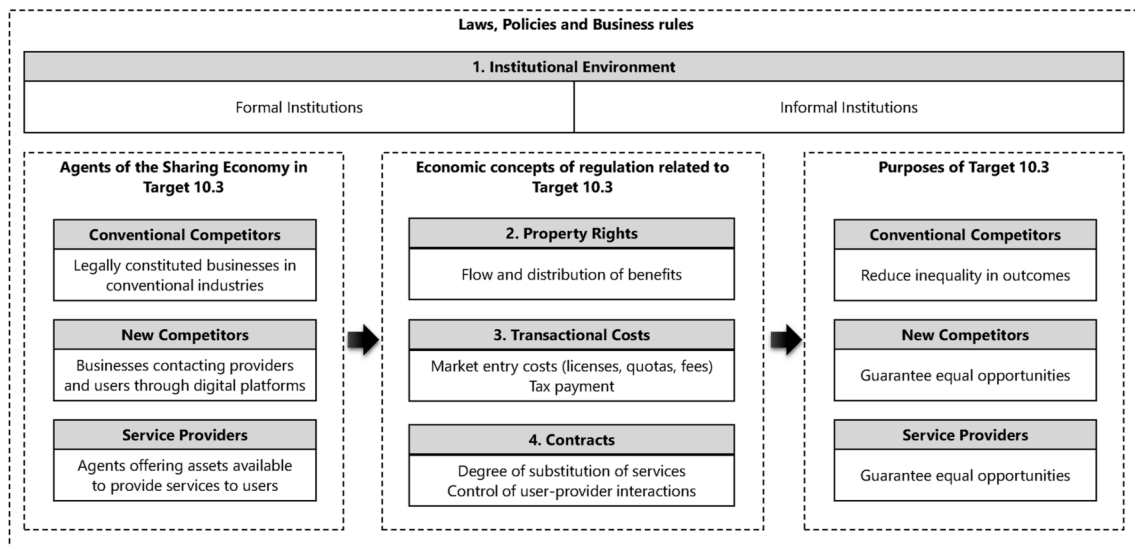


Fig. 2. Conceptual model of sharing economy and target 10.3 of the 2030 Agenda.

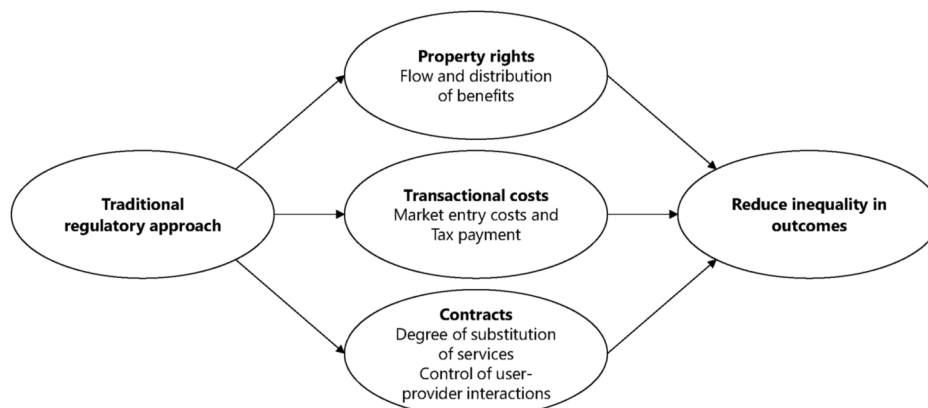


Fig. 3. Conceptual model for conventional competitors according to target 10.3.

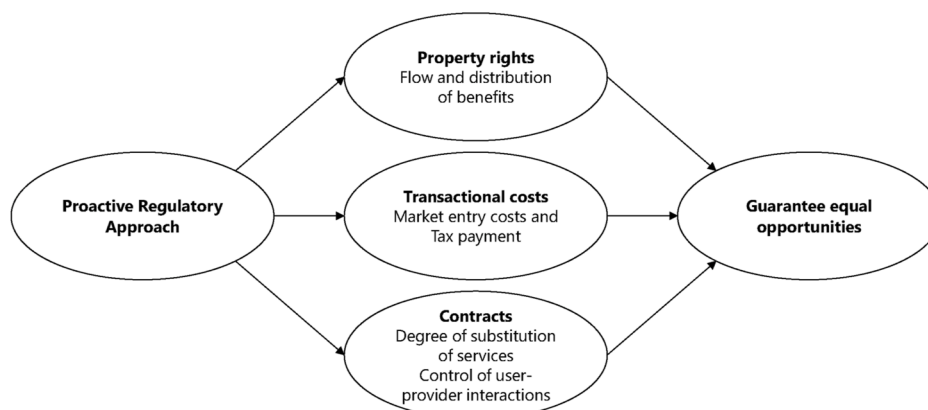


Fig. 4. Conceptual model for new competitors and service providers according to target 10.3.

offer accommodation in a city (Hossain, 2020). Therefore, it is decided to focus the case study to the public passenger transport sector.

The case study is performed at the country level, selecting countries with a current conflict between traditional competitors and new competitors to analyze the target 10.3 of the 2030 Agenda. Countries like China and Russia are not relevant for the analysis because the

competition that Uber maintained with local companies ended when Didi Chuxing in China and Yantex in Russia bought Uber's market share in these countries (Yu et al., 2017), generating monopolies that are far from the purposes of this work. Likewise, the United States is not a suitable country for this study because legislations may vary from state to state, then some legislations can be protective and some more liberal

(De la Calle-Vaquero et al., 2021), preventing a uniform study at the country level.

In some countries like the Netherlands, France, Finland, and Italy, sharing economy companies in the public passenger transport industry have been prohibited, due to conflicts with labor regulations. In other countries like Costa Rica, England, Hungary, and Germany, incompatibility with local regulations has been found, and in countries like Bulgaria, the Czech Republic, and Colombia unfair competition has been argued (La República, 2020), which is related to the approach of the 10.3 target of the 2030 Agenda.

In fact, in the case of Colombia, a free taxi company sued Uber and related operators in December 2019 for unfair competition, which forced these companies to abandon the market on January 31, 2020. However, a reform in the linkage model allowed Uber and other operators of the sharing economy to become service providers, for which they returned to operate in the country from February 2020 (Dinero, 2020), causing in response the filing of bills in the Colombian Congress to regulate this sector (Semana, 2020). This indicates the debate of new competitors still prevails and that the interests of both conventional competitors (taxi companies) and new competitors (digital platforms) must be considered to implement a successful national policy (Seidl, 2020). Therefore, Colombia represents a relevant country to perform the case study because it is an emerging economy where the debate for the regulation of the sharing economy in the public passenger transport sector is ongoing (conflict between traditional competitors and new competitors).

3.2.1. Description of the case study

Colombia is an emerging economy located in the north of South America. In the public passenger sector, it has 211,000 taxis and about 90% of taxis are driven and managed by the owners (La República, 2021). To join a taxi company, taxi owners must pay a quota that ranges between US\$15,000 and US\$30,000, which constitutes an entry barrier, keeping this market away from perfect competition. Additionally, taxi owners must pay state taxes and administrative expenses of taxi companies. For the purposes of this study, these agents are considered traditional competitors.

On the other hand, digital transport platforms initiated their operation in the country in 2013 with the arrival of Uber, later in 2015 Cabify entered, then in 2018 Beat arrived, and in 2019 InDriver and Didi arrived. On its websites, Uber reports 88,000 driving partners in Colombia, Didi 100,000, InDriver 88,000, Cabify and Beat 50,000. However, it is challenging to establish with precision the aggregate number of driver-partners operating with these digital platforms, as well as the number of users, however, it is estimated that 330,000 users operate these platforms daily in Colombia. For the purposes of this study, these agents are considered as the new competitors.

In Colombia, Law 336 of 1996 and Law 769 of 2002 regulate public passenger transport, and although these laws have been updated, they have not fully included the regulation of digital transport platforms, creating legal pitfalls, fostering conflicts between taxi drivers and driving partners of digital platforms, sometimes generating outbreaks of violence (Navarro and Ortiz, 2016). In December 2019, a free taxi company resorted to Law 256 of 1996 on unfair competition to sue Uber, accusing it of unfair competition. The lawsuit prospered and the Superintendency of Industry and Commerce forced Uber to abandon the country on January 31, 2020. However, Uber appealed the decision arguing a transformation in its business model, going from being an App or technological intermediation that connected drivers with users, to be an App that works as a solution for users to contact third parties who rent their vehicle with a driver. For this reason, the Superior Court of Bogotá allowed Uber to return to Colombia in February 2020.

As the laws that regulate transportation in Colombia are outdated, different congressmen and political groups have presented proposals to solve this debate. On the one hand, the Centro Democrático political party seeks to discourage the presence of digital platforms in the

country, through the obligation to register them as a public service. In this way, the new competitors would have to become taxi companies, but they would only have the right to cover 10% of the market and would have to pay a tax of 10% of their income. The Polo Democrático political party proposes to impose a regulation to the platforms equal to that of taxis and a maximum intermediation rate of 5% since this rate is currently variable and higher than 25% in some operators. Finally, the proposal of the Colombia Justa Libres political party, which received advice from the University of La Sabana, authorizes the service through technological platforms, as well as dismantling the quota system in taxis, besides creating a fund of mandatory contributions to transport. In this sense, a bill was derived establishing a compensation fund for taxi quota owners, financed by 1% of the incomes from technological platforms (Semana, 2020).

A convenience sampling was used for this case study, selecting companies according to their size, market share and relevance in the sector. For conventional companies, Fenaltax, Taxis Libres, and Tax Andaluz are selected. Fenaltax represents a union that includes the main taxi drivers unions; Taxis Libres is the largest taxi company in Colombia, and Tax Andaluz belongs to the top of the five companies with the largest number of affiliated drivers. For the sharing economy companies, Uber, Didi, and InDriver were selected because they represent the ones with a presence in this country.

A semi-structured interview (see Table 4) was given to the management or public relations staff of taxi companies and companies of the sharing economy sector. The survey presents a specific component (questions 1, 2, 3, 4, 5) aimed at validating the proposals presented in Section 2.3 and a general component (questions 6, 7, 8) inquiring about aspects associated with technology, Covid-19 management, and sustainability. The questions from the interviews were analyzed with the ATLAS.ti software.

4. Results

This section presents the analysis of the survey responses for the case

Table 4
Survey for conventional competitors and new competitors in the passenger transport sector.

Concepts	Questions	
	Conventional competitors	New competitors
Property rights	1. Do you consider that the entry of competitors like Uber, Didi, InDriver, to the public passenger transport sector affects the income of taxi owners? (Yes/No) Please explain why	
Transaction costs	2. Do you think that governments should impose restrictions like fees, licenses, and taxes on the entry of competitors like Uber, Didi, InDriver? (Yes/No) Please explain why	
Contracts	3. Should the regulations of the public passenger transport sector guarantee that competitors like Uber, Didi, InDriver, do not provide the same services that taxis provide? (Yes/No) Please explain why	
Contracts	4. Do you think that governments should establish more considerable controls on users of platforms like Uber, Didi, InDriver? (Yes/No) Please explain why	
Regulations	5. Do you think that government regulations could help to reduce the inequalities generated by the entry of new competitors to the public passenger transport sector? (Yes/No) Please explain why	5. Do you think that government regulations could help to provide equal opportunities for new competitors in relation to traditional providers of public passenger transport (taxis)? (Yes/No) Please explain why
Technology	6. What technology platforms do you use in your company to provide a better service to users?	
Covid-19	7. What measures has the company implemented to prevent the spread of Covid-19?	
Sustainability	8. What policies, plans or programs has the company implemented to make the transportation service friendly to the environment?	

study, separating the information by conventional competitors and new competitors.

4.1. Conventional competitors

Based on the responses obtained by the taxi companies, a summary of the responses to the specific questions is presented, in which unified criteria were found. Taxi companies state that the entry of sharing economy companies like Uber, Didi, Indriver, Bea, etc, affects the income of taxi drivers by disproportionately increasing the offer of individual passenger transport. In the same way, they consider the national government should impose restrictions like quotas, licenses, and taxes on the income of said companies to equalize the operating conditions of taxis with said platforms; if not, they consider competition is very uneven. Taxi companies agree to the government banning digital platforms that offer services that compete directly with taxi companies because according to current regulations, the public service of individual passenger transport can exclusively be provided by taxis. Therefore, allowing these platforms to provide the same service could be equivalent to legalizing illegal money collectors (pyramid companies), since what is not under the framework of the law is considered illegal. Additionally, companies consider governments should not impose restrictions on users, since control should be directed to the service provider and not to the user. The violation of the law is carried out by whoever provides a service illegally.

According to the responses obtained from conventional competitors (taxi companies), the questions that support [propositions 1A, 1B, and 1C](#) were answered in the affirmative, indicating that these companies demand traditional and restrictive regulation from the government, validating what is expressed in theory. However, in [Proposition 1D](#) the answer was negative, indicating these companies do not consider the restrictions should be imposed on users, but on digital platforms (new competitors). This last proposition contradicts what was found in the theory, where it is stated that traditional competitors would demand more extensive control of users from the government.

Regarding the general questions of technology, Covid-19, and sustainability, the answers discriminated by each taxi company are presented as follows:

Fenaltax promotes the technological transformation of taxi drivers in Colombia, for which it disseminates among its associates the use of the app for public passenger transport services, enabling options for the selection of the driver, the route, and payment means. Likewise, this union continuously disseminates among its associates and through its social networks the biosafety and self-care protocols to prevent the spread of Covid-19. Because Fenaltax represents a union with political representation, a bill was drafted and presented to the Congress of the Republic of Colombia aimed at ensuring compliance with the sector's environmental sustainability goals, which will imply a gradual shift towards vehicles with cleaner emissions.

Taxis Libres has been oriented towards the technological update and the improvement of taxi services. They have replaced the traditional taximeters to record the price of the service through mobile apps. Consequently, the company has its own app where users can make reservations, pay for services with vouchers, cards, or cash. In addition, the vehicles include all the documentation required by law related to preventive maintenance and technical/mechanical certification which provides security to the passenger. For the containment of Covid-19, the company complies with all biosafety protocols and even provides talks and training to all staff. In 2020, the company has delivered nearly one million facemasks to company-affiliated drivers and installed an internal protective panel on 5000 company taxis to mitigate the effects of the virus. The company cares about the environment and therefore monitors vehicle gas checks and has also begun to include modern low-emission vehicles in its fleet.

Tax Andaluz has its own mobile application and also meets the requirements of its stakeholders through WhatsApp BOT and its own app.

Regarding the containment of Covid-19, the company claims to comply with all the requirements of the competent authorities. In terms of sustainability, they are executing a program to replace gasoline-powered vehicles with electric vehicles, supported by the municipal administration of the city of Medellín and Empresas Públicas de Medellín (industrial and commercial company owned by the municipality of Medellín).

4.2. New competitors

The following is the analysis of the information of the new competitors: Uber, Didi, Indriver. These companies consider that to generate equal opportunities, regulations focused on innovations are required instead of limiting or prohibiting technologies. For this reason, these companies request the government to regulate digital platforms in Colombia as soon as possible. Likewise, they declare that they are not considered as a transport or taxi company, but rather a computer and technology service that provides information to users so that drivers and passengers can agree on the provision of the service. Therefore, in the case study carried out on the sharing economy companies, the questions that support [propositions 2A, 2B, 2C, and 2D](#) were answered in the negative, indicating that these companies demand from the government a more proactive regulation, which is consistent with the literature.

Regarding the general questions of technology, Covid-19, and sustainability, the answers discriminated by each sharing economy company are presented as follows:

Uber has its own app, which includes a series of features that improve the safety of users and drivers, through options that allow sharing the trip in real-time, therefore, family and friends can track the route in real-time, and users can use the emergency assistance button. To prevent the spread of Covid-19, both lessees (users) and lessors (drivers) must wear face masks. In terms of sustainability, the use of electronic or low-emission cars is not mandatory, but the company proposes that by 2040 all driving partners should drive zero-emission vehicles. Additionally, some of the premium services use more modern low-emission vehicles and electric scooters allow users to move around cities easily.

Didi also has its own app, which contains security functions that allow facial recognition, user registration with selfies, emergency button, member and user unlinking, as well as allowing sharing the route with family and friends. Additionally, as a security measure to reduce the health emergency generated by Covid-19, both drivers and users must wear a mask, and there is also the option of canceling services due to non-compliance with biosecurity measures. Didi sent a letter to the national government making their app available to generate epidemiological fences and disable services in areas declared as high risk of contagion. In terms of sustainability, Didi launched the D1, an electric car designed from artificial intelligence for mobility through the platform.

Indriver has an app that allows the user to offer the fee, select the most appropriate fee, select the vehicle and the arrival time. The app allows the sharing of travel information and current location, which contributes to improving user safety. Although a sustainability policy is not clearly defined, the vehicles of the driving partners must have been manufactured from the year 2008 and comply with all the technical certification required by local legislation, which contributes to preserve the environment. To prevent the spread of Covid-19, the company establishes a series of rules and recommendations for passengers and drivers, the latter aimed at disinfecting the car for the provision of services.

5. Discussions

The sharing economy companies of the public passenger transport industry experienced periods of intense competition with local suppliers in economies like China and Russia ([Tybout, 2017](#)). In China, Uber's market share was bought by Didi Chuxing, which was preceded by a

tightening of regulation in this country to protect traditional taxi companies (Yu et al., 2017). In Russia, Yantex bought Uber's market share, originating monopolies both in China and Russia in the sharing economy companies (Shen, 2020). In the United States, the sharing economy passenger transport companies are regulated in accordance with the regulations of each state. For example, in New York, the laws regulate the maximum number of drivers in companies like Uber and Didi and ensure the safety of service users (Yu et al., 2017). In California, a recent law requires companies in the sharing economy sector to hire their drivers as employees (La República, 2021a). In the state of Pennsylvania, it is suggested that legislation on this issue be formulated in clear and unequivocal language so that the laws better express the problem and avoid erroneous compensation among the agents that participate in the market (Morris, 2020).

This indicates legislation cannot depend solely on political power, but rather requires the perceptions of the agents participating in this sector to grasp the problem holistically, involving traditional competitors, users, suppliers, and new competitors (Seidl, 2020). This study focused on traditional and new competitors, as they represent the best compliance with the target 10.3 of the 2030 Agenda. The country-level represents the unit of analysis for this study and an emerging economy such as Colombia was selected because in this country the debate on regulation in the sharing economy sector in public passenger transport remains current and has not been resolved. In addition, in Colombia, the demands for regulation by traditional competitors (taxi companies) focus on the issue of unfair competition that they consider is being performed by new competitors (digital platforms), which is linked to the purposes of the target 10.3 of the 2030 Agenda, which gives relevance to this study.

As the problems generated in the sharing economy are associated with a regulatory issue, the analyzes from the perspective of the neo-institutional economy are completely valid. Most of the works that take elements of the neo-institutional economy have focused on the transaction costs concept. In this regard, Parente et al. (2018), argue that the internationalization of sharing economy industries should not be addressed through this concept, since assets are not rare or difficult to imitate and because these assets comprise houses or apartments in the hospitality industry and vehicles in the public transport industry. Other authors mention that the sharing economy allows the elimination of distributors and intermediaries by utilizing technological platforms, therefore helping to reduce transaction costs (Hou, 2018) and regulatory costs (Biber et al., 2017). On the other hand, some authors do not mention the concept of transaction costs, but rather study some of its components such as entry costs and licenses (Kortum, 2016; Tescasiu et al., 2018; Pawlicz, 2019), and the payment of taxes (Einav et al., 2016; Pawlicz, 2018; Hossain, 2020).

5.1. Implications for private companies

This case study shows that the increase in competition in the public passenger transport sector, because of the entry of digital platforms like Uber, Didi, Indriver, Cabify and Beat, among others, encouraged a technological update in companies of taxis. This is verified with the taxi companies considered in this case study, which provide their own app to request taxi services, and when reviewing the websites of other taxi companies, this consistent trend is noted. Similarly, another of the challenges facing the public passenger transport sector in Colombia is that of cleaner production. In the medium term, it seems that it is easier for digital platforms (new competitors) to comply with this requirement because taxi drivers (conventional competitors) must bear the costs of a quota system that limits the resources that could be used for environmental commitments.

It is highlighted that in companies of the sharing economy like Uber, sustainability represents one of the essential concepts of their vision since by 2040 they aim to include 100% of driving partners using zero-emission vehicles. Likewise, the Beat company announces the inclusion

of Tesla electric vehicles in its fleet of vehicles, the purpose of which is to establish itself as an environmentally friendly company. One of the main challenges facing the companies of the sharing economy in Colombia is related to ensuring the safety of passengers. For this purpose, they have begun including new functionalities in their apps, linked to sharing the data of the driver, vehicle, current location, and tour with family and friends. This situation is less worrisome in taxis because they are affiliated with taxi companies, which have extensive records of the vehicle and the driver. Even in the event of an accident, the insurance paid by them covers users, and for this reason, taxi companies currently offer greater guarantees in third party liability compared to the sharing economy companies. Regarding the management of Covid 19, the case study shows that both taxi companies and sharing economy platforms comply with biosafety protocols and, until the entire population has been vaccinated, the use of the face mask will remain mandatory.

5.2. Implications for public management

The advancement of digital platforms and applications generated an externality in the public passenger transport sector in Colombia. For theories of welfare economics, this represents a departure from Pareto equilibria. However, this market does not behave as a market with perfect competition, which is one of the assumptions that support these theories. The reason is that the taxi sector in Colombia presents an entry barrier represented by the payment of quotas to join a taxi company. The above is understood as a sunk cost that is typical of imperfectly competitive markets. According to the Coase theorem (Coase, 1981), which states that externalities are corrected by defining property rights, this would not generate a return to Paretian equilibria since it is a market of imperfect competition. However, defining property rights would help to overcome the existing legal pitfall. In this way, companies in the sharing economy sector would be prevented from taking advantage of this situation to generate a context of unbalanced competition.

Likewise, it is recommended the government continue to encourage the implementation of cleaner technologies for the public passenger transport sector through the reduction of taxes associated with electric and hybrid vehicles, reduction of taxes to taxi companies using clean technologies to encourage the technological reconversion, which should cause a decrease in quotas and administrative costs for taxi owners. Based on the results of this study, it is proposed to promote legislative proposals in the passenger transport sector in Colombia to regulate competition, to expand the offer to users, encourage the development and use of technological applications, and strive for cleaner emissions.

It is important to mention some of the technological platforms operating in Colombia allow the linking of services for taxis, such as the case of Didi and Indriver, which can generate conflicts with the way in which taxi companies provide services, and for this reason, it is necessary to recognize similar experiences in other countries. In this regard, in countries like Australia, both passenger transport systems coexist and for this, the costs of taxi licenses had to be intervened. In Mexico, these legal platforms must pay 1.5% of each trip to compensate taxi drivers. In Germany, these platforms are prohibited for most cities, except for Munich and Berlin. In the United Kingdom, digital platforms are authorized temporary and must be renewed every 15 months if they comply with the established requirements (Semana, 2020).

In the case of Colombia, three legislative proposals were presented to the Congress of this country. Two of these proposals are aimed at protecting taxi companies and were presented by the Centro Democrático party (Center-right oriented) and by the Polo Democrático party (Center-left oriented), which causes curiosity as they are ideologically opposed political parties. However, this support could be associated with political interests since the taxi drivers union in Colombia provides a significant political representation and contributes to a considerable number of voters. The third proposal that provided by the Colombia Justa Libres party presents a more academic component. In fact, this proposal considered the advice of the Universidad de la Sabana, based in

Bogotá Colombia. This proposal includes the issue of compensation, which in addition to be addressed in the economic theories of well-being (Varian et al., 2010), constitutes a tool for new competitors to compensate conventional competitors for the imbalances generated. This proposal proposes the collection of a tax equivalent to 1% of the income to create a compensation fund for the owners of the taxis, contributing to the reduction of market asymmetries.

According to Seidl (2020), an updated policy of the sharing economy companies must collect the opinions of the actors. In this case, the opinions of taxi companies and digital platforms must be heard, since the former demand traditional regulation to mitigate inequality in results, while the latter demand more proactive regulations that guarantee equal opportunities as described by the target 10.3 of the 2030 Agenda, on which this work was based. Only in this way would governments be capable to analyze regulatory activity issues holistically and consider issues that were not included in traditional regulation like competition objectives, consumer welfare, the welfare of independent drivers, and the environment (Yu et al., 2017).

6. Conclusions

This work took as reference the target 10.3 of the 2030 Agenda, which aims to “Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard”. To analyze the economic implications of this target, a case study was performed in an emerging economy like Colombia to identify the remaining gaps between literature and practice and provide alternatives to local governments regarding the regulation of sharing economy companies in the transportation industry of passengers. The justification for selecting the country was that in Colombia the debate on the regulation of this sector is still ongoing, so the tension generated between taxi companies and the sharing economy companies has not yet been overcome.

The taxi companies analyzed in the study believe that a traditional regulatory approach that protects property rights, imposes entry barriers, and ensures new competitors pay taxes, reduce inequality of results, and eliminate unfair competition. These results validate compliance with propositions 1A, 1B and 1C, while Proposition 1D is not validated, indicating taxi companies do not consider that users should be persecuted but rather sharing economy companies for failing to comply with the law. The sharing economy companies believe that to promote competition, a proactive regulatory approach must be followed to update legislation and include the disruptive impact of digital platforms, remove entry barriers, and reduce overpayment of taxes. In this way, equal opportunities would be guaranteed, and the proposals established for the sharing economy industry (2A, 2B, 2C, 2D) coincide with the literature.

The case study validates both for taxi companies and for digital platforms other issues such as compliance with biosafety protocols to prevent the spread of covid-19, the use of technological applications, and short and medium sustainability objectives focused on cleaner production or fewer emissions. It will be easier for sharing economy companies to achieve environmental goals, while taxi owners will achieve long-term goals as entry barriers are removed, releasing resources to invest in environmental goals.

This case study for Colombia cannot be generalized to all countries, since it is influenced by aspects like the types of regulation (soft, moderate, strong) and the structure of the markets. Future studies may be aimed at validating hypotheses derived from the proposals presented in this study, but they should be extended to more representative samples that include a significant number of conventional companies, new competitors, taxi drivers, and driving partners of the sharing economy companies. These validations could be performed using PLS-SEM, specifying the places (developed or developing countries), application scales (country, region, sub-region, city), and the industries in which the

studies will focus, from which the hospitality and public transport industries are recommended to address as they present the most information available.

Author Contribution

Abraham Londoño: Conceptualization, Methodology, Investigation. Jose Alejandro Cano: Data curation, Writing – original draft, Visualization, Supervision, Writing – review & editing.

CRediT authorship contribution statement

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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