
Tesis doctoral

*Impacte dels Objectius de
Desenvolupament Sostenibles
en la mobilitat compartida
La perspectiva de l'usuari i de l'empresa*

Andrei Boar Boar



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Impacte dels Objectius de Desenvolupament Sostenibles en la mobilitat compartida

La perspectiva de l'usuari i de l'empresa

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Si hi ha alguna cita que et sembli rellevant, és un bon moment per posar-la, i és molt estètic.

M. T. B.

Resum executiu

L'economia col·laborativa ha arribat als 100 milions d'usuaris només als Estats Units. La preocupació per la sostenibilitat així com l'estalvi originat per la reducció del consum en són els factors claus. Consum col·laboratiu, mobilitat compartida, *gig economy* o economia de plataforma són alguns models de negoci que es troben sota el paraigües de l'economia col·laborativa.

Per tal d'avançar en el creixement de l'economia col·laborativa amb un clar enfocament sostenible, trobem en els Objectius de Desenvolupament Sostenible (ODS) una perfecta guia amb 169 metes a complir de cara a l'any 2030. Ara bé, el seu caràcter nacional fa que la seva aplicació per empreses i usuaris sigui tot un repte.

En aquest context, aquesta tesi doctoral té com a objectiu estudiar quins són els efectes de les pràctiques relacionades amb els ODS en el consumidor de la mobilitat compartida. A través d'un compendi de tres articles acadèmics, aquesta tesi vol omplir l'esclatxa detectada en la literatura en la investigació del consumidor i els ODS, però també servir de guia de millora per a les empreses de mobilitat permetent adaptar-se a la sostenibilitat.

En el primer article, es realitza una revisió sistemàtica de la literatura on s'analitza l'efecte de l'economia col·laborativa en la sostenibilitat i els ODS. Es detecta que l'economia col·laborativa té un efecte positiu en la dimensió econòmica dels ODS però tracta només de forma residual la seva vessant ambiental. A més, tot i que s'ha estudiat llargament l'efecte de la mobilitat compartida en la sostenibilitat, no està estudiat l'efecte que els ODS generen en el consumidor.

Arrel de l'esclatxa detectada, en el segon article es realitza un model d'equacions estructurals basat en la teoria del recursos i l'avantatge competitiu que detecta la qualitat percebuda i la sostenibilitat com a factors antecedents de la fidelització del consumidor. Els resultats indiquen que la implementació de les pràctiques relacionades amb els ODS no tenen un efecte directe en la fidelització, sinó que es troba un efecte mediador entre les pràctiques relacionades amb els ODS, la qualitat percebuda i finalment, la fidelització del consumidor.

Per últim, per tal que les pràctiques d'ODS tinguin un efecte en el consumidor, li han de ser comunicades. El tercer article conclou que el procés de selecció, mesura i comunicació dels ODS és actualment deficient, subjectiu i sense comparabilitat entre empreses del mateix sector, el que no promou una millora de la fidelització a partir de les pràctiques d'ODS.

De forma general, aquesta tesi contribueix a la literatura en relació a les pràctiques d'ODS i mobilitat compartida, consolidant coneixements previs relacionats amb la Responsabilitat Social Corporativa i aportant nova informació sobre l'efecte mediador de la sostenibilitat i la qualitat percebuda. Amb tot, les empreses de mobilitat compartida podran utilitzar-ne els resultats per tal d'adaptar les seves estratègies de sostenibilitat.

Abstract

Collaborative economy has 100 million users only in the United States. Not only the sustainability concerns, but also saving generated through consumption reduction are the key drivers of this phenomenon. The concept of collaborative economy encompasses several business models, amongst them: collaborative consumption, shared mobility, gig economy or platform economy.

Sustainable development goals (SDG) provide a guide with 160 targets to be met by 2030 to further progress in the growth of collaborative economy with a sustainable approach. Nevertheless, the national character of the SDGs means that their implementation by companies and users is a real challenge.

In this context, this doctoral thesis aims to study the effects of practices related to the SDGs on the consumer of shared mobility. Through a compendium consisting of three academic articles, this thesis aims to fill the gap identified in the literature on consumer research and the SDGs, while also serving as a guide for improvement for mobility companies allowing them to adapt to sustainability.

In the first article, a systematic literature review is conducted analysing the effect of the collaborative economy on sustainability and SDGs. It is found that the collaborative economy has a positive effect on the economic dimension of the SDGs, but deals only residually with its environmental aspect. Furthermore, although the effect of shared mobility on sustainability has been extensively studied, the effect of the SDGs on the consumer has not been studied.

As a result of the gap detected, the second article conducts a structural equation model based on the theory of resources and competitive advantage that detects perceived quality and sustainability as antecedent factors of consumer loyalty. The results indicate that the implementation of SDG-related practices does not have a direct effect on loyalty, but rather a mediating effect is found between SDG-related practices, perceived quality and ultimately consumer loyalty. Finally, in order for SDG practices to have an effect on consumers, they must be communicated to them. The third article concludes that the process of selection, measurement and communication of SDGs is currently deficient, subjective and lacking comparability between companies in the same sector, thereby failing to promote an improvement in loyalty based on SDG practices.

Overall, this thesis contributes to the literature in relation to SDG practices and shared mobility, consolidating previous knowledge related to Corporate Social Responsibility and providing new information on the mediating effect of sustainability and perceived quality. Still, shared mobility companies will be able to use its results to adapt their sustainability strategies.

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1. Estat de la qüestió i justificació

Aquesta tesi proposa investigar com els Objectius de Desenvolupament Sostenible (ODS) i l'Agenda 2030 han modificat les conductes del comportament d'usuaris i empreses en el marc de la mobilitat compartida. L'estudi està enfocat en una branca l'economia col·laborativa (EC) que té com a definició el seu alineament amb la sostenibilitat (Cohen, 2017).

Dins de la sostenibilitat trobem múltiples conceptes que han evolucionat amb els anys, En primer lloc es parlava de la Responsabilitat Social Corporativa (RSC), que principalment afectava a les externalitats mediambientals negatives que tenia l'empresa. Ara bé, amb els anys i en especial a partir del 2015, els ODS han agafat protagonisme i han girat les actuacions de l'empresa cap a una triple vessant de la sostenibilitat: la social, l'ambiental i l'econòmica.

La tesi cobreix tres vessants de l'economia col·laborativa: (i) l'estat de l'art i l'absència d'una guia de les relacions entre els ODS -i la sostenibilitat- i l'economia col·laborativa; (ii) la resposta del consumidor davant la inclusió dels ODS en l'estratègia de l'empresa i; (iii) l'adaptació de l'estratègia de l'empresa per tal d'incorporar-los.

Buscant una solució en aquests tres àmbits del tema, la tesi té una perspectiva acadèmica – emprada per a revisar l'estat de l'art i plantejant nous models – però pot resultar també d'aplicació pràctica per a les empreses, en especial aquelles del camp de l'economia col·laborativa (EC), ja que permet assessorar-les en la seva estratègia de sostenibilitat.

La tesi s'estructura en un primer apartat de l'estat de la qüestió, seguit de les proposicions del treball, els objectius, els resultats junt amb els articles i per últim, la discussió i els resultats.

L'economia col·laborativa: importància i dimensions

L'economia col·laborativa és *“un sistema socioeconòmic que permet l'intercanvi de béns i serveis entre individus i organitzacions amb l'objectiu d'augmentar l'eficiència i l'optimització dels recursos infrutilitzats de la societat”* (Muñoz i Cohen, 2017, p. 21). La importància d'aquest sistema econòmic pot veure's il·lustrada en el fet que, l'any 2017 es preveia que, només als Estats Units, s'arribaria a 100 milions d'usuaris l'any 2022, representant el 30% de la població (Böcker i Meelen, 2017).

A nivell europeu i ja l'any 2018, la Comissió Europea indicava que la facturació de l'EC era de 26.500 milions d'euros (el 0,17% del PIB europeu) i que generava 394.000 llocs de treball (el 0,15% del total) (Nunu, Nausedaite i Eljas-Taal, 2018).

El món acadèmic sosté que l'EC ha crescut com un nou sistema empresarial que millora l'ús dels béns, fa servir menys recursos que els mercats tradicionals, incrementa les interaccions socials i promou un consum més responsable i alineat amb el medi ambient (Alonso-Almeida, Perramon i Bagur – Femenías, 2020).

L'EC és un paraigües que engloba altres conceptes, com son l'economia d'accés, l'economia de plataforma i l'economia de comunitat (Acquier, Daudigeos i Pinkse, 2017):

- Economia d'accés: iniciatives per optimitzar l'ús d'actius que estan sent infrautilitzats.
- Economia de plataforma: intermediació en l'intercanvi descentralitzat fent ús de plataformes digitals.
- Economia de comunitat: coordinació a través de formes que no són contractuals, ni geriàtriques ni monetàries.

Com que les seves característiques son inclusives, altres termes s'han relacionat amb l'economia col·laborativa, entre d'altres, l'economia digital (Pouri i Hilty, 2018), l'economia entre usuaris (*peer*) o entre treballadors (*gig*) (Görög, 2018), o el consum col·laboratiu (Hamari, Sjöklint i Ukkönen, 2016).

Així doncs, l'economia col·laborativa permet utilitzar de manera alternativa actius que els seus propietaris tenen infrautilitzats. Poden trobar-se exemples d'aquesta pràctica en tots els sectors; paradigmàticament, Airbnb en el sector de de l'allotjament, Wallapop en el sector del consum, Wikipedia en el sector de la informació, Coursera en el sector de l'educació o Uber i Blablacar en el sector de la mobilitat. Aquest últim, té un impacte en l'economia d'uns 4.000 milions d'euros i ja està representat a nivell mundial (Nunu, Nausedaite i Eljas-Taal, 2018).

En resum, la possibilitat d'ús dels actius només quan es té necessitat ha de permetre reduir el consum – i per tant, producció – de nous productes; i per tant, hauria de tenir un efecte positiu en el medi ambient i alinear-se amb el compliment dels ODS.

Les relacions entre l'economia col·laborativa i els Objectius de Desenvolupament Sostenibles

La sostenibilitat ha passat de ser un cost per a l'empresa (Friedman, 2007) a ser un dels majors reptes del segle XXI (Patyal et al., 2022). Per tal de guiar en el desenvolupament sostenible, l'Organització de les Nacions Unides (ONU) va publicar l'any 2015 l'Agenda 2030, una estratègia que incorporava 17 ODS amb 169 metes per complir. L'ONU va definir l'Agenda

2030 com a *“integrada i indivisible, de caràcter global i aplicable universalment, tenint en compte les diferents realitats, capacitats i nivells de desenvolupament nacionals i respectant les polítiques i prioritats nacionals”* (United Nations Sustainable Development, 2020).

Cohen (2017) està d’acord en què l’economia col·laborativa i els nous models de negoci que genera són una oportunitat per ajudar a treballar en la direcció dels ODS i accelerar el desenvolupament sostenible. L’EC té potencial per reduir les pressions mediambientals, per reduir les emissions de gasos contaminants, per millorar la igualtat de gènere o l’educació, per estimular el consum i les pràctiques sostenibles i per transformar les infraestructures i les ciutats (Fioramonti, Coscieme i Mortensen, 2019). Ara bé, l’EC no està enfocada de moment en temes com la interacció respectuosa amb l’aigua o l’energia neta, la vida marina o la vida als boscos, que també són temes rellevants quan parlem dels ODS (Gössling i Hall, 2019).

Seguint a Roger i Carters (2008), al tractar la sostenibilitat cal fer-ho considerant les seves dimensions econòmiques, socials i ambientals. De les tres, la literatura no dona gaire importància a la part ambiental, que la tracta només de forma residual. De fet, la bibliografia només s’enfoca en dos temes concrets, i estudia les relacions de forma conjunta entre la sostenibilitat i els ODS i l’EC al voltant de:

- Les bones pràctiques empresarial sobre la sostenibilitat i els ODS en l’EC.
- L’impacte urbà de les empreses d’EC.

Per contra, s’estudien temes com l’impacte de l’EC en el medi ambient o el valor de la sostenibilitat en les decisions del consumidor d’EC que no inclouen els ODS. Donada la novetat dels últims, es converteix en una esclatxa important en la literatura.

Per últim, la literatura existent s’enfoca en estudiar el sector de l’allotjament i l’emprenedoria, però com s’ha detallat en l’apartat anterior, l’EC n’engloba altres que estan pendents d’estudi, com la mobilitat. Per aquest motiu, i donada l’esclatxa detectada en la literatura sobre l’aplicació dels ODS en la mobilitat (dins de l’economia col·laborativa), s’ha decidit al llarg de la tesi donar resposta a aquesta necessitat.

Donada la seva naturalesa nacional, incloure els ODS en el món empresarial és tot un repte (Malay, 2021), tot i això, és essencial per tal d’avançar cap a l’objectiu del 2030 (Allen, Metternicht i Wiedmann, 2018). Per incloure’n les seves pràctiques, les empreses han de repensar les seves estratègies i models de negoci per tal d’enfocar-se cap a un desenvolupament sostenible (Schramade, 2017).

La teoria dels recursos en l'avantatge competitiu

Un model de negoci és un pla per determinar com una empresa pot guanyar diners (Teece, 2010). Tot i això, el rendiment econòmic ja no és l'únic objectiu de l'empresa, ja que els factors no-econòmics - com la sostenibilitat o la fidelització del consumidor - determinen també el seu futur (Teece, 2007).

Hi ha dos motius que expliquen la inclusió de la sostenibilitat en l'estratègia de l'empresa: (i) una millora en el seu rendiment econòmic (Baron, 2001) i (ii) una millora en el seu triple resultat – social, ambiental i l'econòmic - (Schaltegger, Beckmann i Hockerts, 2018). Ambdós motius estan relacionats amb la teoria dels recursos en l'avantatge competitiu, que sosté que els recursos de l'empresa són claus per aconseguir un avantatge en el mercat i per tant, una millora en el seu rendiment econòmic (Hunt, 2000). La sostenibilitat és avui en dia un recurs més a considerar, de la mateixa forma que ho és la fidelització del consumidor. Ara bé, la consideració de la sostenibilitat no genera de forma automàtica una millora en els resultats financers; per tal d'aconseguir-la no cal només que l'empresa inclogui les pràctiques de sostenibilitat, sinó també que l'usuari en percebi un canvi real (Choi i Ng, 2011; O'Rourke i Ringer, 2016; Hofenk et al., 2019). Per a assolir aquest objectiu, la comunicació de l'estratègia és clau.

Per tant, seguint la teoria dels recursos en l'avantatge competitiu, una millora de la percepció de les accions relacionades amb la sostenibilitat hauria de portar a un increment de la fidelització i per últim, del rendiment financer.

Qualitat percebuda, ODS i la fidelitat del consumidor

La fidelitat del consumidor està condicionada a la qualitat del servei percebuda. Hi ha un acord en la literatura sobre el fet que la percepció d'una qualitat del servei elevada porta a una millora de la fidelitat (Benoit et al., 2017; Akhmedova, Mas-Machuca i Marimon, 2020). La qualitat percebuda és un dels factors que portaran a l'usuari cap a una resposta conductual positiva (un increment de la fidelitat) i per tant, cap a la intenció de comprar.

L'estudi de la qualitat percebuda té el seu origen en el model SERVQUAL de Parasumaran, Zeithaml i Berry (1985), que incorporava dimensions com els tangibles, la credibilitat, la capacitat de resposta, la garantia i l'empatia. Més recentment, els model de qualitat percebuda s'ha adaptat per a l'EC a través de la incorporació de noves dimensions com la resposta de la plataforma, la protecció legal, la interacció entre els usuaris i els tangibles (Mas-Machuca et al., 2021).

Seguint aquesta evolució, en la tesi es proposa un model de qualitat percebuda adaptat a l'EC – i, en concret, a les plataformes de mobilitat -, que inclou els factors d'organització de la informació, la resposta de la plataforma, l'ús sostenible dels recursos, la interacció amb els conductors i la interacció social. El model inclou també adaptacions dels factors clàssics a les necessitats dels ODS, incorporant preceptes com ara la sostenibilitat.

Prèviament es conclouïa que una millora de la percepció de les accions relacionades amb la sostenibilitat hauria de portar a un increment de la fidelitat i per tant, del rendiment financer. En l'actualitat aquest constructe s'ha d'ampliar, i ha incorporar l'efecte de la qualitat percebuda, ja que és un antecedent de la fidelitat.

Una millora de la percepció de les accions relacionades amb la sostenibilitat hauria de portar a un increment de la qualitat percebuda i de la fidelitat i per tant, del rendiment financer.

Per últim, l'impacte de les pràctiques de sostenibilitat en la fidelitat ha evolucionat. Mentre que Möhlmann (2015) no va trobar relació entre les pràctiques ambientals i la fidelitat, estudis més recents indiquen que sí hi ha una relació positiva entre les pràctiques de sostenibilitat relacionades amb les dimensions socials i ambientals i la fidelitat (Ahmad et al., 2021; Jargalmaa, Ariunkhishig, & Ye, 2021; Moise, Gil-Saura, & Ruiz-Molina, 2021). Aquesta discrepància en l'impacte dels ODS en la fidelitat del consumidor s'ha de contrastar en el model.

L'aplicació i mesura dels Objectius de Desenvolupament Sostenible a l'empresa.

Per tal de que el model plantejat funcioni, l'usuari ha de percebre un canvi real, de forma que cal que se li comuniqui la informació rellevant al respecte (Hofenk et al., 2019). A més, tot i que els ODS intenten ser una guia per al desenvolupament, la seva aplicació és una quimera per a les empreses (Khalid et al., 2020). Actualment no existeixen requeriments o metodologies específiques sobre com incorporar els ODS a l'empresa (Mhlanga et al., 2018) ni indicadors concrets per mesurar-los (Izzo et al., 2020). Com que el procediment ja és qüestionable de per si, els informes de sostenibilitat no tenen gaire validesa ja que (i) no expliquen com a la pràctica les accions empresarials tenen impacte en els ODS (Costa et al., 2022) ni (ii) permeten comparar empreses i sectors donada la falta d'homogeneïtzació entre ells (Schulz i Flanigan (2016); Shayan et al., 2022).

Tot i això, les empreses estan interessades en aplicar els ODS i han adaptat les seves estratègies empresarials consegüentment (Silva, 2021; Palau et al., 2023). L'aplicació dels ODS és un nou factor no-econòmic d'avantatge competitiu (Bogoviz et al., 2022) que addicionalment, permet atraure inversió, tenir més fortalesa de marca i accedir a nous competidors (Camarán et al., 2019).

Tot i que els beneficis dels ODS són clars, cal trobar un instrument que permeti mesurar de forma clara i homogènia les accions de sostenibilitat que afecten a l'empresa. Si bé és cert que hi ha algunes eines que intenten fer-ho en l'actualitat, com *SDG Compass*, la literatura indica que no hi ha homogeneïtat (Shayan et al., 2022).

En aquest context, es planteja en el tercer article si un sector com la mobilitat compartida, clarament enfocat per naturalesa cap al compliment dels ODS, també té aquestes deficiències o si per contra, les aconsegueix millorar.

2. Proposicions de treball

La tesi es marca com a proposició de treball conèixer si les pràctiques relacionades amb els ODS tenen un impacte positiu en el consumidor final de la mobilitat compartida millorant la seva fidelització. Per tal de tenir una imatge inicial dels estudis realitzats, en el primer article, s'han proposat les següents preguntes de recerca (PR):

- PR1: Quin és el marc teòric de l'economia col·laborativa?
- PR2: Quines són les principals relacions entre l'economia col·laborativa, la sostenibilitat i els ODS?

Per tal de conèixer de forma empírica quina és la realitat del sector, es plantegen en el segon article les següents hipòtesis (H):

- H₁: La percepció de les pràctiques d'ODS té un impacte positiu en la qualitat percebuda en les empreses de mobilitat compartida.
- H₂: La qualitat percebuda alta té un impacte positiu en la fidelització de l'usuari.
- H₃: Les percepcions de l'usuari sobre les pràctiques ambientals, socials i econòmiques dels ODS implementades per les empreses de mobilitat compartida tenen un impacte positiu en la fidelització de l'usuari.

De forma complementària, en el tercer article, es proposen les següents preguntes de recerca:

- PR₁: Un sector enfocat en la sostenibilitat té una millor alineació amb els ODS?
- PR₂: Quin procés segueixen les empreses per establir quins dels ODS son prioritaris per a la seva activitat?
- PR₃: Quins són els motius o criteris per seleccionar uns ODS i no uns altres com a prioritaris?
- PR₄: Quines són les motivacions o criteris per establir indicadors de compliment dels ODS seleccionats?

3. Objectiu de la tesi

L'objectiu general de la tesi és estudiar quins són els efectes de les pràctiques relacionades amb els ODS en el consumidor de la mobilitat compartida. A través de tres articles acadèmics, aquesta tesi vol omplir l'esclletxa detectada en la literatura en aquest àmbit, però també servir de guia de millora per a les empreses de mobilitat i permetre millorar la seva adaptació a la sostenibilitat.

Objectius específics

Els objectius específics s'han dividit en funció dels tres articles. El primer article pretén:

- a) Identificar l'estat de l'art sobre l'economia col·laborativa, els ODS i la sostenibilitat.
- b) Detectar els temes i sectors que estudia la literatura de forma recurrent.
- c) Plantejar noves línies d'investigació, com aquesta tesi, per resoldre les esclletxes detectades.

La revisió de la literatura mostra que l'impacte de la sostenibilitat en el consumidor és el tema més estudiat de l'EC, sobretot, en el sector de l'allotjament. Per contra, no està estudiat l'impacte en el consumidor de l'aplicació dels ODS en l'empresa i pràcticament, no hi ha estudis que tractin la mobilitat dins de l'EC. Per aquest motiu, els objectius del segon article són:

- a) Detectar les relacions que hi ha entre les pràctiques d'ODS i de la qualitat percebuda com a antecedents de la fidelitat en la mobilitat compartida.
- b) Determinar quins ODS tenen impacte en la decisió final de compra del consumidor.
- c) Plantejar accions concretes que les empreses han de dur a terme per tal de millorar la seva imatge davant del consumidor.

Per últim, el tercer article, té com a objectius:

- a) Conèixer l'evolució que han tingut els ODS en les empreses de mobilitat compartida.
- b) Conèixer el procés de selecció i mesura dels ODS, així com el plantejament d'indicadors, en les empreses de mobilitat compartida.
- c) Determinar si les diferències geogràfiques tenen impacte en les pràctiques dels ODS.

4. Resultats

Els articles que s'inclouen en la tesi s'adrecen a resoldre un problema comú: els impactes de l'aplicació dels ODS en l'empresa. Cada article tracta una metodologia diferent, que complementa l'anàlisi i els resultats que s'han trobat en els articles anteriors.

En el primer article es realitza una revisió de la literatura i s'introdueix un marc conceptual sobre els temes i sectors on s'estudia l'EC, els ODS i la sostenibilitat. Com a resultat, es detecta una escletxa important en la literatura: l'impacte dels ODS en el consumidor de la mobilitat compartida.

El segon article està directament enfocat a resoldre aquesta escletxa. A partir d'una enquesta realitzada a 485 usuaris de mobilitat compartida, es crea un model que relaciona les pràctiques relacionades amb els ODS amb la percepció de la qualitat i la fidelitat de l'usuari final. Un dels resultats explica que la sostenibilitat és complementària a la pròpia qualitat del servei i només si s'explica i arriba al consumidor, tindrà un impacte en la fidelitat.

Per aquest motiu, el tercer article li dona el relleu a la visió empresarial dels ODS i estudia quins són els processos per seleccionar, mesurar i comunicar els ODS en la mobilitat compartida.

Per tant, els articles que formen aquesta tesi resolen una escletxa en la literatura a l'estudiar els efectes dels ODS en el consumidor de la mobilitat compartida, amb una doble perspectiva: des del punt de vista de l'usuari com de l'empresa.

4.1A systematic literature review. Relationships between the sharing economy, sustainability and Sustainable Development Goals.

Referència:

Boar, A., Bastida, R., & Marimon, F. (2020). A systematic literature review. Relationships between the sharing economy, sustainability and sustainable development goals. *Sustainability*, 12(17), 6744. <https://doi.org/10.3390/su12176744>

Factor d'impacte i quartil:

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Contribució a l'article:

Com a investigador principal, he estat responsable de la recopilació dels articles, tractament de la informació i redacció del text. Els meus supervisors, Frederic Marimon i Ramon Bastida han participat a l'article en el seu plantejament, disseny, supervisió i revisió.

4.1.1 Introduction and theoretical framework

Sustainable development was defined for the first time in 1987 as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED, 1987). Most of the standards address sustainability issues through economic, environmental and social dimensions (Lozano & Huisingh, 2011). How can we promote sustainable development?

The sharing economy is usually related to sustainability, it is framed as: (1) an economic opportunity, (2) a more sustainable form of consumption and (3) a pathway to an equitable and sustainable economy (Martin, 2016). There is no common definition for the sharing economy, but some authors have tried to shed light on this topic, which has been used as an umbrella term for a great variety of organisational models (Mont, Palgan, Bradley & Zvolska, 2020). One definition is that of an ecosystem, whose intermediary companies utilise online platforms to facilitate and lower the cost of the for-profit transactions of giving temporary access – without the transfer of the ownership – to the idle resources of consumers in peer-to-peer networks that it has created, because of the trust built among its members who may be individuals or businesses (Ranjbari, Morales-Alonso & Carrasco-Gallego, 2018)

The sharing economy can be placed on three foundational cores: (1) access economy, (2) platform economy and (3) community-based economy (Acquier, Daudigeos & Pinkse, 2017). They define each concept as follows (see also Figure 1):

Access economy: initiatives sharing underutilised assets (material resources or skills) to optimise their use.

Platform economy: intermediation of decentralised exchanges among peers through digital platforms.

Community-based economy: coordination through non-contractual, non-hierarchical or non-monetised forms of interactions (work, exchange, etc.).

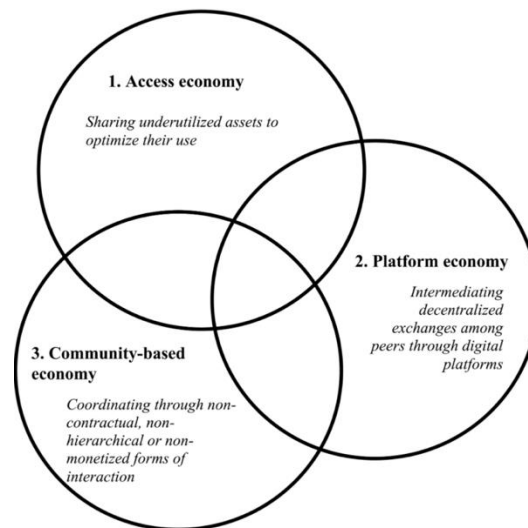


Figure 1. Definitions and relations between foundational cores of the sharing economy (Acquier, Daudigeos and Pinkse, 2017).

Other concepts are usually used as synonyms for the sharing economy, but they are not used properly. Some of them are characteristics of the sharing economy or different activities that are included in that ‘umbrella’:

- **Digital economy:** Digital economy means economic activity, with the help of mobile technology and the internet of things (IoT), that results from billions of everyday online connections among people, businesses, devices, machines, data and processes (Pouri & Hilty, 2018).
- **Peer economy:** Peer to peer economy refers to the business between customer and customer without any intermediaries. They can buy and sell products and services from each other (Görög, 2018).
- **Gig economy:** Gig economy means temporary, project-based and flexible jobs. Companies that hire independent contractors and freelancers instead of full-time employees are part of this so-called gig economy (Görög, 2018).
- **Collaborative consumption:** this is the peer to peer based activity of obtaining, giving, or sharing access to goods and services, coordinated through community-based online services (Hamari, Sjöklint & Ukkonen, 2016).
- **Digital sharing economy:** A digital sharing economy is a resource allocation system, based on sharing practices, that is enabled by information and communication technology (ICT) and coordinated through participation of individuals and possibly commercial organisations (businesses) with the aim of providing temporary access

to resources that involve either direct or indirect monetary value (Pouri & Hilty, 2018).

According to previous definitions, it can be stated that the sharing economy helps to use resources inside a community without the need to consume or buy each time. The opportunity to share assets offers the possibility of only using an asset when it is really needed and after that, sharing it with other people. This kind of consumption means that property is less important and that not everybody that is willing to consume needs to own every asset; therefore, production can be lower than that without sharing. If production is reduced, it will definitively have a positive impact on sustainability. In the last few years, the sharing economy has increased as a new business model that will change consumers' relationship to a materialistic lifestyle (Alonso-Almeida, Perramon & Begur-Femenías, 2020) and it is expected to grow around 25% per year (Vaughan & Haworth, 2014).

Sustainable Development Goals (SDGs) are a guide to achieving sustainable development by 2030. They were created in 2015, as the next step of the Millennium Development Goals. SDGs are defined by the UN as 'integrated and indivisible, global in nature and universally applicable, taking into account different national realities, capacities and levels of development and respecting national policies and priorities. Targets are defined as aspirational and global, with each Government setting its own national targets guided by the global level of ambition but taking into account national circumstances' (UNSD, 2020).

There are 17 SDGs with different objectives such as the reduction of inequality (SDG 10) or the improvement of quality in education (SDG 4). These 17 SDGs have 169 targets and many indicators that appear in the 2030 Agenda as a guide for countries to improve their sustainability. According to the Stockholm Resilience Centre, the 169 targets of the different SDG can also be divided into three dimensions: economic, social and environmental (see Figure 2).

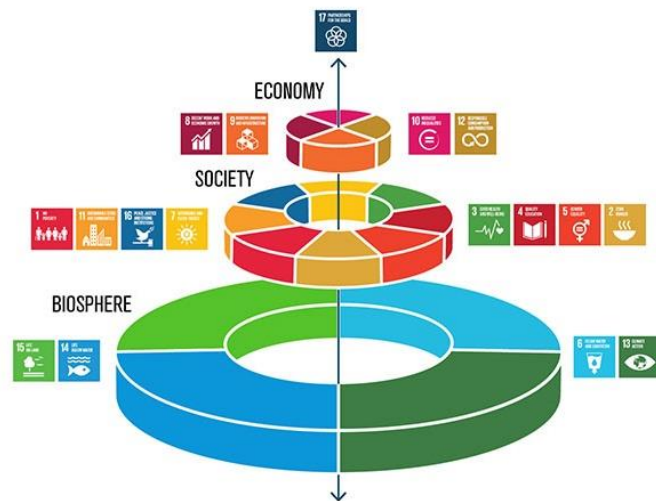


Figure 2. SDG classification by sustainability dimensions (SRC, 2017).

Sharing economy business models that create sustainable value can be classified from an environmental, social and economic perspective (Laukkanen & Tura, 2020). They present different items that can be used as a reference for each dimension, and they are also cross-checked with the 17 SDG:

- Environmental dimension: increasing resource efficiency, responsible use of resources, no harmful environmental impacts or emissions and increasing environmental well-being.
- Social dimension: safeguarding health and safety, respecting laws and regulations, respecting employees and stakeholders’ rights and ethical principles, no harmful impacts and increasing social well-being.
- Economic dimension: increasing cost-efficiency, increasing profits and business opportunities, operational stability and risk reduction, increasing attractiveness, increasing economic well-being.

The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice (UNSD, 2020).

According to the explanations of the United Nations, SDGs are a guide to achieving a more sustainable world in future years. The SDG framework helps to integrate social, economic and environmental dimensions for prosperity in the long term. Being that the sharing economy is a potentially significant contributor to sustainable development growth, it can contribute to achieving the relevant goals (Na & Kang, 2018).

Some authors defend the sharing economy as a form of economic activity and expect that it will complement traditional forms of business, generating positive economic, social and environmental effects (Bonciu & A-C Bălgâr, 2016). However, some studies suggest that while the sharing economy may contribute to addressing sustainability issues, its economic, social and environmental effects remain poorly understood (Mont, Palgan, Bradley & Zvolška, 2020).

This paper sheds light on the literature on the sharing economy, sustainability and SDG. The main objective of the research is to identify the relationships between them as well as to compare the literature on sustainability and SDG.

The conclusions of this research can be used by sharing economy companies to modify their strategies and to include (or not) sustainability and SDGs in their activities. If this happens, it could have a positive impact on society. For academics, this paper sums up the actual knowledge on the topic and opens future lines of research.

The paper is structured in four sections. After the introduction, the methodology is explained. The third section presents a descriptive analysis of the selected papers. The fourth section analyses the papers by topic and, finally, the fifth section compares the papers and makes conclusions and recommendations.

4.1.2 Materials and Methods

In this paper, a systematic review is proposed to compare the literature that exists on the impact of sustainability in the sharing economy and the effects of SDGs.

A literature review must 'comprehensively identify, appraise and synthesise all relevant studies on a given topic' (Petticrew & Roberts, 2006). Other authors agree and identify two main phases in the process, defining the protocol and identifying gaps in the literature (Easterby-Smith, Thorpe & Jackson, 2012). According to this, the methodology used can be presented as (see also Table 1):

1. Identification of research objectives.

2. Paper acquisition and selection phase:
 - a. Materials search; in this phase, keywords were identified, and databases selected.
 - b. Selection; this step defines the inclusion and exclusion criteria.
3. Descriptive and content analyses phase.
 - a. Descriptive analysis; for a general view, the selected papers are described.
 - b. Content analysis; the selected papers are studied in depth, including a comparison of the literature and a discussion.

| Research objectives |
|---|
| To identify the theoretical framework of the sharing economy |
| To identify the main lines of research between the sharing economy and sustainability |
| To identify the main lines of research between the sharing economy and SDGs |
| To compare the literature between sharing economy and sustainability of SDGs |

| Initial inclusion criteria |
|--|
| Documents included in the Web of Science (all databases) |

| Setting the inclusion criteria |
|---|
| (1) 'sharing OR collaborative OR platform economy' AND sustainability – 2013 to May 2020 |
| (2) 'sharing OR collaborative OR platform economy' AND 'sustainable development goals OR SDG' - From 2015 to May 2020 |
| (3) Relevant documents from the bibliography of selected papers |

| Applying the exclusion criteria |
|--|
| After the reading of title and abstracts, only papers that were focused on sharing economy and sustainability or sharing economy and SDGs were selected. |

| Content analysis |
|---|
| In-depth analysis and classification of papers by topics and sectors of activity. |
| Comparison between results of sharing economy and sustainability or SDGs |

Critical discussion and futures lines or research

Table 1. Methodology used in the paper.

4.1.2.1 Paper acquisition and selection phase

The papers were selected using the Web of Science database between 2010 and May 2020, as the sharing economy and SDGs are a new topic of research, and SDGs only appeared in 2015. However, relevant papers did not appear until 2016. The keywords used were: ‘sharing, collaborative, platform economy’, ‘sustainability’, ‘sustainable development goals’ and ‘SDG’.

A total of 311 papers were initially found in the Web of Science database (Table 2).

| | | |
|------------------|--|--|
| Keywords used | (‘Sharing or collaborative or platform economy’) AND (‘sustainability’). | (‘Sharing or collaborative or platform economy’) AND (‘sustainable development goals OR SDG’). |
| Searched by... | Topic | All words. |
| Date range | 2010 to May 2020 | 2010 to May 2020 |
| Number of papers | 158 | 153 |

Table 2. Summary of data base research

In order to focus on the papers that were more closely related to the research objective, three selection criteria were used for the selected papers, as reported in Table 3.

| Criterion | Sharing and sustainability | Sharing and SDG |
|---|--|---|
| First criterion: focus on the abstracts and title | Abstracts focusing on the sharing economy and sustainability have been included. | Abstracts focusing on the sharing economy and SDG have been included. |
| Second criterion: focus on the papers | Papers focusing on the sharing economy and sustainability have been included. | Papers focusing on the sharing economy and SDG have been included. |
| Third criterion: cited references | Papers not included in the Web of Science but that appeared in the bibliography of selected papers | |

Table 3. Criterion of selection of papers for the content analysis.

The first criterion helped to select only papers that dealt with the sharing economy and sustainability or SDGs, and after that, these papers were analysed in depth. Some of them were excluded after the reading of the paper, however, others were included because they

appeared in the bibliography of some selected papers. Finally, 61 papers were chosen that studied the sharing economy and sustainability, and 13 that studied the sharing economy and SDGs.

4.1.3 Descriptive analysis

The aim of the descriptive analysis was to give a preliminary result on the papers focusing on the sharing economy and sustainability and SDGs. For the descriptive analysis of the selected papers, three perspectives are defined:

4.1.3.1 Papers by time

According to the distribution of papers over time, we can see that consideration of the topic has been increasing in the few last years, and it seems that 2020 (data up until May) is going to be a year with more papers published on the topic. Prior to 2016 it is hard to find papers that are focused on sustainability or SDGs and the sharing economy, so we can say that it is a new topic, and it is growing.

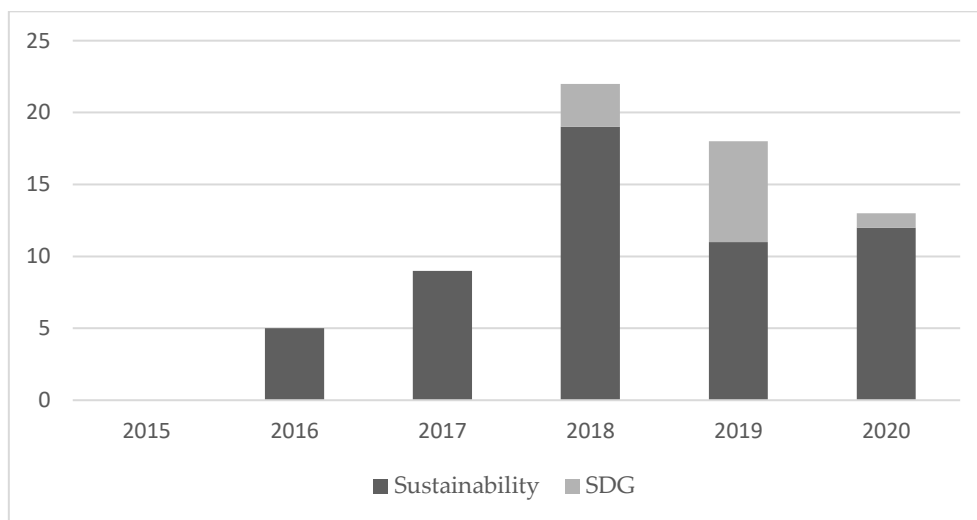


Figure 3. Distribution of papers over time.

4.1.3.2 Papers by journal.

The medium JCR Impact Factor of the publications is 3.41, and they are distributed over 35 different journals. The journals with a greater number of publications on the topic were Sustainability (14 papers), Journal of Cleaner Production (7 papers), Technological Forecasting and Social Change (5 papers) and the International Journal of Consumer Studies (3 papers). Papers published in Sustainability, as the journal with the most papers, analysed the impact of sharing economy in the environment and in business.

| Journal | Papers Sustainability | | Papers SDG | | Impact Factor JCR - Index 5 years |
|--|-----------------------|-------|------------|--------|-----------------------------------|
| | | | | | |
| African Journal of Hospitality, Tourism and Leisure | | | 1 | 9.1% | 0.37 |
| Agriculture and Human Values | 1 | 1.8% | | | 3.41 |
| Anthropocene Review | | | 1 | 9.1% | 3.42 |
| Brazilian Administration Review | 1 | 1.8% | | | 0.4 |
| Business Horizons | 1 | 1.8% | | | 3.44 |
| Competitiveness Review | 1 | 1.8% | | | 2.47 |
| Current Issues in Tourism | 1 | 1.8% | | | 4.14 |
| Ecological Economics | 2 | 3.5% | | | 4.48 |
| Economies | 1 | 1.8% | 1 | 9.1% | 1.2 |
| Energy Procedia | 1 | 1.8% | | | 1.15 |
| Environment and Behavior | 1 | 1.8% | | | 4.26 |
| European Transport Research Review | 1 | 1.8% | | | 2.25 |
| Food Policy | 1 | 1.8% | | | 4.15 |
| Interaction Design and Architecture(s) | | | 1 | 9.1% | 0.64 |
| International Journal of Consumer Studies | 3 | 5.3% | | | 1.74 |
| International Journal of Entrepreneurial Venturing | | | 1 | 9.1% | 0.43 |
| International Review of Retail, Distribution and Consumer Research | 2 | 3.5% | | | 1.25 |
| Journal of Business Research | 1 | 1.8% | | | 5.35 |
| Journal of Cleaner Production | 6 | 10.5% | 1 | 9.1% | 7.1 |
| Journal of Fashion Marketing and Management | 1 | 1.8% | | | 1.97 |
| Journal of Intellectual Capital | | | 1 | 9.1% | 5.33 |
| Journal of Marketing Theory and Practice | 1 | 1.8% | | | 1.63 |
| Journal of Sustainable Tourism | 1 | 1.8% | 2 | 18.2 % | 3.67 |
| Local Environment | 1 | 1.8% | | | 1.93 |

| | | | | | |
|---|----|-------|---|------|------|
| Management Science | 1 | 1.8% | | | 4.53 |
| Nature Communications | | | 1 | 9.1% | 11.8 |
| Psychology and Marketing | 2 | 3.5% | | | 2.38 |
| Resources Conservation and Recycling | 1 | 1.8% | | | 8.08 |
| Science of Total Environment | 1 | 1.8% | | | 6.55 |
| Sustainability | 13 | 22.8% | 1 | 9.1% | 2.85 |
| Sustainable Production and Consumption | 1 | 1.8% | | | 3.77 |
| Technological Forecasting and Social Change | 5 | 8.8% | | | 4.85 |
| Tourism and Hospitality Research | 1 | 1.8% | | | 1.67 |
| Transport Policy | 1 | 1.8% | | | 3.77 |
| Transportation Research Part D: Transport and Environment | 2 | 3.5% | | | 4.75 |
| Urban Policy and Research | 1 | 1.8% | | | 1.81 |

Table 4. Distribution of papers by journals and impact factor.

4.1.3.3 Papers by topic.

The selected papers were classified in four different topics: environment, consumer value, business characteristics and urban impact. We can see that sustainability and sharing economy can be found in all categories, the greatest being consumer value with 20 papers. However, there are no papers about the impact of SDG in the sharing economy on consumer value.

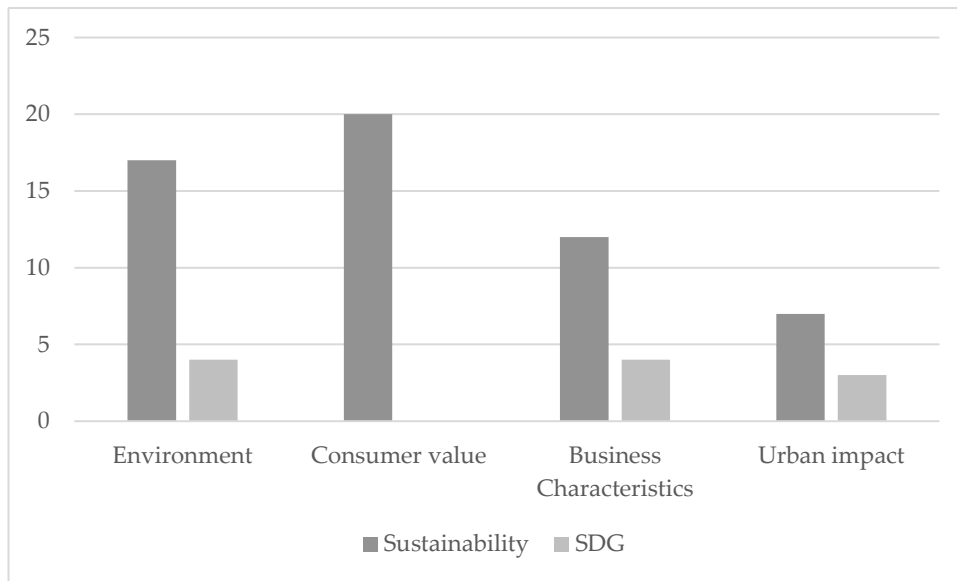


Figure 4. Distribution of papers by topic.

4.1.4 Content analysis

Before entering into the explicit content of the papers, for a preliminary view of the topics, a bibliometric analysis was completed using the software VosViewer, with the papers that focused on the sharing economy and sustainability. VosViewer allows the creation of relationships between the most relevant words in the literature and the identification of the main topics of research, classified by colours. From Figure 5, we can identify some topics of research in the literature:

- The circular economy and collaborative economy are two of the business models most studied in the sharing economy and sustainability.
- Sustainability is considered as one of the motivations of people for using the sharing economy, in addition to cost or trust.
- The major sector studied in the collaborative economy is accommodation through the company Airbnb.
- Literature tries to identify if Airbnb, a collaborative economy platform that offers accommodation for tourism, has a negative impact in the city, and if it creates a conflict between the tourist and the resident.

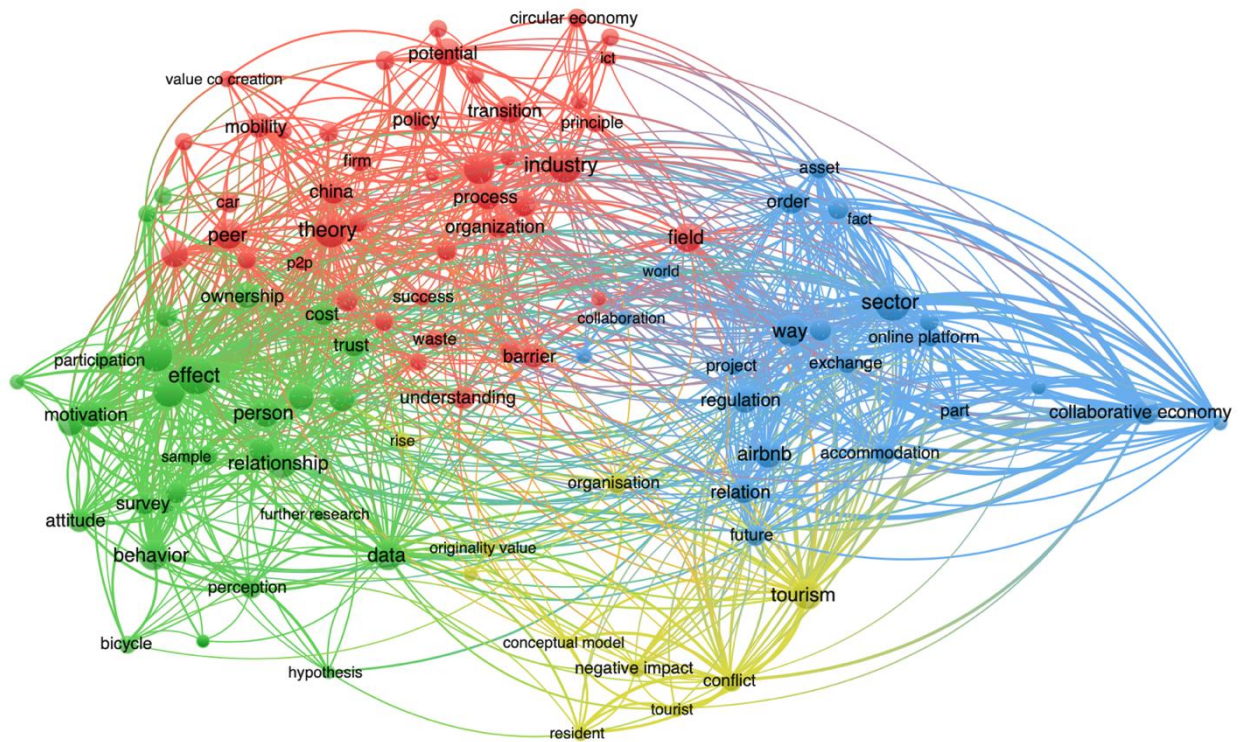


Figure 5. Bibliometric analysis of the sharing economy and sustainability performed with the software VosViewer.

4.1.4.1 Impact of sharing economy in sustainability

The sharing economy is an opportunity for sustainability. The possibility of using assets without the need of owning the property reduces the need for goods production and reduces waste. However, the impact of the sharing economy in the triple dimension of sustainability is not clear (Mont, Palgan, Bradley & Zvolaska, 2020).

After reviewing 61 papers about the sharing economy and sustainability, four relevant topics were identified:

- Impact of the sharing economy in the environment.
- Value of sustainability for the decision of the customer about the use of the sharing economy.
- Business practices of sharing economy companies regarding sustainability.
- Urban impact of sharing economy companies.

The majority of the papers analyse the impact of the sharing economy in the environment using sectors such as mobility, bikes and clothes. In general, the sharing economy allows the use of under-utilised resources and, therefore, has an environmental benefit by reducing consumption (Cheng, Chen, Wiedmann, Hadjikakou, Xu & Wang, 2020). Regarding shared mobility, it is stated that it reduces the negative impact on the environment and reduces polluting emissions and energy expenditure (Meng, Li & Qiu, 2020), being a transport element that should not be substituted by a particular car, but be complementary (Bocken, Jonca, Södrögren & Palm, 2020). The reduction of a vehicle in the family unit implies a 23% increase in the probability of shared car use in cities with high population density (Zhang & Zhang, 2018). Shared bicycles, having the particularity of not emitting gases, have a positive impact on all environmental indicators. However, an exorbitant growth in its offer can have a negative impact due to the oversaturation of the service (Zheng, Zhang & Guo, 2019). Use of shared clothing mainly implies a reduction of the waste generated by the consumption of first-hand clothing (Fremstad, 2017).

One of the main reasons cited by clients for using sharing economy platforms is sustainability, in addition to financial benefits, social experience or life quality (Albinsson, Perera, Nafees & Bruman, 2019; Hawlitschek, Teubner & Gimpel, 2018; Wilhems, Henkel & Falk, 2017). Once again, the literature is focused on the effects of mobility and clothes sharing. Regarding car-sharing, key elements are knowledge, environmentalism, the possession-self link and involvement with cars (Prieto, Stan, Baltas & Lawson, 2019). In connection with the user of the platform the effects are different; for car owners sustainability is a key factor in offering their car, however, for passengers it is irrelevant (Hartl, Kamleitner & Holub, 2020). Regarding the second hand market, besides sustainability and economic benefits, another motivation for the use of the platform is distancing from the consumer system and the value of brands (Styven & Mariani, 2020).

On top of this, companies are an essential element for achieving the three dimensions of sustainability. Criteria for analysing business practices in the company are: 1) using durable, quality goods; 2) intensifying use of goods; 3) enabling repair, take back and recycling of goods; 4) ensuring rental replaces purchase; 5) minimising transport and disposable packaging of goods; and 6) for transport, reducing the kilometres travelled by private vehicles (Retamal, 2017). One of the key elements of the social dimension is trust between users (Wagner, Strulak-Wojcikiewicz & Landowska, 2019). Also, companies need to know that while corporate social responsibility and investment recovery policies do affect the user's choice over whether or not to use a platform, internal policies do not have any impact at all

(Hu, Liu, Yuen, Lim & Hu, 2019). With regards to entrepreneurs, the sharing economy can be an opportunity for them, and it is recommended that they apply an environmental CSR that will affect the user's perception of sustainability and allow the creation of a brand (Wang & Ho, 2017).

Moreover, we can identify different models of the sharing economy in relation to mobility and food-sharing. Regarding sharing mobility, four models are defined as (1) peer to peer provision with a company as a broker, providing a platform where individuals can rent their cars when not in use; (2) short term rental of vehicles managed and owned by a provider; (3) companies that own no cars themselves but sign up ordinary car owners as drivers; and (4) on demand private cars, vans, or buses and other vehicles, such as big taxis, shared by passengers going in the same direction (Santos, 2018). What is more, models of food-sharing are (1) the 'sharing for money' model, which is primarily a B2C for-profit model to reduce waste and, at the same time, generate revenue; (2) the 'sharing for charity' model in which food is collected and given to non-profit organisations; (3) the 'sharing for the community' model which is a P2P model where food is shared amongst consumers (Michelini, Principato & Iasevoli, 2018).

The impact of the collaborative economy in the city has different effects. On the one hand, it causes gentrification in cities like Barcelona (Martin Martin, Guaita Martínex & Salinas Fernandez, 2018) but on the other hand, platforms such as Airbnb offer the possibility for growth of a new touristic model. The cultural heritage and location of the homes increases the number of users of the platforms (Fierro & Aranburu, 2018). In short, there is a discussion of what should prevail, either the conservation of space for locals or the promotion of collaborative economy platforms that are often used by tourists. What does seem clear is that the success of the collaborative economy will depend on whether or not it has support from the institutions (Luna, Uriona-Maldonado, Silva & Vaz, 2020). The literature also asks that institutions be more agile in integrating different social agents in the collaborative economy to improve their efficiency, resilience and sustainability (Ma, Thronton, Mangalagu & Zhu, 2018). Institutions must create a regulation for the coexistence of both models, which avoids gentrification and harm to local inhabitants, but at the same time, allows platform users to make use of their services.

4.1.4.2 Impact of sharing economy in SDGs

Although SDGs are thought of as objectives for governments and states, companies are also one of the main agents responsible for the accomplishment of SDGs (Rosati & Faria, 2019).

What is more, SDGs can also be used as guidance for investments and opportunities in companies (Pedersen, 2018). When the sharing economy was born, it was seen to have the potential to have a significant impact on SDGs (Gössling & Hall, 2019) and to offer opportunities to companies. The sharing economy has promising outcomes for SDGs (Cohen, 2017). As an initial point of view, the sharing economy is expected to allow sustainable development according to SDGs (Na & Kang, 2018). The sharing economy is expected to be an instrument for sustainability, promoting economic growth and having a positive impact on society and the environment.

After reviewing 13 papers about the sharing economy and SDGs, four relevant topics were identified:

- Impact of the sharing economy in the environment.
- Business practices of sharing economy companies regarding SDGs.
- Urban impact of sharing economy companies regarding SDGs.
- Transversal category that includes different topics of all SDGs.

No papers were identified that analysed the consumer value of SDGs. Papers that analysed the relationships between the sharing economy and SDGs were focused in sectors such as accommodation and entrepreneurship. However, we can see that there were no papers focused on mobility.

sharing economy have the potential to contribute to achieving all of the SDGs, relieving environmental pressures, promoting low-carbon emissions, reducing gender, education and income inequalities, stimulating sustainable consumption and production practices, using sustainable energy, and transforming infrastructures and cities (Fioramonti, Coscieme & Mortensen, 2019). However, sharing economy do not currently pay much explicit attention to environmental SDGs, such as clean water, clean energy, climate action, life below water or life on land (Gössling & Hall, 2019).

Sharing enterprises should be encouraged to develop relationships with the local authorities and follow the related regulations in order to achieve long-term viability. Here, what is needed is more explicit acknowledgement by local and national governments of the importance of the sharing economy for achieving SDGs; the challenge is to better align the interests of both new and old businesses, local governments and the national economy (Mi & Coffman, 2019). Another important factor that characterises the sharing economy is technology. Along these lines, sharing economy can contribute to SDGs that describe

digitalisation technologies such as ICTs as enablers of sustainable development (van der Velden, 2018). On top of that, collaborative entrepreneurs can help to achieve SDGs and sustainable development in general (Schaltegger, Beckmann & Hockerts, 2018). Additionally, one model which needs to be studied further is collaborative consumption because this can offer more sustainable consumption options; understanding its application and impact is relevant to the SDGs (Retamal, 2019). Lastly, sustainable models that adapt sustainability and the collaborative economy should foster innovation to address social or environmental challenges and focus on at least one SDG (Aluchna & Rok, 2018).

Regarding urban impact, it is one of the most studied categories which indicates that some sharing economy models, such as urban gardens, have the potential to achieve hunger reduction (SDG 2), to improve nutrition and sustainable agriculture practices (SDG 3) and to create sustainable cities (SDG 11). Urban gardens can also contribute to climate action (SDG 13) and to enriching local biodiversity (SDG 15) (Fioramonti, Coscieme & Mortensen, 2019). Positive aspects of the sharing economy in the accommodation sector were observed, including providing access to safe, affordable, accessible and sustainable transport systems for all (Target 11.2) and upgrading slums (Target 11.1). Negative effects were also noticed, particularly in clearly implementing Targets 11.6 (reducing the adverse per capita environmental impact of cities) and 11.7 (providing universal access to safe, inclusive and accessible, green and public spaces) (Jaremen, Nawrocka & Źemła, 2019). Also, the hospitality sector can make other contributions to SDGs 1 (no poverty), 5 (gender equality), 8 (decent work and economic growth), 9 (innovation), 11 (sustainable cities and communities), 12 (responsible consumption and production), 13 (climate action) and 16 (promoting peaceful and inclusive societies) (Shereni, 2019).

The sharing economy can potentially contribute to four of the UN SDGs: sustainable economic growth (8); innovation (9); sustainable consumption and production (12); and peaceful and inclusive societies (16) (Gössling & Hall, 2019). Trade-offs are inevitable within the SDGs, a focus on a certain form of industrial development, such as the collaborative economy, may generate employment, but its character may be different from other employment and may also have significant social and environmental trade-offs and rebound effects (Gössling & Hall, 2019).

4.1.5 Discussion and conclusions

This paper proposed a systematic review of the sharing economy, sustainability and SDGs. The main objective of this research was to identify the relationships between them as well as

to compare the sustainability literature and the SDG literature to find similarities and differences between them.

The descriptive analysis offers an overview of the papers included and identifies the topic as a new current of research that has been growing since 2016. Papers are published in many relevant journals, such as Sustainability and the Journal of Cleaner Production.

The main topics in the papers were the impact of the sharing economy on the environment, consumer value, business characteristics and urban impact, and they were focused in sectors such as mobility, accommodation and entrepreneurship. As expected, the sharing economy can help contribute to sustainable development according to SDGs.

The literature agrees that sustainability is one of the reasons that people use the sharing economy. Sustainability awareness is increasing in society and the sharing economy is a clear example. Other factors come into play, such as cost or quality of life, but it seems that the main reason is sustainability, which can impact the three dimensions of the SDGs. Regarding the environmental dimension, a reduction of negative impact on the planet can be found because of the reduction of emissions and waste; considering the economic dimension, the sharing economy has created new opportunities for companies but they require the intervention of authorities to create regulation in the sector; for the social dimension, the sharing economy improves quality of life but has a negative impact in the neighbourhoods of big cities such as Barcelona and Amsterdam because it creates conflict between tourists and local people, to the point that Amsterdam have banned touristic apartments in the city centre. However, when companies ask institutions for a new regulation, it is certainly not their idea. The collapse of some big cities is also an opportunity for the sharing economy, found through sharing mobility which allows citizens to avoid the necessity of having one car per person, which is sometimes not an optimal solution in big cities.

The literature on the sharing economy and SDG is still immature because of the novelty of the topic. However, authors agree that the sharing economy is an opportunity to work towards and to achieve all SDGs, because of the benefits of this business model. The sharing economy can help to achieve SDGs such as 'economic growth' (8), 'innovation' (9) or 'sustainable consumption' (12). The effect on SDG 11, 'sustainable cities' is ambiguous because it creates synergies and trade-offs with different targets within the same SDG. Urban gardens are also an important application of the sharing economy that can help to reduce the collapse of big cities, having a positive impact on SDGs such as 'hunger reduction' (2) and 'sustainable agriculture practices' (3).

It was found that the sharing economy has an impact on the three dimensions of sustainability also related to the SDGs. However, the papers did not focus on the environmental dimension, rather, they focused on the economic and social dimensions. Here we can find an important gap in the literature which needs to be complimented with the impacts on the environment according to the targets and indicators of environmental SDGs. Also, there were no papers that analysed the impact of the application of SDGs in a company on the final user. As we have seen, sustainability is one of the motivations of consumers for using the sharing economy, so an important research area is to find out the impact of each SDG in the final decision of the user. Furthermore, literature is focused on accommodation and entrepreneurship, and some sectors that are important in the sharing economy, such as mobility or collaborative consumption, cannot be found when we talk about SDGs. Entrepreneurs will be one of the important actors in the business ecosystem in the future because they have the opportunity to innovate using technology (SDG 9) and can also directly promote sustainable business models.

More research is needed on this topic because the sharing economy allows sustainable development with few negative effects. However, we have little information about the effects of the sharing economy on SDGs and there are some gaps in the literature that need to be solved, such as the motivating influence of SDGs for the consumer, that will certainly aid companies in making decisions on their strategies. The sharing economy can be an excellent business model for achieving all SDGs and economic growth without negative effects on the planet and for trying to achieve an optimal sustainability that incorporates social, economic and environmental dimensions.

4.2 Sustainable development goals and quality practices: A winning combination for customer loyalty in ride-hailing companies

Referència:

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Com a investigador principal, he estat responsable de la revisió de la literatura, de l'obtenció de les dades, del tractament de la informació i de la redacció del text. Els meus supervisors, Frederic Marimon i Ramon Bastida han participat a l'article en el seu plantejament, disseny, supervisió i revisió.

4.2.1 Introduction

The sharing economy (SE) is a “*socio-economic system enabling an intermediated set of exchanges of goods and services between individuals and organizations which aim to increase efficiency and optimization of sub-utilized resources in society*” (Muñoz & Cohen, 2017, p. 21). Thus, the SE allows the use of underutilized assets without the need for property transfer. SE is also an umbrella term that covers concepts such as collaborative consumption and access, platforms, and collaborative and community-based economies (Hossain, 2020).

Sustainability, which is often linked to SE, has become extremely relevant and is a major threat to organizations in the 21st century (Patyal, Sarma, Modgil, Nag, & Dennehy, 2022). It is defined as an emerging megatrend that will affect a company’s survival and competitiveness (Sharma, Mishra, & Jain, 2022). In 2015, the United Nations (UN) launched the 17 Sustainable Development Goals (SDGs) that form a roadmap toward a more sustainable world (UN, 2015). The implementation of these SDGs in the corporate world has become a real challenge, but it is crucial to achieve the SDG goals set by the UN before 2030. To include sustainability practices and SDG goals at a strategic level, companies need to rethink their corporate strategies and business models to enhance sustainable development. The SE is an opportunity for this, as it could help them achieve SDGs and accelerate sustainable corporate development (Cohen, 2017; Fioramonti, Coscieme, & Mortensen, 2019; Gössling & Hall, 2019).

The literature regarding the linkages between SDGs and car sharing (CS) is still scarce (Boar, Bastida, & Marimon, 2020). CS consists in a group of paying individuals that have access to a fleet of cars (Bardhi & Eckhardt, 2012), and allows such users to transform the fixed cost of having a car into a variable cost. CS offers the possibility to access a car to people with limited resources (Bellos, Ferguson, & Toktay, 2017). This service is offered through a platform in which three agents are involved: the users of the service (users), the provider of the online sharing platform (intermediary) and the service provider (providers) (Mas-Machuca, Marimon, & Jaca, 2021). There are different relevant business models with the same objective, and various companies have tried to maximize their profits with these models, as shown in Table 5 (adapted from Wells, Wang, Wang, Liu, & Orsato, 2020).

| Companies | BlaBlaCar/Amovens | Uber/Cabify/Grab |
|-----------------------|--------------------------|-------------------------|
| Business model | Carpooling | Ride hailing |

| | | |
|------------------------|------------------|-------------------------|
| Asset Ownership | Individual | Company |
| Use of the car | Share | Use of the service |
| Driver | Owner of the car | Driver from the company |

Table 5. Differences in car sharing business models

As a part of car sharing, ride hailing can contribute to triple sustainability (economic, environmental and social) because it eliminates the financial barriers to car use (Hossain, 2020), reduces pollution, and allows access to car mobility in rural and suburban areas (Böcker & Meelen, 2017). It is an optimal solution because it simultaneously contributes to three dimensions of corporate sustainability (Carter & Rogers, 2008).

The sustainability issues and SDGs focused on by corporations differ in terms of their sectors, regions and countries (Fidlerová, Stareček, Vraňaková, Bulut, & Keaney, 2022). Currently, we are witnessing a transformation process among companies that seek to adapt their strategies and practices to target sustainability issues and SDGs without forgetting the importance of achieving economic profits. Recent studies have shown that companies committed to sustainability and SDGs can improve their triple-bottom-line performance (Muhmad & Muhamad, 2020) (Khan, Yu & Farooq, 2022). In addition to sustainable development, a requirement for improving these triple-bottom-line performance is customer loyalty (CL) (Smith & Wright, 2004), which has perceived quality (PQ) as one of its antecedents (Cheng, Fu, & De Vreede, 2018).

Thus, in this study, based on the resource-advantage theory of competition (RAT) we explain the relation between PQ and CL. This has been widely studied, but there are many gaps and discrepancies in the literature on PQ and CL regarding the impact of such practices on improving corporate sustainability or achieving SDGs.

RAT theory is based on the fact that company resources are key to achieve a competitive advantage in the market and, consequently, in their economic performance. Sustainability and quality of service are key factors where the company should invest resources, if it wants to improve its position in the market and obtain a competitive advantage – in the present case, in form of customer’s loyalty –, which will also allow the company to improve its economic performance.

One common weakness in different business sectors is that companies have difficulty implementing sustainable development practices in terms of their strategy and business model. Furthermore, they perceive the implementation of these practices to improve

sustainability and achieve SDGs as a cost (Sachs et al., 2019). Companies do not know how to assess the impact of these practices on PQ and CL and, therefore, on their economic results. Thus, in this paper, we seek to determine the impact of sustainable development practices on PQ and CL among the users of ride hailing companies and to define how these practices can be better embedded into these companies.

Specifically, the contribution of this paper is threefold:

First, we resolve some discrepancies in the literature regarding the impact of SDG practices on PQ and loyalty in ride hailing companies and validate previous results on Corporate Social Responsibility (CSR).

Second, these results may help managers design sustainable development strategies to enhance PQ and loyalty and thus improve their financial performance. Including sustainability in the company's strategy is important, but it does not have any effect by itself on the consumer nor a return in terms of loyalty. To be effective, sustainability must be aligned with the improvement of service quality. With a combination of both factors, user perception is significantly improved and so is loyalty and economic results.

And third, these results may also be useful for public authorities to design policies that foster the achievement of SDG goals among companies in the ride hailing sector.

The remainder of this paper is organized as follows: In Section 2, we propose our theoretical framework, and we review the literature on quality, loyalty and SDGs and their relationships. Section 3 describes the methodology we used and the analysis we performed., Section 4 offers our results, section 5 a discussion of our results, while Section 6 presents the conclusions and limitations of this study.

4.2.2 Literature review & theoretical framework

This section is divided into six subsections related to the main topics of this article and our theoretical framework: sustainability, as a new concept concerning business management; sustainability and SDGs in ride hailing; SDGs, PQ and loyalty; PQ and loyalty; SDGS and loyalty; and the conclusions of our literature review. This study is based on the resource-advantage theory of competition of Hunt and Morgan (1996), which suggests that the value of a resource for a firm entails its potential to yield competitive differentiation and/or customer value delivery that enhances performance outcomes. Many years later, Porter and Kramer (2007) explained that CSR creates a competitive advantage for businesses. By combining both, it is possible to determine that a company that incorporates sustainability

might have a differential advantage over competition (Crittenden, Crittenden, Ferrell, Ferrell, & Pinney, 2010). Therefore, we have adopted the RAT theory (Crittenden et al., 2010) to develop our research.

4.2.2.1 Sustainability, as a new concept concerning business management

According to Teece (2010), a business model is “*the manner in which an enterprise delivers value to customers, entices costumers to pay for value and converts those payments to profit*”. However, profit maximization cannot be the only objective of a firm because loyalty and noneconomic factors will also determine its structure and incentives for new opportunities (Teece, 2007). The changes in recent years to the economic order have also changed the minds and strategies of companies regarding aspects such as manufacturing and service sustainability (Ageron, Gunasekaran, & Spalanzani, 2012).

There are two reasons that explain why a company integrates sustainability into its strategies: the first is profit-oriented sustainability management, i.e., a company includes sustainability because it will increase its financial performance; the second is related to the legitimacy-oriented perspective, which attempts to resolve the issue of congruence between corporate and social goals (Baron, 2001; Schaltegger, Beckmann, & Hockerts, 2018) and which is directly related to the triple-boom-line performance.

One of the main challenges is to align societal and company goals, and this can only be done with the integration of sustainability into a company’s strategy. Companies need to integrate business sustainability, dividing them into economic, social and environmental dimensions (Andersson et al., 2022). If it is possible to solve this main challenge, the next action is to transform the sustainable actions related to the three dimensions of sustainability into an increase in loyalty by being aware that consumers more positively evaluate a company that adapts sustainability into its strategy (Choi & Ng, 2011).

There are two ways of increasing the perceived performance of sustainable products: associating sustainable benefits with a company and emphasizing the social benefits of their sustainability (Chernev & Blair, 2021). Moreover, previous literature demonstrates that sustainable actions only generate a positive consumer response if there is correct communication of it, and the customer can perceive a change (Hofenk, van Birgelen, Bloemer, & Semeijn, 2019; O'Rourke & Ringer, 2016). Accordingly, we can conclude that the perception of sustainable actions should be the key to an increase in loyalty and, finally, in profit.

4.2.2.2 Sustainability and SDGs in ride hailing

Corporate sustainability is related to the integration of the triple bottom line of financial profitability, environmental protection and social responsibility into the strategy of companies, which is sometimes related to more developed items, such as corporate social responsibility (CSR; Rosati & Faria, 2019). Clearly, SDGs are the next step in the CSR strategy of companies and a useful guide to be integrated into their strategy because they are a tool for sustainable development (Allen, Metternicht, & Wiedmann, 2018; Khan et al., 2021). They were first addressed to countries, but after a few years, it was evident that without the participation of companies and individuals, it would be impossible to foster sustainable development (Rosati & Faria, 2019). However, as the UN did not prepare the SDGs for corporate implementation, every company creates its own indicators, and it is extremely difficult to compare these applications (Schramade, 2017). Although companies cite SDGs in their reports, they do not explain how significant sustainability initiatives shape their business contribution to the SDGs (Yamane & Kaneko, 2022). Measuring the SDGs is a challenge for public entities, companies and individuals, and this is related to their initial design, which only focused on countries (Boar, Pinyana, & Oliveras-Villanueva, 2022).

The perception of SDG enforcement has been assessed in different ways, e.g., by using the SDG targets directly (Abdou, Hassan, & El Dief, 2020) or creating specific questions based on the requirements of one or more different SDG targets (Martins et al., 2020). The authors have not identified any paper that directly relates the ride hailing and SDGs, but there are many papers that relate how ride hailing and sustainability can be adapted to SDG practices, and these are shown in Table 6.

| Sustainable practice | SDG relation | Reference |
|--|---|---|
| Reduction in emissions | Climate change (13) | Meelen, Frenken, and Hobrink (2019), Tsuji, Kurisu, Nakatani, and Moriguchi (2020), Wells et al. (2020) |
| Reduction in energy use | Renewable energy (7) | Meelen et al. (2019) |
| Allow mobility among rural, suburban and urban areas | Sustainable cities (11) | Meelen et al. (2019) |
| Eliminate financial barriers to car use | Decent work and sustainable economic growth (8) | Meelen et al. (2019) |

Table 6. SDG practices and targets

Also, ride hailing companies include their applications of SDG practices in their annual reports. We have found that companies such as Cabify, Grab and Uber have included a variety of SDGs in their reports, as shown in Table 7.

| Company | Applicable SDG | Reference |
|---------|--|---------------|
| | SDG 5: Gender equality | |
| | SDG 10: Reduced inequalities | |
| Cabify | SDG 11: Sustainable cities and communities | Cabify (2020) |
| | SDG 13: Climate action | |
| | SDG 17: Partnerships for goals | |
| | SDG 7: Affordable and clean energy | |
| Grab | SDG 9: Industry, innovation and infrastructure | Grab (2018) |
| | SDG 11: Sustainable cities and communities | |
| | SDG 7: Affordable and clean energy | |
| Uber | SDG 13: Climate action | Uber (2021) |

Table 7. SDG(s) mentioned by companies in their sustainability reports

The relationship between sharing economy and SDGs has been studied, including those involving all the SDGs simply those between SE and a specific SDG or group (Pérez-Pérez, Benito-Osorio, García-Moreno, & Martínez-Fernández, 2021). Previous research has suggested that the SE can directly contribute to sustainable economic growth (SDG 8); industry, innovation and infrastructure (SDG 9); sustainable consumption and production (SDG 12); and peaceful and inclusive societies (SDG 16) (Mont, Palgan, Bradley, & Zvolska, 2020). However, the COVID-19 pandemic has revealed the vulnerability of the SE and its impacts on sustainable tourism (SDG 8) and reducing inequalities (SDG 10) (Chen, Cheng, Edwards, & Xu, 2020).

Based on these figures and the literature, SDGs 7, 11 and 13 seem to have been approached by almost all ride hailing companies and comprehensively explored by the literature. Hence, we analyze their impacts in the following sections. SDG 8 should also be included in our analysis because of the importance of drivers' conditions and the economic impact that ride hailing has on a territory. In addition, SDG 8 can be separated into two different parts: economic growth and labor market conditions.

4.2.2.3 SDGs, PQ and loyalty

The literature needs to resolve a discrepancy in the relationship between PQ and the SDGs. PQ was initially defined as the gap between a customer's expected and perceived service (Grönroos, 1989). In more recent works, PQ is a served market's evaluation of recent consumption experiences, focused on the customization and reliability of a given product or service (Turkyilmaz, Oztekin, Zaim, & Demirel, 2013). The SE has a positive impact on the environment, but sustainable practices seem not to have a significant impact on PQ and user purchase intention (Habibi, Kim, & Laroche, 2016). More recently, it has been shown that sustainability information can have a negative impact on the perceived quality of a company in some sectors, such as luxury goods (Dekhili, Achabou, & Alharbi, 2019). However, Acheampong and Siiba (2020) have found that PQ in the SE is positively affected by environmental attitudes. This result is also supported by a concept that is similar to PQ—perceived CSR, which has a direct effect on corporate reputation and purchase intention only when it is supported by perceived quality (Gatti, Caruana, & Snehota, 2012). PQ in turn functions as a mediator between CSR performance and brand preference (Liu, Wong, Shi, Chu, & Brock, 2014). This relation will only be effective if companies stress CSR in their core value proposition; if not, they enter into “*sustainability liability*” (Luchs, Naylor, Irwin, & Raghunathan, 2010).

It is thus important to determine the effect of perceived SDG practices on PQ in ride hailing—a sector inside the sharing economy that has not yet been studied—and to contrast our findings with those in previous studies if there are differences in the mediation effects regarding CSR and more specific SDG practices. Accordingly, the first hypothesis is proposed as follows:

- H1: The perception of SDG practices has a positive impact on PQ in sharing mobility companies.

4.2.2.4 Perceived quality and loyalty

One of the first models of perceived service quality was created in the early 1980s and was called SERVQUAL. This included dimensions such as tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Zeithaml, & Berry, 1985). Twenty years later, a new scale was designed based on online services: E-S-Qual, which has a total of 22 items grouped into dimensions such as efficiency, fulfilment, system availability and privacy (Parasuraman, Zeithaml, & Malhotra, 2005).

These two models have been adapted to platform economies. For transport platforms, the proposed dimensions have included platform responsiveness, legal protection, peer interaction, social interaction and tangibles (Mas-Machuca et al., 2021). Other authors have introduced additional dimensions, such as sustainability and environmental quality (Acheampong & Siiba, 2020). We thus propose the following dimensions (Mas-Machuca et al., 2021; Vaclavik, Macke, & Faturi e Silva, 2020):

- Site organization: Design of a site that makes it appealing and easy to navigate.
- Platform responsiveness: Ability to quickly deal with problems and establish agreements.
- Quality environment: Sustainable use of resources in the platform.
- Peer interaction: Professionalism, honesty, and empathy of the peer service provider.
- Social interaction: Experiences during interactions with people.

PQ and loyalty have been widely studied, and the literature agrees that good PQ leads to increased consumer loyalty (Akhmedova, Mas-Machuca, & Marimon, 2020; Benoit, Baker, Bolton, Gruber, & Kandampully, 2017). PQ is one of the drivers will lead to a positive behavioral user action—e.g., an increase in loyalty—and thus an increase in purchasing intention.

During platform services, all five dimensions of SERVQUAL affect platform user satisfaction, and service quality is among the most important factors that can increase user loyalty (Kim, 2021). PQ is very important for promoting customer satisfaction and loyalty (Mas-Machuca et al., 2021). We therefore propose the following hypothesis:

- H2: Perceived quality has a positive impact on user loyalty.

4.2.2.5 SDGs and loyalty

Loyalty is defined as repurchasing a service based on repurchase intention, price tolerance and the intention to recommend products or services to others (Turkyilmaz et al., 2013). In this context, loyalty usually means encouraging friends and relatives to use a platform, using the service again and choosing the same platform among those that offer the same service (Jin & Chen, 2020).

Corporate social responsibility and the impact of a firm’s sustainability on consumer loyalty are now considered positive (Ahmad et al., 2021). However, early studies, such as Möhlmann (2015), could not find any relationship between environmental impact and consumer satisfaction or loyalty. More recent studies—focused on company practices related to the SDGs—have found that only the practices related to environmental and social dimensions affect consumer loyalty (Jargalmaa, Ariunkhishig, & Ye, 2021). Moreover, sustainable practices increase consumers’ confidence and satisfaction and, therefore, loyalty (Moise, Gil-Saura, & Ruiz-Molina, 2021). To shed light on the relationship between sustainable practices and customer loyalty, we propose the following hypothesis:

- H3: Users’ perceptions of the environmental, social or economic SDG practices implemented by car-sharing companies have a positive impact on their loyalty.

Collectively, our three hypotheses structure our research model, as shown in Figure 6.

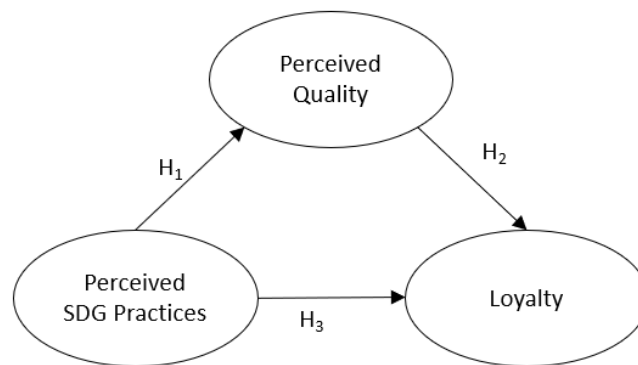


Figure 6. Research model, based on the theoretical framework

4.2.3 Methodology & analysis

Our methodology and analysis were carried out in two steps. First, a questionnaire was created rated using a Likert scale from 1 to 5 (1 = *totally disagree* and 5 = *totally agree*) to support a structural equation model with exploratory and confirmatory analysis.

4.2.3.1 Questionnaire and data collection process

The questionnaire was designed to collect specified information for each construct in the research model. To determine the dimensions of the questionnaire, we reviewed the literature on ride hailing, PQ, SDGs and loyalty. The questionnaire was then sent to 15 experts in the field, who analyzed the questions and made recommendations. Table 8 summarizes the sources we used to design the questionnaire, which is shown in Appendix 1.

| | |
|-------------------------|---|
| Site organization | Parasuraman, Zeithaml, and Berry (1988), Mas-Machuca et al. (2021) |
| Platform responsiveness | Parasuraman et al. (1988); Ganguli and Roy (2010), Vaclavik et al. (2020), Kong, Wang, Hajli, and Featherman (2020), Akhmedova et al. (2020), Marimon, Mas-Machuca, and Llach (2020), Cheng et al. (2020) |
| Quality environment | Möhlmann (2015), Parguel, Lunardo, and Benoit-Moreau (2017), Vaclavik et al. (2020), Acheampong and Siiba (2020) |
| Peer interaction | Parasuraman et al. (1988), Mas-Machuca et al. (2021) |
| Social interaction | Vaclavik et al. (2020), Jin and Chen (2020), Marimon et al. (2020), Cheng et al. (2020), Mas-Machuca et al. (2021) |
| SDG practices | SDG Targets, Company sustainability reports, Martins et al. (2020) |
| Loyalty | Vaclavik et al. (2020), Jin and Chen (2020), Marimon et al. (2020), Cheng et al. (2020), Mas-Machuca et al. (2021) |

Table 8. Sources used for questionnaire design

Data was collected through social networks, using platform ads that targeted specific segments: citizens of Barcelona and Madrid (main cities where these companies operate) and from 18 to 45 years old. Previous research carried out by Casadó et al. (2020) confirms that young people are more likely to use car ride hailing platforms. In addition, according to data from Natcen Social Research (2020), the average age of Uber users is around 32.7 years compared to 36.9 for Cabify.

Drawing on the previous data, a stratified sampling to represent the users of ride hailing companies has been carried out. This method has permitted the obtention of 485 complete and valid responses from users of ride hailing platforms in Spain collected between March and April 2021. This information was collected through the specialized platform Survio, comprising a total of 1028 answers. However, only those users who had previously used the service were counted, as the first question of the questionnaire was discriminant. The following Table 9 shows the demographic characteristics of the sample.

| Gender | Number | % |
|---------------|---------------|----------------|
| Male | 196 | 40.41% |
| Female | 289 | 59.59% |
| Total | 485 | 100.00% |
| Age | | |

| | | |
|-------------------------|------------|----------------|
| Between 0 and 17 years | 3 | 0.62% |
| Between 18 and 29 years | 372 | 76.70% |
| Between 30 and 44 years | 60 | 12.37% |
| Between 45 and 59 years | 43 | 8.87% |
| > 60 | 7 | 1.44% |
| Total | 485 | 100.00% |
| Education | | |
| Professional education | 3 | 0.62% |
| High school | 101 | 20.82% |
| University degree | 218 | 44.95% |
| Master's degree | 163 | 33.61% |
| Total | 485 | 100.00% |

Table 9. Demographic characteristics of the sample

4.2.4 Results

4.2.4.1 Model definition

The first step was to perform an exploratory component analysis of the 45 items identified in the questionnaire. A Kaiser–Meier–Olkin statistic of 0.910 forecast a good result for this analysis. The Bartlett test led to the same conclusion ($\chi^2 = 11,162.49$ and p value = 0.000). These results confirmed linear dependence between the variables. Seven factors emerged with eigenvalues greater than one (Kaiser criterion), which accounted for 62.26% of the variance in the sample. Table 10 shows the suggested factors.

| | Energy and environment | Sustainable cities and communities | Quality environment | Site organization | Economic growth | Social and peer interaction | Loyalty |
|--------|------------------------|------------------------------------|---------------------|-------------------|-----------------|-----------------------------|---------|
| SDG73 | .807 | .181 | .007 | .078 | .258 | .037 | -.056 |
| SDG71 | .785 | .217 | -.029 | .070 | .147 | .086 | -.037 |
| SDG72 | .762 | .210 | -.011 | .124 | .238 | .011 | .001 |
| SDG131 | .697 | .373 | .007 | .002 | .137 | -.044 | .061 |
| SDG84 | .682 | .361 | .047 | .059 | .316 | .006 | -.053 |
| SDG132 | .674 | .329 | .022 | -.113 | .203 | -.018 | -.005 |

| | | | | | | | |
|--------|-------|-------|-------|-------|-------|-------|-------|
| SDG133 | .670 | .382 | -.036 | -.067 | .236 | .024 | .053 |
| LO5 | .665 | .094 | -.019 | .014 | -.120 | -.047 | .048 |
| LO4 | .602 | .031 | .180 | -.048 | -.077 | .135 | .098 |
| SU1 | .597 | -.051 | .127 | .214 | -.238 | .032 | .013 |
| SDG83 | .580 | .257 | .039 | .040 | .440 | .064 | .054 |
| SDG85 | .531 | .530 | .005 | -.010 | .268 | .035 | -.111 |
| SDG112 | .230 | .775 | -.037 | .089 | -.060 | .072 | .028 |
| SDG115 | .135 | .757 | -.026 | .055 | .165 | .024 | -.017 |
| SDG113 | .276 | .744 | -.029 | .093 | .020 | .025 | .158 |
| SDG111 | .163 | .707 | -.082 | .284 | .058 | -.019 | .205 |
| SDG114 | .329 | .694 | -.072 | .067 | .160 | -.027 | -.006 |
| SDG87 | .441 | .587 | .036 | -.019 | .313 | .106 | -.103 |
| SDG86 | .354 | .557 | -.010 | -.005 | .395 | .104 | -.138 |
| PR3 | -.089 | -.011 | .807 | .002 | .089 | .095 | -.024 |
| QE1 | -.003 | -.042 | .771 | .072 | .033 | .119 | .217 |
| QE3 | .286 | -.095 | .744 | -.064 | -.105 | .143 | .103 |
| QE2 | .147 | -.056 | .723 | .066 | -.020 | .056 | .299 |
| SO3 | -.007 | -.035 | .665 | .172 | .173 | .144 | .008 |
| PR2 | -.047 | .030 | .508 | .364 | .043 | .027 | .039 |
| SO2 | .116 | -.012 | -.020 | .812 | .016 | .070 | .115 |
| SO4 | .016 | .103 | .015 | .770 | .080 | .106 | .051 |
| SO1 | .031 | -.018 | .142 | .715 | .063 | .125 | .159 |
| PI1 | .051 | .205 | .046 | .630 | -.024 | .137 | .047 |
| PI3 | .001 | .161 | .152 | .536 | .055 | .462 | .126 |
| PI2 | -.029 | .179 | .204 | .473 | .074 | .422 | .034 |
| PR1 | -.038 | .072 | .427 | .460 | .160 | .130 | -.032 |
| SDG81 | .220 | .093 | .097 | .064 | .776 | .053 | .140 |
| SDG82 | .218 | .156 | .073 | .162 | .764 | .034 | .120 |
| SDG88 | .188 | .408 | .096 | .006 | .636 | .130 | .126 |
| PI4 | .097 | -.041 | .196 | .078 | .060 | .699 | .033 |
| SI1 | -.025 | .018 | .086 | .054 | .022 | .691 | .049 |
| SI2 | .000 | .055 | -.032 | .293 | .025 | .636 | .116 |

| | | | | | | | |
|-----|-------|-------|-------|-------|-------|------|------|
| SI3 | .104 | .042 | .159 | .124 | .046 | .603 | .150 |
| LO1 | -.009 | -.016 | .182 | .211 | .188 | .159 | .768 |
| LO2 | .017 | .075 | .091 | .284 | .066 | .087 | .766 |
| LO3 | .024 | .115 | .296 | -.016 | .077 | .225 | .607 |
| SU2 | .013 | -.023 | -.082 | -.082 | -.151 | .071 | .143 |

Table 10. Suggested factors with their loads

The scale was analyzed with three different criteria: (i) loads at 0.60 or more on a factor; (ii) does not load at more than 0.50 on two factors; and (iii) has an item to total correlation of more than 0.40. The recommended 0.7 threshold was relaxed (Llach, Marimon, Alonso-Almeida, & Bernardo, 2013) to capture more information on each topic. However, since some items were ultimately dropped because they did not fulfil the previous criteria, just a few remain in the constructs.

Table 10 shows that all seven original benefit dimensions remained after dropping items. The first factor keeps the original label energy and environment and maintains seven of the nine original dimensions. The second factor retains all five original items from the sustainable cities and communities dimension. Similarly, the third dimension is composed of five items from quality environment. The fourth factor is covered by three items from site organization. The fifth factor is composed of three items from economic growth. The sixth factor covers social and peer interaction and has four different items. Finally, the seventh factor is composed of three items from loyalty.

These seven dimensions were organized into three groups—(i) perceived SDG practices: energy and environment, sustainable cities and communities and economic growth; (ii) PQ: quality environment, site organization and social and peer interaction; and (iii) loyalty. Figure 7 shows our final model.

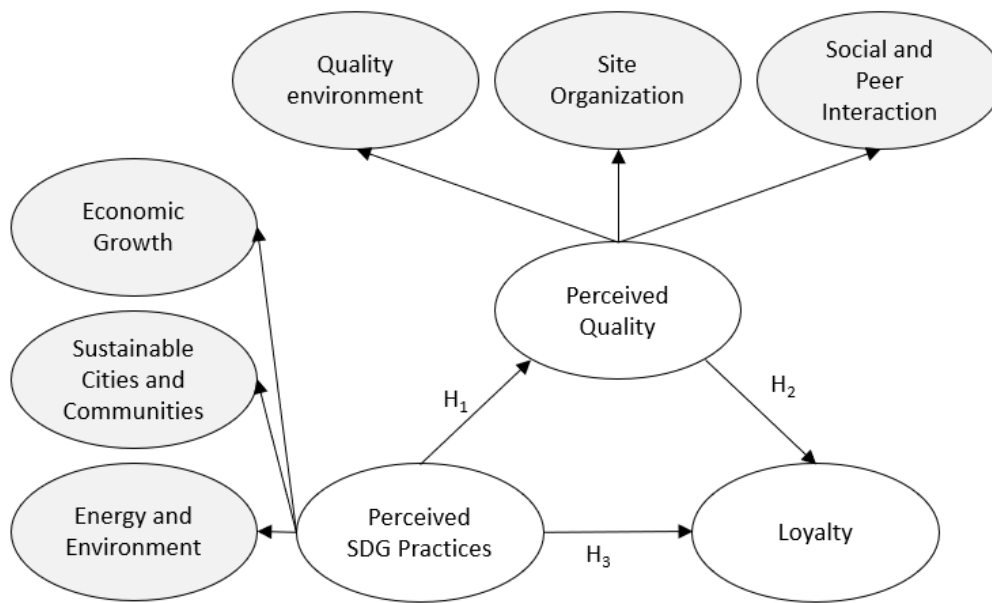


Figure 7. Model of the relationships among perceived SDG practices, PQ and loyalty

Reliability and validity (convergent and discriminant) assessments of these seven dimensions were conducted. The Cronbach’s alphas were greater than 0.8 for energy and environment, sustainable cities and communities, economic growth and quality environment; the Cronbach’s alphas were greater than 0.7 for site organization and loyalty. For social and peer interaction, they were 0.665; these were slightly lower than the recommended 0.7 threshold (Fornell & Larcker, 1981), but remained significant in the overall model and are acceptable for internal consistency if the threshold is higher than 0.6 (Kachooei et al., 2015). Convergent validity was also confirmed: the average variances extracted (AVEs) of these dimensions ranged between 0.515 and 0.588, exceeding the minimum of 0.5 recommended by Fornell and Larcker (1981). Only one dimension had an AVE under 0.5—social and peer interaction, with 0.434—but its composite reliability was above 0.6. Hence, again according to Fornell and Larcker (1981), its convergent validity was still adequate, as shown in Table 11.

| | Energy and environment | and Sustainable cities and communities | Quality environment | Site organization | Economic growth | Social and peer interaction | Loyalty | | | | | | |
|----------------------------|------------------------|--|---------------------|-------------------|-----------------|-----------------------------|---------|--------|-------|-----|-------|-----|-------|
| SDG 73 | 0.807 | SDG 112 | 0.775 | PR3 | 0.807 | SO2 | 0.812 | SDG 81 | 0.776 | PI4 | 0.699 | LO1 | 0.768 |
| SDG 71 | 0.785 | SDG 115 | 0.757 | QE1 | 0.777 | SO4 | 0.770 | SDG 82 | 0.764 | SI1 | 0.691 | LO2 | 0.766 |
| SDG 72 | 0.762 | SDG 113 | 0.744 | QE2 | 0.744 | SO1 | 0.715 | SDG 88 | 0.636 | SI2 | 0.636 | LO3 | 0.607 |
| SDG 131 | 0.697 | SDG 111 | 0.707 | QE3 | 0.723 | | | | | SI3 | 0.603 | | |
| SDG 84 | 0.682 | SDG 114 | 0.694 | | | | | | | | | | |
| SDG 132 | 0.674 | | | | | | | | | | | | |
| SDG 133 | 0.67 | | | | | | | | | | | | |
| Cronbach's alpha | 0.928 | 0.863 | 0.839 | 0.783 | 0.809 | 0.665 | 0.740 | | | | | | |
| Composite reliability | 0.887 | 0.855 | 0.848 | 0.810 | 0.771 | 0.753 | 0.759 | | | | | | |
| Average variance extracted | 0.529 | 0.542 | 0.583 | 0.588 | 0.530 | 0.434 | 0.515 | | | | | | |

Table 11. Suggested factors with their loads

After the constructs were defined, discriminant analysis was conducted to confirm that the correlations between constructs were lower than the square root of the AVE. As Table 12 shows, this criterion was met in all cases.

| | F1 | F2 | F3 | F4 | F5 | F6 | F7 |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| F1 Energy and environment | 0.727 | | | | | | |
| F2 Sustainable cities and communities | 0.581 | 0.736 | | | | | |
| F3 Quality environment | 0.070 | -0.059 | 0.763 | | | | |
| F4 Site organization | 0.096 | 0.192 | 0.124 | 0.767 | | | |
| F5 Economic Growth | 0.489 | 0.428 | 0.162 | 0.192 | 0.728 | | |
| F6 Social and peer interaction | 0.102 | 0.111 | 0.287 | 0.330 | 0.202 | 0.658 | |
| F7 Loyalty | 0.089 | 0.145 | 0.372 | 0.333 | 0.271 | 0.354 | 0.718 |

Table 12. Discriminant analysis (the diagonal elements in bold are the square roots of the average variances extracted)

The model was estimated using the robust maximum likelihood method from the asymptotic variance-covariance matrix. The fit indices obtained in the measurement model estimation showed that the variables converged toward the factors established in the CFA (see Table 13) as follows: χ^2 Satorra–Bentler was 921.18, with 368 degrees of freedom and a p value of 0.00; χ^2/df was 2.50, which is below the acceptable limit of 5 (Wheaton, Muthén, Alwin, & Summers, 1977); the root mean square of approximation (RMSEA) was 0.056, which is lower than the suggested limit of 0.08 (MacCallum, Browne, & Sugawara, 1996); and the CFI was 0.885, which should be near 0.9 (Hu & Bentler, 1999). Therefore, global fit can be confirmed

because more than three statistics fulfilled the recommended values (Schermelleh-Engel, Moosbrugger, & Müller, 2003).

| Goodness of fit summary | | Optimal value |
|---|----------------|----------------|
| Satorra–Bentler scaled χ^2 | 921.18 | - |
| Degrees of freedom | 368 | - |
| p value | 0.0 | Less than 0.05 |
| χ^2/df | 2.50 | Less than 5 |
| Comparative fit index (CFI) | 0.885 | Similar to 0.9 |
| Root mean-square error of approximation (RMSEA) | 0.056 | Less than 0.08 |
| 90% confidence interval of RMSEA | (0.051, 0.060) | |

Table 13. Summary of data in the presented model

4.2.4.2 *Mediation effect of PQ*

To assess the mediation effect of the implementation process construct, the methodology suggested by Baron and Kenny (1986) was adopted and performed following Bernardo, Marimon, and Alonso-Almeida (2012) and Marimon, Gil-Doménech, and Bastida (2019), who use SEM instead of regression analysis. Preacher and Hayes (2004) recommend the use of SEM to assess mediation because it offers not only a reasonable way to control for measurement error but also interesting alternatives for exploring the mediation effect. In our case, mediation analysis was performed to determine the influence of PQ on perceived SDG practices and loyalty. Zhao, Lynch, and Chen (2010) have proposed different types of mediation that depend on the relationships between dimensions.

According to the results shown in Table 14, SDG practices directly affect PQ, and PQ affects loyalty directly via standard coefficients of 0.310 and 0.779, respectively. However, SDG practices do not have a significant direct effect on loyalty; there is an indirect-only mediation of PQ for SDG practices and loyalty, with an indirect coefficient of 0.241.

| | Total effect | Indirect effect | Direct effect | |
|--------------------------------|---------------------|---------------------|------------------------|-------------------|
| SDG Practices → PQ | 0.310 (3.76) | — | 0.310 (3.76) | H1 accepted |
| PQ → Loyalty | 0.779 (5.05) | — | 0.779 (5.05) | H2 accepted |
| SDG Practices → Loyalty | 0.203 (2.61) | 0.241 (2.61) | -0.038 (-0.575) | H3 refused |

Table 14. Direct and indirect effects between dimensions
In the table are included the coefficients and in brackets, the corresponding t-value.

According to the mediation typologies of Zhao et al. (2010), PQ is completely mediating, labeled “indirect only mediation”. Hence, the only way to achieve loyalty is through PQ, revealing the paramount importance of PQ in our model. This also highlights the significance of integrating SDGs into the PQ of a company for increasing consumer loyalty. Below, Section 5 elaborates on this point, providing its managerial implications and proposing actions that can be taken to enhance loyalty via PQ and SDG practices.

We also present the same information in Figure 8, for an easier interpretation of the mediation coefficient.

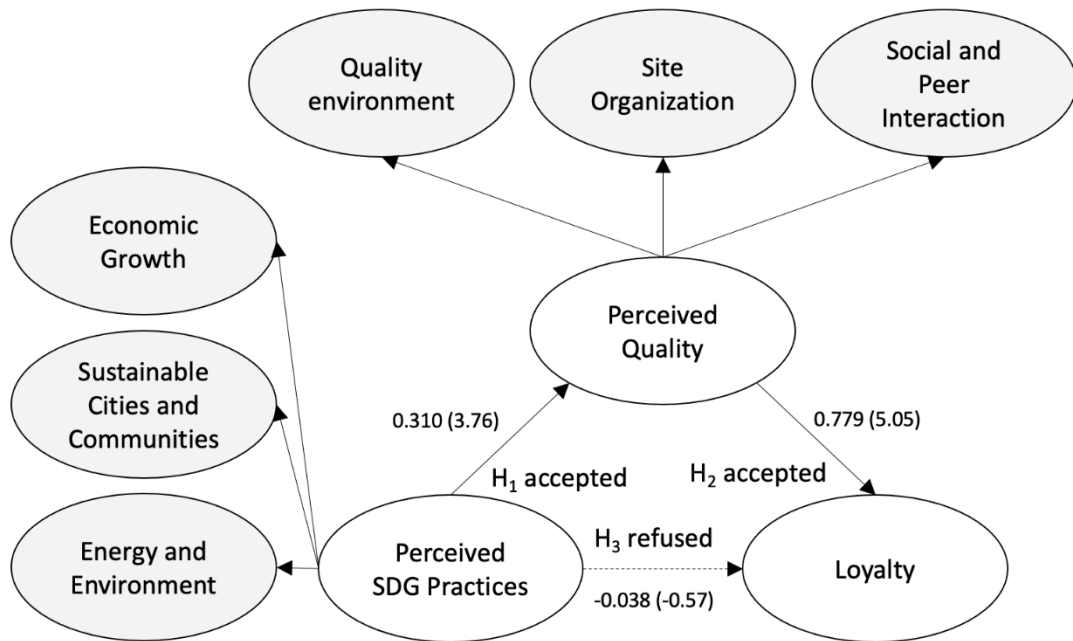


Figure 8. Total effects between dimensions.
On each arrow are included the standardized coefficients and in brackets the associated the t-values.

4.2.5 Discussion

The results of this study show the importance of implementing SDG practices into actions that can increase the PQ of a ride hailing company to increase user loyalty. The results of our study shed light on the relationship between SDG and quality, for which previous studies have yielded contrary results that suggest sustainability practices can have a neutral or negative effect on perceived quality (Acheampong & Siiba, 2020; Dekhili et al., 2019; Habibi et al., 2016). As we have found that SDG practices have a direct impact on PQ, H1 is accepted. Accordingly, companies should integrate these practices into their daily activities.

Moreover, as we hypothesized, we have found that PQ leads to an increase in loyalty. Thus, H2 is accepted, confirming the prior results of Benoit et al. (2017) and Akhmedova et al. (2020). This result also supports RAT theory, as the good quality of the company will generate a competitive advantage and will drive the behaviors of its users.

Another discrepancy exists in the literature regarding the relationship between SDG practices and loyalty. While Möhlmann (2015) did not find any relationship between environmental impact and consumer satisfaction or loyalty, Moise et al. (2021) and Ahmad et al. (2021) concluded that sustainable practices have a direct effect on loyalty. Furthermore, only environmental and social practices seem to be important for customers (Jargalmaa et al., 2021).

In our study, we have demonstrated that SDG practices do not have a direct effect on loyalty; thus, H3 is refuted, in line with Möhlmann (2015). Rather, SDG practices have an indirect impact when they are included in company quality practices. Thus, in contrast to Jargalmaa et al. (2021), all three dimensions of sustainability are affected and should be integrated into any company strategy. This result also disagrees with RAT, since the assignment of one resource by itself has no competitive effect. However, the combination of different resources will, supporting RAT, increase the competitiveness of a company.

SDG practices are the first part of our model that leads to an increase in loyalty through the mediation of PQ. This result confirms similar results concerning CSR among Gatti et al. (2012) and Liu et al. (2014). It also demonstrates that SDGs are at once related to CSR and a valid instrument for its application.

4.2.5.1 *Managerial implications*

Based on RAT theory, the investment made in the company's resources will be the antecedent of its competitive advantage and, therefore, of its financial performance

improvement. One might think that investing in a resource as important as sustainability can generate by itself a competitive improvement and, therefore, to improve consumer loyalty. However, the research carried out emphasizes that, in addition to investing in sustainability, investment should also be made in resources such as the website, the availability of the driver or the quality of the car, since these factors also affect the competitive advantage of the company. Only with the combination of sustainability and compliance in quality levels of the other factors, the competitive position of a company is improved and subsequently, its economic result. Therefore, the commitment to sustainability must be given in those situations in which the quality of the service is assured.

In relation with RAT theory, ride hailing companies have been trying to advance a more sustainable management model to increase user loyalty. The question should be: which are the resources that will allow an improvement to market and financial results?

First of all, these companies must take actions to increase PQ. Here, we emphasize “must” because the total mediation of PQ has been proven to drive customer loyalty. Such activities could be related to the use of energy and protection of the environment, to economic growth and to sustainable cities. These companies should thus include electric or hybrid cars in their fleets to reduce emissions and to participate in sustainable education, which is the first step for individuals to perform sustainable practices. Regarding economic growth, companies should obviously increase their activity and promote entrepreneurship practices and, if possible, their sustainable entrepreneurship. These companies need to support the creation of a more sustainable city by offering safe transport, connecting impoverished and rural areas and providing services for people with disabilities. Companies such as Uber have started moving in these direction by offering, for example, free trips for users receiving a COVID-19 vaccine.

One issue that has no effect on user decisions is workers’ rights, which are included in SDG 8. Workers are a very important topic, but users are focused only on service transport and its quality; they tend not to take workers’ rights into account, although some people refuse to do business with these transport companies because of the lack of rights among their workers (De Elizalde & Pastor-Merchante, 2021). Workers’ rights are thus an opportunity for mobility sharing companies to increase the number of their clients and to increase the sustainability of their workers.

One of the most relevant sustainable practices these companies could implement is the use of electric vehicles. Many companies have started replacing their traditional fleets of vehicles

while requesting public administrations to advance the electrification of the mobility sector. This action is necessary, as without participation from public administrations, full electrification will be impossible to achieve. The European Commission wants to reduce transport pollutant emissions by 60% by 2050 and to eliminate conventional vehicles entirely (European Commission, 2021). However, without starting at the local administrative level with small actions, this will be impossible to achieve.

However, these actions are not sufficient to increase user loyalty; they need to be identified in the quality practices of a company and separated into quality environment, site organization and social interaction. One of the most important actions is offering sustainable information on a platform and communicating the relevant company actions, especially any environmentally friendly ones related to the use of natural resources. Other more traditional PQ items, such as site organization and social interaction, require more in-depth analysis. Platforms should also consider looking beyond cars and expanding their offerings to support bicycle or electric scooter use alongside automobile rides. Users value this option, and companies such as Cabify have started to introduce these practices. To increase loyalty, all of these practices need to be applied together. For example, electric cars can increase loyalty only if users have good relationships with their drivers and if it is easy to use and pay with a ride hailing platform. If only one of these aspects is fulfilled (electric car with bad user experience), loyalty will not increase—it may actually decrease.

4.2.6 Conclusions

This study has identified the mediating role of PQ between SDG practices and user loyalty, helping resolve various gaps and discrepancies in the literature while confirming previous results concerning CSR. Based on RAT theory, ride hailing companies' SDG practices must be integrated into their quality management systems and work as complements—only with this mediation will loyalty increase. Investing in sustainability alone is not enough to improve a company's competitive advantage in the marketplace. However, the combination of sustainability with the appropriate investment in resources that improve the quality of the service, does allow improving the return of the company in issues such as consumer loyalty.

For academics, the mediating effect of PQ has been identified with respect to SDG, confirming previous results on CSR, which opens the door for future research to identify the precise impact of each implemented SDG practice using metrics or to identify new measures. This could also be an opportunity to test these conclusions in other SE sectors. For practitioners, the importance of SDG practices in combination with traditional quality

actions has been demonstrated. In the next few years, companies should prioritize the implementation of electric cars, sustainable entrepreneurship, safe and accessible transport and improvements in workers' rights among their development strategies. There are two key steps for policy-makers. First, investment in sustainable transport is needed; one of the priority actions is the installation of infrastructure for electric cars. Second, new regulations for mobility sharing are needed, as well as greater support and protection for workers' and users' rights.

Although this study was carefully conducted, some limitations should be mentioned. First, this study was based on perceptual measures. Second, as the responses to the questionnaire were collected only in Spain, it would be interesting to apply the questionnaire internationally to analyze any differences. Third, only the most relevant SDGs for sharing economy were studied, but some practices could be allocated to other SDGs. SDG practices are currently relevant and will become even more relevant in the future. It is thus important for companies to know how to integrate these practices to improve both their sustainability and profitability.

4.3 In a sustainable-oriented sector, Sustainable Development Goals are also deficient

Referència:

Actualment, en revisió.

Boar, A., Bastida, R., & Marimon, F. (2023). In a sustainable-oriented sector, Sustainable Development Goals are also deficient

Factor d'impacte i quartil:

- Scopus CiteScore: 0,27; Q3 Accounting

Contribució a l'article:

Com a investigador principal, he estat responsable de la revisió de la literatura, de l'obtenció de les dades, del tractament de la informació i de la redacció del text. Els meus supervisors, Frederic Marimon i Ramon Bastida han participat a l'article en el seu plantejament, disseny, supervisió i revisió.

4.3.1 Introduction

Sharing Economy (SE) is a new trend in business model management (Nájera-Sánchez et al., 2020). Its main definition is based on reusing an asset to consume it continuously without the need to repeatedly produce it. With limited resources available on the planet, an increasing number of people are changing from a property model to a pay-per-use model.

SE has a positive effect on sustainable cities, as it reduces the number of vehicles, improves traffic flow, changes the use of private vehicles among the public and, therefore, reduces their total emissions emitted (Pinto et al., 2019). This trend may seem to have a direct impact on sustainability by reducing necessary production, but, even so, there are doubts regarding its actual effect (Doni et al., 2019).

Within the phenomenon of SE, we find sharing mobility; this is based on connecting users with vehicles through electronic platforms. Depending on its characteristics, it can be divided among *ride hailing, ride sharing, car sharing and bike sharing*. One of the factors of its growth in recent years is, apart from supply and demand, the environmental concern of users (Hu & Creutzig, 2022). Shared mobility has a positive effect on sustainability, but its effect needs to be studied in relation to the Sustainable Development Goals (SDGs; (Boar et al., 2020) while taking into consideration the three dimensions of sustainability: environmental, social and economic (Carter & Rogers, 2008).

In the analysis of sustainability, it is usual to refer to corporate social responsibility (CSR), which has existed for more than 70 years, although its application has not been homogeneous, either in relation to business applications or geography, or in different parts of the world or one country. In general, CSR can be defined as *"the activities carried out by companies in addition to their economic interests that include their social impact"* (Freeman & Hasnaoui, 2011).

The SDGs can be a guide for CSR, but they also have a high complexity of application in any company. There are indices and reporting agencies, but their measurement is still a chimaera for companies (Khalid et al., 2020) that already apply the SDGs in their narratives, as the requirements of the SDGs, as well as the exact indicators thereof, are still missing (Izzo et al., 2020). Currently, there is a gap in the research on the integration of the SDGs in the strategies of companies, particularly the selection of priority SDGs for each company or sector of activity. The main objective of this article is to analyse whether in a sector focused on sustainability, shared mobility, deficiencies in the application of the SDGs in a company are reduced. To achieve this objective, 4 interviews were carried out with

managers and/or those responsible for the sustainability of the main companies in this sector.

The results show that the focus on sustainability in this sector does not improve deficiencies in the selection and application of the SDGs. In addition, this research makes it possible to determine the strategies followed by shared mobility companies to select their priority SDGs and their indicators. Through the analysis of the shared and nonshared SDGs among different companies in the focal sector, relationships between a company's strategy and its geographical area, its externalities, can be determined via the selection, measurement and reporting of its sustainability strategies. This radiography of the sector has occurred just before the application of the new Corporate Social Reporting Directive (CSRD), explaining the reality of the application of the SDGs in any company as well as the need for the homogenization of processes, materiality and indicators.

After this introduction, a literature review, the adopted methodology, and a comparison of sustainability reports and the results obtained in this research are presented. Finally, a discussion of the results and some conclusions are provided.

4.3.2 Literature review

This section addresses the application of CSR in companies, the concept of materiality, the role of SDGs in companies, their causes of application and their measurement.

4.3.2.1 The application of CSR in companies and the concept of materiality

In 2001, (McWilliams & Siegel, 2001) indicated that the application of CSR in companies depends mainly on their size, product diversification, investment in research or consumer income, leading to a neutral relationship between the application of CSR and any financial result. The moment of growth of a company is also relevant; unless a company is born with a sustainable purpose, CSR does not apply until the maturity thereof (Jabłoński & Jabłoński, 2016). This raises the following question:

PI1: Does a sector focused on sustainability have a better alignment of SDGs and companies?

The reasons for the application of CSR have also evolved over time. Carroll and Shabana (2010) explain that CSR in a company is adopted for reasons such as risk and cost reduction, competitive advantage and brand legitimation. More recently, Kumar et al. (2021) have explained that CSR activities can be classified into brand impact, risk reduction in the value chain, transformation of activities or philanthropic strategy. Currently, CSR is related to a

balance among economic interests, environmental needs and social expectations (Shayan et al., 2022).

In determining CSR, the concept of materiality is key, that is, the determination of the concepts that are important (or not) for stakeholders. The processes for determining materiality and its components are diverse but usually encompass issues related to employees, social and environmental problems, customers and sustainable performance (Steenkamp, 2018). This diversity can lead the users of sustainability reports to draw unwarranted conclusions based on materiality (Jørgensen et al., 2022).

To reach this balance, the SDGs can be an application guide; as recommended by Shayan et al. (2022), their use can reduce the complexities and differences in the application of CSR in companies. In addition, they offer an opportunity to expand CSR as it has been thus far defined (Alcívar et al., 2022).

4.3.2.2 The Sustainable Development Goals in a company

As a guide for sustainable development, the United Nations created the SDGs to have an impact on the three dimensions of sustainability: environmental, social and economic. In relation to a company, the SDGs represent a clear opportunity (Rosati & Faria, 2019), but their goals and indicators, created initially for countries, have to be adapted to business reality. The goals designed for countries do not always fit the needs of companies (Malay, 2021).

Those companies that report on their SDGs are of a certain size with a high level of intangible assets, a board of directors with a female majority and young average age, as well as a concern for sustainability (Rosati & Faria, 2019). In summary, companies do not have consistent methods to mark their SDGs; the SDGs have not substantially modified these companies' relationship with sustainability; and the SDGs cannot improve their sustainability strategies (Mhlanga et al., 2018).

The application of the SDGs is also uneven in terms of geographical area. In areas that are still growing, such as BRICS countries, the priority is economic development without any integration of sustainability into strategy (Sinha et al., 2020). However, this is a missed opportunity; this growth can occur in a sustainable way from the origin, for example, with models such as the circular economy (Boar et al., 2022).

The current reality is, although companies cite the SDGs in their reports, they do not explain how their business actions have actual impacts on sustainability and, therefore, on the SDGs

(Costa et al., 2022). Unsurprisingly, as Schulz and Flanigan (2016) indicate, these sustainability reports will remain a marginal tool until there is a reporting system that allows the comparison of indicators between companies and sectors. The exception is companies that provide a strong social analysis or whose stakeholders are aligned with ethical and environmental concerns (Emma & Jennifer, 2021). As Shayan et al. (2022) suggest, without the appropriate indicators and index, it is not possible to compare the situation of the SDGs in any company or worldwide, which makes us consider the following questions:

PI2: What process is followed by companies to establish their priority SDGs?

PI3: What are the reasons or criteria for selecting some SDGs but not others?

4.3.2.3 *The reasons for applying the SDGs in a company*

Most companies have adapted their activities to the SDGs or have used them to plan their future activities (Silva, 2021). The application of the SDGs can represent a new form of competitive advantage among companies, with a relatively low risk of application (Bogoviz et al., 2022). The adoption of the SDGs allows a greater attraction of investment, better positioning with interest groups, brand strengthening, enhanced customer loyalty, increased access to larger groups of consumers and a reduction in corporate image problems (Camarán et al., 2019). Furthermore, the application of sustainability through the SDGs leads to improvement in consumer satisfaction and loyalty (Salam et al., 2022). Palau-Pinyana et al. (2023) indicate that the SDGs can lead to improvements in a company and enhance the economy of a country by caring for the environment and ensuring social inclusion.

4.3.2.4 *The measurement of the SDGs in a company*

Although sustainability and the SDGs in a company have their benefits, as explained above, there are multiple deficiencies in their measurement and reporting. Several authors have defined the paths for their application. First, Schramade (2017) has indicated some steps, such as exploring what the SDGs tell us, identifying the risks and opportunities that they bring us, setting specific goals for a company, and identifying their indicators and reporting on them. More recently, similar, new steps have been indicated: to prioritize the most relevant goals and indicators, understand how a simple system of indicators can capture the evidence, and ensure that communication is open and honest, providing both bad and good news (Mansell et al., 2020).

In practice, although the steps to be followed are clear, they lack any homogeneity (Shayan et al., 2022). To address this, entities such as the International Sustainability Standards Board

have tried to reduce their differences. There are also tools such as the SDG Compass, which marks the implementation of the SDGs in a company with 3 sentences:

- 1 Define priorities in the SDG goals.
 - a Understand the SDGs and their goals.
 - b Prioritize the SDGs.
 - c Define what is related to your SDGs.
- 2 Measure and analysis.
 - d Set business goals.
 - e Select the appropriate disclosure.
 - f Collect and analyse the data.
- 3 Report, integrate and implement changes.
 - g Consider good practices when reporting the SDGs.
 - h Consider the information that users require.
 - i Report and implement changes.

Since there is no homogeneity among their indicators, companies apply the SDGs individually, often without being able to compare them (Szennay et al., 2019). Finally, we consider the following question:

PI4: What are the motivations or criteria for establishing selected SDG indicators?

4.3.3 Methodology

In this article, the sample has been intentionally selected from companies that offer shared mobility services with a driver, including Uber, Cabify, Grab and Didi. On the other hand, driverless mobility companies have also been chosen, such as Som Mobilitat or The Mobility Factor; these are also smaller companies, which allows discrimination by size.

First, the sustainability reports of the focal companies have been analysed based on their summary content (Hsieh & Shannon, 2005), according to a nonclosed list of concepts such as “SDG, reference SDG, commitment to the SDGs, sustainability”, that are referenced in an explicit and implicit method, as previously proposed (Izzo et al., 2020). In addition, only the SDGs explicitly presented have been analysed, as these have a positive impact and are communicated (Heras-Saizarbitoria et al., 2022, Van Der Waal & Thijssens 2020).

Subsequently, four semistructured interviews were carried out. These allowed adapting the questions to the responses received, were between 20 and 52 minutes in length, and involved those parties responsible for sustainability departments, allowing us to contrast this information with the reports themselves and to ascertain, in detail, the causes and methods of the selection of SDGs and their indicators. The information from the interviews is shown in Table 15, and the questions are included in Appendix 2. Although we tried hard, it was impossible to make the interviews with Uber or Grab.

| Interview number | Business | Position in the company | Duration of the interview |
|------------------|----------------------|--|---------------------------|
| 1 | Cabify | Sustainability Analyst | 52 minutes |
| 2 | Didi | International Director of Sustainability and CSR | 46 minutes |
| 3 | Som Mobilitat | Founder and CEO | 32 minutes |
| 4 | The Mobility Factory | Founder and CEO | 20 minutes |

Table 15. Descriptions of the interviews

These interviews were carried out individually, recorded, and then subsequently analysed through directional content analysis with the aim of validating or extending the extant theoretical framework (Hsieh & Shannon, 2005).

The information was subsequently processed following the methodology of Gioia et al. (2013) to structure the data in 3 dimensions according to the SDG Compass: definition of priorities, measurement, and communication of the information.

4.3.4 Results: differences in sustainability reports

First, given the divergences in indicators discussed above, we highlight the differences in the sustainability reports of the leading companies in the focal sector: Cabify, Grab and Uber. These are the only companies in the sample that provide a public sustainability report. Table 16 shows these SDGs when they indicate a direct impact.

| Business | SDG in 2019 sustainability reports | SDG in sustainability reports from 2021 or 2022 | Reference: |
|----------|--|--|----------------------------------|
| Cabify | SDG 5: Gender equality SDG 10: Reduction in inequalities SDG 11: Sustainable cities and communities SDG 13: Climate change SDG 17: Partnerships to achieve goals | SDG 8: Decent work and economic growth SDG 9: Industry, innovation and infrastructure SDG 11: Sustainable cities and communities SDG 13: Climate change SDG 15: Life of terrestrial ecosystems | (Cabify, 2020) (Cabify, 2022) |
| | SDG 7: Affordable and clean energy SDG 9: Industry, innovation and infrastructure SDG 11: Sustainable cities and communities | SDG 1: No poverty SDG 3: Health and well-being SDG 5: Gender equality SDG 7: Affordable and polluting energy SDG 8: Decent work and economic growth SDG 9: Industry, innovation and infrastructure SDG 10: Reduction in inequalities SDG 11: Sustainable cities and communities SDG 12: Sustainable production and consumption SDG 13: Climate change | (Grab, 2020) (Grab, 2022) |
| Uber | SDG 7: Affordable and polluting energy SDG 13: Climate action | SDG 3: Health and well-being SDG 5: Gender equality SDG 7: Affordable and polluting energy SDG 8: Decent work and economic growth SDG 10: Reduction in inequalities SDG 11: Sustainable cities and communities SDG 13: Climate change SDG 16: Peace, justice and strong institutions SDG 17: Partnerships to achieve goals | (Uber, 2021) (Uber, 2023) |

Table 16. SDGs directly exposed in the sustainability reports of Cabify, Grab and Uber

As seen in Table 16, the main shared mobility companies apply different SDGs, even when they carry out very similar activities. Furthermore, only 3 SDGs are a common priority in this sector: SDG 8 (Economic development), SDG 9 (Industry and innovation) and SDG 13 (Climate change). These differences are due to the following:

- The different definitions of strategies and different processes in regard to marking priority SDGs.
- The negative externalities that the companies want to compensate for.

- Demands of the shareholders or other stakeholders of a company, who are consulted to determine the main impacts, risks and opportunities in terms of sustainability.
- Differences in the results of their materiality analyses.

Clearly, in the course of 2 or 3 years, the SDGs shown in these reports have clearly multiplied, with the exception of Cabify, which made a strong commitment to reporting the SDGs from the outset. Even so, its priorities have changed. For example, in 2019 for Cabify, SDG 10 on responsible consumption and production was relevant, but this was replaced by SDG 15 on the life of terrestrial ecosystems in 2022.

To work in line with the SDGs, some of the best projects that have been extracted are as follows:

- The protection of women, both drivers and users.
- Facilitating access to work for thousands of people who belong to social segments with difficulties.
- Greater number of electric and hybrid vehicles to reduce pollution, with a goal of 100% replacement in Spain by 2025 or 2030 for Latin America.
- Complementarity of the service with public transport, especially in more remote areas.
- Improved safety for all drivers and users.

Geographical area is also relevant in determining priorities and projects. In any case, any externality must be measured and subsequently reduced and/or compensated. In Europe, the environmental section of sustainability is a priority, with the reduction in and compensation of emissions. In Latin America, there is more work on the social and economic component, with projects such as caring for women or ensuring work for people with greater social risks. Finally, compensation is made with projects such as reforestation, the installation of wind farms or the substitution of fossil fuels.

4.3.5 Results: the definition, measurement and reporting of the SDG

The SDG Compass methodology is widespread among shared mobility companies for the definition and measurement of the SDGs. This methodology is applied to meet the specific needs of a sector, focusing on areas such as transparency, the environment, security or diversity. Even so, in the focal companies themselves, the priority areas may be different. Sustainability in the focal sector is not yet mature, and there is a bias towards the environmental SDGs. This information is presented below in relation to definition, measurement and communication.

4.3.5.1 Defining priorities

First, it is key to identify what companies' needs are, a task that is carried out every 3 to 5 years. For this objective, the materiality matrix is used, the critical points thereof in particular. In this section, it is thus essential to detect the externalities that exist and need to be mitigated. To develop this analysis, the following internal and external areas are studied:

- i In relation to the internal sphere, the analysis is carried out on different levels of society. The sustainability department usually leads the process, together with general management, communication and public policies.
- ii In relation to the external sphere, the sustainability reports of the competition, trends in the sector, expert reports and regulations are studied. A relevant role in this entire process is played by the drivers and customers themselves.

Differences are evident between start-ups and older businesses. In the case of newly created companies, as they are born with a directly sustainable will, the SDGs are not needed as a guide. The main topics to be addressed in these newly created companies are energy, mobility and climate change. Geographical area is again key, since the perception of sustainability itself is different depending on global position, following Sinha et al. (2020).

4.3.5.2 Measurement and analysis of data

Once the strategy has been established, it is essential to choose the goals and indicators that allow us to evaluate it. Global standards, such as the GRI and SDG Compass, as well as other global standards, are considered. Their great weakness, here, as explained by Schuzh and Flanigan (2016), is the identification of their own indicators, which can hardly be

comparable with those of other companies. Even so, the indicators that are public have to give confidence, clarity and be understandable. As the end user is still the customer, they must also be interpretable and comparable. However, in practice, these indicators do not coincide among companies in the same sector, as nuances are present in each of these companies.

The use of data is of very high complexity, especially in relation to social actions. For the other two dimensions, the direct and indirect effects can be estimated, but there is reasonable doubt concerning how to calculate the inductive effect. Another challenge is filtering the amount of information that exists. Currently, the most used information is that related to carbon footprints or the homologation of invoices.

If we consider newly created companies, the indicators are based on the environmental dimension of sustainability: emissions and energy consumption. Internally, we also work on indicators such as the reduction in the purchase of cars or those that are unbalanced by the action of the company. All of these, however, are subjective, and although they are compared to those of the competition, it is the social council of each society that decides the indicators that are used. In turn, the data and indicators that are used are derived manually, and attempts are made to keep them updated as much as possible.

Regarding measurement over time, there are differences in calculating within the same company. In general, there is a lack of standardization for any measurement allowing robustness of the data. Even so, indicator data tend to move quickly and are sensitive to the actions that are taken.

This information is kept up-to-date in the data departments that are fed by the internal reports that are made periodically. The monthly data are used to determine the reactive indicators, the quarterly data are used to make decisions, and the annual data are used to mark a company's strategy.

A unanimous request in the focal sector is the standardization of the measurement of sustainability and the SDGs. The new CSRD directive can be a step towards allowing comparison among companies in the same sector and in different sectors.

4.3.5.3 Information communication

The last phase in obtaining the indicators is their reporting. These data are published in an external sustainability report using GRI indicators, but they are reported internally on an informal basis. The essential information criterion is thus to make decisions within a

company to reach decisions of value and with greater impact. The part that is explained in such reporting is often not the most important. We cannot forget that one of the objectives of reporting is the impact on the end user. Even so, the measurement of this remains, again, a chimera. To analyse it, techniques such as *social listening* are used, which focus on analysing the perception of a brand on social networks, in the press, etc.

4.3.6 Discussion

The management of sustainability and the SDGs in companies has to improve. As the literature has long explained and Khalid et al. (2020) expresses, communication regarding sustainability has multiple shortcomings. Of course, everything starts with the selection and detection of priorities, continues with their measurement and ends with their communication.

Nevertheless, the SDGs have caused a change in the mindset of shared mobility companies. Upon their inception, Mhlanga et al. (2018) have indicated that the SDGs did not improve a company's sustainability strategy. However, over time, the SDGs have been introduced into the strategies of companies and, at the very least, have generated a reflection on sustainability. It is also clear that sustainability not only concerns the polluting emissions of vehicles. As Shayan et al. (2022) note, CSR and the SDGs in particular apply to economic, environmental and social balance. In the shared mobility sector and, depending on the geographical area studied, the social dimension is particularly emphasized in more depth, with actions such as the integration of women in the labour market more common than environmental actions.

It is also true that although the focal sector is clearly concerned with sustainability, this does not improve the adaptation of the SDGs in any strategy. As early as 2018, Mhlanga indicated that companies lacked consistent methods for marking their SDGs, which is still true in 2023. Although methodologies such as the SDG Compass are used, in practice, sustainability priorities and their indicators vary, as they have a subjective and individual component for each company. Table 17, above, demonstrates this. In 2019, approximately two SDGs per company were set as priorities; however, by 2022, practically all of them were goals. However, among those analysed by a company, only 3 are repeated within the sector: SDG 8 (economic development), SDG 11 (sustainable cities) and SDG 13 (climate change).

This difference is mainly due to the process for establishing the priority SDGs, which is carried out through the materiality matrix, which seems to be a useful and neutral tool; however, it can lead to misinterpretations of sustainability, in line with Jørgensen et al. (2022). Decisions in the matrix can be made for reasons such as negative externalities that must be

reduced or the demands of shareholders or users. This reality complicates the decision-making of users who analyse published information, as indicated by Jørgensen et al. (2022), since materiality can lead to unjustified decisions. Even so, this fault is not only of the companies. Criticism should be made of the origin of the SDGs themselves; initially created for countries, they are not always goals that fit the needs of companies (Malay, 2021).

Given their initial differences, the subsequent processes, of course, will also be different. Typically, the internal and external information of a company is used for the definition of its priorities. The size of a company is relevant, as indicated by Jablonski in 2016: small companies that are born with a precept of sustainability do not have to adapt their strategy; on the other hand, the oldest companies that have to integrate sustainability into their strategy find it difficult to align the interests of all their *stakeholders*. In any case, the most recent studies have indicated that the application of sustainability through the SDGs leads to an improvement in consumer satisfaction and loyalty (Salam et al., 2022).

Once a strategy is established, it must be possible to assess, analyse and adapt it, a process that can only occur with the use of indicators. Here, again, as Szennay et al. (2019) indicate, the SDG indicators are created individually, which makes any comparison of them difficult. Even so, large companies have infinite data, which allows them to create indicators to periodically analyse their decisions. In contrast, smaller companies still process data manually, which complicates their decision-making.

Finally, this information must be communicated. Even so, the information that is published is not always the most relevant but is used internally for decision-making. The explanation of the SDGs for the user aims to impact the brand image and its behaviour, but it is still difficult to measure them. This is also demonstrated by the evolution of the SDGs presented in the sustainability reports of the large companies in the focal sector, which have multiplied their SDGs in recent years.

4.3.7 Conclusions

The objective of this research is to analyse whether in a sector focused on sustainability such as shared mobility, deficiencies in the application of the SDGs in a company are reduced and the current application of sustainability in general—the SDGs in particular—in this sector.

From a business perspective, the road ahead is still long. In the shared mobility sector, the same deficiencies occur in most companies. Although by default, this sector is directly related to sustainability, it has not improved the existing deficiencies in the selection, indicators and

communication of the SDGs: objective and concrete procedures are needed to create comparable information.

The process that is followed is based on the use of the materiality matrix, which includes both internal and external opinions of a company's relevant sustainability factors. The management strategy of a company, the externalities to be compensated or the demands of the stakeholders are the most relevant factors in determining any SDG and its indicators. All of them, being public, must provide confidence, clarity and understandability. However, neither the SDGs nor the indicators are comparable in the focal sector. The geographical areas of a company are also key: while in Europe companies focus on the environmental dimension of sustainability, in Latin America, their actions focus on the social and economic dimensions.

Schuzy and Flaningan, in 2016, indicated that until there is a homogeneous reporting system that allows the comparison of indicators across companies and sectors, sustainability reports will not be useful. Seven years later, light is seen at the end of this tunnel. The CSRD approved in January 2023 by the European Parliament will make it possible to standardize published sustainability information. For academics, this is an opportunity for the future, to know how sustainability reporting will change.

Although this work has been carried out in a meticulous way, it has limitations. First, a sample of the main companies in the shared mobility sector was used, not their entirety, and only one interview per company was carried out.

In the future, given the knowledge on the deficiencies in the application and measurement of the SDGs in particular and of sustainability in general, it is necessary to analyse whether the CSRD allows these existing differences to be minimized. In addition, the same comparison made in this article can be replicated in other sectors focused on sustainability, such as renewable energy.

5. Discussió

L'EC permet la utilització de recursos infrautilitzats, el que hauria d'estar alineat amb la sostenibilitat i els ODS. A la pràctica però, l'EC té efectes ambigus en alguns ODS per les pròpies relacions positives i negatives que hi ha entre els ODS (Boar, Pinyana i Oliveras, 2022). El creixement econòmic de plataformes com Airbnb provoca un efecte com a mínim ambigu en el desenvolupament sostenible de les ciutats (ODS 11). Grans ciutats com Barcelona i Amsterdam han tingut impactes negatius en els veïns per la gentrificació que provoca i s'han vist obligats a prohibir-ne el servei. El propi col·lapse que provoca l'EC a les ciutats obra noves oportunitats com els horts urbans o la mobilitat compartida (Martin, 2016).

Justament aquesta darrera té un efecte positiu en les metes que cerquen els ODS a l'eliminar barreres a la mobilitat o al reduir la contaminació (Hossain, 2020). Ara bé, com afecten les pràctiques de sostenibilitat als consumidors?

La literatura mostrava resultats contradictoris entre si les pràctiques de sostenibilitat tenien un efecte negatiu, neutre o positiu en la qualitat percebuda (Habibi et al. 2016, Dekhili et al., 2019; Acheampong & Siiba, 2020;). Aquesta tesi resol les discrepàncies al concloure que les pràctiques de sostenibilitat tenen un efecte positiu en la qualitat percebuda. No cal dir a més, que una qualitat percebuda alta és un antecedent de la fidelització, com ja indicaven Benoit et al. (2017) i Akhmedova et al. (2020), entre d'altres.

Una altra discrepància existent en la literatura és la relació entre les pràctiques d'ODS i la fidelització de l'usuari. Möhlmann (2015) no va trobar cap relació entre les pràctiques mediambientals i la satisfacció o fidelització del consumidor. En canvi, Moise et al. (2021) i Ahmad et al. (2021) van concloure que les pràctiques de sostenibilitat tenien un efecte directe en la fidelització del consumidor. Doncs bé, aquesta tesi conclou que les pràctiques d'ODS per si soles no generen una millora en la decisió de compra del consumidor i per tant, per si soles, no milloren la fidelització de l'usuari. Es detecta que existeix un efecte mediador entre les pràctiques d'ODS i la qualitat percebuda com a antecedents de la fidelitat.

Per posar un exemple senzill, un usuari no voldrà repetir en un trajecte d'Uber per molt que el cotxe sigui elèctric i ens assegurin que l'energia és 100% verda, si el cotxe està brut o la informació a la web és incorrecta o el conductor és un temerari. Segons aquesta tesi, la sostenibilitat és un afegit a la qualitat del servei i per si sola, no millora la fidelitat de l'usuari.

Els resultats de la mediació a més, confirmen estudis previs com Gatti et al. (2012) i Liu et al. (2014) que s'han realitzat sobre la Responsabilitat Social Corporativa (RSC) i la fidelització,

on es conclouïa que sense la medicació d'altres factors – en aquest cas, la qualitat percebuda, no s'arribava a l'objectiu de la decisió de compra.

Per tant, per tal que hi hagi una millora en la fidelització de l'usuari cal l'efecte mediador de la qualitat percebuda. Aquest resultat concorda a més amb la teoria dels recursos i l'avantatge competitiu (Hunt, 1996) que indica que hi ha factors econòmics i no-econòmics que porten a tenir un avantatge respecte les altres empreses del mercat. En concret, les pràctiques d'ODS i la qualitat percebuda són antecedents no-econòmics de l'avantatge competitiu, i per últim de la fidelització.

Per últim, per tal que les pràctiques arribin als consumidors, s'han de comunicar. Com indicaven Mhalnga (2018) i Khalid et al. (2020), en aquest procés hi ha múltiples deficiències des de la selecció de les prioritats, fins a la mesura i comunicació. Aquesta tesi conclou que aquesta realitat continua sent certa al 2023. Fins i tot en un sector clarament enfocat a la sostenibilitat com la mobilitat compartida, les deficiències no es redueixen. A més, les eines actuals, com la matriu de materialitat, poden portar a interpretacions errònies de la sostenibilitat, en línia amb Jorgensen et al. (2022), només per donar resposta a usuaris o accionistes.

La zona geogràfica també és clau. En països més desenvolupats, l'estratègia d'ODS de les empreses es centra en factors com la igualtat de gènere (ODS 5) o l'energia verda (ODS 6). Ara bé, en països en zones de desenvolupament com Amèrica Llatina, les empreses s'enfoquen en la generació de llocs de treball (ODS 8) i la seguretat dels clients i treballadors (ODS 17). L'enfocament és totalment diferent en funció d'on operi geogràficament l'empresa.

Per últim però, la culpa no s'ha de donar només a les empreses. La pròpia configuració dels ODS pensats a nivell nacional, fan que sigui una quimera aterrar-los al dia a dia empresarial (Malay, 2021). L'Agenda 2030 és un clar objectiu de l'ONU que afecta a tothom. Ara bé, a dia d'avui, tots complim tots els ODS, el que fa pensar que a la pràctica, ningú els aplica correctament.

En aquest context i en el marc de la tesi, els perjudicats són els propis usuaris i les empreses. Des del moment que la percepció de les pràctiques d'ODS són un antecedent de la qualitat percebuda i de la fidelització del consumidor, si falla el primer precepte, no s'arriba a l'avantatge competitiu.

6. Conclusions

La present tesi té com a objectiu estudiar quins són els efectes de les pràctiques relacionades amb els ODS en el consumidor de la mobilitat compartida a partir de tres articles acadèmics: una revisió sistemàtica de la literatura, un estudi empíric sobre les percepcions del consumidor i un tercer article qualitatiu sobre la inclusió dels ODS en les empreses de mobilitat compartida. Es presenta en les taules 17, 18 i 19 següents els objectius, hipòtesis resultats més importants de cada article, així com el lligam entre ells.

Taula 17. Relació entre objectius, procediment i resultats del primer article.

| L'objectiu general és estudiar quins són els efectes de les pràctiques relacionades amb els ODS en el consumidor de la mobilitat compartida, a partir de la teoria dels recursos i l'avantatge competitiu. | | | | | |
|--|--|----------------|---|--------------------------------------|---|
| Objectius | Article 1 | Perspectiva | Mostra | Metodologia | Resultat |
| Identificar l'estat de l'art sobre l'economia col·laborativa, els ODS i la sostenibilitat | A systematic literature review. Relationships between the sharing economy, sustainability and sustainable development goals. | Estat de l'art | 74 articles revisats entre els anys 2015 a 2020 | Revisió sistemàtica de la literatura | S'identifiquen entre els anys 2015 i 2020, 61 articles que tracten la sostenibilitat i l'EC; i 13 que tracten els ODS i l'EC. |
| Detectar els temes i sectors que estudia la literatura de manera recurrent | | | | | En relació a la sostenibilitat i els ODS s'estudien les pràctiques de sostenibilitat a les empreses i l'impacte urbà. El sector més estudiat és l'allotjament, sense fer referència a la mobilitat. |
| Plantejar noves línies d'investigació | | | | | El impacte en el consumidor és la temàtica més estudiada en relació amb la sostenibilitat i l'EC però, no està estudiada en relació als ODS. |
| Esclatxa detectada en la literatura | Cal estudiar el impacte en el consumidor de l'aplicació dels ODS en l'empresa, en concret, en un sector infraestudiat com és la mobilitat compartida. Tot i ser el tema més estudiat en relació a la sostenibilitat, no s'estudia en el ODS. | | | | |

| Objectius | Article 2 | Perspectiva | Hipòtesis | Mostra | Metodologia | Resultat |
|--|---|---------------|--|--|---------------------------------------|--|
| <p>Detectar les relacions que hi ha entre les pràctiques d'ODS i de la qualitat percebuda com a antecedents de la fidelitat.</p> | <p>Sustainable development goals and quality practices: A winning combination for customer loyalty in ride-hailing companies.</p> | <p>Usuari</p> | <p>H1: La percepció de les pràctiques d'ODS té un impacte positiu en la qualitat percebuda en les empreses de mobilitat compartida.</p> <p>H2: La qualitat percebuda alta té un impacte positiu en la fidelització de l'usuari.</p> | <p>485 enquestes realitzades a usuaris de la mobilitat compartida de Madrid i Barcelona. Les dades s'han obtingut entre març i abril del 2021.</p> | <p>Model d'equacions estructurals</p> | <p>Es detecta un efecte mediador entre les pràctiques d'ODS i la qualitat percebuda com a antecedents de la fidelitat. Per si soles, les pràctiques d'ODS no milloren la fidelitat. Les accions de sostenibilitat s'han de comunicar per tenir efecte.</p> |
| <p>Determinar quins ODS tenen impacte en la decisió final de compra del consumidor.</p> | | | <p>H3: Les percepcions de l'usuari sobre les pràctiques ambientals, socials i econòmiques dels ODS implementades per les empreses de mobilitat compartida tenen un impacte positiu en la fidelització de l'usuari.</p> | | | <p>De forma positiva, l'ODS 6 (Energia neta) i l'ODS 12 (Ciutats sostenibles). De forma ambigua, l'ODS 8 (Creixement econòmic).</p> |
| <p>Plantejar accions concretes que les empreses han de dur a terme per tal de millorar la seva imatge davant del consumidor.</p> | | | <p>Assegurar la qualitat percebuda: medi ambient, informació de l'aplicatiu i una correcta interacció social. A més, han de plantejar pràctiques per al creixement econòmic com l'emprenedoria o els dret dels treballadors i apostar per l'energia verda en el transport, com els vehicles elèctrics.</p> | | | |
| <p>Relació entre els articles 2 i 3</p> | <p>Les pràctiques d'ODS s'han de comunicar per tenir un efecte en el consumidor final.</p> | | | | | |

Taula 18. Relació entre objectius, procediment i resultats del segon article.

| Objectius | Article 3 | Perspectiva | Hipòtesis | Mostra | Metodologia | Resultat |
|---|--|-------------|--|---|--|---|
| Conèixer l'evolució que han tingut els ODS en les empreses de mobilitat compartida. | Definition, measurement and reporting of the Sustainable Development Goals in the shared mobility sector | Empresa | PR1: Un sector enfocat en la sostenibilitat té una millor alineació amb els ODS? | Principals empreses del sector (Cabify, Lyft, ...) i empreses petites com Som Mobilitat | Anàlisi del contingut dels informes | En 2 anys, s'han duplicat els ODS que s'informen en els informes de sostenibilitat. |
| Conèixer el procés de selecció i mesura dels ODS, així com el plantejament d'indicadors, en les empreses de mobilitat compartida. | | | PR2: Quin procés segueixen les empreses per establir quins dels ODS son prioritaris per a la seva activitat? | | Entrevista semi-estructurada | Procés deficient i subjectiu que no permet comparar empreses del mateix sector. L'ús d'eines com la matriu de materialitat o <i>SDG Compass</i> porta a prioritats i indicadors propis difícilment comparables. |
| Determinar si les diferències geogràfiques tenen impacte en les pràctiques del ODS. | | | PR3: Quins són els motius o criteris per seleccionar uns ODS i no uns altres com a prioritaris? PR4: Quines són les motivacions o criteris per establir indicadors de compliment dels ODS seleccionats? | | Les empreses tenen prioritats diferents en funció de si treballen a Europa o LATAM. A Europa, es treballa l'ODS 6 (Energia verda) mentre que a LATAM es prioritza l'ODS 8 (Creixement econòmic). | |
| Conclusió final | Les pràctiques d'ODS no tenen un impacte directe en la fidelització del consumidor en la mobilitat compartida, sinó que s'hi arriba a través de la medicació de qualitat percebuda. A més, per tal de tenir efectes en el consumidor, les pràctiques d'ODS s'han de comunicar però a dia d'avui, la selecció, mesura i comunicació de les accions és deficient, el que no ajuda a obtenir un avantatge competitiu en el mercat. | | | | | |

Taula 19. Relació entre objectius, procediment i resultats del tercer article.

Contribucions teòriques

El primer article mostra que l'EC creix de forma substancial en la literatura des de l'any 2016 i es relaciona directament amb un augment de la preocupació de la població per la sostenibilitat. L'EC permet una reducció del consum al donar una nova vida a productes que els seus propietaris tenen infrautilitzats, el que hauria d'estar totalment alineat amb els ODS. A la pràctica però, tot i tenir un impacte positiu en els ODS de la dimensió econòmica com el creixement econòmic (ODS 8), la innovació (ODS 9) o el consum sostenible (ODS 12), té un impacte ambigu en les ciutats (ODS 11) i no resol deficiències com la fam (ODS 2) o les pràctiques agrícoles sostenibles (ODS 3).

Si comparem els temes que la literatura ha analitzat sobre l'EC, la sostenibilitat i els ODS, trobem que s'estudia l'impacte de la sostenibilitat i l'EC en el consumidor de la mobilitat compartida però en canvi, aquest anàlisi no s'amplia als ODS. Donada aquesta escletxa de la literatura, es planteja en la tesi analitzar com afecten els ODS al consumidor final i com les empreses de mobilitat compartida els integren en la seva estratègia.

El segon article tracta la percepció de 485 usuaris de la mobilitat compartida sobre l'aplicació dels ODS. Mitjançant equacions estructurals s'arriba a un model que relaciona les pràctiques d'ODS, la qualitat percebuda i la fidelització del consumidor, on prima un efecte mediador de la qualitat percebuda entre els ODS i la fidelització. Per si soles, les pràctiques relacionades amb els ODS no milloren la fidelització de l'usuari, sinó que, són un complement a la pròpia qualitat de l'empresa.

Per últim, el tercer article analitza si les deficiències en la selecció, compliment i comunicació de les pràctiques dels ODS es redueixen en un sector clarament enfocat cap a la sostenibilitat, com és la mobilitat compartida. Els resultats indiquen que no hi ha homogeneïtzació dels processos ni entre empreses del mateix sector, el que sumat a la subjectivitat de processos com la matriu de materialitat, porten a resultats que no són comparables ni entre empreses ni entre sectors.

Amb tot, el consumidor de la mobilitat compartida només es veurà afectat per les pràctiques d'ODS si percep un canvi real respecte la sostenibilitat. Per tal de percebre'l, cal que la comunicació sigui clara, comparable i eficient, evitant el *greenwashing*. A la pràctica, els informes de sostenibilitat no permeten encara diferenciar si s'han donat o no, realment canvis respecte la sostenibilitat per tal d'afectar el comportament del consumidor. El que sí sabem

segur, és que sense una qualitat del servei adequada, la sostenibilitat no donarà cap avantatge competitiu ni afectarà a la fidelització del consumidor.

Contribucions pràctiques

Seguint la teoria de l'avantatge competitiu, per obtenir una millora en el mercat (i en el resultat financer) cal tenir en compte els factors no-econòmics com la fidelització i la sostenibilitat. La mediació de la qualitat percebuda entre les pràctiques ODS i la fidelització del consumidor deixa importants implicacions pràctiques per a les empreses de mobilitat compartida. En un exemple senzill, conduir un cotxe elèctric que s'alimenti de fonts d'energia renovables, però amb components de qualitat deficientes com la informació de l'aplicació o un mal comportament del conductor, no millora la nostra fidelització.

Per tant, s'ha de treballar en paral·lel la implementació de polítiques de qualitat i de sostenibilitat. Quan parlem de qualitat fem referència a la configuració de la plataforma, la informació rebuda i la interacció social que és té amb els membres de la comunitat (sobretot el conductor). A més, l'aposta per la implementació del cotxe elèctric, la innovació de nous serveis o un transport segur en les ciutats i en les àrees rurals en són el camí. Sorprenen en la mostra analitzada que els drets laborals del conductors no són un factor rellevant per a l'usuari a l'hora de decidir si triar o no el servei, però sí haurien de ser-ho per a la pròpia empresa o per als reguladors.

A més, per tal de crear un impacte en el consumidor, les pràctiques d'ODS s'han de comunicar. Per aquest motiu, s'ha detectat un increment substancial d'ODS que apareixen a les memòries de les empreses, multiplicant-se per quatre en dos anys. Ara bé, el fet d'aplicar tots els ODS per part de totes les empreses, fa plantejar-se si l'impacte és real o és una pràctica de *greenwashing* més.

Actualment, el procés de selecció, mesura i comunicació dels ODS és deficient, subjectiu i sense comparabilitat entre empreses del propi sector de la mobilitat compartida. Per aquest motiu, cal treballar per part de les empreses i dels reguladors una normativa comuna que permeti una comunicació clara, eficient i comparable per tal que els usuaris puguin prendre les seves decisions de forma objectiva. La Unió Europea s'està movent en aquesta direcció i la Directiva de Comunicació de la Sostenibilitat Corporativa que entrarà en vigor al gener del 2024 en pot ser un primer pas.

Limitacions i futura recerca

Tot i haver desenvolupat la recerca de forma metòdica, aquesta tesi presenta algunes limitacions, que a la vegada, es converteixen noves línies d'investigació.

En primer lloc, l'estudi es basa en les percepcions de 485 usuaris de la mobilitat compartida d'Espanya. Tot i que la mostra es considera suficient i no està esbiaixada, caldria ampliar aquest estudi a altres zones geogràfiques per comprovar si els resultats continuen sent els mateixos.

En segon lloc, s'han estudiat una part dels 17 ODS, seleccionant aquells que eren més rellevants per a la mobilitat compartida. En un futur, es pot ampliar el model considerant els 17 ODS o bé, obrint el mateix model a altres sectors d'activitat dins de l'economia col·laborativa.

Tot i aquestes limitacions presentades, l'anàlisi realitzat en la present tesi es considera representatiu i suficient en el sector de la mobilitat compartida i en concret, a Espanya. Les futures investigacions podran consolidar els resultats obtinguts i ampliar-los per tal de permetre desenvolupar encara més el sector.

7. Bibliografía

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Appendix 1: Questionari de l'article 2

First and Discriminant question: Have you ever used sharing mobility platforms as Uber, Cabify or Grab?

| | | | |
|-------------------------|-------------------------|---|---|
| Perceived quality | Site organization | SO1 | The platform's information is well organized |
| | | SO2 | The platform is easy to use |
| | | SO3 | It is easy to find information regarding sustainability on the platform |
| | | SO4 | The platform's system for ordering and paying is easy and intuitive to use |
| | Platform responsiveness | PR1 | The platform quickly answers or resolves my complaints |
| | | PR2 | The platform offers fair compensation (for instance, a refund) for its mistakes |
| | | PR3 | The platform offers fair compensation for the negative environmental impact it may cause |
| | Quality environment | QE1 | The platform tries and helps to reduce the use of natural resources |
| | | QE2 | With the use of the platform, I demonstrate environmentally friendly consumption behavior |
| | | QE3 | I use this service because it is environmentally friendly |
| | Peer interaction | PI1 | The peer provider arrives at the promised time |
| | | PI2 | The peer providers do their best to help costumers |
| | | PI3 | I rely on the competence and professionalism of the peer provider |
| | | PI4 | I enjoy social interaction with the peer provider |
| | Social interaction | SI1 | I value that the transaction is between two individuals |
| | | SI2 | I can trust the driver |
| SI3 | | I value if the platform offers additional social opportunities to travelers | |
| Perceived SDG Practices | SDG 7 | SDG71 | I value that the platform uses renewable energy in its transport |
| | | SDG72 | I value that the platform promotes the use of electric or hybrid cars |
| | | SDG73 | I value that the platform reduces the total amount of energy used in transport |
| | SDG 8 | SDG81 | I value that the platform increases economic growth |
| | | SDG82 | I value that the platform achieves gains in productivity and technological use |
| | | SDG83 | I value that the platform promotes sustainable tourism |

| | | | | |
|-----|---------|---------|--|--|
| | | SDG84 | I value that the platform improves efficiency in resource utilization throughout the productivity network based on the reduction, recycling and reuse of resources | |
| | | SDG85 | I value that the platform promotes women's access to the workplace | |
| | | SDG86 | I value that the platform promotes youth employment | |
| | | SDG87 | I value that the platform promotes decent employment policies | |
| | | SDG88 | I value that the platform promotes entrepreneurship policies | |
| | SDG 11 | SDG111 | I value that the platform offers safe transportation | |
| | | SDG112 | I value that the platform allows access to slums | |
| | | SDG113 | I value that the platform favors connection and development between urban and rural areas. | |
| | | SDG114 | I value that the platform provides transport options for people with disabilities | |
| | | SDG115 | I value that the platform reduces the amount of traffic incidents | |
| | SDG 13 | SDG131 | I value that the platform reduces pollutant emissions in transport | |
| | | SDG132 | I value that the platform participates in national policies to reduce climate change | |
| | | SDG133 | I value that the platform promotes education in environmental sustainability | |
| | Loyalty | Loyalty | LO1 | I will encourage friends and relatives to use this platform |
| | | | LO2 | If I need a similar service, I think I am likely to use the platform again |
| LO3 | | | If another platform appears and offers the same service, I will most likely remain at the same platform | |
| LO4 | | | SDG practices encourage me to use the platforms that promote sustainable development instead of other platforms | |
| LO5 | | | For the same price, I will choose a platform that works on sustainability | |

Appendix 2: Questionari de l'article 3

| | |
|--------------------------|--|
| On the selection of SDGs | How are the priority SDGs determined in the company? |
| | Why are specific SDGs chosen and not others? |
| | How are selected SDGs reported on? |
| | Is the impact of the selection of the SDGs externalized? |
| | Have you noticed any improvement in the image of the company after applying and reporting the SDGs? |
| On SDG indicators | How do you define and select the SDGs? |
| | Do you use a guide to define your indicators? |
| | Are the indicators comparable within the sector? |
| | Are the indicators easy to implement, and is it easy to collect information about them? |
| | Are the data collected reliable? |
| | Is the focus of each indicator clear? |
| | Are the indicators used for a process of continuous improvement, and is it possible to keep them up to date? |
| | Are the indicators sensitive to changes? |