

Organisational Response Strategies to COVID-19 in the Sharing Economy

Oksana Mont*, Steven Kane Curtis, Yuliya Voytenko Palgan

Lund University, PO Box 196, 22100 Lund, Sweden

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ABSTRACT

The COVID-19 pandemic has impacted production and consumption patterns across the world and forced many organisations to respond. However, there is a lack of understanding as to how sharing platforms have been affected by the pandemic, how they responded to the crisis, and what kinds of long-term implications the pandemic may have on the sharing economy. This study combined systematic literature review and qualitative web analysis of 30 mobility, space, and goods sharing platforms of different business models and geographies. An empirically-driven framework of organisational responses to COVID-19 was developed that comprises eight overarching response strategies targeting the organisation, users, and society. It is a novel framework that structures organisational responses to a high-impact, low-probability crisis. This study also discusses the long-term implications of the COVID-19 pandemic on the sharing economy, and explores how this may impact future responses among sharing platforms in the society that seeks sustainability. The learnings of this study have real-world significance. Sharing platforms can learn from each other about how to continue to respond in the face of the ongoing pandemic, and consider actions for future preparedness to potential forthcoming crises. With this we hope to encourage perseverance, long-term viability, sustainability, and resilience in organisations that may offer more sustainable ways of consumption and production.

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1. Introduction

The world is facing an unprecedented public health crisis unknown in modern times, which is radically impacting our modes of production and consumption. The cause is the coronavirus (SARSCoV2), which began spreading globally, prompting the World Health Organization (WHO) to declare a worldwide global pandemic on 11 March 2020 (WHO, 2020). In a matter of months, nearly every country was affected, so governments have introduced national and regional lockdowns, restrictions on personal mobility, sanitary mask mandates, and physical distancing recommendations to help contain the spread of the virus (Cheng et al., 2020).

Undoubtedly, the COVID-19 pandemic and subsequent disruptions to our economic and social systems represent crises, which warrant empirical investigation. These crises have had a far greater impact on organisations than expected (Teng-Calleja et al., 2020). In response to this “low-chance, high-impact event” (Lloyd-Smith, 2020, p. 1) many businesses implemented work-from-home

programmes to abide by government-imposed lockdown orders. For some, this disrupted operations and prevented the payment of operational costs and employee salaries, leading to layoffs and permanent or temporary closures (ILO, 2020). Those that could continue their operations sought – and continue to seek – solutions to reimagine their business models, daily operations, and communication channels (Accenture, 2020).

Consequently, many organisations have responded to the pandemic by shifting to digital means of communicating and delivering their products and services (Accenture, 2020). For example, organisations introduced new technology-based solutions or promoted responsible behaviour through “...cashless payments, click and collect practices, physical distancing between customer and employee, [and] improved sanitation practices...” (Baum et al., 2020). Others had been forced into “imposed service innovation” – enforced actions to transform business models within resource and operational constraints in response to sudden and disruptive changes in the surrounding environment (Heinonen and Strandvik, 2020).

Previous research on crisis management offers understanding of how organisations respond to traditional threats, both stem-

* Corresponding author.

E-mail address: oksana.mont@iiece.lu.se (O. Mont).

ming from internal (e.g., technical-error and human-error accidents) and external crises (e.g., natural disasters) (Coombs and Holladay, 2002). There is limited research on organisational responses during epidemics, with some exceptions being responses to, e.g., SARS (Chien and Law, 2003; Henderson and Ng, 2004; Johnson Tew et al., 2008, 2008) and Ebola (Shin et al., 2018). However, in our globalised and digital society, previous research does not always capture the magnitude of the global disruption to industries and individuals and, even more seldom, organisational responses to such prolonged disruptions as COVID-19. Mithani (2020, p. 511) suggests, "...limited attention to life-threatening events has impeded comparable advancements in understanding and responding to them." It is therefore important for crisis management research to draw from the concept of "resilience" in order to understand how organisations adapt to external threats (Mithani, 2020).

Resilience describes the ability of a system to withstand and absorb any change or disturbance, while maintaining itself and its relationships (Holling, 1973). Whether psychological, environmental, or organisational resilience, the focus shifts from the disturbance to the response in order to withstand any disruption (Cascio, 2009). As such, governments see their response to the pandemic as an opportunity to foster organisational and environmental resilience, for example, the "build back better" campaign (Bolton, 2020) and green recovery efforts (Government Offices of Sweden, 2020; OECD, 2020).

However, many previously-promoted practices to enhance sustainable production and consumption, including circular (Calisto Friant et al., 2021) and sharing economy initiatives (Miller, 2016), face hurdles. The focus of this article is on sharing platforms, operating within the sharing economy. These organisations seek to facilitate temporary access to under-utilised goods and services (Belk, 2014a) via sharing, renting, borrowing, lending, swapping, trading, bartering, and other similar consumption practices (Curtis and Mont, 2020). We focus on these platforms because of their potential to promote more sustainable modes of production and consumption (Frenken and Schor, 2017).

Like many organisations, sharing platforms have been greatly and adversely affected by the pandemic. For example, peer-to-peer sharing platforms had to respond suddenly to physical distancing measures and restrictions on international and regional travel. They have seen a decrease in revenue as a result of fewer people using their services (Oxford Economics, 2020). This is likely a result of limited economic activity generally, but the sharing economy also often necessitates proximity and connectedness between users, as they share access to goods and services. These organisations face many immediate and short-term challenges that threaten their long-term survival. If allowed to fail, the loss of momentum and burden on the champions behind these organisations will set back substantive progress towards more sustainable modes of production and consumption, threatening continued environmental and social resilience.

Therefore, the objective of this research is to support resilience among sharing platforms, by structuring organisational response strategies to the COVID-19 pandemic and to advance learning and scholarship. In doing so, the article aims: 1) to understand the short-term impacts of the pandemic on sharing platforms; 2) to identify and categorise response strategies of sharing platforms; and 3) to discuss the potential long-term effects of the pandemic on the sharing economy.

With this study, we seek to contribute to literature on the sharing economy and the broader field of study on the impacts of high-impact, low-probability crises on sustainable production and consumption. Identifying and classifying response strategies and developing an empirically-driven framework also contributes to emerging literature on crisis management in the face of COVID-19. Finally, this research supports learning among practitioners and

sharing platforms to encourage perseverance, long-term viability, sustainability, and resilience towards future crises.

In the following sections, we review background literature about the sharing economy, and short-term impacts of the COVID-19 pandemic on the sharing economy and organisational response strategies to crises (Section 2). We then present our research design, consisting of literature review and web analysis of responses to COVID-19 communicated by sharing platforms (Section 3). Next, we develop the empirical framework classifying organisational response strategies in the sharing economy, and describe examples across the investigated sharing platforms (Section 4). Finally, we summarise important learnings relevant for sharing platforms, discuss long-term implications of the pandemic on the sharing economy, and suggest additional responses likely in the coming months and years in the society that strives for sustainability (Section 5). We draw conclusions, outline our contributions, and suggest future research directions in Section 6.

2. Literature review

2.1. Sharing economy

The sharing economy is increasingly studied as an approach towards more sustainable production and consumption (Gupta and Chauhan, 2021). Specifically, the sharing economy is increasingly linked with the discourse surrounding the circular economy, and issues relating to sustainability, consumption, business models, and governance (Henry et al., 2021). Proponents of the sharing economy highlight the transition from an ownership-based economy to an access-based economy, leveraging idling assets of an existing stock of goods (Botsman and Rogers, 2010; Curtis and Mont, 2020). The sharing economy thereby slows resource loops by extending product lifetimes and increasing the intensity of use (Bocken et al., 2016). In this way, the need for unnecessary production of new products is reduced and environmental and social impacts associated with it are avoided (Novel, 2014). Activating and increasing the intensity of use of idling assets also results in waste minimisation. Some also posit that the presence of the sharing economy may even trigger producers to design more durable products (Razeghian and Weber, 2019).

In previous research, we defined the sharing economy as "... a socio-economic system that leverages technology to mediate two-sided markets, which facilitate temporary access to goods that are under-utilised, tangible, and rivalrous" (Curtis and Mont, 2020, p. 4). Our definition prioritises platforms that facilitate exchanges between two actors, e.g., peer-to-peer (P2P), business-to-peer (B2P), business-to-business (B2B), and cooperatives (Curtis and Lehner, 2019; Curtis and Mont, 2020). Exchanges are facilitated between the supply side and demand side of a market, actors we call the 'resource owner' and 'resource user'. However, other scholars include B2C companies that facilitate access to goods that they own, e.g. one-sided market (Plewnia and Guenther, 2018; Ritter and Schanz, 2018; Täuscher and Laudien, 2018). For the purpose of this study, we include all platform types in our analysis, to support all actors associated with the sharing economy in overcoming the impacts of the pandemic.

Various practices exist under the banner of the sharing economy (despite not always sharing) (Belk, 2014b), including accommodation (Prayag and Ozanne, 2018), co-working spaces (Bouncken and Reuschl, 2018), car-sharing (Münzel et al., 2020), bike-sharing (Ma et al., 2018), ride-hailing (Guo et al., 2019), food delivery (Ukolov et al., 2016), and sharing access to physical goods (Curtis and Lehner, 2019). To structure our analysis, we focus on various shared practices, including shared mobility (e.g., car-sharing, bike-sharing, ride-hailing), shared space (P2P accommo-

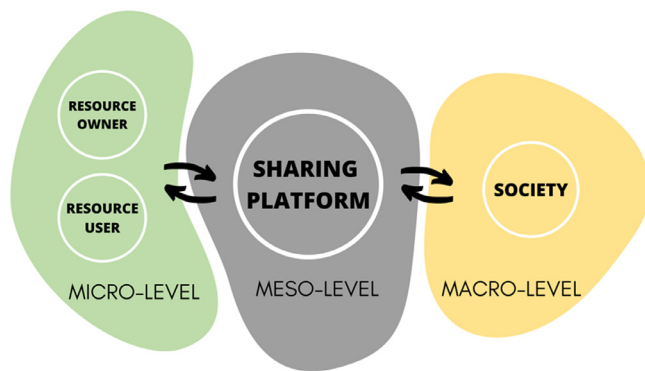


Fig. 1. The sharing economy as a socio-economic system, representing three target groups

dation, co-working spaces), and shared goods (e.g., books, clothes, tools, food¹) (Curtis and Mont, 2020).

2.2. Short-term impacts of COVID-19 on sharing platforms

Currently, there is a limited body of academic literature that describes, analyses, and discusses impacts from the pandemic on various aspects of our lives, including the sharing economy. Not surprisingly, the majority of literature regarding the sharing economy and the COVID-19 pandemic focuses on Uber and Airbnb, which correlates with existing trends in literature about the sharing economy (Muñoz and Cohen, 2018; Ritter and Schanz, 2018).² However, there is a gap in the literature describing the impacts of – and responses to – the COVID-19 pandemic among shared goods platforms, and what is more akin to “true sharing” (Belk, 2014b). Since the literature on the short-term effects of the pandemic on the sharing economy is preliminary and descriptive, we focus our review here on the short-term impacts, to avoid being too speculative. However, we present and discuss opinions and projections about long-term effects of the pandemic on the sharing economy in Section 5.

It is useful to classify short-term impacts of the pandemic into three levels: the macro- (e.g., societies, economies, governments), meso- (e.g., businesses, organisations, communities), and micro-levels (e.g., employees, individuals, consumers) (Baum et al., 2020). In this study, we examine the meso-level – focusing on sharing platforms – to illuminate response strategies to support learning among organisations (Fig. 1). However, understanding impacts at the macro- and micro-levels also helps understand responses by organisations. For example, responses to the pandemic at the macro-level – e.g., physical distancing requirements, quarantine and lockdown measures, increased hygiene standards, and restrictions on domestic and international travel – significantly affect the ability of sharing platforms to operate. Since their business models often operate a two-sided market (Curtis & Mont, 2020), where in-person exchange of goods or services is often necessary, restrictions on distances greatly affect people involved in exchange. Indeed, with individuals taking precautions to avoid contracting and spreading the virus – especially among the elderly and vulnerable

¹ In previous research, we have included food as part of a separate shared practice – called *shared consumables* – including products that are characterised by one-time use (e.g., food, paint, perfume, motor oil) (Curtis & Lehner, 2019; Curtis & Mont, 2020). For simplicity, we have included food as part of shared goods in this study.

² Of the 35 articles in the final sample of the literature review on COVID-19, 14 discussed or mentioned Uber 251 times and 21 articles mentioned Airbnb 669 times.

– there seems to be less willingness among users to engage in the same way with sharing platforms.

At the same time, information and communication technology (ICT) already utilised by many sharing platforms to mediate exchanges may potentially reduce the burden experienced by other organisations throughout society. Utilising smartphone applications, digital keys, and virtual communication tools reduces the need to meet in person, while still enabling the sharing of goods and services. The digital nature also increases the ability to adapt quickly to new realities and conditions, due to flexibility and diversity of opportunities for change at relatively low transaction costs (Kamal, 2020). It also has potential to strengthen the resilience of systems built using ICT, particularly in circumstances when social contacts need to be limited, as in the case of pandemics (Horgan et al., 2020). It is projected that sharing platforms may see an increase in demand, especially those that include options for contactless delivery (Hoffstaedter et al., 2020). However, as any other information-based and digital systems, sharing platforms must also practice caution concerning overreliance on technology and digital discrimination (Curtis et al., 2020).

Looking at the shared practices and COVID-19 impacts, it becomes clear that they have been impacted in different ways and to a different extent. Transportation practices have changed as a result of the pandemic, with mixed impacts on shared mobility. Literature indicates massive shifts from public transport to personal vehicles (Chandra, 2020). Car-sharing has also been affected, as companies reported up to 75% reductions of the total number of trips (Magder, 2020) and especially drastic reductions in international and interstate trips (Turo, 2020a). On the other hand, some car-sharing organisations witnessed a simultaneous increase in local trips, from 48% to 68% of all completed trips on their platform compared to 2019 (Turo, 2020a). Ride-hailing services have also been affected, as “the prospect of hailing ‘an Uber’ is fraught with life threatening risk” (Katta et al., 2020). Forbes Magazine reported that rides via Uber have decreased by 94% since early March 2020 (Chandler, 2020). Globally, Uber reported a loss of USD 2.9 billion for the first quarter of 2020 and reduced its workforce by 3700 due to reduced bookings (Ford Rojas, 2020). However, bike-sharing has not been impacted in the same way, as cities and retailers report a resurgence of cycling, thereby increasing demand for the services (Brignall, 2020). Such a resurgence has been seen across the world, but cities are dealing with these trends differently, including supporting bike-sharing platforms (Draaisma, 2020).

Shared space platforms have seen a dramatic reduction in bookings since March 2020. For example, Airbnb and Couchsurfing reservations in many countries were down by a reported 90% (Chadwick, 2020; Connolly, 2020). As a result, Airbnb’s valuation has dropped from USD 31 billion in early 2017 to USD 18 billion as of April 2020 (Evans, 2020). Its revenue for 2020 is projected to be just 50% of what the company earned in 2019 (Evans, 2020).

The pandemic has also impacted co-working spaces. A survey conducted in March 2020 found a 71% reduction in the use of co-working spaces (Konya, 2020). There has also been a dramatic impact on membership cancellations and new membership (Konya, 2020). This has led to the projection that the co-working marketplace will contract by 12.9% in 2020 (Business Wire, 2020a). Meanwhile, the demand has increased for collaborative virtual platforms and larger physical venues among knowledge workers – those with the ability to transition working from the office to home (Hu, 2020). While Zoom, Microsoft Teams, Slack and other communication and collaboration platforms have become ubiquitous, demand has also increased for the in-house collaborative virtual platforms at co-working spaces, like ImpactHub and Spaces, which has impacted their technological infrastructure and strategic work.

No academic literature has been found that explored how the pandemic has affected the sharing of physical goods, for example, tools, clothes, or toys.

2.3. Organisational response strategies to crises

Crisis management by organisations has been studied from many disciplinary perspectives, including psychological, social-political, and *technological-structural perspectives* (Pearson and Clair, 1998). What constitutes a crisis covers the entire range of events from minor issues such as employee illness to natural and human-induced incidents such as earthquakes, terror attacks and massive disruptions to everyday operations and lifestyles (Ritchie, 2004) that “require well-timed responses” from organisations (Reilly, 1993). Management research, considered to be part of the technological-structural perspective, defines *organisational crisis* as “a low-probability, high-impact event that threatens the viability of the organisation and is characterised by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly” (Pearson and Clair, 1998, p. 60). Shrivastava (1993) proposed 4Cs – *causes, caution, consequences and coping* – as aspects of crises that can be studied by management scholars. While *causes* are triggers of a crisis, and *caution* is measures to avoid or minimise impacts of a potential crisis, *consequences* include both short-term and long-term impacts, and *coping* comprises responses to a crisis that has already occurred.

The choice of coping mechanisms by organisations is affected by the extent of the organisational responsibility for causing a crisis, which ranges from the low level of responsibility in *victim crises* (e.g. natural disasters, and rumours), to the moderate responsibility for accidental crises (e.g. technical-error accidents), and to the highest level of responsibility for preventable crises (e.g. human-error accidents) (Coombs and Holladay, 2002). Coping responses also differ depending on stages of a crisis, including pre-crisis, crisis, post-crisis (or long-term recovery) (Frandsen and Johansen, 2016).

Due to the broad definition of what constitutes a crisis, research on specific organisational responses to crises – including strategic communication – spans studies on how organisations respond to crises such as terror attacks, war, and conflict (Bullough et al., 2014; Greenbaum et al., 2007; Hurley-Hanson, 2006), natural disasters (Hall et al., 2016; Runyan, 2006), health crises (Page et al., 2006; Rao and Greve, 2018), and cyber-attacks (Kim et al., 2017).

Organisational responses can be divided into two literature streams. The first one is *crises communication responses* (Sturges, 1994), especially important in the case of the preventable and accidental crises studied extensively by Coombs (1995) and Benoit (1995). The second one is literature on *crises management or coping strategies*, including activating emergency response teams and crisis management plans (Reilly, 1993). Coombs defined crisis response strategies as “what an organisation says and does after a crisis hits” (Coombs, 2006, p. 245) and identified four types of crisis response strategies – *denial, diminishment, rebuilding and bolstering* (Coombs, 2014) – more suitable for the preventable and accidental crises, where organisations communicate in order to minimise the threat to their own reputation.

Literature on crisis management or coping discusses response strategies that go beyond communication strategies. Although the first book on crisis management was published more than 35 years ago (Fink, 1986), it is still a fragmented body of literature (Pearson et al., 2007). Search for classifications of response strategies reveal several relatively similar and recent works on the nature of responses. One classification was developed based on key articles published in the journals of the Strategic Management Society (Wenzel et al., 2021). It included four types of responses: retrenchment, persevering, innovating, and exit. Another classification

draws the parallel with individual responses to threats of freeze, flight, fight, or fright from the human evolutionary theory, and suggests a framework of organisational responses to crises, comprising *dormancy, hypervigilance, growth and exit*. (Mithani and Kocoglu, 2020):

- *Dormancy* – A response by organisations to remain operationally inactive for the duration of the crisis, providing the opportunity to return to normal after the threat has passed.
- *Hypervigilance* – At the onset of any crisis, organisations respond by observing the situation, acquiring information about the threat, and assessing resources and potential impacts. This freeze response is primarily an information-gathering response, with strategic changes avoided.
- *Growth* – A crisis may present an opportunity for growth, including entry and efficiency routines. Entry routines seek to exploit the market weakness to deploy new resources and leverage new opportunities, including experimenting with new technologies and building new partnerships. Efficiency routines improve existing offerings, including communication, automation, digitalisation, or outsourcing.
- *Exit* – Depending on the context, this may require exiting from regions or markets, distributing resources differently, and entail partial or complete closing of their operations. At the same time, exit can also mean resource conservation and reallocation that can help organisations to reduce financial exposure and other risks.

In addition to the nature and stage of the crisis, the specific response of an organisation is also shaped by the institutional context that influences allocation of resources, culture, and actions (Zhou, 2020). Preparedness and the appropriate early responses to any crisis will also likely impact long-term organisational resilience (Zhou, 2020).

Due to the relative newness of the sharing economy, there is limited research on the responses of sharing platforms to crises. Even the framework by Mithani and Kocoglu (2020) classifies organisational responses in terms of their nature, but does not specify the response strategies *per se*. We therefore chose to apply an inductive research design in order to explore a question with two unknown Cs out of the 4Cs suggested by (Shrivastava, 1993): the short- and long-terms impacts of the COVID-19 pandemic that is still unfolding, i.e., *consequences*, and responses of sharing economy organisations to the COVID-19 pandemic, i.e. *coping*.

3. Methodology

This study aims to explore organisational response strategies to the coronavirus pandemic in order to support learning among sharing platforms and advance our understanding of response strategies to the crisis in the sharing economy. However, because we are still reeling from the pandemic and responses will likely continue to evolve, our empirical study is a snapshot in time up until 30 October 2020. To explore response strategies, we conducted two related but separate research tasks: 1) a systematic literature review on the impact of the COVID-19 pandemic on the sharing economy and review of crisis management literature; 2) a web analysis of 30 sharing platforms, including web pages, blog posts, news, and social media posts by platforms, resulting in an empirical framework structuring response strategies of sharing platforms to COVID-19.

3.1. Literature review

We conducted two separate literature reviews of academic articles relevant to the impacts of the COVID-19 pandemic on the

sharing economy and organisational response strategies to crisis. The first, on the sharing economy, sought to capture observed impacts and response strategies already investigated. The database search was conducted on 9 September 2020, using the Scopus database. The search included [ALL “sharing economy” AND “pandemic OR covid ”], and was limited to academic articles, reviews, notes, conference papers and books published in English, including publications in press. The search generated 68 documents. We reviewed the title, abstract, and keywords of these articles, excluding sources that merely mentioned the sharing economy in passing. The review resulted in 22 documents. We also reviewed the reference list of each document and included 12 additional sources, which also included grey literature. The sample included 34 documents. On 25 November we ran the same search [ALL “sharing economy” AND “pandemic OR covid”], to ensure that our sample of articles for the literature review was up to date. One article was added, making the final sample 35 articles (see [Appendix A](#)). We also ran an additional search, looking specifically for articles on how COVID-19 impacts car-sharing, with the search string ALL (“carsharing”) AND ALL (covid OR pandemic). Although the search returned 24 articles, none of them meaningfully discussed the impacts of COVID-19 on car-sharing or car-pooling.

The final sample of 35 articles was analysed qualitatively using NVivo to categorise impacts and responses. The codes included the levels of impacts – micro-, meso- and macro-level – and coding for impacts on specific shared practices – shared mobility, shared space, shared goods. We also analysed the articles looking for responses to COVID-19, which provided an initial framework to categorise response strategies. For example, coding for responses from space included the following codes: quarantine time between bookings, financial support to hosts, cleaning standards, lowering rates for renting, and refunds to hosts. We also coded the sample of articles for long-term implications of COVID-19 per shared practice ([Section 5.2](#)).

The second literature review explored literature on organisational responses to crisis. Again, we used the Scopus database using the query (TITLE-ABS-KEY (“organisational responses” OR “response strategies”) AND TITLE-ABS-KEY (crisis) AND (pandemic) AND (framework OR concept)). Again, we focused on academic articles, conference papers, and books published in English. The same limitations were applied to this sample as in the first literature review. The review resulted in 41 articles, 25 of which were deemed useful after reviewing their title, abstract, and keywords. The full texts of these articles were uploaded to NVivo and qualitatively analysed, coded for concepts, theories, and other conceptualisations and frameworks to structure organisational response strategies, especially in relation to different types of crises (e.g., scandal, terrorist attack, pandemic) or application areas (e.g., geography, sector, organisation). In addition, the reference lists of these articles were analysed, adding a further 18 articles to the sample, bringing the total number of articles on crisis management to 43 (see [Appendix B](#)).

Each literature review demonstrates a need to empirically study organisational response strategies of sharing platforms to the COVID-19 pandemic. While there is limited knowledge about the short-term effects of the pandemic on space and mobility sharing, even less is known about the sharing of goods. Furthermore, there is no known attempt to structure the responses by sharing platforms to promote resilience and ensure more sustainable production and consumption. In addition, we observed no crisis management knowledge or theory suitable for deductively analysing response strategies to such a crisis; therefore, we chose an empirical and inductive approach to study organisational response strategies.

3.2. Web analysis and framework development

Since the first widespread use of the Internet in the early 1990s, the web and website data have served as materials for data collection in research ([Herring, 2009](#)). Content analysis was among the first methodologies to be applied to qualitative web data ([Herring, 2009](#)). While traditional approaches to content analysis are still favoured ([Herring, 2009](#)), utilisation of software to support analysis and advancement in technology – such as machine learning and artificial intelligence – supports content analysis and other natural language processing ([Bazeley and Jackson, 2013](#)). We followed the five steps to web content analysis outlined by [McMillan \(2000\)](#) and [Herring \(2009\)](#):

- 1) Formulate a research objective and a guiding question.
- 2) Select a sample.
- 3) Code data qualitatively and develop explanatory categories.
- 4) Check the reliability of coded data between coders.
- 5) Analyse and interpret the data collected during the coding process.

In the first step, we formulated our research questions based on our research objective – to understand how sharing platforms responded to the COVID-19 pandemic to support learning among sharing platforms and to develop resilience to the pandemic and future crises.

This formulation dictated our sample – response strategies as communicated by sharing platforms. As part of the second step, we selected 30 sharing platforms across three shared practices – shared mobility, shared space, and shared goods ([Table 1](#)). The sharing platforms represented different platform types (e.g., P2P, B2C) and different geographical scales, but with a focus on North America and Europe. We collected relevant web data for each platform, including web pages, blog posts, news, and social media posts.

The third step sought to code the web data qualitatively. The data were coded inductively, using a constructivist grounded theory approach ([Charmaz, 2014](#); [Kenny and Fourie, 2015](#)). Characterised by the constructivist philosophy, compared to traditional grounded theory, this approach acknowledges that previous knowledge and experience of the observer informs analysis, and describes a more flexible and creative coding procedure: 1) open coding; and 2) refocused coding ([Charmaz, 2014](#); [Kenny and Fourie, 2015](#)). The output of such approach is an “interpretive understanding” of the phenomenon in question ([Kenny and Fourie, 2015](#), p. 1279). Compared to thematic analysis, a grounded theory approach engages in simultaneous data collection and analysis using the process of theoretical sampling, e.g., to the point of saturation ([Alhojailan, 2012](#)).

Open coding was applied to the data, focusing on the action-verb responses of the sharing platforms, coding as gerunds as suggested by [Charmaz \(2014\)](#). This coding was not informed by previous research or theory; instead, the empirical data of organisational responses was inductively coded. Each of the three researchers coded data and developed a preliminary list of categories relevant to one of the three shared practices (shared mobility, shared space, shared goods). We did this to help identify patterns between shared practices, before merging the categories and performing subsequent analysis. As the data was coded inductively, data was coded to existing categories or new categories were created ([Miles and Huberman, 1994](#)). This was done iteratively, with new data being added from social media and blogs as interesting observations were made, until there was a fairly stable initial coding framework.

During the process of refocused coding, the authors reviewed the initial coding framework, checking the reliability and validity

Table 1
Three shared practices and 30 organisations.

Shared Practice	Sharing Platform	Platform Type	Geographical Scale
Shared Mobility	Communauto	B2C	Canada
	Facedrive	P2P	Canada
	HiRide	P2P	Canada
	Kangaride	P2P	North America
	Lyft	P2P	International
	Poparide	P2P	Canada
	Snappcar	P2P	Europe
	Bike Share Toronto	B2C	Toronto, Canada
	Turo	P2P	International
	Uber	P2P	International
Shared Space	Airbnb	P2P	International
	Vrbo	P2P	International
	WarmShowers	P2P	International
	FlipKey	P2P	International
	Couchsurfing	P2P	International
	LoveHomeSwap	P2P	International
	Home Exchange	P2P	International
	WeWork	B2C	International
	ImpactHub	Cooperative	International
	Spaces	B2C	International
Shared Goods	Toronto Tool Library	Cooperative	Toronto, Canada
	Rent Frock Repeat	B2C	Toronto, Canada
	SwapSity	P2P	Canada
	reheart	P2P	Canada
	Peerby	P2P	The Netherlands, Belgium
	LENA Library	B2C	The Netherlands
	HeelNederlandDeelt	P2P	The Netherlands
	BKSY	P2P	The Netherlands
	Bunz	P2P	International
	Karma	P2P	Europe

between researchers and shared practices. An initial workshop saw the authors discuss the coding frameworks, merging or creating new categories between the shared practices. The categories were designed to represent distinct responses by sharing platforms, and it was during this stage that we introduced the perspective of the target group of their responses to further distinguish between response strategies, as in Fig. 1. This highlighted several differences between the shared practices, but ultimately led to a unifying framework. One researcher then reviewed all of the coded material, scrutinised the categories, checked for reliability across the data, and further consolidated related categories. Finally, this coding framework was discussed among the three researchers to ensure completeness and clarity of categories. The output of the web analysis using this approach was a unifying empirical framework to categorise those observed response strategies communicated by sharing platforms, depicted in Fig. 2. Finally, these categories were used to structure various examples to illustrate each response strategy and compare between shared practices.

4. Results and analysis

We present the results of our literature review and web analysis. First, we introduce our empirically-derived framework and then we describe each response strategy by providing elaborate examples of various shared practices.

The observed responses by sharing platforms were categorised according to the target of the response: organisation-oriented responses, user-oriented responses, and society-oriented responses. This categorisation mirrors the micro-, meso-, and macro-level perspectives presented in Section 2.2 and inspired by Baum et al., (2020). While the sharing platform remained our unit of analysis, their actions were directed at or were in response to their users and society. For each category, we identified several general response strategies (Fig. 2) and, in the following sections, we elaborate specific examples across shared mobility, shared space, and shared goods practices. The complete results, includ-

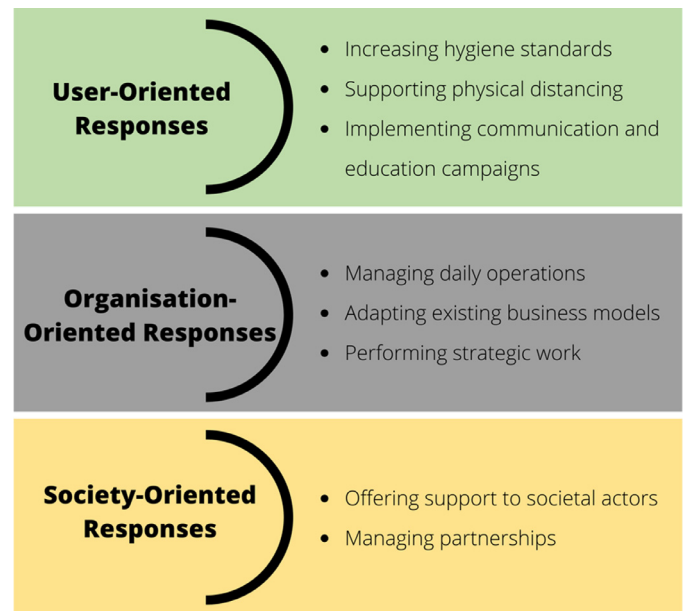


Fig. 2. The framework of organisational responses

ing the response strategies observed across platforms, are found in Appendix C. In Section 5.1, we present learnings, including across the shared practices.

4.1. Organisation-oriented response strategies

The response strategies observed across our sample were predominantly oriented at the activities of the sharing platforms themselves. As such, we categorised these responses as

organisation-oriented, which include seven response strategies described below.

4.1.1. Managing daily operations

The pandemic forced many sharing platforms to reassess their day-to-day routines. Some of them explicitly communicated about changes they had to make in their everyday operations during the pandemic. The changes reported represent a full spectrum of activities from:

- permanently or temporarily closing operations
- pausing operations
- reducing part(s) of operations
- implementing local response for local contexts
- remaining open at full capacity
- expanding or increasing operations

For example, mobility sharing Communauto continued its operations, arguing that it offered relatively safe ways for essential workers to commute to work (Magder, 2020). Similarly, Kangaride continued providing ride-sharing services for essential travel with its call centre operating on a reduced schedule (Vachon, 2020). In contrast, Facedrive is aiming to expand its operations to the USA and Europe despite the pandemic (Business Wire, 2020b) and it purchased ride-sharing and car-pooling app HiRide in March 2020 (Simpson, 2020). In June 2020, the municipal bike-sharing scheme Bike Share Toronto announced its expansion with 1850 new bicycles and adding 30 neighbourhoods to its map (Draaisma, 2020). In May, Uber announced that it would be permanently closing all 180 Greenlight Hubs and cutting 3700 jobs to offset the losses the company suffered due to pandemic (Gridwise, 2020). Lyft (2020a) paused, offering services where rides were shared between strangers.

From 18 March 2020, Airbnb paused in-person stays in most countries, while Couchsurfing (2020) reduced the size of its team and has “taken pay cuts, eliminated or renegotiated all contracts, eliminated ... physical office space (*becoming a ... 100% remote workforce*)”. Airbnb has also asked investors for a USD 1 billion investment to manage the drastic reductions in global travel (Wood, 2020). Similarly, Couchsurfing (2020) applied for COVID-19 relief funds provided by the United States Government through the CARES Act. Of the co-working spaces, Spaces (2020) remained accessible worldwide for tenants 24/7, except when deep cleaning forced closures.

Goods-sharing BKSy and reheart were forced to temporarily close their physical libraries, while Toronto Tool Library could reopen their flagship location after temporary closure once they have implemented health and safety protocols (Willison, 2020a). Of the platforms studied, only Rent Frock Repeat was forced to permanently close in autumn 2020 (Longwell, 2020).

4.1.2. Adapting existing business models

In contrast to managing daily operations, we suggest this response describes those undertaken by the organisation to adapt or modify their value proposition, in other words, the value provided to the user of the platform. The pandemic necessitated several business model adaptations that were communicated by the investigated platforms on their websites, such as:

- Enhancing existing services
- Changing or updating primary offerings
- Changing or updating additional offerings
- Implementing flexible contracts, cancellation, or return policies
- Transferring operations online

For example, Poparide refunds all trips cancelled before the ride and waives any penalties if either the driver or the passenger is feeling unwell. Similarly, SnappCar (2020a) permitted cancellations without extra cost for all bookings before 31 August

2020. To emphasise the importance of car cleanliness, Turo car renters are allowed to cancel their booking and receive a full refund, if they are not satisfied with the level of cleanliness of the car. They will also be provided with support to find another car (Haddad, 2020). Uber offered new ways to deliver consumables via Uber Eats app, beyond food and groceries, to provide last-mile solutions for businesses and individuals who were following lockdown rules (Scheepers and Bogie, 2020). The new service Uber Direct connected businesses that experienced high delivery demand with Uber drivers and other delivery partners who were looking for delivery jobs (Lomas, 2020).

Airbnb no longer collects any fees from cancelled reservations as a result of the pandemic. The company is also exploring the possibility of long-term home rental as a way for hosts to secure income from their idling properties (Toyama, 2020). HomeExchange and LoveHomeSwap introduced a policy for return of GuestPoints in the event of trips being cancelled in these ‘force majeure’ circumstances. Vrbo extended its COVID-19 emergency policy until 30 June 2020 (Vrbo, 2020a) and offered rewards to its property owners who offer guests at least a 50% refund on their bookings (Vrbo, 2020b). Co-working platform Spaces offers “ultimate flexibility” in its service contracts, including any length of terms, no capital expenditures, work now - pay later, among other measures to make it easier for their users to manage during the pandemic.

Toronto Tool Library had to make significant adaptations and now, instead of users browsing available tools, they have a service desk technician who collects requested tools for users. Returned tools are quarantined for at least 72 hours before returning to circulation (Willison, 2020b). The Library has also removed all late fees to accommodate users who were unable to travel safely to return borrowed items. Karma changed its app to introduce food delivery options from restaurants, allow restaurants to sell full-price meals, and encourage users to tip in the app; all in the effort to support local restaurants (Karma, 2020).

4.1.3. Performing strategic work

During the downtime that some platforms experienced due to closures and reduced user traffic, platforms and volunteers seek to make upgrades to their infrastructure. In some instances, they apply for government grants to fund their activities. However, only a few platforms communicated this strategic work, including:

- Updating/renovating physical infrastructure
- Updating/renovating digital infrastructure

Many of the platforms had to update their websites as their first response to the COVID-19 pandemic; however, we did not classify these actions as strategic and described them in other response strategies instead. However, the Toronto Tool Library stands out in communicating about its ongoing strategic work during the pandemic. While its physical locations were closed, volunteers and organisers worked to overhaul the online infrastructure and physical spaces, including “...moving to better hosting for [their] site, updating [their] mail server to address spam issues, introducing inventory for [their] consumables, vendor-management software...” (Willison, 2020). They also applied to multiple funding sources, but with no success as of September 2020.

4.2. User-oriented response strategies

In addition to organisation-oriented response strategies, we also identified three strategies that aim to support platform users: helping users increase hygiene standards, supporting physical distancing, and implementing communication and education campaigns.

4.2.1. Increasing hygiene standards

Many sharing platforms implemented some form of increased hygiene standards, including:

- Following international, national, and local restrictions and best practices
- Implementing health and safety guidelines
- Implementing enhanced cleaning protocols
- Requiring sanitary masks to be worn (along with other control measures)
- Introducing quarantine of assets between users
- Restricting access to the platform based on health status
- Reporting positive COVID-19 cases among the community

Many mobility sharing platforms developed a “cleaning and disinfection” policy requiring car owners to disinfect their vehicles before each trip and a car cleaning guide to help drivers with that task, e.g., Turo (Haddad, 2020), Lyft (2020b), Communauto (2020), Kangaride (Vachon, 2020), SnappCar (2020a), Poparide (2020) and Uber (2020a). Providers of shared bikes and e-scooters also pay extra attention to cleaning the shared vehicles and advise the users to clean them before use (Bike Share Toronto, 2020a; Lyft, 2020c). Uber also implemented the slogan “No mask. No ride” targeting both drivers and riders, and introduced a new safety check-up list in its app that asks the drivers to take a selfie verifying that they are wearing a mask (Uber, 2020b). All mobility sharing platforms discouraged any trips that are not essential, encouraged travelling alone for all essential trips, and advised choosing a car that has not been in operation for a long period (Magder, 2020). Uber (2020b) worked with health care authorities 24/7, which allowed them to “temporarily suspend the accounts of riders or drivers confirmed to have contracted or been exposed to COVID-19”. The same goes for restaurants on Uber Eats, which Uber may temporarily remove from the app if they “receive confirmation of contraction of or exposure to COVID-19.”

In May, to improve health safety, Airbnb (2020a) developed a cleaning protocol for hosts, including a detailed learning programme and certification. The protocol prescribed spacing out reservations with 24-72 hours intervals, stocking extra cleaning equipment and reducing the number of touchpoints, such as remote controls (Chadwick, 2020; Watson, 2020). Similarly, LoveHomeSwap (2020a) developed a comprehensive guide for its home exchanging members in three languages, which included a guide to cleaning homes, including a room-by-room checklist, and a letter that home swappers can leave for their guests about their cleaning practices. Vrbo (2020c) suggested that its property owners and managers review the safety features and manuals in their properties, and consider adding contacts to local hospitals and emergency numbers.

Co-working spaces, e.g., WeWork, Spaces, and ImpactHub, have enhanced their cleaning protocols and made hygiene products available for free to members (ImpactHub Stockholm, 2020; Spaces, 2020). WeWork retrofitted existing air systems with new filters for cleaner air. It also introduced temperature screening in some of its locations upon arrival for people wanting to work from their spaces (WeWork, 2020). WeWork and ImpactHub created mechanisms for reporting a positive COVID-19 case in the workplace, and for notifying members immediately. ImpactHub Stockholm asked members to keep a record of all visitors or guests to the co-working space for one month, to support contact tracing.

Goods sharing platforms – BKSy, HeelNederlandDeelt, Peerby, Karma, and SwapSity – also developed guidelines with suggestions to follow all local and national health advice, not to meet in person if sick, minimise the time of exchange, practice good hygiene, and consider other means of exchanging items, e.g., wrap item, leave on doorstep.

4.2.2. Supporting physical distancing

The studied platforms seek to support physical distancing in different ways, including:

- Limiting the number of people
- Implementing clear signage
- Providing digital alternatives
- Increasing opening hours
- Avoiding physical contact through other means

For example, SnappCar and Turo offer a keyless option to open the rented car with an app (Haddad, 2020; SnappCar, 2020b). Similarly, Bike Share Toronto encouraged its cyclists to use the CycleFinder app, the Bike Share website, or a member key to find and release a bike (Bike Share Toronto, 2020b). Turo also offered hosts lockboxes for key retrieval (Haddad, 2020). Uber Eats encourages its customers to use the “leave at the door” option to avoid physical contact (Uber, 2020a).

Many Airbnb hosts use a key lockbox, smart lock, or keypad for self-check-in (Airbnb, 2020b). Each investigated co-working space introduced signage throughout their spaces, closed workstations, reduced meeting room capacity, and increased safe kitchen etiquette. ImpactHub Stockholm made their spaces accessible 24/7 to enable their community to avoid peak traffic on public transport. They also enhanced their bicycle parking and shower facilities to promote safe modes of transportation to and from their location (ImpactHub Stockholm, 2020).

4.2.3. Implementing communication and education campaigns

In a time of crisis, communication between organisations and their users is essential. Apart from community guidelines and health and safety practices, we observed other communication practices by sharing platforms, including campaigns related to:

- Curating special resources for users (e.g., tutorials, webpages, checklists)
- Marketing activities based on the pandemic
- Providing accessible communication (e.g., audio, subtitles, multiple languages)
- Expressing solidarity with users

For example, the immediate response of Uber to the pandemic was to add a feature to its app with the latest information about the pandemics from official sources (Scheepers and Bogie, 2020). Support teams at Uber made approximately 2000 calls to their drivers asking about their concerns, in order to identify measures to assist them (Scheepers and Bogie, 2020). Lyft developed video tutorials on COVID-19 safety for drivers and riders (Lyft, 2020d), while Turo launched a training course for its drivers that builds on information from federal health authorities and the WHO (Turo, 2020b). Hosts who took the course have had badges on their Turo profiles since 31 July 2020 (Turo, 2020c).

Airbnb revamped the homepage to address the questions and concerns of its users (Airbnb, 2020c), which they updated daily. LoveHomeSwap prepared a downloadable audio guide of 11 phrases in 4 languages to help travellers communicate about the pandemics in different localities in what the company thought would be a post-COVID world in summer 2020 (LoveHomeSwap, 2020b). Spaces, through its parent company International Workplace Group, has created a comprehensive communication document titled *Preparing for a New World of Work*, which provided specific actions being implemented now to reduce the spread of the virus in their workspaces, and plans to support working remotely for the foreseeable future (IWG, 2020).

SwapSity organised online swap meets appealing to their users' nostalgia for in-person swap meets. In different ways, platforms such as Karma, LENA Library, SwapSity, and HeelNederlandDeelt

expressed empathy with their communities through their social media and website activity.

4.3. Society-oriented response strategies

Platform responses also targeted society more generally, including frontline workers, people in need, schools, and other actors. We identified two overarching strategies to capture these responses: offering support and managing new and existing partnerships.

4.3.1. Offering support

During the pandemic, many platforms have found ways to provide tangible or intangible support to a variety of stakeholders by:

- Offering financial or non-financial resources
- Producing or purchasing personal protective equipment
- Providing advertising services via the platform
- Providing tangible and intangible support to the frontline and essential workers
- Working towards solutions

For example, Uber offered “10 million free rides and deliveries of food for frontline healthcare workers, seniors, and people in need around the world” (Uber, 2020a). In the US and Canada, Uber Eats waived their delivery fee for 100,000 restaurants, and Uber Freight delivers essential items to healthcare facilities and food banks for free (Scheepers and Bogie, 2020). Uber also partnered with domestic violence organisations across the globe and provided 50,000 free trips to those who needed to escape from home and reach shelters (Scheepers and Bogie, 2020). It was also instrumental in helping many restaurants that lost their dine-in customers to go online and deliver food home instead. The company reduced sign-up and wait times for restaurants to register on Uber Eats. Uber also offered a possibility to receive daily rather than weekly pay-outs to the restaurants to help with cashflow during the pandemics (Scheepers and Bogie, 2020).

Together, the Bill & Melinda Gates Foundation and Uber delivered medicine to individuals suffering from chronic diseases who were unable to pick it up themselves. In March–April 2020, 40,000 parcels were delivered to Western Cape, South Africa (Scheepers and Bogie, 2020). In Kenya, Uber collaborated with the Gertrude’s Children’s Hospital and Nairobi Hospital to provide discounted trips to medical professionals. In support of the Kenyan Emergency Response Fund, Uber offered 5000 free rides and 2000 free deliveries via Uber Eats (Soko Directory Team, 2020). Facedrive collaborated with Middlesex-London Health Unit, Ontario, Canada to transport people to COVID-19 testing facilities at discounted prices. Drivers for such trips are “trained in COVID-19 travel related safety protocols” and equipped with essential safety equipment (Facedrive, 2020a). Facedrive and HiRide announced a global virtual hackathon for innovative ideas “... to mitigate the social and economic impacts of the COVID-19 pandemic”. The top five ideas will be offered fully paid internships at the companies (Facedrive, 2020b).

On 26 March 2020, Airbnb announced that it was developing strategies with hosts to accommodate 100,000 medical workers around the globe (Airbnb, 2020d). The company also created a dedicated support fund of USD 10 million to assist Airbnb users in mainland China. Airbnb also created a USD 10 million Superhost Relief Fund, providing grants of up to USD 5000 to top-rated Superhosts and some Experience hosts who rent their own homes and are in need of assistance to pay rent or mortgage (Smith, 2020). ImpactHub joined the “COVID Response Alliance for Social Entrepreneurs”, which has supplied at least USD 75 million to mitigate the impacts of the pandemic (Impact Hub, 2020).

Volunteers associated with the Toronto Tool Library used their tools and makerspaces to produce personal protective equipment,

including sneeze-guards, face shields, mask-comfort bands, and signage. This equipment is distributed to local hospitals and long-term care facilities.

4.3.2. Managing partnerships

The pandemic seems to have strained existing partnerships and provided opportunities for new relationships. Beyond the partnerships already mentioned relevant to previous response strategies, we provide examples of how goods sharing platforms are managing partnerships by:

- Nurturing new partnerships
- Ending existing partnerships

The volunteer community at the Toronto Tool Library has created new initiatives for the benefit of existing (e.g., Centre for Social Innovation) and new (e.g., local hospitals and long-term care facilities) partners (Willison, 2020a). Karma is working with food distributors and wholesalers to put together subscription boxes to sell excess supply to their users seeking to avoid shopping in stores (Karma, 2020). This is a new offering to users, based on new partnerships. Similarly, Bunz is partnering with small businesses to offer them free use of their platform to advertise their products and services more widely (Bunz, 2020).

In times of crises, organisations tend to consolidate their resources, so many non-core activities and partnerships are paused or ended. In the time of COVID-19, physical distancing causes partnerships to crumble. For example, the Toronto Tool Library had to cease its weekly workshops with the Alzheimer’s Society of Toronto and the Junior Workbuilders youth workshops (Willison, 2020a).

5. Discussion

Our research seeks to produce and structure knowledge about organisational responses to high-impact low-probability crises. We do this by studying impacts of the COVID-19 pandemic on sharing platforms, and their responses to the pandemics and to potential future crises to encourage perseverance, viability, sustainability, and resilience. We elaborate on response strategies – coping – among investigated platforms, which only represent a snapshot in time. Following the 4Cs model suggested by (Shrivastava, 1993), we also discuss the long-term implications – consequences – of the COVID-19 pandemic on the sharing economy, and explore how this may impact future responses among sharing platforms in the society that seeks sustainability.

5.1. Learning from observed response strategies

There is an extreme diversity of responses among the investigated platforms, based on shared practice (e.g., shared mobility, shared space, shared goods), platform type (e.g., P2P, B2C), geographical scale (e.g., international, national, regional, local) and value orientation (e.g., commercial, environmental, social, societal).

Firstly, responding to the nature of the pandemic and following international and national policies and prescriptions (WHO, 2020), most platforms implemented some form of community guidelines or policies to increase hygiene standards and manage user behaviour, similar to responses of many other types of organisations. However, unlike the traditional organisations, platforms have to manage both sides of the market, for example, by developing different sets of guidance for resource users and resource owners, e.g. (Airbnb, 2020c). They also sought to leverage technology to reduce the need for in-person interaction, or encouraged their users to find alternative ways to access and share goods and services.

However, the *shared practice* and context dictated response strategies across the platforms. For example, shared mobility platforms mostly continued their core operations, focusing on increased standards for hygiene and physical distancing and actively educating their users to follow related guidelines and protocols. Uber alone actively supported local communities by providing free rides and deliveries of consumables for those in need, particularly in Africa. Platforms for shared accommodation had to pause most of their operations. Some of them applied for funding support to survive the reduction in bookings, up to 90%. The co-working spaces did not stop operating, and instead opted for strategies that improved health and safety measures to allow for continuing operations, adapting to the local contexts in which they operate. With their business model threatened, co-working spaces expanded their digital platforms and collaboration tools to support working at a distance, while still providing value to their members.

The goods sharing platforms tended to be more niched than international mobility and space sharing platforms, which impacted their response strategies. For example, they operated closely with community organisations, which have also been significantly impacted by the pandemic. Their responses appeared to be more improvised and less formalised, often communicated through blog posts, social media, or newsletters, if at all, compared to dedicated space on the website and professional communication materials (e.g., guidebooks, videos, training), which we observed among more institutionalised space sharing and mobility sharing platforms. Lastly, goods sharing platforms had a more varied organisational response strategies; many platforms remained open at full capacity, while one platform had to close. The diversity of responses speaks to the local and embedded context of goods sharing platforms.

The *platform type*, because of the actors involved in the exchange, also dictated responses. Whether operating as a single (B2C) or two-sided (P2P) market, platforms had to tailor their communication to their users' needs and abilities. B2C platforms – like many car-sharing and bike-sharing companies – need to manage only one customer segment, together with the resources they own. However, B2C car-sharing companies own or lease their car fleet, and suffer losses when their cars sit idle, not generating revenue, but still have to pay loans to the bank. On the other hand, P2P platforms do not own any physical assets, but have to manage both the supply and demand side of the market, with each user segment having different needs and with resource owners having to shoulder the burden of idling resources during the pandemic.

The *value orientation* and *geographical scale* of the platform also influenced the types of responses from the platforms. Commercial platforms, often operating internationally, had more resources available to update their websites and business models, communicate with users, and provide financial and non-financial support. These platforms are also more exposed to risk, so there is a greater incentive to respond appropriately to manage their reputation and risk. This meant companies like Uber, Lyft, and Airbnb were working with international partners to provide services for frontline workers and those in need, and allocating funds to support those affected by the pandemic. Meanwhile, platforms that operated more locally, with interest in additional value creation beyond monetary value, were able to rely on their communities' civic capacity and social capital to help manage the response to the pandemic, even if they faced difficulties with cash flow and access to financial capital.

Finally, we found differences in the *nature of response strategies* the platforms employ depending on the response target, following the classification of organisational responses suggested by Mithani and Kocoglu (2020): hypervigilance, exiting, growth, or dormancy, as discussed in Section 2.3 and presented below (Table 2).

Across the eight responses identified, the majority demonstrated hypervigilance (5): platforms were cautious, communicative, and conscientious while implementing measures to ensure health and safety on their platform. We also observed strategies that demonstrated growth (4), with platforms adapting their business models to mitigate the impacts of the pandemic. Platforms undertook strategic work, such as revamping physical or digital infrastructure or applying for funding or other financial relief. One platform went out of business, and others had to end partnerships and reallocate resources elsewhere, responding by exiting (2) the market in some way. Finally, two sharing platforms paused their operations as a result of the pandemic, demonstrating how platforms managed daily operations by entering dormancy (1). The classification by nature of organisational responses helps demonstrate the prescriptive ability of our framework, and reflects the nature and efficacy of observed response strategies in relation to the crisis we currently face.

5.2. Long-term implications of the pandemic on the sharing economy

Long-term implications of the pandemic are widely discussed in society and literature, although in a more speculative manner. Some organisations are hopeful that the pandemic signals a need to restructure the global economic order by implementing green recovery mechanisms (Bakker and Elkington, 2020; Sneider and Singhal, 2020) and gearing production and consumption towards sustainability (Boons et al., 2020). Others warn that history teaches us that “business as usual” is typically very quickly restored after a crisis, e.g., as was in the case of the financial crisis of 2008–2009 and the SARS epidemic (Gössling et al., 2020).

However, the long-term implications are not yet known, as we are in the midst of the pandemic and vaccination efforts. Many commentators expect a slow and cautious opening of our societies and economies, with travel and physical distancing recommendations to remain in force for some time. Some speculate that consumers may focus more on local consumption, seeking to support small businesses, including restaurants, cafes, and bookshops (Hall et al., 2020) and local travel. This localisation will likely extend to leisure travel, where people may choose to vacation closer to home, leading to lower environmental impacts and in this way advancing more sustainable forms of consumption. At the same time, reduced international travel and changing consumer behaviour will likely shrink the demand for P2P accommodation across countries (Hall et al., 2020), but it may increase P2P accommodation and ride-hailing services locally and nationally. However, it remains to be seen whether this shift will meet the pre-pandemic demand for less-formal employment and income generation opportunities.

Nonetheless, we can learn from previous crises. During the financial crisis a decade ago, consumers altered their spending habits and re-evaluated their consumption in light of shifting values (Gerzema and D'Antonio, 2010). Seemingly, this will occur again, with consumers being more mindful of their expenses, so businesses that offer convenience and less expensive alternatives are likely to thrive. In addition, the example of the sharing economy demonstrates that businesses that are reliant on or that use ICT in their operations are more flexible and quicker to adapt to the new order where physical distancing is desired. This in turn helps to strengthen the resilience of our systems of production, consumption, and distribution. Below, we briefly focus on the long-term implications of the pandemic on shared mobility, shared space, and shared goods platforms.

5.2.1. Long-term implications for mobility sharing platforms

Mobility sharing platforms will continue to be impacted, as mobility is likely to be restricted or discouraged for some time, es-

Table 2
Response strategies and nature of organisational responses.

Response Target	Response Strategy	Nature of Organisational Responses
Organisation-oriented responses	Managing day-to-day operations Adapting existing business models	Hypervigilance, Exiting, Dormancy Growth
User-oriented responses	Performing strategic work Increasing hygiene standards Supporting physical distancing	Growth Hypervigilance Hypervigilance
Society-oriented responses	Implementing communication and education campaigns Offering support to societal actors Managing partnerships	Hypervigilance Hypervigilance, Growth Growth, Exiting

pecially among the elderly and vulnerable populations (Hall et al., 2020). More broadly, both car-sharing and ride-hailing will continue to be promoted as solutions to improved sustainable transport systems. Car-sharing and bike-sharing may be preferred over ride-hailing services, as there is not the same need for interaction with drivers. However, during the pandemic, platforms have been implementing training, certifications, or review systems to promote improved hygiene and ventilation standards and vehicle cleanliness. While the increased use of bike-sharing has a positive implication for sustainable consumption on transport, the diversion of people from public transport towards car use through car-sharing or ride-hailing is a less beneficial trend from the sustainability perspective. In addition, there is a risk that more people will consider purchasing their own car after they have tried car-sharing or ride-hailing services.

Platforms like Uber and Lyft started supporting their gig workers to some extent, including improved systems for hygiene, health and safety, and paid sick leave. When the pandemic subsides, it may be difficult for these companies to withdraw some of these protections. Therefore, some suggest that the support and benefits experienced during the pandemic, which are long seen as necessary for drivers and other gig workers, need to be institutionalised (Katta et al., 2020).

Similarly, food and other delivery services are likely to remain popular as a consequence of the COVID-19 pandemic (Raj et al., 2020). Restaurants may also join or expand their food delivery services, as there are still risks to employees and increased costs for enhanced cleaning and physical distancing requirements.

Technology that supports physical distancing – and convenience – will continue to be leveraged and integrated into service offerings, such as QR codes, RFID scanners, digital locks, and location-based services. While the industry was already heading in this direction, we may see increased automation as a result of the pandemic in the form of self-driving cars and drone deliveries. These services do not require in-person interaction, although such a transition will destabilise an already precarious relationship between platforms and users.

5.2.2. Long-term implications for space sharing platforms

Due to the general state of the economy, P2P accommodation sharing will likely see greater demand for local, safer, and cheaper options (Chadwick, 2020), and an increased interest in more far-off destinations (Zenker and Kock, 2020). Some go even further and suggest that slow tourism will become the new more sustainable normal, with people choosing locations off the beaten track and valuing longer and more meaningful stays – quality over quantity of travel (Wen et al., 2020).

In response to the increased interest in local tourism, some hosts of short-term accommodation rental will rebrand their homes towards domestic travellers; others will shift towards long-term accommodation, which is less sensitive to the pandemic than short-term rentals, albeit not as profitable (Rubino et al., 2020). Hosts that hold multiple listings and most likely have a mortgage

for them³ will be likely to reduce the number of listings to stay afloat. Some commentators therefore suggest that there will be fewer commercial hosts with multiple listings and more hosts that rent out their own property as an additional source of income or for the sake of social interaction (Dolnicar and Zare, 2020). They go one step further and propose that there might even be no need to regulate these platforms anymore due to the reached upper limit in supply, and there might instead be a need to incentivise these platforms to spur local economic development (von Briel and Dolnicar, 2020).

Accommodation sharing will most likely have a competitive advantage over the hotel industry when travel restrictions wane. While the hotels and the mainstream tourism industry will have to go through a lengthy process of rehiring and potentially re-training its workforce, the accommodation sharing hosts will be offering their properties on the market immediately (Dolnicar and Zare, 2020). Nevertheless, some authors predict a reduction in the demand for P2P accommodation sharing due to the difficulty in securing proper safety and cleaning procedures (Naumov et al., 2020). On the other hand, digitalisation and self-service, e.g. check-in options via an app, entrance to properties via a key box and communication with a host via digital channels, will likely increase further (Chadwick, 2020). Furthermore, interesting fusions – *work-cation* – are already emerging where renting accommodation or sharing space for work and pleasure come in one package (ESR, 2020).

5.2.3. Long-term implications for goods sharing platforms

We are unaware of any literature on the potential long-term implications on goods sharing platforms. However, these platforms are facing challenges, which can be overcome. The temporary challenge of physical distancing prevents users from interacting with each other, forcing goods sharing platforms to reduce their operations or adapt their business model. While many platforms have sought to manage the health and safety of their users, many face financial challenges and the ability to continue operating and offering their service to users. However, goods sharing platforms that operate locally may leverage the goodwill of their communities by offering spaces of interaction and networking, which are important in developing mutual support among people, and in this way strengthen social resilience in the communities and neighbourhoods in which they are embedded (Sharifi and Khavarian-Garmsir, 2020). We observed high willingness among online communities to support local sharing initiatives. If goods sharing platforms can weather the pandemic, they will likely be well-positioned as economies adapt their modes of production and consumption and users adjust their consumption habits.

³ 81% of Airbnb's revenue in the USA comes from hosts with multiple listings according to CBRE (2017).

5.3. Future response strategies

As the prolonged effects of the pandemic on sharing platforms are still evolving, we briefly reflect on future response strategies among sharing platforms. As our results and analysis demonstrated, the majority of the observed responses represented *hyper-vigilance*. Such a response over a prolonged period reduces the capacity of an organisation to utilise available resources and execute additional responses (Mithani and Kocoglu, 2020). We expect further responses to emerge as the pandemic subsides.

Platforms may enter *dormancy*, having limited energy and resources. This does not mean they go out of business; rather, platforms may operate on an as-needed basis with the resources available, by maintaining their website and responding to direct requests. However, this is likely to be done with limited staff, limited investment in the platform or service, and no effort to grow their position in the market. Similarly, we may see increased *exiting* responses, with platforms leaving markets or geographies to focus on their core activities, or going out of business altogether. Again, this will likely be influenced by available resources, including the energy and motivation of the team behind the platform.

We expect to see additional *growth* responses, such as consolidation, acquisition, and reputation management. As platforms struggle with resources, acquisition represents an entry routine by expanding into new markets or acquiring new technology. Additionally, platforms may increasingly face backlash regarding their response – whether it was sufficient or adequate. Platforms will need to decide whether to allocate resources to respond or engage in deliberate actions to manage their reputation.

Finally, trends we see throughout society will likely affect sharing platforms in how they operate, including increased video-conferencing and teleworking. Changing mobility habits, whether biking or using autonomous electric vehicles, may upend car-sharing business models. We must also consider how platforms and specific response strategies contribute to improved environmental or social outcomes. As the pandemic subsides, all countries and communities will face economic hardship and political instability as we collectively wrestle with the best way to overcome these challenges and to build more sustainable societies. In doing so, the growth paradigm may need to be revisited and revised, considering whether responses “fit to the scale” for the local context and needs of the people and planet (Ibn-Mohammed et al., 2021).

6. Conclusions

Unfortunately, as one crisis subsides, another may be in the making. The long-term economic impacts of the COVID-19 pandemic are still unfolding, triggering unemployment and hardship across the globe. At the same time, spurred by misinformation on social media, partisanship threatens the stability of the global political system. Moreover, climate change and biodiversity loss challenge our societies and ecosystems. The sharing economy offers solutions to many of these challenges, with its potential to advance sustainable consumption and production by improving resource efficiency, reducing waste generation from the production of new assets, democratising consumption, and creating strong and resilient communities. However, as we look to rebuild our economies, this is only possible if sharing platforms can effectively and adequately respond to the COVID-19 pandemic. This research aimed to explore organisational response strategies, in order to support learning among sharing platforms and advance our understanding of response strategies of sharing platforms to the crisis.

This article makes important theoretical, empirical, and practical contributions. In terms of *theory*, it contributes to filling the gap identified in crises management literature about organisa-

tional responses to high-impact low-probability crises (Mithani and Kocoglu, 2020). Furthermore, since research on the sharing economy and responses to the pandemic, not impacts, is limited, this article makes important contribution to the sharing economy literature by identifying and classifying organisational responses of sharing platforms and developing a framework of organisational responses specific for the three response target groups: users, organisation, and society. We identified eight overarching response strategies and corresponding actions among the 30 sharing platforms. The strategies employed predominantly represent hypervigilance responses, especially those targeting users, and involve acquiring information about the threat, assessing resources, understanding potential impacts, and managing risks.

This study also provides *empirical contribution* to the sharing economy field by systematising extensive empirical data of organisational responses from 30 sharing platforms representing three sharing practices, shared mobility, space and goods, and diverse business models, e.g., P2P and B2C. The long-term implications of the pandemic are discussed per sector, offering insights about the complexity of potentially building resilient post-pandemic consumption and production systems.

The results of this study and learnings have *real-world significance*. The results of this article seek to advance organisational learning, including that of sharing economy platforms. Indeed, sharing platforms can learn from each other about how to continue to respond in the face of the ongoing pandemic, and consider actions for future preparedness to potential forthcoming crises. With this we hope to encourage perseverance, long-term viability, sustainability, and resilience in organisations, which may offer more sustainable ways of consumption and production.

This study represents an initial investigation of organisational response strategies to the COVID-19 pandemic in the sharing economy, and several limitations and directions for future research can be outlined. First, conducted in the midst of the pandemic, our study represents a snapshot in time – with empirical data collected up until 30 October 2020. However, responses are dynamic and changing. Additionally, our web analysis evaluated responses communicated publicly by platforms via web pages, blog posts, news, and social media posts, and communication among employees was not considered. For these reasons, our empirically-derived framework only represents an initial structuring of knowledge for future research.

Research should continue to explore responses among sharing platforms representing different sharing practices. Additionally, research could explore the responses to the pandemic in the sharing economy at macro- and micro-levels. For example, future studies may explore how municipalities or users responded to the COVID-19 pandemic in relation to the sharing economy. The framework can be tested and applied in comparative studies that focus on understanding the differences in organisational responses depending on shared practice, platform type, geographical scale, value orientation, and response target. Finally, a more philosophical but critical question that needs to be addressed in future research is – can the COVID-19 pandemic trigger structural changes to our systems of production and consumption, and value creation more generally? And what can we learn from this crisis to make our societies more resilient in the face of other crises to come and more sustainable in the long run?

Author Contributions

Problem definition (OM, SC, YVP); research design (OM, SC); methodology (OM, SC); analysis (OM, SC, YVP); data curation (OM, SC, YVP); framework development (YVP, SC, OM); writing - original draft (OM, SC, YVP); writing - review and editing (OM, SC, YVP);

visualisations (SC); writing - revision (OM, SC, YVP); supervision (OM); funding acquisition (OM, YVP).

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Declaration of competing interest

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

Appendix A. Final Document Sample from Literature Review on the impacts of the pandemic on sharing platforms

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Appendix C. Observed Response Strategies Across Platforms

Response Strategy	Mobility Sharing Communauto	Space Sharing Facedrive	Goods Sharing HiRide	Kangaridelyft	Poparide	Snappcar	Bike Share Toronto	Turo	Uber	Airbnb	VBRO	FlipKey WarmShowers	Couchsurfing	Home Exchange	WeWork LoveHomeSwap	ImpactHub	Spaces	Toronto Tool Library	Rent Frock Repeat	SwapSity	reheart	Peerby	LENA Library	HeelNederl andDeelt	BKSY	Bunz	Karma
Managing daily operations																											
Remaining open at full capacity	X																X				X		X		X	X	
Expanding/increasing operations		X	X				X																				
Temporarily closing / pausing operations			X							X								X		X							
Reducing part(s) of operations			X	X				X	X									X						X			
Permanently closing																			X								
Implement local response for local contexts								X	X						X	X	X										
Adapting existing business model																											
Enhanced existing services									X	X						X	X									X	
Changing or updating primary offering									X	X				X			X									X	
Changing or updating additional offerings									X	X																X	
Flexible cancellation / return policy				X	X	X		X		X								X									
Flexible contracts and terms of service																											
Transfer operations online											X							X									
Performing strategic work																											
Update/Revamp physical infrastructure										X								X					X	X		X	
Update/Revamp digital infrastructure																		X								X	
Applying for grants or other financial support										X			X					X									
Increasing hygiene standards																											
Implemented enhanced cleaning protocol	X	X	X	X			X	X		X							X	X									
Improving HVAC, air filtration, and ventilation requirements	X		X		X																						
Temperature screening																											
Requiring sanitary masks to be worn (along with other control measures)									X																		
Mechanisms for reporting positive COVID-19 cases																											
Follow international, national and local restrictions and best practices										X	X	X		X	X	X	X										
Implementing community health and safety guidelines				X	X	X			X	X								X			X		X	X			
Restricting access to platform based on health status									X																	X	
Providing increased hygiene products (available freely or reimbursed)	X								(x)																		
Supporting physical distancing																											
Limiting the number of people																											
Implementing clear signage																											
Providing digital alternatives						X	X	X																			
Increasing opening hours																				X							
Avoiding physical contacts through other means								X	X	X														X		X	
Implementing communication and education campaigns																											
Curating special resources for users (e.g. X tutorials, webpages, checklists)			X	X					X	X	X			X													
Marketing activities based on the pandemic										X	X												X	X		X	
Providing accessible communication (e.g. audio, subtitles, language)			X						X					X													
Expressing solidarity with users									X									X		X			X	X		X	
Offering support to societal actors																											
Offering financial resources										X																	
Offering non-financial resources	X								X	X																	
Produce or purchase personal protective equipment																											
Provide advertising services																											
Expressing appreciation or providing tangible support for frontline & essential workers								X	X	X										X						X	
Working towards solutions		X	X																								
Managing partnerships																											
Nurturing new partnerships (e.g. communication, distribution)		X	X						X																X	X	
Ending existing partnerships (e.g. due to safety)																		X									

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