

Emergence in emergency: How actors adapt to service ecosystem disruption

Helen Thompson-Whiteside, Judith Fletcher-Brown, Karen_Middleton & Sarah Turnbull
University of Portsmouth

Abstract

Marketing scholars are applying the concept of emergence to understand an increasingly unstable world. While *what* emerges is of interest, the present study enriches conceptualisations of *how* emergence unfolds through a netnographic study of an online network formed to address the deficiencies of service ecosystems disrupted by Covid-19. We identify how a new *network between actors with no prior ties* to each other is formed at speed by individuals to integrate unregulated resources, and observe the early emergence of a proto-institution in the form of new practices as actors move quickly to stabilise this network. Initial interactions are prompted by individual vulnerability but sustained by the emergence of *a shared conception of vulnerability* among surprisingly agentic actors. While these findings stem from a single case of disruption, they suggest that further research which deepens understanding of emergent phenomena in conditions of volatility and uncertainty would be of great value.

Key words

Emergence, proto-institution, resource integration, vulnerability.

Emergence in emergency: How actors adapt to service ecosystem disruption

Introduction

Research in S-D logic is increasingly turning its attention to the dynamics of service ecosystems, with growing interest in the mechanisms that drive change and innovation (Kleinaltenkamp et al., 2018; Koskela-Huotari et al., 2016; Lusch et al., 2016; Meynhardt et al., 2016; Pena & Breidbach, 2021; Polese et al., 2020; 2021). Ecosystems are, “self-adjusting systems of resource-integrating actors” (Vargo & Lusch, 2016, p.10), considered to be social structures exhibiting institutional characteristics (Gonçalves et al., 2021; Taillard et al., 2016), which derive their stability from institutional arrangements accepted over time which become the prevailing practice (Akaka et al., 2019; Converse, 1987; Phillips et al., 2004; Suddaby & Greenwood, 2005). However, service ecosystems are open to disruption which can introduce instability, and necessitate adaptation and the renegotiation of established institutional arrangements, resources and practices (Banoun et al., 2016; Kabadayi et al., 2020; Vargo & Lusch, 2016).

To aid understanding of the processes of change and innovation within ecosystems, researchers are now applying the concept of emergence. While this perspective on systems has frequently featured in areas of study such as biology and sociology, it has only recently been adopted within marketing research (Vargo et al., 2020; 2022). Emergence is particularly useful in helping to understand complexity and is considered central to the process of adaptation (Ladyman & Weisner, 2020; Lusch & Vargo, 2014). To date, research on emergence in marketing has accounted for unpredictability and novelty by considering *what* emerges, i.e., emergent properties that cannot simply be traced to their constituent elements, and are more than the sum of their parts (e.g., Peters, 2016; Polese et al., 2020, 2021). Such emergent phenomena might include capacities, resources, value, institutional arrangements

and new service ecosystems (Akaka et al., 2019; Polese et al., 2021; Taillard et al., 2016; Vargo et al., 2020; 2022). While *what* results from an ongoing process of emergence is certainly of continued interest, it is the mechanisms which drive emergence (Akaka et al., 2019) and questions of *how* new properties emerge, which are considered particularly pertinent to advancing the study of emergence within marketing (Vargo et al., 2022).

To further our understanding, this paper uses both the institutional and ecosystems perspective of S-D logic (Gonçalves et al., 2021; Vargo et al., 2022) to examine emergence in a context of severe disruption to existing ecosystems. In the wake of Covid-19 which, “pushed every system to its extreme, exposing the good, the bad, and the ugly of its inner workings” (Meng, 2020, p.1), we consider the Canadian online community network, #Caremongering, set up in March 2020 to address resource gaps left by deficiencies in the established resource arrangements. While this context represents a specific time of disruption, we are now living in an age of uncertainty with instability becoming increasingly likely (Furr, 2022). Consequently, the study of the mechanisms that drive emergence to deepen understanding of service ecosystem dynamics becomes crucial to consider. Our paper therefore seeks to examine the nature of emergence at a time of emergency, to consider not only *what* novel properties emerge in a context of emergency, but also *how* emergence unfolds as actors face a global crisis (Akaka et al., 2019; Vargo et al., 2022).

The findings of our study enable us to advance S-D logic by making the following contributions to current understanding of emergent phenomena in a new empirical domain. In considering *what* emerges, we observe the formation of *a network between actors with no priorities*, which is sustained by *a shared conception of vulnerability*, giving rise to a *proto-institution in the form of new practices* as actors seek to facilitate greater value co-creation and stabilise the network. Vargo et al. (2022) proposed four *orders of emergence* with each characterised by the differing nature and extent of resource integration and accompanying institutional

processes. To enrich these conceptualisations, we provide empirical evidence of emergence at a time of crisis. First, we highlight the crucial but unexpected role of vulnerability in driving emergence by initially prompting, and subsequently sustaining a new service ecosystem. Second, we contribute to the understanding of emergence in crisis conditions by identifying how novel value co-creation takes place through actors unlocking and combining the latent value of personal resources, giving rise to the emergence of new unregulated resources. Thirdly, we observe how actors are able to evolve service ecosystems at great speed, developing related institutional processes to address resource needs at a time of great emergency when existing service ecosystems have failed. While velocity may not always accompany emergence, we identify its importance at a time when urgent resource integration is required. Therefore, we contribute to understanding of the early stages in the evolution of a proto-institution by identifying the rapid emergence of a proto-institution in the form of new practices to enable better integration of essential resources between vulnerable actors.

This paper proceeds as follows. First, we discuss emergence as it relates to the concepts of service ecosystems, highlighting how changing dynamics can impact actors' vulnerability. Next, we provide an explanation of the methodology and provide analysis and discussion of our findings. We conclude this paper with acknowledgement of this study's limitations and make suggestions for future research.

Service ecosystems, vulnerability and emergence

Change within service ecosystems is attracting growing interest from academics (Kleinaltenkamp et al., 2018; Micelotta et al., 2017). Prior literature recognises that disruption to value co-creation processes may be introduced by social, financial or environmental problems (Micelotta et al., 2017), or even global crises such as disease pandemics (Kabadayi et al., 2020; Polese et al., 2020). These may present psychological, physical and social challenges

(Finsterwalder & Kuppelweiser, 2020) with literature highlighting the role of harmful situations, resources, control (Hill & Sharma, 2020) and consumption adequacy (Martin & Hill 2012) in creating states of actor vulnerability. Vulnerability is conceptualised as a state reached when the scale of challenge faced by actors cannot be met by available resources (Dodge et al., 2012; Fletcher-Brown et al., 2021; Hill & Sharma, 2020; Martin & Hill, 2012) and actors' control over resources is hindered to the extent that they are unable to function in the marketplace (Hill & Sharma, 2020). While vulnerable actors might typically be expected to accept their situation, others will not forgo their needs and will seek alternative ways to seek control over resources. If the scale of the disruption is significant enough, it can even contest actors' beliefs and shared conceptions of social reality, giving rise to an altered social consensus (Creed et al., 2020; Edvardsson et al., 2011; Polese et al., 2020; Scott, 2004; 2013) and prompting actors to engage in adaptive behaviours.

Accordingly, emergence is considered a very useful construct in its ability to capture the complex nature of dynamic service ecosystems and with its concern for new and unexpected properties that cannot be predicted from the knowledge of their component parts (Peters, 2016; Polese et al., 2020). Consequently, emergence is often associated with novelty (Peters, 2016; Polese et al., 2020, 2021) and considered central to the mechanisms of adaptation (Ladyman & Weisner, 2020; Lusch & Vargo, 2014). Emergence is a dynamic and iterative process which works in parallel with processes of institutionalisation (Vargo et al., 2022). For example, as actors seek to overcome instability in a service ecosystem, they may consider novel solutions which in turn, may trigger de-institutionalisation and subsequent re-institutionalisation as new institutional arrangements emerge (Akaka et al., 2019). These processes are recursive and may prompt further change and innovation (Vargo et al., 2015) which gives rise to other emergent phenomena (Polese et al., 2020; Vargo et al., 2022).

Prior literature has identified *what* can emerge from these processes, including properties such as: capacities and mechanisms (Bhaskar, 1975); resources and value (Meynhardt et al., 2016; Vargo & Lusch, 2017), methods of resource integration (Taillard et al., 2016); network configurations (Barile et al., 2016); institutional arrangements (Fujita et al., 2019) and indeed new service ecosystems (Taillard et al., 2016). However, the work of Vargo et al. (2022) and Polese et al. (2020; 2021) has been invaluable in conceptualising *how* emergence unfolds. This study builds on these papers by providing empirical evidence of the mechanisms that drive emergence at a time of emergency.

Vargo et al. (2022) conceptualise *four orders of emergence*, each distinguished by the nature and extent of resource integration and service exchange and accompanying institutional processes. *First-order emergence* is characterised by ad-hoc resource integration between actors and novel outcomes. This collective action may be ephemeral (temporary) with only some *first-order* outcomes being repeated in response to positive or negative feedback. Patterns of interactions become discernible as more stability and order is introduced, giving rise to *second-order emergence*. If these patterns then become accepted norms, they have the potential to become proto-institutions, i.e. new practices, rules, and technologies (Kleinaltenkamp et al., 2018) or institutions in the making. Even if these are only weakly entrenched, these ephemeral emergents (Sawyer, 2005) can form the basis for fundamental changes in institutional arrangements (Lawrence et al., 2002). This may particularly apply if they are useful in addressing a social problem (van Wijk et al., 2019) or are sustained by a shared perspective (Kleinaltenkamp et al., 2021) or intentionality (Taillard et al., 2016; Vargo & Lusch, 2016) among actors.

Within *third-order emergence*, as put forward by Vargo et al. (2022), patterns of resource integration and service exchange are reproduced by actors in anticipation of expected value creation outcomes. To better coordinate this value creation, greater order may be

introduced in the form of internal structures. Vargo et al. (2016) argue that innovation cannot be said to have occurred until new practices become institutionalised, albeit imperfectly and, at least for a period of time. Such institutional ‘niches’ can provide places for learning from which radical innovation may stem (Geels, 2004) but should be diffused beyond a niche if they are to be established (Trischler et al., 2020). *Fourth-order emergence*, as outlined by Vargo et al. (2022) subsumes *first*, *second* and *third-order* characteristics, but actors here are seen as reflexive; capable of both intentional service ecosystem design and motivated to engage in institutional work to create new arrangements or maintain those already in place (Creed et al. 2020; Lawrence & Suddaby, 2006; Mele et al., 2018; Nenonen et al., 2019). Polese et al. (2021) similarly acknowledge the potential role of actors in institutional processes to stabilise or reformulate the workings of a service ecosystem.

However, human agency to alter existing institutional arrangements will typically be limited by the very same arrangements in which these human actors are embedded (Frow et al., 2016; Holm, 1995; Koskela-Huotari et al., 2016; Seo & Creed, 2002; Smets et al., 2012). Yet, prior literature offers a number of explanations for how actors are able to develop sufficient agency to overcome existing arrangements and engage in the processes of emergence. It may be that actors overcome constraints by making day-to-day adaptations (Lawrence et al., 2009), or are driven by the desire to get something done or respond to a given problem (Smets et al., 2012; Smets & Jarzabkowski, 2013). Actors might also increase their sense of agency through exposure to new ways of thinking (Middleton & Turnbull, 2021; Smets et al., 2012; van Wijk et al., 2019) gained through social, moral and emotional connections with others (Cheung et al., 2017; Fan & Zeitsma, 2017; Martin de Holan et al., 2019; Middleton et al., 2022; Ometto et al., 2019; Purtik & Arenas, 2019). Individual agency is also linked to the motivations (Findsrud et al., 2018) and dispositions of actors (Storbacka et al., 2016) which may then develop into shared intention and collective agency (Taillard et al., 2016; Vargo & Lusch, 2016). As actors

interact they might also share and formulate worldviews which are then linked to purposeful and adaptive activity (Polese et al., 2020). Moreover, when viewed from a network perspective, actors in an ecosystem are seen as inseparable from the connections they make in any given place and time, making the context surrounding the actor's experience of great relevance (Chandler & Lusch, 2015). For example, it might only be when institutions fail to foster wellbeing, making actors conscious of their vulnerability, that their prior sense of indifference gives way to greater scrutiny of particular institutional arrangements (Creed et al., 2020). In the wake of an emergency caused by an earthquake in New Zealand in 2016, the issues faced by a community made vulnerable were addressed by individuals with agency. Yet typically, individual characteristics associated with vulnerability such as age, disability or socio-economic status are linked to powerlessness and a loss of control (Baker et al., 2005; Fletcher-Brown et al., 2021; Rosenbaum et al., 2017), making the agency of vulnerable actors to find solutions in an emergency, of particular interest.

Prior research has examined the work of agentic actors in introducing institutional change in varied contexts including, fashion (Scaraboto & Fischer, 2013), banking (Smets et al., 2012), forestry (Zietsma & Lawrence, 2010) and advertising (Middleton et al., 2022; Thompson-Whiteside & Turnbull, 2021). While these contributions give an indication of the potential of individual actors to challenge existing institutional arrangements, previous studies in crisis settings, such as flooding or earthquakes, have linked resource integration through institutional arrangements to established community networks and existing institutional structures rather than novel properties (Cheung et al., 2017; Ozanne & Ozanne, 2016; 2020; Yeung et al., 2019). Consequently, as Cheung et al. (2017) argue, the processes of innovation between actors who are experiencing vulnerability but who have weak, or no prior, ties to existing networks remains underdeveloped. This study therefore, seeks to examine the nature of emergence at a time of emergency and consider not only *what* novel properties emerge in a

context of emergency, but also *how* emergence unfolds as actors face a global crisis (Akaka et al., 2019; Vargo et al., 2022).

Research design

A netnographic approach (Kozinets, 2002) to this qualitative, empirical study was adopted. We set specific research objectives and then identified #Caremongering as a suitable online forum in which to examine them. As of May 4, 2020, the membership of this group was 194,879 with representation from all 13 provinces and territories in Canada. Studying a novel network which had not previously received academic interest is appropriate (Fletcher-Brown et al., 2021; Luca et al., 2016; Middleton et al., 2022), particularly if it provides insight into a contemporary phenomenon within a real-life context (Rashid et al., 2019). It was considered important that the case selected would enable researchers to immerse themselves in the actor-to-actor exchanges (Dhanda, 2013).

To collect the data, we copied posts from the online community members and conducted a thematic analysis of this data applying the ‘Gioia method’ (Gioia et al., 2013). This systematic approach to untangle data using thematic analysis has been previously applied in contexts that have examined vulnerable consumers (Fletcher-Brown et al., 2021) and explored the drivers of change in institutional practices (Middleton & Turnbull, 2021). In addition, this method of analysis has been identified as being ‘particularly strong’ in understanding ‘*how things happen*’ (Gehman et al., 2018, p. 287) which has particular relevance to this study of emergence. By tracing the experiences of the #Caremongering community during Covid-19, we are able to examine responses to the collapse of existing institutional arrangements. Observing patterns of interaction through online communities

provides a window into the social truths and cultural understanding of actors immersed in the contextual setting (Chandler & Vargo, 2011; Gioia et al., 2013). Consequently, this method enables exploration of actors when they have not been studied as a network before and allows for a conceptualisation of their agency within the service ecosystem (Luca et al., 2016).

4.1 Sample and data collection

The data sample was selected from Facebook, the most widely used social media site in the world (Pelletier et al., 2021). Facebook social media pages were established in March 2020 by #Caremongering, an organisation set up to stop the spread of panic in the early stages of the pandemic and to enable communities to offer help to those in need. In particular, we wanted to examine the online community network to gain a sense of understanding of the new properties which emerge from this self-organised activity between actors.

Over a three-week period from 17th March 2020 until 5th April 2020 we collected 2138 pages of comments and responses posted on the Facebook pages of #Caremongering in English. The date is significant because it covered the first few weeks of the outbreak of the pandemic when traditional supply chain arrangements had collapsed, resources were limited, and social-distancing had come into effect. We followed 7 Facebook sites using #Caremongering which operated in Canada; Greater Victoria, Hinton, Ottawa, Truro, Toronto, Prince Edward County Ontario and Vancouver as these were the first to foster collaborative online communities (Phua et al., 2017). Although this activity subsequently triggered a proliferation of similarly titled sites around the world, our study was not intended to provide longitudinal data, but instead allow for a range of observations about how the community formed and interacted to integrate resources and co-create value.

This data set enabled a rich understanding of the new configuration of resource integration between actors during this period with the method of data collection giving voice

to those actors experiencing the phenomenon (Gioia et al., 2013). Immersed in the community, we observed and read a wide range of discussions and archived a number of selected posts and comments from the Facebook pages. A number of verbatim comments from actors were selected to support the validity of the findings and illustrate how emergence unfolded at a time of crisis.

4.2 Coding procedure

Using a sensemaking and sense giving approach as suggested by Gioia et al. (2013) we analysed the data in three stages - see Table 1 below. During the first stage we coded the data independently. This involved reading and re-reading the online posts and comments and manually organising the data into 1st order concepts. These included: *a lack of resources including food, housing, health and well-being products and services, statutory financial payments, transport, PPE for frontline medical staff and medical equipment for hospitals and the provision of education.*

After completing the 1st order coding, we met (online in accordance with lockdown guidance) to compare and contrast the codes and discuss the generated categories. Next, we undertook a 2nd order analysis, whereby we considered the links between the 1st order concepts and the existing knowledge about the phenomenon. This allowed for understanding to evolve from the data and provided an opportunity for novel theoretical insights to emerge (Gioia & Chittipeddi, 1991). This stage led to six 2nd order emerging sub-themes; *requests for help, actors taking on an expanded role in co-creation of value, viability and utility of network, shared vulnerability, habitual practices, internal structures, and combining the latent value of personal resources to provide new resources.* The 3rd stage of the coding process provided the opportunity to aggregate the 2nd order sub-themes into three 3rd order aggregated themes; *emergence of a network between actors with no prior ties, emergence of*

a shared conception of vulnerability, emergence of a practice-based proto-institution.

Finally, following Wallendorf and Belk (1989), an inter-coder agreement to endorse the coding scheme revealed a 96% overlap between the four coders. The coders discussed the remaining 4% of data and an agreement was reached.

Findings

The purpose of this paper was to examine *what* novel properties emerge and *how* emergence unfolds as actors face a crisis. Prior to the major disruption introduced by the pandemic, individual actors in this empirical domain had access to essential resources, such as food and medical supplies, and typically lived without the need for resource or service exchange with other individual actors. Instead, they relied on established service ecosystems in the marketplace to meet their needs. However, a major exogenous shock introduced widespread instability to existing service ecosystems, and prompted innovation as actors faced resource inadequacies. An investigation of this novel context allows us to identify how vulnerable actors are able to engage in adaptive behaviours, by working together to address these inadequacies.

From our analysis of the data, we identify how interaction between vulnerable actors who face a common threat without adequate resources to meet the challenge, gives rise to a sociomaterial *network between actors with no prior ties*. This network is then sustained by *a shared conception of vulnerability* and evolved through the institutional work of actors to co-create greater value. In these innovations, we identify characteristics of an emergent *proto-institution* in the form of novel practices. Therefore, our empirical findings deepen understanding of the mechanisms of emergence in a service ecosystem at a time of emergency. In the following sections, we explain how these emergent properties are derived from the data (see Table 1 for an overview), and provide insight into the dynamics of this

process. We accept that actors' sense of vulnerability prompts and sustains the network, while the network enables a shared conception of vulnerability among actors to emerge. Nevertheless, for clarity, we discuss each element separately in the following sections.

Table 1 about here

Emergence of a network between actors with no prior ties

A major exogenous shock to existing service ecosystems serves as an input to emergence by prompting actors to engage in adaptive behaviour to overcome resource insufficiencies. We identify how the scale of the challenge actors face is so great and their resource insufficiency so acute, that actors are sufficiently motivated to take to social media to express their needs to other actors despite there being no previous ties to connect them,

“Me and my kids have enough food for two days but I can't get out because I live so far out and there's no transport. I live in Etobicoke-York. Can someone help?”

(Toronto, Canada, Female).

“I'm a nurse collecting baby formulae for my ward because we are running out fast.

If you have any, or baby food too? (Male, Victoria, Canada).

A small number of ad-hoc posts quickly become a multitude of interactions across an ephemeral, but growing, network as requests for help from actors are met with offers of assistance. We observe how some individual actors respond, taking on an expanded role in the co-creation of value, thus inserting themselves into the service ecosystem network. Actors assess personal resources, unlocking their latent value to offer unregulated resources to the network including foodstuff, means of transport, personal knowledge and skills. The following quotes are illustrative of these novel practices,

“Hey I’ve got snow tires and can drop by tomorrow with some spare dried foods I have. I need to keep some for my own kids but DM me cos I live nearby” (Toronto, Canada, Male).

“I have a well-stocked pantry and offer meals or essentials in the west end/downtown every Sunday to help out. I live with a type 1 diabetic but willing to help other vulnerable folks. Feel free to message me!” (Nova Scotia, Canada, Female).

The emergence of an ephemeral network between actors without previous ties to facilitate ad-hoc resource integration is a novel outcome and indicative of the *first order of emergence*, but there is also evidence of repeated resource integration and positive service exchange between actors consistent with the *second-order of emergence*, as outlined by Vargo et al. (2022).

“Naomi helped me a lot. We speak regularly via #caremongering – she is a massive support” (Truro, Canada, Male).

“This has just been a lifesaver for me. Every Tuesday my prescription is collected for me. The schools are closed and I couldn’t leave my young kids” (Hinton, Canada, Female).

Such posts not only indicate both the viability and the utility of the emergent network in aggregating actors with no previous social ties to one another, but also attest to gratitude for the recurrent support the network provides, as the following post also illustrates,

“I live in York area and now a local family drop me a meal by to me every evening. I just want to say thank you to Ted and his wife. I don’t know what I would do because I have no car and I’m elderly” (Toronto, Canada, Female).

Consistent with network theory, the data therefore reveals that positive outcomes for actors lead to more engagement and more intense connectedness, which enables the network to grow and shapes the service ecosystem (Brodie et al., 2019).

Emergence of a shared conception of vulnerability

Without any additional mechanism to sustain regularity however, an emergent network might simply be ephemeral (Vargo et al., 2022). While individual vulnerability may have prompted actors to initially post on the network, the emergence of a shared conception of vulnerability sustains actor engagement in the network. Some actors in any society might be considered vulnerable due to individual characteristics such as age, socio-economic status or disability, but in developed economies their needs are typically met by established service ecosystems. However, the pandemic introduced such widespread disruption that even governments, charities, NGOs and state organisations were unable to meet actors' needs, *"Food banks are closed. Red Cross not delivering 'til next week."* (Toronto, Canada, Female), giving rise to a heightened sense of vulnerability among already vulnerable actors. Resource insufficiencies such as a lack of transport, funds, food and medicine are evident, *"I haven't received my welfare money, I need to feed my kids"* (Ottawa, Canada, Female), *"Desperately seeking some help"* (Ontario, Canada, Female).

However, the scale of disruption is such that actors who would not have been considered vulnerable at the outset of the pandemic, also have insufficient resources to meet the scale of the challenge and are tipped into a novel state of vulnerability. We therefore observe not only a new attribution of vulnerability to a wider range of actors, but the emergence of a shared consciousness of this vulnerability as a new shared experience. As one actor describes, *"I work as a teacher and have never been on welfare. Now I understand what it's like to go without and not have control over your life"* (Ottawa, Canada, Male), while

another declares, “*we are all in this together*”, despite a lack of resources clearly being a new experience for some.

“Hey no fuel at the pumps til Wednesday. What’s that about? Apparently, drivers have COVID” (Truro, Canada, Male).

“Well, that was a new experience. Empty shelves in the stores. I asked the manager about delivery and she said they don’t know, no idea when things will arrive” (Ontario, Canada, Male).

As actors interact, so too do their viewpoints (Polese et al., 2020). A new consciousness of vulnerability was even shared by professional health workers who would typically expect, in a highly developed economy such as Canada, to be provided with appropriate and regulated resources to undertake their work. However, inadequate supplies of personal protection equipment (PPE) rendered them sufficiently vulnerable that they made requests of unknown actors to help them address resource needs, as the following quotes illustrate,

“I am a district nurse and feel vulnerable without PPE. I need protective gear to visit clients. Do you have these items? Willing to pay, but will also accept donations”
(Nova Scotia, Canada, Female).

“I’m worried. I am a nurse on the frontline without PPE. I can’t buy things online and I need coveralls and scrubs. If you have any of these items I can pick up”
(Toronto, Canada, Male).

Their concerns are also not simply limited to material resources. Instead, actors highlight additional psychological needs such as counselling, as one health worker shares, “*I feel so vulnerable and need to offload my anxiety. Any ideas?*” (Greater Victoria, Canada, Female).

We, therefore, observe how actors without adequate resources to meet the scale of the challenge and offset a common threat, meet the threshold for vulnerability (Dodge et al.,

2012; Fletcher-Brown et al., 2021; Hill & Sharma, 2020; Martin & Hill, 2012). While there will always be actors in any society deemed vulnerable, we find evidence of a new shared conception (Creed et al., 2020; Edvardsson et al., 2011

; Polese et al., 2020; Scott, 2004; 2013) of vulnerability among differing sets of actors which is derived from the social experience of interacting on the #caremongering network. In this emergent social consensus, we identify the emergence of a shared conception of vulnerability as a novel property which serves as a mechanism to initiate and sustain the network, generating and reinforcing patterns of resource integration consistent with *second-order emergence* (Vargo et al., 2022). However, we note that despite the heightened, and newly attributed, consciousness of vulnerability experienced by actors, they are sufficiently galvanised to address resource deficiencies, as the following post from an individual actor illustrates,

“Don’t always have fuel, but happy to take 3 passengers downtown everyday if that helps anyone? Just so you know I have my license and vehicle insurance”

(Toronto, Canada, Female)

“This group is a great place to motivate each other. My cousin in Halifax told me about the posts. I’ve never been without food for my family, but hey let’s help each other” (Ontario, Canada, Female).

Shared vulnerability is therefore linked to shared intention and collective agency (Taillard et al., 2016; Vargo & Lusch, 2016) and appears to create the conditions for greater reflexivity to engage in service-ecosystem design to enable greater resource integration and service exchange (Vargo et al. (2022).

Emergence of a proto-institution

Analysis of the empirical data also provides evidence of the early emergence of a proto-institution in the form of a set of practices (Kleinaltenkamp et al., 2018). Specifically, we observe how actors who recognise the value of the network seek to produce more predictable patterns of resource integration and value co-creation through collaborative negotiation processes. While common and recurrent practices indicate the utility and vitality of the network, these also correspond to the co-constitutive process of institutionalisation, and to what Lawrence et al. (2002, p.7) describe as an “institution in the making”.

Actors in any ecosystem are inseparable from their context (Chandler & Lusch, 2015), and we observe how vulnerable actors in the heightened conditions caused by Covid-19, are able to move quickly to evolve the service ecosystem in a favourable manner. Within the first three weeks of the network’s formation, actors seek to introduce institutional processes in the form of patterns of organisation and production to increase the network’s resourcefulness and reduce the variation of outcomes. We therefore deepen understanding of emergence by identifying velocity as an important aspect of how alternative sets of practices are introduced to further illuminate the study of early stages in the evolution of a proto-institution (Kleinaltenkamp et al., 2018; Polese et al., 2021; Vargo et al., 2022).

A desire for greater collaboration within the network is evidenced by the introduction of efforts to coordinate the organisation of capacity, and the production and distribution of material resources within the first few weeks of the network’s formation. We therefore find evidence of habitual patterns and the introduction of internal structures associated with the emergence of a proto-institution. These are combined with the active promotion of an alternative service ecosystem amongst individual reflexive actors as consistent with the *third and fourth-orders of emergence* set out by Vargo et al. (2022). For example, efforts to improve the viability of the network can be discerned from discussions of lists and spreadsheets which are evidence of moves to consciously coordinate available capacity,

“Delivery Volunteer Listing: Hey everyone! I noticed that a lot of you wonderful people have agreed to make deliveries for others, so I figured I'd generate a Google Sheet listing that could be shared with the CareMongering-TO group,” (Toronto, Canada, Female).

“I figured it might be good to have a dedicated deliverer listing. If you're comfortable you sign up here, so we can get organised” (Victoria, Canada, Male).

Such posts are also illustrative of similar efforts to mobilise and aggregate actors to work in closer collaboration,

“Here we have boxes of hope that are ready to distribute. We know they provide everything for needy families. Sign up if you'd like to volunteer with the delivery so all districts are covered and we can help all us vulnerable people” (Toronto, Canada, Female).

The mobilisation of actors to manufacture and distribute unregulated PPE from their own latent resources including, cloth, sewing skills and machines is of particular note in demonstrating their emergence outside of typical regulatory institutional arrangements. In this evidence of combinatorial processes to unlock greater value, we identify the emergence of new resources from the integration of existing resources (Vargo et al., 2022). The following post is illustrative of many similar efforts identified in the data. In addition, it indicates the emergence of structures, such as patterns and guidelines designed to introduce standardisation to this novel production and distribution of resources,

*“This is a group being put together by an ER nurse. We have developed a pattern for masks and worked out the weight of cotton for PPE. As there are numerous members in this group making masks (myself included) could we perhaps create the masks from these guidelines? I've made a reference google file so people can best connect with the maker who has the kind / size they want in a region they can either ****safely*****

pick up from or donate supplies to? We are all in this together trying to help people so would it not serve everyone best to have this organized? [Details supplied]”

(Toronto, Canada, Female).

“A lot of home sewers are making masks but washable protective gear like gowns, hats and scrubs might actually be more useful here in Ontario. The best pattern is on this link. Sign up if you'd like to contribute via this google spreadsheet

docs.google.com” (Ontario, Canada, Female).

Consistent with *third-order emergence*, actors are clearly engaging in value co-creation, integrating resources and exchanging services facilitated by institutional arrangements generated within the new service ecosystem (Vargo et al., 2022). These practices and associated internal structures may be only weakly entrenched (Lawrence et al., 2002), but in their delineation, we identify the emergence of an, albeit ephemeral, proto-institution.

Discussion

This study set out to consider not only *what* novel properties emerge in a context of emergency, but also *how* emergence unfolds as actors face a global crisis. Our paper supports and enriches existing literature which indicates that exogenous disruption to service ecosystems can prompt adaptation (Banoun et al., 2016; Kabadayi et al., 2020; Kleinaltenkamp et al., 2018; Vargo & Lusch, 2016). Specifically, our empirical work extends a growing stream of literature which applies the concept of emergence to provide greater insight into dynamic and unpredictable marketing contexts (Polese et al., 2021; Taillard et al., 2016; Vargo et al., 2022). In the identification of novel properties, we find evidence of the *orders of emergence* conceptualised by Vargo et al. (2022). However, emergent properties are, by their very nature, unpredictable making *how* they emerge of growing academic

interest. The findings of our empirical study enable us to make the following contributions to this nascent stream of literature.

To enrich prior conceptualisations (Vargo et al., 2022), we deepen understanding of the mechanisms which drive emergence at a time of emergency by highlighting the surprising, but pivotal role, of vulnerability. Extant literature has recognised that agency can stem from the need to address a problem (Smets et al., 2012; Smets & Jarzabkowski, 2013), including a localised crisis (Prayag et al., 2020) to improve well-being (Taillard et al., 2016). We extend this literature by linking vulnerability to both individual and collective agency in a global crisis, thus reconciling the concepts of vulnerability and agency which have previously been viewed as largely incompatible within the vulnerability literature. We observe that, at a time of great emergency, actors are rendered vulnerable to such an extent that they are sufficiently galvanised to address their own needs and act collectively. As established service ecosystems fail to support actors' wellbeing, actors become conscious of their vulnerability, prompting their scrutiny of existing institutional arrangements (Creed et al., 2020), and driving re-evaluation. Such re-evaluation not only prompts actors to engage with others and develop a common viewpoint (Polese et al., 2020), but also sustains resource integration, giving rise to a fledgling service ecosystem, and providing the necessary conditions for actors to undertake related institutional work. Notably, the institutional work of reflexive actors to stabilise the network by introducing habitual patterns and internal structures, elicits no resistance from incumbents who may have previously sought to defend existing service ecosystems, further underlining the extent of their collapse.

Instead, it appears that vulnerability creates an altered "social consensus" (Edvardsson et al., 2011, p.330) which not only shapes the perceptions of actors, but also legitimises novel value co-creation and service-for-service exchange between individual actors. Prior literature has linked crisis response to existing networks and structures (Ozanne & Ozanne, 2016,

2020; van Wijk et al., 2019; Yeung et al., 2019) with healthcare provision seen as the sole domain of professional bodies (Toubiana & Zietsma, 2017). However, we extend understanding of how value creation, facilitated by technology, takes place between actors with no previous ties and outside of any regulatory framework or system of accreditation. As regulated service ecosystems failed to address resource inadequacies, such as food and medical supplies, actors were able to unlock the latent value of personal resources and expand their scope of action. New resources emerged from the novel combinatorial processes designed to improve the health and wellbeing of individual actors, which, most notably, included health workers who were employed by the state. The integration of these emergent resources is particularly unusual given the conventional functioning of highly regulated sectors such as health, further exposing the potential for individual actors to shape market exchanges (Middleton & Turnbull, 2021).

Our empirical work also provides evidence of the early emergence of internal structures within the spontaneous network. While we observe the role of social media in enabling the rapid formation of a spontaneous network, we additionally note how actors move quickly to evolve the service ecosystem in a favourable manner, to increase its resourcefulness and reduce the variation of outcomes. Within the first three weeks of the network's formation, actors are already seeking to build on positive outcomes (Brodie et al., 2019) and develop the network by introducing institutional processes. While our study does not indicate the extent to which these new practices are embedded, we identify velocity as an important factor in how alternative sets of practices are introduced to address urgent resource needs. Therefore, we further illuminate the study of emergence and the early stages in the evolution of a proto-institution (Kleinaltenkamp et al., 2018; Polese et al., 2021; Vargo et al., 2022), by demonstrating how recursive institutional processes and ecosystem evolution are introduced by vulnerable actors at speed at a time of emergency.

Conclusion, limitations and future research

Our exploratory approach has advanced S-D logic by providing a valuable emic understanding of emergence in the wake of a major exogenous disruption. Our findings may not apply to broader categories of emergence but this empirical study suggests that at a time of emergency, novel value co-creation and service-for-service exchange can take place between vulnerable actors as they seek to address urgent resource needs. The use of single case qualitative data inherently will always limit generalisability, but we are now living in an age of uncertainty (Furr, 2022) characterised by ever increasing levels of complexity, risk and vulnerability in the marketplace, making future research to provide further validation of our findings and aid theory development of great value (Belk, 2017; Maxwell, 2021). We therefore suggest the following to researchers as possible areas of interest.

Firstly, while our research has been able to draw attention to the role of vulnerable but agentic actors in adaptation, longitudinal studies of the emergent phenomena can ascertain how actors continued to evolve the service ecosystem. We have also observed vulnerability as a sustaining mechanism within emergence, but future studies might identify other mechanisms which sustain the emergence of phenomena within focal service ecosystems. In particular, we recommend that future research examines if the mechanisms of value co-creation we have identified, have laid a 'blue-print' which might be drawn upon in the future. For example, in the wake of the Covid-19 pandemic, rising numbers of vulnerable actors are seeking mental health resources as a result of isolation and grief while public institutions are still failing to provide adequate support (Campbell, 2021). To deepen our understanding of emergent phenomena such as markets or societies, any research that is able to highlight the swift mobilisation of individual actors to fill such institutional voids, is suggested.

Further studies could also usefully examine the role of a shared social consensus in prompting and sustaining the integration of resources and value co-creation between individual actors without social ties. While actors in our study acknowledged they were, “*all in it together*”, future research might further explore links between shared conceptions and actors’ collective adaptive behaviours, particularly at the moment when there is wide acknowledgement that many are rendered vulnerable by a rapid rise in the cost of living. The current economic crisis also suggests that future research might usefully extend our findings by exploring other ways in which actors with no prior ties are able to unlock latent value currently held in personal resources. In the UK some cities are opening a ‘library of things’ (www.libraryofthings.co.uk) organised by local groups of individuals to enable the integration of costly resources such as DIY tools and sewing machines. This suggests an avenue for future research into how latent value held by individual actors might be effectively unlocked by integrating and combining resources in new ways. Research into the mechanisms that drive similar initiatives could deepen understanding of emergence and provide greater insight into how individual actors might shape market exchanges and develop the sharing economy. This research may also have wider interest for those seeking to promote sustainable behaviours, with its findings of particular relevance to governing bodies looking to re-think public policy.

REFERENCES

- Akaka, M. A., Vargo, S. L., & Lusch, R. F. (2013). The complexity of context: A service ecosystems approach for international marketing. *Journal of International Marketing*, 21(4), 1-20.
- Baker, S. M., Gentry, J. W., & Rittenburg, T. L. (2005). Building understanding of the domain of consumer vulnerability. *Journal of Macromarketing*, 25(2), 128-139.
- Banoun, A., Dufour, L., & Andiappan, M. (2016). Evolution of a service ecosystem: Longitudinal evidence from multiple shared services centers based on the economies of worth framework. *Journal of Business Research*, 69(8), 2990-2998.
- Barile, S., Lusch, R., Reynoso, J., Saviano, M., & Spohrer, J. (2016). Systems, networks, and ecosystems in service research. *Journal of Service Management*.
- Belk, R. W. (2017). Qualitative research in advertising. *Journal of Advertising*, 46(1), 36-47.
- Campbell, D. (2021). Strain on mental health care leaves 8m people without help, say NHS leaders. <https://www.theguardian.com/society/2021/aug/29/strain-on-mental-health-care-leaves-8m-people-without-help-say-nhs-leaders>
- Chandler, J. D., & Lusch, R. F. (2015). Service systems: a broadened framework and research agenda on value propositions, engagement, and service experience. *Journal of Service Research*, 18(1), 6-22.
- Chandler, J. D., & Vargo, S. L. (2011). Contextualization and value-in-context: How context frames exchange. *Marketing Theory*, 11(1), 35-49.
- Cheung, L., McColl-Kennedy, J. R., & Coote, L. V. (2017). Consumer-citizens mobilizing social capital following a natural disaster: effects on well-being. *Journal of Services Marketing*. 31(4/5), 438 –451
- Converse, P. (1987), "Changing conceptions of public opinion in the political process," *The Public Opinion Quarterly*, 51, 12-24.

- Creed, W. D., Hudson, B. A., Okhuysen, G. A., & Smith-Crowe, K. (2020). A place in the world: Vulnerability, wellbeing, and the ubiquitous evaluation that animates participation in institutional processes. *Academy of Management Review*, (ja)
- Dhanda, K. K. (2013). Case Study in the Evolution of Sustainability: Baxter International Inc. *Journal of Business Ethics*, 112(4), 667-684.
- Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*, 2(3).
- Edvardsson, B., Tronvoll, B., & Gruber, T. (2011). Expanding understanding of service exchange and value co-creation: a social construction approach. *Journal of the Academy of Marketing Science*, 39(2), 327-339.
- Fan, G. H., & Zietsma, C. (2017). Constructing a shared governance logic: The role of emotions in enabling dually embedded agency. *Academy of Management Journal*, 60(6), 2321-2351.
- Findsrud, R., Tronvoll, B., & Edvardsson, B. (2018). Motivation: The missing driver for theorizing about resource integration. *Marketing Theory*, 18(4), 493-519.
- Finsterwalder, J., & Kuppelwieser, V. G. (2020). Equilibrating resources and challenges during crises: a framework for service ecosystem well-being. *Journal of Service Management*. 31(6), 1107-1129.
- Fletcher-Brown, J., Turnbull, S., Viglia, G., Chen, T., & Pereira, V. (2021). Vulnerable consumer engagement: How corporate social media can facilitate the replenishment of depleted resources. *International Journal of Research in Marketing*, 38(2), 518-529.
- Frow, P., McColl-Kennedy, J. R., & Payne, A. (2016). Co-creation practices: Their role in shaping a health care ecosystem. *Industrial Marketing Management*, 56, 24-39.
- Fujita, S., Vaughan, C., & Vargo, S. L. (2019, January). Service Ecosystems Emergence and Interaction: A Simulation Study. In Proceedings of the 52nd Hawaii International Conference on System Sciences.

- Furr, N. (2022, June 27) 'Strategy in an Age of Uncertainty', <https://hbr.org/2022/06/strategy-in-an-age-of-uncertainty>
- Geels, F. W. (2004). From sectoral systems of innovation to socio-technical systems: Insights about dynamics and change from sociology and institutional theory. *Research policy*, 33(6-7), 897-920.
- Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry*, 27(3), 284-300.
- Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic management journal*, 12(6), 433-448.
- Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, 16(1), 15-31.
- Gonçalves, S. M., & Silva, R. V. (2021). Discussing the potential of institutional theory to leverage service-dominant logic advancements. *European Journal of Management Studies*, 26(1) 2-15
- Hill, R. P., & Sharma, E. (2020). Consumer vulnerability. *Journal of Consumer Psychology*, 30(3), 551-570.
- Kabadayi, S., O'Connor, G. E., & Tuzovic, S. (2020). The impact of coronavirus on service ecosystems as service mega-disruptions. *Journal of Services Marketing*, 34(6), 809-817.
- Kleinaltenkamp, M., Conduit, J., Plewa, C., Karpen, I. O., & Jaakkola, E. (2021). Engagement-driven institutionalization in market shaping: Synchronizing and stabilizing collective engagement. *Industrial Marketing Management*, 99, 69-78.
- Kleinaltenkamp, M., Corsaro, D., & Sebastiani, R. (2018). The role of proto-institutions within the change of service ecosystems. *Journal of Service Theory and Practice*, 28,(5), 609-635.

- Koskela-Huotari, K., Edvardsson, B., Jonas, J. M., Sörhammar, D., & Witell, L. (2016). Innovation in service ecosystems—Breaking, making, and maintaining institutionalized rules of resource integration. *Journal of Business Research*, 69(8), 2964-2971.
- Kozinets, R. V. (2002). The field behind the screen: Using netnography for marketing research in online communities. *Journal of Marketing Research*, 39(1), 61-72.
- Ladyman, J. & Wiesner, K. (2020) What Is a Complex System?. Yale University Press
- Lawrence, T. B., Hardy, C., & Phillips, N. (2002). Institutional effects of interorganizational collaboration: The emergence of proto-institutions. *Academy of Management Journal*, 45(1), 281-290.
- Lawrence, T. B., & Suddaby, R. (2006). Institutions and institutional work. *The Sage handbook of organization studies*, 215-254.
- Lawrence, T.B., Suddaby, R., and Leca, B. (eds) (2009) Institutional Work: Actors and Agency in Institutional Studies of Organizations. Cambridge: Cambridge University Press.
- Luca, N. R., Hibbert, S., & McDonald, R. (2016). Towards a service-dominant approach to social marketing. *Marketing Theory*, 16(2), 194-218.
- Lusch, R. F., & Vargo, S. L. (2014). *The service-dominant logic of marketing: Dialog, debate, and directions*. Routledge.
- Lusch, R. F., Vargo, S. L., & Gustafsson, A. (2016). Fostering a trans-disciplinary perspectives of service ecosystems. *Journal of Business Research*, 69(8), 2957-2963.
- Martin, K. D., & Paul Hill, R. (2012). Life satisfaction, self-determination, and consumption adequacy at the bottom of the pyramid. *Journal of Consumer Research*, 38(6), 1155-1168.
- Martin de Holan, P., Willi, A., & Fernández, P. D. (2019). Breaking the wall: Emotions and projective agency under extreme poverty. *Business & Society*, 58(5), 919-962.
- Maxwell, J. A. (2021). Why qualitative methods are necessary for generalization. *Qualitative Psychology*, 8(1), 111.

- Mele, C., Nenonen, S., Pels, J., Storbacka, K., Nariswari, A., & Kaartemo, V. (2018). Shaping service ecosystems: exploring the dark side of agency. *Journal of Service Management*, 29(4), 521-545.
- Meng, X. (2020) 'COVID-19: A Massive Stress Test With Many Unexpected Opportunities (for Data Science)', <https://hdsr.mitpress.mit.edu/pub/17a2t45s/release/1?readingCollection=0181d53b>
- Meynhardt, T., Chandler, J. D., & Strathoff, P. (2016). Systemic principles of value co-creation: Synergetics of value and service ecosystems. *Journal of Business Research*, 69(8), 2981-2989.
- Micelotta, E., Lounsbury, M., & Greenwood, R. (2017). Pathways of institutional change: An integrative review and research agenda. *Journal of Management*, 43(6), 1885-1910.
- Middleton, K., Thompson-Whiteside, H., Turnbull, S., & Fletcher-Brown, J. (2022). How consumers subvert advertising through rhetorical institutional work. *Psychology & Marketing*, 39(3), 634-646.
- Middleton, K., & Turnbull, S. (2021). How advertising got 'woke': The institutional role of advertising in the emergence of gender progressive market logics and practices. *Marketing Theory*, 14705931211035163.
- Nenonen, S., Storbacka, K., & Windahl, C. (2019). Capabilities for market-shaping: Triggering and facilitating increased value creation. *Journal of the Academy of Marketing Science*, 47(4), 617-639.
- Ometto, M. P., Gegenhuber, T., Winter, J., & Greenwood, R. (2019). From balancing missions to mission drift: The role of the institutional context, spaces, and compartmentalization in the scaling of social enterprises. *Business & Society*, 58(5), 1003-1046.
- Ozanne, L. K., & Ozanne, J. L. (2016). How alternative consumer markets can build community resiliency. *European Journal of Marketing*, 50(3/4), 330-357.

- Ozanne, L. K., & Ozanne, J. L. (2020). The power of sharing to support consumers through liminality. *Australasian Marketing Journal (AMJ)*, 28(3), 34-41.
- Pelletier, M. J., Horkey, A. B., & Fox, A. K. (2021). Fexit: The effect of political and promotional communication from friends and family on Facebook exiting intentions. *Journal of Business Research*, 122, 321-334.
- Pena, M. V. T., & Breidbach, C. F. (2021). On emergence in service platforms: An application to P2P lending. *Journal of Business Research*, 135, 337-347.
- Peters, L. D. (2016). Heteropathic versus homopathic resource integration and value co-creation in service ecosystems. *Journal of Business Research*, 69(8), 2999-3007.
- Phillips, N., Lawrence, T. B., & Hardy, C. (2004). Discourse and institutions. *Academy of Management Review*, 29(4), 635-652.
- Polese, F., Payne, A., Frow, P., Sarno, D., & Nenonen, S. (2021). Emergence and phase transitions in service ecosystems. *Journal of Business Research*, 127, 25-34.
- Polese, F., Sarno, D., & Vargo, S. L. (2020, January). The role of emergence in service systems. In Proceedings of the 53rd Hawaii International Conference on System Sciences.
- Prayag, G., Ozanne, L. K., & de Vries, H. (2020). Psychological capital, coping mechanisms and organizational resilience: Insights from the 2016 Kaikoura earthquake, New Zealand. *Tourism Management Perspectives*, (34), 100637.
- Purtik, H., & Arenas, D. (2019). Embedding social innovation: Shaping societal norms and behaviors throughout the innovation process. *Business & Society*, 58(5), 963-1002.
- Rashid, Y., Rashid, A., Warraich, M. A., Sabir, S. S., & Waseem, A. (2019). Case study method: A step-by-step guide for business researchers. *International Journal of Qualitative Methods*, 18, 1609406919862424.
- Rosenbaum, M. S., Seger-Guttmann, T., & Giraldo, M. (2017). Commentary: vulnerable consumers in service settings. *Journal of Services Marketing*, 31(4/5), 309–312.

- Sawyer, R. K., & Sawyer, R. K. S. (2005). *Social emergence: Societies as complex systems*. Cambridge University Press.
- Scaraboto, D., & Fischer, E. (2013). Frustrated fatshionistas: An institutional theory perspective on consumer quests for greater choice in mainstream markets. *Journal of Consumer Research*, 39(6), 1234-1257.
- Scott, W. R. (2004). Institutional theory. *Encyclopedia of Social Theory*, 11, 408-414.
- Scott, W. R. (2013). *Institutions and organizations: Ideas, interests, and identities*. Sage publications.
- Seo, M. G., & Creed, W. D. (2002). Institutional contradictions, praxis, and institutional change: A dialectical perspective. *Academy of Management Review*, 27(2), 222-247.
- Smets, M., & Jarzabkowski, P. (2013). Reconstructing institutional complexity in practice: A relational model of institutional work and complexity. *Human Relations*, 66(10), 1279-1309.
- Smets, M., Morris, T. I. M., & Greenwood, R. (2012). From practice to field: A multilevel model of practice-driven institutional change. *Academy of Management Journal*, 55(4), 877-904.
- Stolze, H. J., Mollenkopf, D. A., & Flint, D. J. (2016). What is the right supply chain for your shopper? Exploring the shopper service ecosystem. *Journal of Business Logistics*, 37(2), 185-197.
- Storbacka, K., Brodie, R. J., Böhmman, T., Maglio, P. P., & Nenonen, S. (2016). Actor engagement as a microfoundation for value co-creation. *Journal of Business Research*, 69(8), 3008-3017.
- Suddaby, R., & Greenwood, R. (2005). Rhetorical strategies of legitimacy. *Administrative Science Quarterly*, 50(1), 35-67.
- Taillard, M., Peters, L. D., Pels, J., & Mele, C. (2016). The role of shared intentions in the emergence of service ecosystems. *Journal of Business Research*, 69(8), 2972-2980.

- Thompson-Whiteside, H., & Turnbull, S. (2021). # Metoovertising: the institutional work of creative women who are looking to change the rules of the advertising game. *Journal of Marketing Management*, 37(1-2), 117-143.
- Toubiana, M., & Zietsma, C. (2017). The message is on the wall? Emotions, social media and the dynamics of institutional complexity. *Academy of Management Journal*, 60(3), 922-953.
- Trischler, J., Johnson, M., & Kristensson, P. (2020). A service ecosystem perspective on the diffusion of sustainability-oriented user innovations. *Journal of Business Research*, 116, 552-560.
- van Wijk, J., Zietsma, C., Dorado, S., De Bakker, F. G., & Marti, I. (2019). Social innovation: Integrating micro, meso, and macro level insights from institutional theory. *Business & Society*, 58(5), 887-918.
- Vargo, S. L., Akaka, M. A., & Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. *Journal of Business Research*, 116, 526-534.
- Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*, 44(1), 5-23.
- Vargo, S. L., & Lusch, R. F. (2017). Service-dominant logic 2025. *International Journal of Research in Marketing*, 34(1), 46-67.
- Vargo, S. L., Peters, L., Kjellberg, H., Koskela-Huotari, K., Nenonen, S., Polese, F., ... & Vaughan, C. (2022). Emergence in marketing: an institutional and ecosystem framework. *Journal of the Academy of Marketing Science*, 1-21.
- Vargo, S. L., Wieland, H., & Akaka, M. A. (2015). Innovation through institutionalization: A service ecosystems perspective. *Industrial Marketing Management*, 44, 63-72.

Yeung, D., Nowak, S., Amiri, S., Davenport, A. C., Hoch, E., Klima, K., & McCullough, C. M. (2019). How the US Coast Guard Can Leverage Social Media and Enhanced Cell Phone Data to Improve Emergency Response. SANTA MONICA CA

Zietsma, C., & Lawrence, T. B. (2010). Institutional work in the transformation of an organizational field: The interplay of boundary work and practice work. *Administrative Science Quarterly*, 55(2), 189-221.221

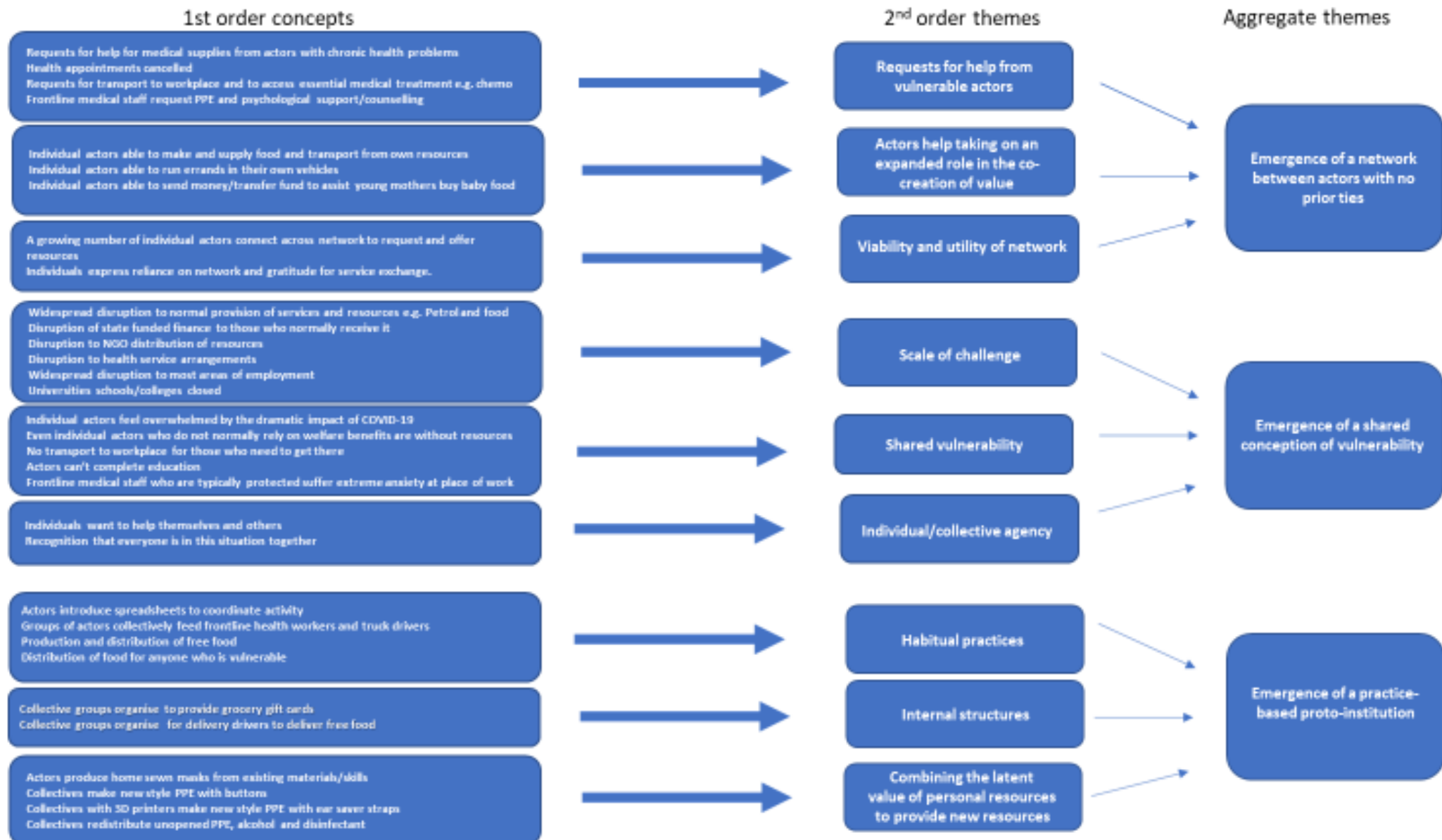


Table 1: an illustration of how the aggregated themes are derived from the data

