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Value cocreation and innovation involving consumers and providers interacting with technology: a digital ethnographic study of online mental health forums

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Abstract

Purpose – This paper explores how users and providers cocreate value through interacting with online peer support mental health forum technology and offers insights into service ecosystem innovation.

Design/methodology/approach – The authors employed digital ethnography and interviews and analysed data to identify themes about user practices, provider adaptations and cocreated value outcomes.

Findings – The study shows how users engage with technology affordances to develop a community that supports their engagement in value cocreation and helps them access support. In turn, providers engage with user data generated through forum use and other sources to influence changes to forum institutions. By analysing a dataset of user interviews, value outcomes realised for forum users are identified. Using a diagram to illustrate how users and providers interact with technology to generate an evolving service ecosystem, the study also offers insights about a service ecosystem perspective of innovation.

Research limitations/implications – The research shows the value of using mixed datasets to access granular, multi-actor data. Direct feedback loops between user practices and changes to institutions are implied rather than directly observable.

Practical implications – The authors provide a worked example highlighting how consumers and providers interacting with forum technology supports value cocreation that contributes to problem-solving for consumers and service ecosystem innovation, and fills healthcare ecosystem gaps.

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Originality/value – The study provides novel empirical evidence about multi-actor interactions with technology in value cocreation and informs theory about a service ecosystem perspective of innovation by illustrating technological and market innovation. It extends knowledge about healthcare value cocreation in mental health.

Keywords Value cocreation, Technology, Innovation, Healthcare, Consumers

Paper type Research paper

Introduction

Mental ill-health is a large and growing problem internationally. The current worldwide cost of mental ill-health is $US2.5tn per year and forecast to rise to $US6tn by 2030 (The Lancet, 2020), with demand continually increasing (World Health Organization, 2022). Mental healthcare systems are challenging to provide (World Health Organization, 2022), partly due to the wide range of mental health conditions and the changing symptoms that can be experienced (Coventry *et al.*, 2015). Consumers require multiple health and social supports and a flexible healthcare system (Henderson *et al.*, 2013).

Internationally, mental healthcare involves access to clinical health and social care practitioners, drugs and therapies, hospitals and community services (Sadeniemi *et al.*, 2018). Recently, non-profit third sector organisations (TSOs) have entered mental health service provision and are promoted as more flexible and responsive compared with highly regulated clinical services (Levine and Fyall, 2019). Healthcare systems have been depicted as interacting layers, changing and responding to each other, and can perhaps be better described as healthcare ecosystems. These layers involve consumers and practitioners, organisations and initiatives, states, professional bodies and regulators (Frow *et al.*, 2016). Australia, the context for this paper, has a distinctive hybrid healthcare system with national, publicly-funded provision supplemented by private providers (Duckett and Willcox, 2011).

Digital services are increasing in mental health, including for telehealth, education and peer support. The online peer support mental health forums (henceforth *forums*) featured in this paper are a form of online health community (OHC) that combines digital health provision with social media (Hanley *et al.*, 2019). Often hosted by TSOs, forums have proven enduringly popular and beneficial over time (Prescott *et al.*, 2020; Strand *et al.*, 2020). They have a strong association with the rise of consumer involvement in mental health.

This paper explores value cocreation and innovation in forums. It offers detailed insights into the roles of forum consumers and providers while also substantiating aspects of wider theory (Vargo *et al.*, 2015). Value cocreation involves exchanging and integrating resources (here, mainly information and skills) between actors to produce benefits (McColl-Kennedy *et al.*, 2012). We look at consumers of forums (*users*) and TSO provider staff (*providers*) interacting to exchange resources within forums as service ecosystems (Vargo *et al.*, 2008). Resource exchange and integration are central to innovation as well as to value cocreation (Vargo *et al.*, 2015). Here, we explore how forums are adapted and change as a result of interactions between users and providers, giving insights into service ecosystem innovation (Vargo *et al.*, 2023). Specifically, we consider how user practices to generate a forum "self-help" community influence providers to adapt forum rules, resulting in an evolving yet sustained service that supports value outcomes production. In exploring processes of forum change, we adopt a service ecosystem perspective of innovation, understanding innovation as the "collaborative recombination or combinatorial evolution" of resources (Vargo *et al.*, 2015, p. 64).

We compare ideas about a service ecosystem perspective of innovation with empirical data from a study of three Australian mental health forums. In particular, we explore evidence of forum value cocreation processes as interconnected with innovation of forums, with value cocreation and innovation involving interactions between users and providers in resource integration, enabled by forum technology.

In the study, we focused on rural residents experiencing mental ill-health who use forums. Internationally, rural consumers have consistent challenges of inaccessible and discontinuous

services, little choice, and a lack of social support (Bain and Munoz, 2020; Magnus and Advincula, 2021). Studies show rural people benefit from using mental health forums as peers can provide tailored health, social and emotional support (Prescott *et al.*, 2020; Strand *et al.*, 2020). Forums are thus potentially an important supplement to clinical care for rural consumers (Xu and Peng, 2024).

Studies considering value cocreation are increasing in healthcare, particularly as the framing offers a way to foreground the important roles of consumers, yet gaps in research have been highlighted. These include an emphasis on providers rather than patients, a lack of studies that consider multiple actors and few studies that penetrate the detail of interactions in value cocreation, particularly those that involve technology (Frow *et al.*, 2016; Fusco *et al.*, 2023). This is sometimes attributed to a lack of studies using innovative methods and in-depth case studies. Studies considering mental healthcare are lacking.

Regarding OHCs, value cocreation has been applied as a way to explain persistently recorded user benefits, but again, few studies have explored the interactions between user practices and provider responses in generating value outcomes (Frow *et al.*, 2016; Peng *et al.*, 2022). Benefits for particular sub-groups, such as here, rural users, have not been considered through applying a value cocreation framing.

The study informing this paper was conducted during 2020–2023 as part of a large Australian Research Council-funded project, obtaining archival forum data and interviews with forum users and provider staff. Through taking a granular, multi-actor approach, we contribute new findings about value cocreation and service ecosystem innovation involving mental health technology. These contribute to current understandings of value cocreation and innovation by adding empirical data and extending the knowledge base around healthcare value cocreation, particularly in relation to OHCs. The paper's specific research questions (RQs) are:

RQ1. How does forum technology support user community development and value cocreation?

RQ2. How do providers interact with forums to support value cocreation?

RQ3. What cocreated value outcomes are realised?

Drawing on findings, we also suggest that insights gained support an association between value cocreation and a service ecosystem perspective of innovation.

The paper begins by introducing key concepts and providing an overview of relevant literature. Further to explaining the study's methods, we present findings from analyses of three different datasets. These cover users' interactions with each other in forums to build a supportive healthcare community, providers' responses to adapt the forum value proposition and evidence of value outcomes from forum use for users. Taken together, these datasets show user and provider interactions with technology to generate value outcomes and also to keep evolving forums to ensure they are fit-for-purpose, which we understand as processes of service ecosystem innovation. We explore contributions to theory and knowledge about healthcare and OHC value cocreation. This is followed by an outline of research limitations and suggestions for future research. The final part of the paper presents wider conclusions.

Literature review

Relevant evidence and key concepts are discussed below (see also concept summary in Table 1).

Value cocreation

Central to this study is understanding value cocreation as a process that involves users and providers interacting to integrate their resources through engaging with forum technology.

Table 1. Table of key concepts

Concept	Definition/reference	Why included
Service-dominant logic (SDL)	A theory proposing all goods and services involve exchanges of resources across networks between actors aiming to improve their circumstances and those of others (Vargo and Lusch, 2004)	SDL is the umbrella theory within which the ideas explored in this paper sit
Value cocreation	A process involving exchange and integration of resources for the benefit of self and others (Vargo *et al.*, 2008)	Value cocreation involving users and providers interacting with technology is explored
Innovation	The collaborative recombination of resources, enabled by disruption to institutions, that provide novel solutions for problems (Vargo *et al.*, 2015)	The paper explores whether the processes observed in data support a service ecosystem perspective of innovation
Service ecosystem	An interactive configuration of mutual exchange (Vargo *et al.*, 2008)	The forums in this paper operate as service ecosystems
Value proposition	A dynamic and adjusting mechanism for negotiating how resources are shared within a service ecosystem (Frow *et al.*, 2016)	The forum technology and institutions provided by TSOs are value propositions
Resources	Stocks that different actors and entities contribute to/in service ecosystems (Vargo and Lusch, 2004)	The paper engages with the resources of users, actors and technology as exchanged and integrated in forums
Practices	Types of actions and interactions deployed as part of resource exchange (Frow *et al.*, 2016)	Practices are considered to drive change to institutional arrangements, leading to innovation
Institutions	Norms and codes that guide what happens in service ecosystems (Scott, 2001)	Institutions are part of forum value propositions Changes to these are made by providers
Institutional arrangements	Arrangements applied to institutions that govern forum use (Vargo *et al.*, 2015)	Providers adapt and change forum institutional arrangements in response to observing user practices and other influences
Affordances	Possible actions that technology can enable (Mahr and Huh, 2022)	Affordances are a type of resource in/of forum technology that users integrate

Source(s): The above table was created by the authors

Resources considered here tend to be the knowledge and skills of users and TSO staff, as well as technology resources. Users and providers are viewed as pursuing goals through combining their resources with those in/of forum technology to generate a service ecosystem or "resource exchange." Concepts applied in this paper sit within service-dominant logic, a theoretical framework proposing that all goods and services, at heart, involve exchanges of resources across networks between actors aiming to improve their circumstances and those of others (Vargo and Lusch, 2004, 2008).

Within service-dominant logic, providers offer a service value proposition only, with value for consumers realised when they decide to interact with the offering (Vargo *et al.*, 2008). A value proposition offers "a dynamic and adjusting mechanism" (Frow *et al.*, 2016, p. 26) that may be used by different people to negotiate the value they want (Laud *et al.*, 2015). Here, TSOs offer forums as value propositions aiming to improve well-being for those experiencing mental ill-health. For users to engage with forum value propositions, they must perceive there is value in doing so. For the sustainability of forums over time and relevance to different geographical and societal contexts, TSOs must ensure forums are up-to-date and fit-for-purpose, requiring that forum value propositions adapt and evolve (Skålén *et al.*, 2015; Xu and Peng, 2024).

The smooth functioning of service ecosystems is governed by institutions or norms and codes (Scott, 2001). As forum hosts, providers are the owners and drivers of these. Institutions guide and constrain the practices that can be undertaken by users, and user practices, in turn, are proposed to influence change in institutions. In forums, moderation (relating to norms of safety) and peer-centricity (relating to norms of foregrounding lived experience) might be regarded as examples of institutions. The precise characteristics of institutions, at points in time, are informed by sets of institutional arrangements that are adapted to suit conditions (Vargo *et al.*, 2015).

Guided by institutions, resource integration occurs in service ecosystems through value cocreation practices or types of actions and interactions (Edvardsson *et al.*, 2014). Practices in healthcare value cocreation can include those that foster social capital, promote a shared service language, shape actors' mental models, influence ecosystem culture, affect access to resources and help forge new relationships (Frow *et al.*, 2016). Consumers apply practices within service ecosystems, combining resources to generate tailored solutions that meet their specific needs. Given that many consumers may use a service ecosystem, there is potential for "mass customized solutions" as each consumer achieves a suitable outcome (Vargo and Lusch, 2004, p. 11). As individuals gain solutions, these – in turn – feed new information into the service ecosystem, affecting the overall pool of resources and adding to its capacity to enable future novel solutions (Kleinaltenkamp *et al.*, 2012).

In healthcare, patients and providers exchange and integrate resources, including knowledge, skills, equipment and facilities, pursuing mutual benefit (Vargo and Lusch, 2008). Recent decades have seen an increasing understanding that patients are crucial to generating value in healthcare ecosystems as they do much of the work of (self) caring and have rich knowledge about their conditions and needs. Simultaneously, patients have much to offer to health services design, and their expertise has been sourced via consultations and, more recently, through analysing consumer-generated data (Savige *et al.*, 2024). However, opportunities for consumers and patients to participate in health treatment and service design remain constrained as clinicians and managers are the gatekeepers and may neglect consumer inputs (Frow *et al.*, 2016). Recent reviews highlight that, despite growing discussion of patient-centredness, there is "low scientific maturity" around implementing healthcare that acknowledges patient value cocreation (Fusco *et al.*, 2023; Carlini *et al.*, 2024).

Academic health researchers are increasingly adopting value cocreation theory, although to date this is focused mainly on studies of practitioners; for example, Sudbury-Riley and Hunter-Jones (2021) used value cocreation theory to analyse palliative care practitioners' role integration, helping to expose areas for improvement; and Kaartemo and Känsäkoski (2018) applied value cocreation to analyse roles in health promotion. There are calls to fill gaps in knowledge, including for empirical studies that involve observing activities of consumers *and* providers in service ecosystems to understand resource exchange (Fusco *et al.*, 2023). A need for innovative methods and novel data has been noted (Frow *et al.*, 2019). Richer evidence would help to drive further uptake of value cocreation theory in healthcare, and studies grounded in practice would help to translate theory to inform healthcare design and delivery (Sudbury-Riley and Hunter-Jones, 2021). In this study, we contribute to addressing evidence gaps by using the novel approach of analysing mixed data sets that show interactions of different actors with technology in a mental healthcare service.

Innovation

Developing from understanding value as cocreated, Vargo *et al.* (2015) propose a new way of understanding service innovation as similarly involving (re)combinations of resources to drive new solutions to challenges. In their service ecosystems perspective, innovations are not static products developed and offered by producers; rather, innovation is formed in/as collaborative value-cocreating interactive processes of responses between producers and consumers as they work to effectively combine resources. Specifically, innovation forms through providers

changing institutional arrangements in response to observing user practices, resulting in new value propositions that may or may not be taken up by consumers. When providers change institutions, they change the value proposition, resulting in technological innovation. However, it is only when consumers accept and engage with a new offering that service ecosystem innovation or market innovation can be said to occur (Vargo *et al.*, 2015). Consumers have to see the benefit in using a changed value proposition because it enables greater, easier or more targeted access to resources and ways of combining them that can help them meet their needs. Theoretically, innovation continues to emerge as a result of feedback loops between providers changing institutions responding to users' practices, and users then responding to changed value propositions. That is, "Institutions influence actors, actors influence institutions" Vargo *et al.* (2015, p. 68).

In our study, TSOs govern forum institutions. This means that when seeking evidence of innovation processes, in line with Vargo *et al.* (2015) theory, we should be able to identify user value cocreation practices influencing providers to change institutional arrangements. This offers new value propositions or technological innovation. To bear out the theory of provider-user informational feedback loops refreshing service ecosystems to sustain ongoing realisation of value outcomes, we should be able to observe user benefits arising over time. Continued engagement with using the forum as its form changes would, we argue, give evidence of market innovation.

A service ecosystem explanation of innovation has implications for healthcare. Traditionally, innovation in health is often seen as externally imposed, poorly implemented and thus negatively impactful (Grossi *et al.*, 2021). Understanding innovation as an adaptive, combinatory process where providers are responsive to consumer practices and consumers provide ongoing information about their needs could bring benefits. It would highlight the significant role of consumers as partners in innovation and foreground the idea of consumer-provider collaboration in continuous service improvement. Adopting this perspective of innovation could radically change the paradigm of healthcare from innovations handed down to consumers by providers to future perspectives of mutual respect and codesign.

Technology

This paper focuses on forums as technology value propositions that are consumed by users to exchange resources through developing supportive communities that respond to their needs. In value cocreation literature, technology is often understood as offering potential from specific resources or "potentially useful knowledge" (Vargo *et al.*, 2015, p. 65) that can be integrated in pursuit of meeting needs. In this paper, we analysed users' interactions with technology as involving their engagement with technology *affordances* as a specific kind of technology resource. Users integrate affordances as part of their interactions to develop a forum community. This community is then drawn on for help and support. Affordances have been defined as the "action possibilities" (Mahr and Huh, 2022, p. 650) of technology. They specify what technology can enable to generate different outcomes (Ciuchita *et al.*, 2022). Multiple articles explain how forums support users through affording consistent potential to *socially connect*, *learn* and *build community* (e.g. Liu *et al.*, 2020; Shirazi *et al.*, 2021; Zhao *et al.*, 2015). We used this framing of forum affordances to analyse the posts of users in one dataset in this study (see Methods).

Research applying value cocreation theory to analyse healthcare technologies is increasing. Some studies use value cocreation to explain the functions and benefits of new technologies (e.g. Mele *et al.*, 2021). Others examine impacts of value cocreation in digital platforms within healthcare ecosystems; for example, Russo-Spena and Cristina (2020) found third-party digital services enable new types of connections between providers and consumers that help fill structural holes in healthcare. Some studies focus on OHCs; for example, Shirazi *et al.* (2021) consider aspects of OHCs that drive their sustained use for value cocreation. They found that retaining consumer trust is vital and that robust OHC rules are significant to user

retention. Meijer and Boon (2021) concur, noting that OHC providers tread a sensitive line in maintaining trust through moderation and privacy settings. A systematic review of OHC value cocreation concluded that OHCs play a vital supplementary role in clinical services because they provide a "source of support and information to meet patients' non-clinical needs" (Xu and Peng, 2024, p. 2).

Gaps in evidence and future research areas have been identified (Shirazi *et al.*, 2021; Russo-Spena and Cristina, 2020). In particular, Peng *et al*. (2022) concluded there is a lack of in-depth studies of stakeholder interactions with healthcare technologies, suggesting the need for case studies and rich information. As yet, we have found no studies applying value cocreation to consider the work of users and providers in mental health forums. This is an important area because OHCs represent a flexible, low-cost service that contributes to gaps in care for vulnerable groups, which is hard to supply. Understanding the role of OHCs should thus be gaining more attention from policymakers (Xu and Peng, 2024). Given increasing demands for mental healthcare, it is significant to understand the value cocreated by forums, particularly for addressing challenging contexts, such as the rural areas featured here. A recent literature summary emphasises the inseparability of technology, value cocreation and innovation within service ecosystems but concludes there is a need for new analyses "that capture the complex relationships among value co-creating actors" (Jaakkola *et al.*, 2024, p. 3). This gap is addressed here.

Methods

Context

SANE Australia (henceforth SANE), Beyond Blue and ReachOut are TSOs that host and manage forums as part of their services for people experiencing mental health conditions (see Table 2). All are primarily funded through government contracts. In principle, forums are available to any Australian with internet access. People may find the forums themselves or be referred by a health professional. Users are required to register to post and to read others' posts.

Table 2. Participating third sector organisations (TSO) forum providers, users and staff

	SANE Australia	Beyond Blue	ReachOut
Target population	People with acute mental health conditions and their families, friends and carers	People with anxiety, depression, grief, post-traumatic stress disorder, suicide and young people	People aged 14–25 years experiencing mental health conditions
TSO aims	Mental health support, research and advocacy	Improving mental health at the population level and over the lifespan	Protecting youth mental health
Rural posts analysed/total no. of rural posts* 01/08/2018 to 31/12/2020 inclusive	1,000/12,032*	1,000/5,027*	1,000/11,905*
No. of rural user interviewees	20	6	4
No. of TSO staff interviewees	1	3	5

Note(s): *This study included only posts and consumer interviewees living outside major cities. That is in Inner and Outer Regional, Remote and Very Remote areas using the Australian Statistical Geography Standard (ASGS) Remoteness Structure (Australian Bureau of Statistics, 2018). Posts by people in included areas represented 11.3% (Beyond Blue), 14.8% (ReachOut) and 17.5% (SANE) of total posts on the forums during August 2018–December 2020

Source(s): The above table was created by the authors

When registering, people are asked to consent to their data being used for research, and they may volunteer their postcode. Users can post on existing threads or create new topic threads. Posting is anonymous. Forum posts are moderated via automated algorithmic decisions and paid moderators. Forums are managed by TSO provider staff we collectively understand here as "service innovation managers". Termed *providers*, these managers have different titles by organisation, but their role is to ensure forums continue to be fit-for-purpose. Moderation is guided by governance guidelines targeted at ensuring users do not disclose personal or identifiable information, removing and discouraging spam, prescriptive advice-giving and abusive language, diffusing conflict and ensuring users' posting aligns with rules about acceptable topics.

Research design

The TSOs allowed researchers to have ongoing access to forum archives and to engage directly with service innovation managers and users. To address the RQs, we applied a digital ethnography research design (Pink *et al.*, 2015), also referred to as netnography (Kozinets, 2015). Digital ethnography extends the strengths of ethnographic methods to systematically characterise the experiences, practices, relationships and dynamics of communities or social worlds (Pink *et al.*, 2015). It helps to examine the way people engage with each other, technologies and services digitally, and the value cocreation this enables.

Taking the forums as community sites for ongoing mental health support and potential value cocreation in the healthcare ecosystem, we worked with three TSOs to extract posts made by rural forum users. This provided an extensive dataset, allowing observation and analysis of the way users leveraged the technology affordances and health support resources in value cocreation practices. Acknowledging that forum posts and discussions offer limited contextual information (Nevin *et al.*, 2022), we sought to "thicken" the forum data with other sources. We conducted interviews with rural forum users and providers – the latter about how they maintain forum best practices in maintaining the forums for their target user-base. These methods were augmented through the involvement of a lived experience mental health consumer researcher in data analysis. The research was undertaken as part of a larger study exploring the role of online mental health forums in developing resilience for rural people. Ethics Committee approval was granted by the Swinburne University Research Ethics Committee (R/2019/033).

Sampling and data collection

Three datasets were used, addressing RQs 1–3, as follows:

> *Dataset 1: Forum posts:* Datasets consisting of de-identified posts were obtained from SANE, ReachOut and Beyond Blue, guided by their ethical research principles. Because we were interested in the rural context, we selected posts with postcodes outside major cities (n = 28,964). For a manageable but also sufficiently large sample for manual analysis, we then generated a sample of 3,000 of the most rural posts using postcodes (1,000 from each forum).
>
> *Dataset 2: Provider interviews:* Semi-structured interviews were held with forum service innovation managers (n = 9). These asked providers about how they understand forum best practices and the work they do to achieve this.
>
> *Dataset 3: User interviews:* Thirty rural-dwelling interviewees were recruited by posting an advertisement and expression of interest form on each forum. In total, 45 users responded. We selected interviewees purposively to optimise the diversity of forums and geographical locations across Australia. Interviewees were reimbursed for their time and expertise.

Determined by interviewee choice and maintaining anonymity, 24 interviews were conducted by phone and 6 by Zoom. Lasting 45–60 min, interviews were semi-structured and covered

users' forum experiences, perceived benefits and disadvantages, and whether/how using forums influences daily life. All interviews were audio-recorded, with consent, and transcribed verbatim. Research tools are available on request (e.g. recruitment posts and interview topic schedules).

Data analysis

All datasets were analysed using Braun and Clarke's (2006) qualitative thematic analysis method. This begins with immersion in the dataset involving "repeated" and "active" reading (p. 87) and results in initial ideas for coding. The second stage involves generating initial codes that use words and ideas directly from the data. This process differs depending on whether the analysis is deductive or "theory driven" versus inductive or "data-driven" (Braun and Clarke, 2006, p. 83). With deductive analysis, there is a pre-determined conceptual frame, and the researcher scrutinises data to see if it fits the frame (Braun and Clarke, 2006). Inductive analysis is open to researchers' finding themes in data. Even where analysis is inductive, researchers are still guided by looking for data that addresses their RQs (Braun and Clarke, 2006). Next, codes are arranged into themes and all the coded data extracts are collated. This is about identifying the "larger narrative" (p. 20) that accounts for what is going on in datasets (Gioia *et al.*, 2012). Themes are then defined to capture what each is about (Braun and Clarke, 2006). To optimise coding, multiple researchers were involved.

For Dataset 1, coding was initially deductive, with posts coded for evidence of users engaging with pre-identified technology affordances (see Table 3). Thereafter, an inductive approach was taken to explore how users integrated affordances. Posts were coded at the level of whole posts or parts of posts as the unit of analysis (Gaspar *et al.*, 2016). Some posts were coded to more than one theme. For Dataset 2, coding was inductive with interview data thematically analysed for themes about influences and activities in changing and maintaining forums. For Dataset 3, coding was also inductive with interview data thematically analysed for impacts on users' lives.

Table 3. Coding for affordances

Technology affordances*	Description of posts coded to this affordance	Example phrases
Social connecting	Includes posts depicting: one to one relatedness; empathising between people acknowledging each other as known; where people offer encouragement to known others; where people refer to each other as friends	"I can relate", "I feel the same way", "reaching-out to you"
Learning	Includes posts depicting: "applied knowledge" where people are asking for, and giving advice, information and knowledge about practical solutions and how to access and navigate services; reference or link to resources and online resources; "experiential knowledge" where people share information or advice based on their lived experience, e.g. how medications made them feel or how they navigated challenging relationships with practitioners	"Have you tried this", "What should I do next" "For me, this worked", "Have you ever felt this way"
Community-building	Includes posts depicting users talking about the forum as a community to which they seek to belong, do belong, and inviting others to feel they belong and where users refer to the forum as a safe and comforting place	"Hello, I'm new here" "We're here for you" "There are no judgements here"

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Findings

Findings are presented in three sections to address the research questions. Figure 1 summarises findings, and each area in Figure 1 (marked on the diagram as 1–3, and with the area enclosed by a thin black line) aligns with a findings section and research question. We first explore forum posts to examine users' integration of their resources, drawing on technology affordances, to cocreate an online community to address their needs (RQ1, see Figure 1, area 1). This part of the figure illustrates value in use occurring as users combine their resources with technology affordances to generate a "self-help" community they use to address their needs. Second, using interview data, we examine how providers interact with forums (RQ2, Figure 1, area 2). Third, using data from interviews with rural users, we present the value outcomes realised from interactions in forums (RQ3, Figure 1, area 3). The discussion considers insights into associations between value cocreation and a service ecosystem perspective of innovation, enabled by combining datasets. Implications for theory and practice are suggested.

Findings are illustrated with example posts and interview quotes. Some posts/quotes in text are only partial or referred to, in which case the full text is provided in Tables 4-6 where posts/quotes are listed alphabetically. Where quotes are given, pseudonyms are allocated to interviewees.

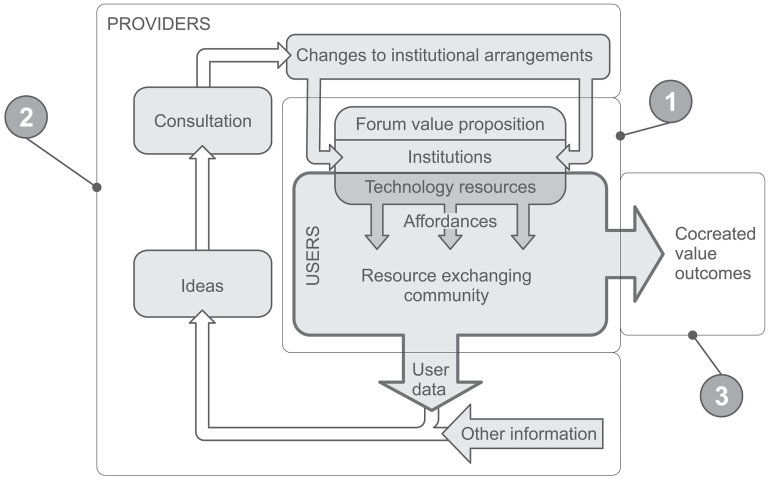

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Figure 1. Value cocreation through interactions with online forum technology

User community development and value cocreation

To address RQ1, users' engagement with forum technology affordances to cocreate value in use was explored. In Figure 1, this is shown at area 1, i.e. as a service ecosystem or resource exchanging community. Using a dataset of posts, we initially coded for evidence of users engaging with forum technology affordances of socially connecting, learning and community-building (explained in Methods). Within these posts, we then identified examples of *how* users harness affordances in developing forum communities. We found evidence of users' help-seeking and help-giving practices relating to stages of their mental health condition and/or

relating to issues of rural living, for example, by searching through past posts, posting a request for information and/or responding to a post.

A count of coded posts shows considerable evidence of users engaging forum technology affordances – with 1,081 (36.0%) of posts coded to the affordance of *social connecting*, 943 (31.4%) coded to *learning*, and 526 (17.5%) coded to *community-building*.

Users sought help to meet needs *in relation to a mental health condition*. For example, one SANE user (A – see Table 4 for full post) reaches out to a peer to acknowledge the value of having someone to confide in at this stage of their health condition:

> it's quite a scary time for me at the moment coming to terms with this and I haven't confided in anyone outside of my GP and nurse practitioner. (Post#455)

Other condition-related needs addressed through integrating forum technology affordances are "health anxiety" (B) relieved through socially connecting, a "mental health crisis" (C) addressed through sharing information, and finding "a place where you can feel safe" (D), and experiencing a "favourite well-being activity" (F), from belonging to a shared community.

Technology affordances are also harnessed to meet needs arising from *the rural users' context*. For example, one ReachOut user posts when they are looking for information to help with a contextual scenario:

> Because I am in a very small school, it is very difficult to find people with a similar mindset as me towards learning. What could I do to strengthen my mindset and lessen the chance of being negatively influenced in my situation? (Post#14)

Alternatively, with A, it is people they become socially connected with, online, that help because the user "live[s] in an isolated setting"; and for E, it's integrating the community-building affordance as they express the significance of having "people who have or are going through the same as me". For E, this helps because the user lives away from family and friends.

Table 4. Posts illustrating user's engagement with technology affordances

Full post (where excerpt is given in text)	Affordance
A. It's quite a scary time for me at the moment coming to terms with this and I haven't confided in anyone outside of my GP and nurse practitioner (I am in an isolated setting so sometimes we have a GP other times only the nurse practitioner is here). (SANE Post # 455)	*Social connecting*
B. You may be my long lost twin! My health anxiety is very similar to yours and I always worry I'm going to have a heart attack, its horrible. I feel better knowing I am not alone. (Beyond Blue Post #46)	*Social connecting*
C. Another option is a Police and Ambulance Intervention Plan. This is a document that can be created to record what strategies would be useful for the police or ambulance officers attending to you in a mental health crisis. (SANE Post # 117)	*Learning*
D. That is the beautiful thing about this forum. You can just be yourself with no judgement. . .There are so many people in the world who are suffering from mental illness and you have just found a place where you can feel safe. (SANE Post # 69)	*Community-building*
E. My GP does seem to want help she referred me to the councillor and that was the end of it. So on the hunt for a new one I think. I don't really have a support network. I live away from my family and have no friends. Because of this I can't get out and meet people. But reading on here and knowing I'm not alone and I can come on here and talk to people who have or are going through the same as me has helped already. (Beyond Blue Post # 400)	*Community-building*
F. I think just knowing I can come on here and chat to like-minded people has been my favourite well-being activity this year. I am so glad I found this community because there is no other like it and for once I feel like I am supported and can speak out about how I'm truly feeling so thankyou to everyone on here!! You are all amazing in your own ways. (ReachOut Post #10)	*Community-building*

Source(s): The above table was created by the authors

Through analysis of forum post data, we see users interacting in value cocreation within a community they have built, and that interaction facilitates resource exchange, i.e. a service ecosystem. Forum technology affordances enable users to develop community through supporting social connection, learning and community-building. These findings demonstrate that users engage with technology affordances through integrating these as part of help-seeking and help-giving practices in seeking to meet their needs and support others.

Provider interactions with forums

Above, we showed how users interact with forum technology. Next, how providers interact with forum technology is considered through exploring interview data. Area 2 in Figure 1 summarises provider responses to observing user interactions.

Providers discussed their role as management of forums to maintain best practice. First, when asked about influences on their decisions relating to changing forums, providers at all forums discussed adapting to stay relevant to evolving user needs. Monitoring trends in forum posts was important in stimulating and informing responses.

For Morgan at Beyond Blue, this involved a manual process of reading posts and "spotting a vibe" (see full quote A in Table 5). One aspect was monitoring trends in user reactions to potentially triggering events – user responses to a "sexual assault occurring in Canberra" (A) was an example cited. Taking an automated route, ReachOut providers discussed that their organisation had invested in a data warehouse and sophisticated software for the advanced analysis of trends in forum posts data (B). Other ways of identifying user needs included obtaining ongoing feedback from user consultative groups and surveys for a "temperature check" (C).

Table 5. Provider interactions with technology

Full quotes where partial quotes or mentions are in text
A. There's corpus data where they go for spotting a vibe. . .during heightened media campaigns for example, the sexual assault occurring in Canberra. [Beyond Blue, *Morgan*]
B. We've been investing, as an organization, in a data warehouse with AI-driven technologies for forum data, and using Google analytics. [ReachOut, *Lesly*]
C. We do a temperature check every now and then with the community. . .and its very important to the community that it stays anonymous. . . until that sentiment changes, we wouldn't be exploring. [SANE, *Sidney*]
D. We have monthly sessions with our in-house clinical psych where we learn about a particular topic or a particular topic in the community. I think it's a whole organization approach that we have here. [ReachOut, *Eddie*]
E. With the redesign, we shaped it similar to a social media format. . .you have a news feed and young people can choose and curate their news feed. . . so they can opt out of the heavier posts that pop up. And the moderating team also has posts that are featured. [ReachOut, *Eddie*]
F. We did develop another software add-on that will triage posts. It's automated and it will triage post automatically in accordance with which moderation rules we set. [SANE, *Sidney*]
G. Anytime we do a temperature check about anonymity it's very important to the community that it stays anonymous. So until that sentiment changes in a major way, we wouldn't be exploring knowing the name. [SANE, *Sidney*]
H. We've noticed they step up from being a service user to volunteering . . .then they go out and seeking training and then apply for peer work . . .so we won some funding to try and do that a bit more on purpose so over the next 2 years we'll be trying to nurture that pathway from service user to employment. [SANE, *Sidney*]
I. Participants more writing and participating. . .you create that genuine space rather than a space where it's all created by users; we – the moderation is the power behind our forums. [Beyond Blue, *Morgan*]
J. Making sure that those guidelines you set up for the community have buy-in from the community so that they've had a role to play in developing the guidelines that should underpin the culture of the community. [SANE *Sidney*]

Source(s): The above table was created by the authors

External influences on change were also discussed. These included contextual crises – such as the COVID-19 pandemic, bushfires and floods, which caused stress for users. Providers also discussed keeping up-to-date with clinical changes – for example, Eddie (D) mentioned regular sessions with a clinical psychologist to stay abreast of relevant topics. Keeping up with research literature about mental health and technology developments was mentioned by providers of each forum.

Providers responded to these internal and external stimuli by changing or considering changes to the institutional arrangements governing aspects of forum use. Providers discussed adapting manual moderation rules and user guidelines, as well as moderation algorithms (F), to influence user behaviour. For example, moderation was relaxed to acknowledge user stress levels and allow greater leniency around expressing frustration and "venting" online during COVID-19 and natural disasters. Providers from Beyond Blue and ReachOut discussed changing moderation and guidelines to steer forum users to focus on mental health topics. For example, Mickie at Beyond Blue sought to change the conversation in line with the aims of mental health improvement rather than social "banter":

> A lot of members were writing these long-term social posts. . .they generated a lot of one word discussions, sort of silly banter that was just not appropriate. . .so we modified our guidelines to remove those discussions. . .this is why we have seen a decline in that sort of posting.

Beyond changes to moderation, providers discussed other ways they influence user behaviour. To protect their young users' well-being, ReachOut providers built-in game formats, including tag games, where users post and then "tag" another user to post next. These are intended to motivate posting and fun interactions and to help steer young users away from dwelling on "heavy" material where people are discussing difficult experiences:

> we've always been quite purposeful with those games. . .tried to create a lighter side. . .because we did find those heavier spaces were quite overwhelming, particularly to our young male demographic. . .our young people are gravitating towards those fun threads. (Eddie, ReachOut)

Eddie also cited a recent redesign of the forum interface to be more like social media formats with which young people would be familiar (E).

Some changes were tried but proved unsuccessful. For example, Billie from ReachOut discussed experimenting with changes to allow synchronous interactivity. This proved difficult to implement because asynchronous user-to-user threads are an established feature of forums that help users who access forums at different times:

> Having real-time conversations in a platform, that is really clunky to do. . .we've started running real time chat groups, but it's really difficult. . .it's a one to one they have in their threads. . .so that's a pain point.

Other experiments were similarly unsuccessful. Sidney (G) observed some users had been talking with each other anonymously for many years online and wondered if they would like to know each other "in real-life". However, when she asked users, they stipulated that anonymity was essential to their ongoing forum use.

Sometimes, changes were made, informed by observing forum data, that involved activities outside forums. For example, Sidney at SANE (H) observed users advancing their skills in mentoring each other on the forum. They saw users discussing how they could translate these skills into helping them find a job and career. Influenced by this, SANE obtained funding and implemented mechanisms to enable peer users to have their skills acknowledged, supporting career development that might help entry to jobs.

Considering providers' perceptions of how changes are driven, Morgan at Beyond Blue suggested users should be regarded as *the consumers* of forums, with TSOs driving a forum's overall shape, saying: "moderation is the power behind our forums" (I). However, Sidney emphasised that SANE prioritises *community partnership* with a "nothing about us, without us" aim (J). Efficiency in managing forums while attracting new and keeping existing users were overarching aims referenced as guiding decision-making by most provider interviewees.

Summarised diagrammatically in Figure 1, area 2, we found that providers monitor user data from forums and consultations to identify ideas for changes to forum institutional arrangements. They are also influenced by advances in the field and crisis events like COVID or bushfires. Potential changes must still ensure the forum meets organisational goals and is efficient. Ideas might be specifically tested on consumer consultation panels before implementation. Ultimately, the scale of changes to institutional arrangements ranges between small tweaks to moderation through to structural changes affecting modes of user interaction (e.g. synchronous or asynchronous chat). Ideas can also emerge from forum data that suggest new services beyond the forum, e.g. enabling user career development.

In this section, we showed how providers respond to user value cocreation practices by considering and making changes to forum institutional arrangements. In the next section, we explore value outcomes realised from forums. This helps to understand how user practices and provider responses manifested in changed institutional arrangements combine to support the realisation of value outcomes.

Cocreated value outcomes

Thus far, we have explored user value cocreation practices and considered providers' responses. Here, data from interviews with rural users are examined to explore the benefits for users – that is, evidence that value is realised "in use". In this paper, we focus on rural users and evidence shows rural residents experience specific problems of service inaccessibility and social isolation (Bain and Munoz, 2020). Consequently, in analysing rural user interview data, we were particularly alert to finding evidence that forum use helped address service gaps. This would show value outcomes for individuals but also perhaps indicate more systemic evidence that forums are addressing a healthcare ecosystem gap for the rural population demographic.

Firstly, considering gaps in rural service accessibility, interviews show that forums provide vital health support. Forums enable users to access tested self-help strategies from lived experience peers. Through implementing these strategies, users describe gaining feelings of self-efficacy and control in aspects of their lives. Drew (A – see Table 6 for full quote) says they gained a proactive sense of driving their own life from implementing advice gained from forum peers:

> you haven't got the professional showing you their list of things of what they think is best for you. It's left in your own hands, which gives you a sense of purpose as well. You know, I'm driving my life, which is so important for people with depression. (Drew, A)

This idea of fostering agency that then leads to self-efficacy is also seen in: Ari (B) who suggests gaining an "initial helping" to get kick-started, but then "I've actually got to do some work myself"; and in Riley (C) who takes up volunteering which "I never would have thought of doing if it wasn't for someone suggesting it".

There is evidence of users accessing therapeutic health supports that, in cases, users perceive to give immediate health benefits. Ricky says:

> When I go on there, I'm not ever feeling my best self. Because I'm never going on there when I'm feeling ecstatically happy am I? So, yes, it would definitely have an effect on my mood with that feeling of, knowing that I am not alone is automatically going to boost my mood. (Ricky, SANE)

Echoing this, Keelan (D) thinks using the forum has saved their life, and Nicky (E) indicates it has provided them with distraction and alternatives to their previously harmful ways of dealing with distress.

Regarding rural social isolation, interviewees report impacts on overcoming loneliness and stigma. Mali talks about how socialising on a forum provides relief from pressure:

Table 6. Value outcomes for users

Full quotes from user interviews* (where partial quote is given in text)	User value
A. you haven't got the professional showing you their list of things of what they think is best for you. It's left in your own hands, which gives you a sense of purpose as well. You know, I'm driving my life, which is so important for people with depression. I'm driving my life and I'm going to give this a go. There's a proactive nuance to it [SANE, *Drew*]	Self-efficacy
B. I would just say it's, you know, it's not a cure all. It's not kind of – I can't just post on the forum and leave it at that. I've got to actually do some work myself, do the CBT or go speak to someone face to face? It's just kind of that initial helping me get to that point. But yeah, it's not a cure all [ReachOut, *Ari*]	Self-efficacy
C. I thought, Okay. So I started to volunteer two days a week at St. Vincent DePaul. And that's something I never would have thought of doing, if it wasn't for someone suggesting it on the forum [Beyond Blue, *Riley*]	Self-efficacy
D. *Researcher:* If you had to name one standout moment, or an impact on your life, from your use of the forum, what might that have been? *Keelan:* That I'm still here [Beyond Blue, *Keelan*]	Health protection
E. The forum gives [me] strategies yes. Definitely I've been told, it's good when I put myself out of the situation and resort to other ways of dealing with issues other than possibly, self-harm, or drugs and alcohol . . . they've suggested, you know, sink myself into something like gaming or reading a book maybe [ReachOut, *Nicky*]	Health protection
F. You know sometimes if things don't go right in one area, like, if people are judging you and passing rumours around in my physical community, well, you know you've got somewhere else that none of that's going on. That you can be a totally different person and yeah, sort of start fresh, sort of thing [SANE, *Taylor*]	Addresses social isolation
G. I feel like I can be honest, when I'm with my family, I don't want to weight everything on them. They are very supportive, but I just don't want to put all of the mental health stuff and all of the problems on them. So it's good to kind of have that separate from my grim community [ReachOut, *Ari*]	Addresses social isolation

Note(s): *Pseudonyms given
Source(s): The above table was created by the authors

> When you live in a small village, everyone knows everything about everyone. You can't date, you can't go to a support group or something like that. Because everything that you say will be repeated. People gossip, and they all do it. . . this way [on the forum] I can be anonymous and private. (Mali, Beyond Blue)

Using a forum allows access to an alternative social persona that helps users maintain their sense of self. On a forum, Taylor (F) confirmed that people isolated through their condition can be "a totally different person and yeah, sort of start fresh". As well as finding liberation for themselves, users perceive they also free-up their home community and family – as Ari (G) notes, by removing the burdensome aspects of mental ill-health and keeping those within the confines of the forum. Ari (G) refers to the people on the forum as their alternative "grim community".

These findings support the idea that value outcomes are cocreated from using forums. As shown in Figure 1 at area 3, value outcomes are achieved that meet individuals' specific needs, but there is also evidence that forums target key healthcare ecosystem gaps experienced by rural residents.

Discussion

This study provides a novel, granular exploration of how users and providers interact with a technology to exchange resources and cocreate value. Addressing RQ1, using forum post data, we found users were harnessing forum technology affordances of socially connecting, learning and community-building, to cocreate a community where they can ask each other questions,

draw on a past repository of knowledge and generate solutions to problems. Considering RQ2, aiming to sustain the community as a functioning service ecosystem over time, our provider interview data shows them adapting forum institutional arrangements. This includes tweaking moderation practices and changing ways of interacting and communicating. Evidence shows that changes to institutional arrangements are informed by data about user practices generated through interactions with forum technology and information from the external environment, e.g. about progress in mental health treatment or societal crises. Taken together, as evidenced through user interviews, and addressing RQ3, the ongoing interactive value cocreation work of providers and users interacting through forum technology helps to realise value outcomes. These address specific individual challenges but also wider common gaps in the rural healthcare ecosystem that users experience around service inaccessibility and isolation. Forums also appear to provide benefits that extend beyond the supplemental social support argued by Peng *et al.* (2022) but also generate therapeutic services that stimulate agency and self-efficacy. Available 24/7, forums can fill a vital gap at times of users' health crises. Combining three different datasets and referencing three different forums gives triangulated insights here that indicate feedback loops between users and providers with technology to generate evolving forum service ecosystems that meet needs that change according to place and time (see Figure 1).

Implications for theory

This investigation helps advance understanding of value cocreation and innovation as it is currently conceptualised in the service-dominant logic literature. Our data clearly shows value outcomes for users from using forums. This supports the idea that users, providers and technology are implicated in forum value cocreation processes. It is also possible to understand how value cocreation occurs because the study evidences the interacting roles of providers and consumers and how resources of/in technology also act in enabling the exchange of resources. In this paper, we can pinpoint technology resources that support consumer-provider resource integration. For users, this is through affordances – properties of forum technology that "make possible" socially connecting, learning and community-building. Drawing on these affordances helps users to build an online community of reciprocal helping. For providers, they can observe user practices easily as they change over time by monitoring data showing user practices generated in/through forums. Providers use this data to inform decisions about changing or maintaining institutional arrangements (e.g. changes to interfaces, moderation, introducing motivational games, etc.) that change the shape of the forum value proposition. Thus, using the different datasets allows observation of a novel example of the roles of different actors and technology in value cocreation.

Further, we argue that evidence from the study supports a service ecosystem perspective of innovation (Vargo *et al.*, 2015). Findings show that providers respond to data from/about users as they cocreate value to consider changes to institutional arrangements that will help to keep forums fit-for-purpose. Changes to institutional arrangements can be viewed as changes to forum rules that enable resources to be (re)combined in different ways to keep up with changed circumstances (e.g., changed user needs, societal crises or advances in mental healthcare). Some institutional changes are implemented (e.g. changes to moderation), some are not (e.g. allowing users to identify each other), and some are tried and unsuccessful (e.g. experiments with synchronous discussion). These experiments with changes, discussed by providers, bear out suggestions that "institutionalization processes in innovation...[involve]... experimentation in value proposition development" (Kaartemo *et al.*, 2018, p. 522). It is also possible to understand some of the providers' ideas about changes as representing potential instances of technological innovation – i.e. if synchronous chat was enabled, the value proposition would be understood to change. However, only the institutional changes that are accepted as beneficial by users end up being retained and implemented by providers (e.g. changes to moderation to allow "venting" during the COVID pandemic). These institutional

adaptations support the ongoing use of the forums. These findings align with suggestions that market or service ecosystem innovation is required for sustaining forums. That is, a service ecosystem perspective of innovation involves the engagement of users and providers.

By evidencing value cocreation and showing how it occurs, then showing how findings align with theory about a service ecosystem perspective of innovation, we argue that we raised evidence in our study of the association between value cocreation and innovation, as they are understood within service-dominant logic.

Contribution to understanding value cocreation in healthcare

The study provides detailed workings about the roles of consumers in generating value outcomes for themselves through interacting with technology, but also to influence the ongoing shape of the forums through influencing appropriate changes to institutional arrangements. This allows greater appreciation of how, given suitable supports, consumers do considerable work to assist themselves *and others*. Through this work, they can fill substantial holes in the healthcare system, as seen here, as well as add novel types of services to bolster self-efficacy, which is so significant for people with mental ill-health experiences who are far from support groups. The findings of this study also highlight the significance of working with consumers in collaboratively designing services. While there have been increasing moves for consumer consultation, as highlighted, understanding of the role of consumers is still immature (Fusco *et al.*, 2023). This study perhaps points to the importance of the capacity to monitor consumer data, using that as a way to inform innovations in healthcare. This points to the need for better healthcare data collection and analysis (a capability invested in by ReachOut in our study) but also to the need for provider staff who are empathetic, skilled and watchful in fostering appropriate service changes. Notably, some forums also have checks and balances before they make changes, like running ideas past consumer panels. The work of/in forums shows the fine-grained complexity of having an adaptive, innovative, sustainable service that involves technology and human capability.

Extending research about OHCs in healthcare ecosystems, findings suggest that OHCs can be "more than supplemental", indeed potentially a critical component of mental healthcare ecosystems (Xu and Peng, 2024). One user says using the forum saved their life, and others describe health-boosting, therapeutic benefits. Findings suggest some of this value arises from self-direction, having agency and helping others. These practices help users with mental ill-health to gain confidence and self-esteem. Interpreted through a lens of value cocreation theory, this study shows an additional role of mental healthcare consumers in acting to generate novel well-being benefits for themselves and others. Given the rising demand for mental healthcare and consequent costs internationally, this study shows that forums have the potential to make important contributions in filling structural holes in therapeutic aspects of healthcare ecosystems. Here, this was particularly true for "different" rural contexts where services are challenging to provide. This is why the study of forums as a technology in health service ecosystems matters. Confirming recent literature reviews, our empirical data supports the idea that policymakers and healthcare providers should pay more attention to forums as a cost-effective healthcare intervention.

Research limitations and further research opportunities

The data used here was collected as part of a larger study, so this paper represents a secondary data application. Nonetheless, the multiple datasets and granular perspectives are useful for addressing highlighted gaps in in-depth data that captures multi-actor interactions (e.g. Fusco *et al.*, 2023; Xu and Peng, 2024; Jaakola *et al.*, 2024). Due to the cross-sectional nature of data collection, we were unable to study complete "feedback loops" where the influence of provider changes to institutional arrangements on user practices and value outcomes could be monitored. Thus, our exploration of innovation involving institutional arrangements as forces changing

service ecosystems is not comprehensive but instead confined to the data at hand. Future studies could aim for more longitudinal perspectives. A further limitation is that findings relate to Australian forums and healthcare, so they might not be more widely applicable.

Our findings suggest considerable potential for future research applying service-dominant logic in healthcare. The theory is particularly appropriate for foregrounding the roles of consumers. Our study supports the suggestion that novel methodologies and in-depth case studies could fill gaps in knowledge.

This study exemplifies service ecosystems with access to distinctive resources. Some of these come from technology – including the affordances that help consumers to help themselves and the generation of data that helps providers stay abreast of user needs. Providers also require an attitude of responsiveness and a spirit of collaborative partnership. These are social and cultural qualities. As we have seen, TSOs in this study were able to play facilitative, flexing roles, but it remains to be seen whether clinical services could align more with this philosophy. Examples of research from other areas of healthcare and public services would add to the understanding of how providers can fulfil responsive roles while adhering to regulatory requirements – perhaps, as here, technology could be a significant mediating and enabling force. Clearly, services that use technology give opportunities for routine data generation as part of the service and could be a particularly illuminating area for generating insights about value cocreation *as it happens*.

Service-dominant logic, value cocreation and a service ecosystem view of innovation represent a considerable change to the paradigm of understanding how a healthcare ecosystem is formed and innovates. To help translate this theory into practice, we argue that more studies need to be done involving different types of services and detailed expositions of the work of actors overlaid with ideas from theory. These would assist practitioners, policymakers and consumers to understand how services are and can be increasingly cocreated. We also argue for accessible explanatory guides to value cocreation and innovation and analytical and audit tools for exploring services, organisations and healthcare ecosystems as cocreated (Frow *et al.*, 2019; Fusco *et al.*, 2023). Resonating with Frow *et al.* (2019), we conclude that wider application of service-dominant logic would help healthcare organisations to better understand how beneficial change can be cocreated by collaborations of consumers and different kinds of providers, perhaps increasingly enabled by technology so that efficient and effective healthcare ecosystems can be produced, that meet needs in all kinds of contexts.

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