



Faculty of Design

2022

Designing for Mental Health Care Ecosystems Transformation: The role of a territorial co-lab for resources emergence and integration

Sangiorgi, Daniela and Serpil Erdonmez, Sultan

Suggested citation:

Sangiorgi, Daniela and Serpil Erdonmez, Sultan (2022) Designing for Mental Health Care Ecosystems Transformation: The role of a territorial co-lab for resources emergence and integration. In: Proceedings of Relating Systems Thinking and Design, RSD11, 3-16 Oct 2022, Brighton, United Kingdom. Available at <https://openresearch.ocadu.ca/id/eprint/4297/>

Open Research is a publicly accessible, curated repository for the preservation and dissemination of scholarly and creative output of the OCAD University community. Material in Open Research is open access and made available via the consent of the author and/or rights holder on a non-exclusive basis.

The OCAD University Library is committed to accessibility as outlined in the [Ontario Human Rights Code](#) and the [Accessibility for Ontarians with Disabilities Act \(AODA\)](#) and is working to improve accessibility of the Open Research Repository collection. If you require an accessible version of a repository item contact us at repository@ocadu.ca.



Relating Systems Thinking and Design
2022 Symposium
University of Brighton, Brighton, UK,
October 13-16, 2022

Designing for Mental Health Care Ecosystems Transformation

The role of a territorial co-lab for resources emergence and integration

Daniela Sangiorgi and Sultan Serpil Erdonmez

Department of Design, Politecnico di Milano

Mental health is shifting from focusing on the treatment of disease (clinical recovery) to the promotion of complete well-being (personal recovery) (Slay & Stephens, 2013). This recovery shift requires the innovation of individual services and organisations, as well as the overall transformation of the ecosystem of diverse actors that can assist in the continuity of care. The novel concept of care ecosystem is helpful to describe this transition as it recognises the “dynamic and co-evolving community of sovereign and unique organizations, independent care providers, informal caregivers, care networks, patients and other actors, who directly or indirectly co-produce care or develop care innovations.” (Mohr & Dessers, 2019). Care providers need to recognise and facilitate the integration of this diversity of resources to offer personalised support for the changing needs of individual recovery journeys. Design for mental health has shed light on issues of power dynamics (Farr, 2013) and mental models change (Vink et al., 2017), as well as systemic dynamics when aiming for transformational change (Sangiorgi et al., 2022).

This paper suggests that attention should also be paid to how design initiatives could enhance the capability of care ecosystems to generate and integrate diverse and relevant resources to support individual recovery journeys better. In order to do so, we will first review the role of resources in mental healthcare transformation, their articulation within the service-dominant logic theory, and the recent understanding of care and service ecosystem design. This background will inform the developmental analysis and working model of Recovery Co-Lab, a territorial lab for mental health that illustrates how collective and collaborative design activities can explicitly address the emergence and integration of resources toward recovery-oriented mental healthcare.

Keywords: mental health, care ecosystem design, service ecosystem design, service design, resource integration

RSD: Health & Well-Being

Mental healthcare transformation toward a recovery ideology

Mental healthcare systems have gone through a long process of experimentation to promote effective transitions from large-scale institutions focused on the treatment of acute conditions to community-based care that supports social inclusion and rehabilitation. This evolution is associated with the concept of *recovery*, a “transformation ideology” that offers guidance on developing mental healthcare provision from paternalistic approaches to practices that support patients’ autonomy and self-determination (Le Boutillier et al., 2011). Personal recovery, as opposed to clinical recovery, has been defined as a “deeply personal, unique process of changing one’s attitudes, values, feelings, goals, skills and/or roles . . . a way of living a satisfying, hopeful, and contributing life even with the limitations caused by illness” (Antony, 1993: p. 19). A recovery-oriented care system needs to support the coordination of community-based services and resources that are centred on people’s needs to live their life fully; it should also be capable of enhancing people’s “recovery capital,” meaning the individuals’ ability to manage their health condition and participate in

community activities of their choice as needed along their personal recovery journey (Davidson & Tondora, 2022).

A recovery orientation recognises that “people who experience mental illness should be viewed as fundamentally like everyone else in society” (Slade et al., 2012). It suggests how the focus of mental health systems should be *commonality*, meaning supporting “everyday solutions to everyday problems” rather than keeping the focus on providing specialist treatments for mental illness-related problems (Ibid.). The recovery orientation, aligned with a positive psychological aspiration for enhancing well-being, stimulates an outward-looking approach to mental healthcare that recognises the importance of relationships and connection for individual and social well-being. Therefore, the mental healthcare provider should take the role of a social activist who challenges stigma and discrimination and promotes societal well-being by exploring opportunities for the individual to regain normal citizenship entitlements (Slade, 2010).

This outward-looking approach recognises the role played by non-provider-centric resources that might play a positive role in recovery experiences and well-being:

... resource is everything that is useful for that patient to manage his or her disease situation or that helps him or her to live with the disease and allows him or her to be an active player in his or her life context.¹

(Cacioppo & Tognetti, 2019).

A recovery-oriented perspective recognises the role played by both formal (e.g., practitioners) and informal (e.g., family and friends) resources as they are complementary in serving multiple functions and needs (Lauzier-Jobin & Houle, 2022). In this perspective, people in recovery are perceived as active agents when deciding how to use and rely on their helping relationships (ibid.). People in recovery are resourceful and fundamental participants in the design and delivery of mental healthcare, aligned with the co-production principles (Clark, 2015).

Following this vision, community-based care and a recovery orientation offer a different perspective on mental health care that is often characterised by resource scarcity being

¹ Translated by authors from Italian.

developed around already stretched providers in front of a growing demand for mental health support (Saxena et al., 2007). A recovery orientation promotes a community-based, diversified, distributed and personalised understanding of resources, whose value is determined by people in recovery themselves and whose role is activated and integrated in a dynamic way as the needs and conditions of their journeys emerge and change.

This article suggests that reflecting on how to inform and direct mental healthcare transition toward a recovery and community-based approach demands a new metaphor that can help to re-interpret resources and support their dynamic integration for people's recovery journey. An ecological perspective of ecosystems is proposed to reflect on which role design and territorial labs can play in reframing recovery resources and their contribution.

A service ecosystem perspective on resources emergence and integration

The term ecosystem was used initially by biologists in order to define the interaction between species and their environment in terms of structure and function (Moore, 1993). The structure reflects the way in which the ecosystem is organised, while the function reflects the interaction among entities who live inside the ecosystem, which is linked by flows of resources through structural components of the ecosystem (Pickett & Cadenasso, 2002). This ecological perspective has been increasingly used as a concept to define organisational ecosystems (Mars et al., 2012). Aligned with this model, Service Ecosystems are defined as a *"relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange"* (Vargo & Lusch, 2016, p. 11). Within this theorisation, the notion of resources integration has become increasingly relevant to explain the processes of value co-creation and service ecosystem change (Vargo & Lusch, 2004; Vargo & Lusch, 2006; Vargo & Lusch, 2008; Gummesson et al., 2019).

From a service ecosystem perspective, there are two types of resources, operant and operand resources (Vargo & Lusch, 2004). Operant resources refer to technologies, knowledge, and skills, while operand resources are tangible such as raw materials and

the land. This means that operant resources can act on operand ones to produce benefit, whereas operand resources must be acted upon in order to become beneficial (Ibid.).

Furthermore, resources are described as “contextual” and “becoming”. They are contextual as they are regulated by the cognitive, regulative, and normative functions of institutions and their institutional logics, which play a key role in shaping the actors’ resource integration and value co-creation processes (Edvardsson et al., 2014).

Resources are instead intended as becoming as they are not fixed “stuff”, including the dynamic capabilities of human ingenuity (Vargo & Lusch, 2004) and is constantly forming and reforming through combinatorial processes (Vargo, Wieland & Akaka, 2015). Also, this dynamic interplay between the contextual dimension of resource integration processes and their becoming is at the basis of the “resourceness” of resources, meaning their ability to support the achievement of people’s aims:

“resourceness” of potential resources arises due to the institutional arrangements that provide context(s) in service ecosystems and guide actors by distinguishing unique sets of practices, symbols and organizing principles.” (Koskela-Huotari & Vargo, 2016).

Institutional arrangements, intended as assemblages of interrelated institutions and their resulting social rules, norms, values, meanings, and beliefs, represent the sense-making frame of the “resourceness” of resources (Ibid.).

While the interaction between resources is the condition for resource integration, it is not considered sufficient to lead to their integration (Peter, 2016). Also, resource interaction might develop in different kinds of integrations, resulting in a summative process (homoeopathic resource integration) or in the emergence of new properties (heteropathic resources integration) (Ibid). Drawing on the systems thinking concept of emergence, Koskela-Huotari et al. (2018) have identified five sources and mechanisms that can lead to the heteropathic integration of resources meaning an integration that enables the emergence of novel resources (Ibid.):

1. *actor specialisation*, which motivates collaboration and facilitates the integration of diverse specialist resources in value co-creation
2. *multiple sources of resources* that qualify a certain context or country

3. *increasing resource liquefaction and density* thanks to digitalisation processes that open new opportunities and connect to wider networks
4. *interpretative flexibility* that reflects the diversity of social groups and their meaning-making
5. *institutional complexity* that introduces conflictual perspectives that might enable change processes

Actors themselves are seen as viable resources as they contribute to resource integration (Gummesson et al., 2019). Resource-integrating actors act as bundles or constellations of resources (Chandler & Vargo, 2011) that convene in a service ecosystem to integrate, exchange and share resources through different kinds of co-creation practices that can have an impact on the overall service ecosystem wellbeing (Frow, McColl-Kennedy & Payne, 2016). In these processes, value propositions can play a significant role in attracting and converging diverse actors and promoting resource-sharing relationships (Frow et al., 2014).

In this chapter, we are particularly interested in how resources “become” and are applied within service ecosystems through these dynamic and continuous combinatorial processes of resource integration and how these are influenced by institutional arrangements and change the service ecosystem. Designing for service ecosystem transformation has recently been the object of investigation, which can help to shed some light on how these processes could be applied in the field of mental healthcare.

Designing for care and service ecosystem transformation

Designing for and within service ecosystems is a novel and developing field of study. Service Design has increasingly investigated the design for complex systems transformation (Patricio et al., 2020; Koskela-Huotari & Vink, 2022) being informed by both service research (Koskela-Huotari et al., 2021) and systems thinking principles and theories (Sangiorgi et al., 2017; Van der Bijl-Brouwer, 2017). Recently the notion of service and care ecosystems has attracted the attention of design research, with two main directions: service ecosystem design and care ecosystem design.

Service ecosystem design has expanded the original service design perspective by highlighting the need to intentionally shape institutional arrangements and their physical enactments in order to achieve desired forms of value cocreation (Vink et al., 2021: 169). Designing is described as a collective process of feedback loops of reflexivity (actors' awareness of existing social structures) and reformation (actors' intentional efforts to shape social structures toward preferred value cocreation configurations) (ibid.). Service ecosystem design, therefore, involves actors in creating, disrupting, and maintaining institutional arrangements (e.g., institutional work) through an ongoing collective change and reflexivity process (Vink et al., 2017). In this developing theorisation, service design methods can support people's reflexivity, meaning their ability to reveal and work with the conflicts and malleability of hidden social structures (Vink & Koskela-Huotari, 2021a). In this vision, Service Ecosystem Design is associated with the transformative role of institutional work, where social structures become design materials (Vink & Koskela-Huotari, 2021b).

While the concept of care ecosystem adopts a similar biological metaphor of service ecosystems, its description specifically looks at the dynamic and co-evolving communities that co-produce care or care innovations (Dessers & Mohr, 2019). Designing the care ecosystem is about intentionally combining the resources, information, and activities of these multiple involved actors (patients included) to achieve better results that no singular entity can achieve independently (Mohr & Dessers, 2019). As also discussed in Service Ecosystem Design, designing or re-designing care ecosystems requires changing the way people work or relate to each other, which demands collaborative approaches and the re-shaping of institutional arrangements (Mohr & Dessers, 2019).

Specific studies on the role of design for mental health care ecosystem transformation have looked at the role of co-design processes to reveal and navigate across logic multiplicity (Sangiorgi et al., 2022) or to challenge rooted mental models and power dynamics between service providers and patients (Farr, 2013; Vink et al., 2017). From an ecosystem perspective, a multilevel, multidisciplinary and collaborative approach has been considered as a potential driver for mental healthcare transformation (Sangiorgi, Lucchi & Carrera, 2020). Within these long-term and complex initiatives, the co-design of

collaborative laboratories (Recovery Co-Labs) can support the collaborative, creative and resource integration capacities across multiple territorial actors to reshape the existing mental healthcare ecosystem (Sangiorgi, Carrera & Lucchi, 2019).

As very briefly outlined here, while the potential of service design to reveal and shape institutional arrangements is under scrutiny and is delineating a valuable research stream, the role of design in the reconfiguration of care ecosystems through the integration and emergence of new resources is only partly touched upon and would deserve more attention. To start exploring this significant area of research, we revisit the Recovery Co-Lab case study to illustrate how the dynamic co-design and co-production established in this kind of laboratory can play a significant role in care ecosystem transformation.

Recovery Co-Lab: dynamic co-creation practices for resource integration

Recovery-Net, a completed Italian action research project funded by Fondazione Cariplo, represents an attempt to rethink and redesign the ecosystem and governance of mental health care toward recovery-oriented and community-centred psychiatry in the provinces of Brescia and Mantova (Italy). The project, coordinated by the Mental Health Department (DSM) of the Spedali Civili of Brescia, has involved a wide range of actors: two Departments of Mental Health of the cities of Brescia and Mantova, three universities representing the disciplines of Design (Politecnico of Milan), Sociology (Bicocca University) and Psychology (Cattolica University of Milan), three family associations (Associazione il Chiaro del Bosco, Ass. Oltre la Siepe and Ass. Alba), and a theatre company (Teatro 19). The objectives of the project were to 1) activate and create synergies between the territorial resources of Lombardy and develop the skills and tools needed to test and evaluate a model of psychiatry oriented towards recovery and co-production, active on the territory and community-based; 2) facilitate the creation of local and regional forms of network governance capable of managing person-centred, co-produced and integrated care pathways on the territory.

Given the complexity of the process of transformation and orientation of the mental health ecosystem, the project was conceived as a multi-level process (see Figure 1), operating simultaneously at the micro level of the co-production of individual treatment

pathways, at the meso level of innovation of practices and organisations, and at the macro level, stimulating social-cultural change and policy development.

At the meso level, the Recovery.Net project has activated two main kinds of activities, the dynamic mapping activity and the co-design and launch of three so-called Recovery Co-Labs in the territories of Brescia, Mantova and Castiglione della Stiviera. The dynamic mapping (Cacioppo & Tognetti, 2019) was conducted in a collaborative way by micro-equips of users, family members and operators to identify, contact and activate local resources which were considered meaningful for users' recovery pathways; the Co-Labs instead were intended as physical and digital places where to convey all the innovation activities of the project and where to redefine in a more open way the involvement of a wider set of actors and redesign the mental healthcare governance and co-production toward a more communitarian paradigm of care. While each Co-Lab developed a scenario of core activities open to and co-produced with service users, family members, operators, local associations and citizens - e.g. entertaining, orienteering, educating and co-designing for mental health and well-being - it does not follow a predefined script, but the establishment of dedicated mixed working groups.

The working model of the Recovery Co-Lab, therefore, represents an interesting example of an enabling platform that contributes to the shaping of the overall care ecosystem via intentional co-creation practices of resources integration aiming to change the availability of resources for users and their family members. Using the theorisation of resource integration in service ecosystems, the Recovery Co-Lab co-creation practices can be described as an iterative and dynamic process, as illustrated in Figure 2.

Mapping – sense-making reframing of existing resources: the dynamic mapping exercise is the first action of a care ecosystem shaping process where resources “become” valuable as they are “re-framed” by the encounter between multiple actors with different specialisations and perspectives. The composition of the micro equips avoids identifying and framing resources from a narrow institutional and service provider perspective, acting as a “counter-frame” that contests “hegemonic perspectives and values embodied in institutionalized frames” (Prendiville, Syperek & Santamaria, 2021). From a user’s perspective, a resource can be a park, a local shop or a church.

Activating – resources as becoming: a resource “becomes” when it is activated via co-creation practices which are personal visits and follow-up meetings. These encounters help to reveal the potentials that can happen when bringing together different realities, each with its bundle or constellation of resources (Chandler & Vargo, 2011), that can converge on a coherent value proposition, which is the support of mental health as a community resource; through these encounters “dormant” resources can find a new value proposition (e.g. a retired gynaecologist that can bring his expertise in an educational course on intimacy); users or family members themselves can re-discover personal resources that “become” valuable again when they exit institutionalised frames of medical treatment and cure;

Co-designing – combinatorial resource integration: the Recovery Co-Lab becomes the place where co-design sessions happen in a dynamic way, to explore ways to value and combine resources to generate new ones better able to support users and their families, but also the needs of the local participants. The openness of the co-lab formula promotes the increase of institutional complexity, favouring the encounter between multiple and diverse local actors, but in the context of an experimental and safer space, where there is the will to combine potential resources in new ways, resulting in the emergence of new forms of ‘resourceness’ (e.g., available funding of a local foundation for vulnerable citizens encounters the need of Recovery Co-Labs' users for new potential initiatives);

Co-producing - heteropathic integration of resources: the full resource integration happens when the involved actors join to co-produce the new emergent resource such as a new initiative, an event, a course, a job opportunity, etc. The newly generated resource, therefore, contributes to the ongoing care ecosystem shaping and development.

The transformational potential of the Recovery Co-Labs lies in this dynamic and continuous approach to mapping, activating, co-designing and co-producing that fosters the growth of the resources constellation and its density. Its value consists of the development of an extended care approach for severe mental health conditions that opens up and contributes to the overall community's well-being.

Discussion

This exploratory paper offers an initial reflection on the potential role collective and collaborative co-creation practices for resource integration can play when aiming for care ecosystem transformation. It suggests the potential of generating the conditions for intentional sense-making re-framing of existing resources by increasing institutional complexity in a safe space such as an experimental co-lab. It also underlines the importance of creating the collaborative capacity in local actors to co-design and co-produce novel resource integration opportunities that follow an evolving but shared value proposition. The resulting care ecosystem can be compared with the notion of “soft services” or “health commons” that provide supportive and complementary resources that fall beyond the envelope of professional health services (Jones, 2017) but that can be conducive to human flourishing (Keyes, 2002). Also, its iterative and continuous process can be related to the iterative nature of design processes and the iterative feedback loops of reflexivity and reformation suggested by Vink et al. (2021). Finally, the understanding of novel ways of “framing” existing resources, as understood in design thinking literature (Dorst, 2015), can be associated with the “becoming” nature of resources and their perceived “resourceness”. Still, in the mental healthcare environment, the notion of “counter-frames” (Prendiville, Syperek & Santamaria, 2021) takes on specific meanings and implications.

Conclusion

Designing for care ecosystem transformation is a complex and developing field of research. The notions of Service Ecosystem and Service Ecosystem Design introduce valuable perspectives on the complexity and dimensions of this endeavour. With this paper, we want to bring forward the notion of resource integration as a relevant theoretical construct that could help to advance the reflection on how Service Design can contribute to these long-term change processes. The analysis of the Recovery Co-Lab example has suggested how Service Design could be intended to support this collective and collaborative process of re-framing, activation, and combinatorial re-imagination and integration of resources. This initial hypothesis could be further verified and developed in future studies, considering both similar venues as innovation and living labs, but also reflecting on how to translate this perspective in other potential

venues. Also, we suggest how this focus on resource integration could be integrated into and complement existing studies on service ecosystem design to intersect reflections on design and institutional work with the valuable notion of emergence in resource integration.

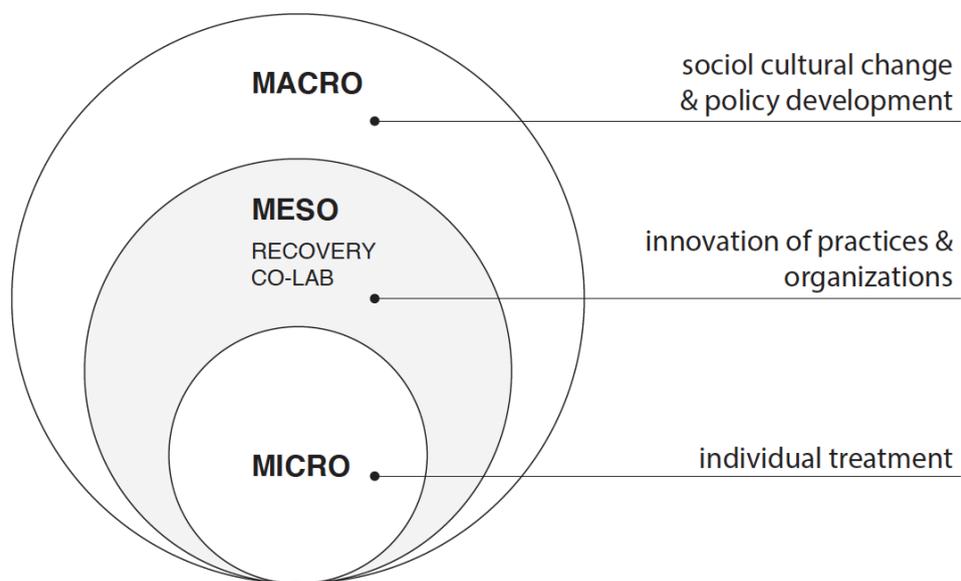


Figure 1. Multilevel structure of Recovery.Net project and the positioning of the Recovery Co-Lab.

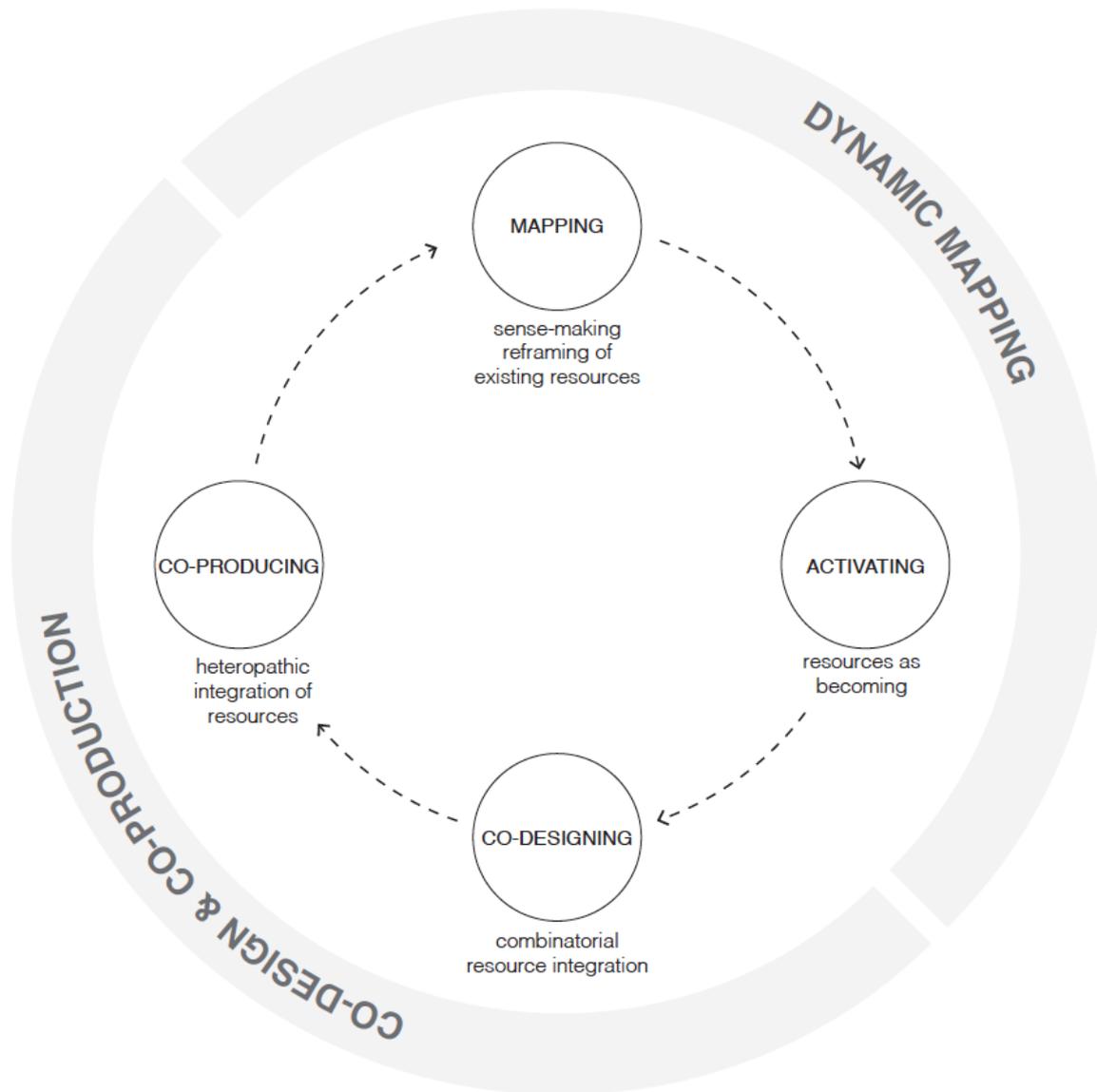


Figure 2. The collective and collaborative process of re-framing, activation and combinatorial integration of resources of the Recovery Co-Lab.

References

1. Anthony, W. (1993). Recovery from mental illness: the guiding vision of the mental health system in the 1990s, *Psychosocial Rehabilitation Journal*, 16(4), 11-23.
2. Cacioppo, M., & Tognetti, M. (2019). L'attivazione dei pazienti con disagio psichico: la mappatura dinamica delle risorse territoriali in una logica di Recovery. *Autonomie locali e servizi sociali*, 42(1), 127-146.
3. Chandler, J. D., & Vargo, S. L. (2011). Contextualization and value-in-context: How context frames exchange. *Marketing theory*, 11(1), 35-49.
4. Clark, M. (2015). Co-production in mental health care. *Mental Health Review Journal*, 20(4), 213-219.
5. Davidson, L., & Tondora, J. (2022). Person-centred care planning as foundational to clinical practice. *World psychiatry: official journal of the World Psychiatric Association (WPA)*, 21(1), 1-2.
6. Dessers, E., & Mohr, B. J. (2019). Integrated care ecosystems. In Mohr, B. J., & E. Dessers, (Eds.). *Designing Integrated Care Ecosystems: A socio-technical perspective* (pp. 13-23). Springer, Cham.
7. Dorst, K. (2015). *Frame innovation: Create new thinking by design*. MIT Press.
8. Edvardsson, B., Kleinaltenkamp, M., Tronvoll, B., McHugh, P., & Windahl, C. (2014). Institutional logics matter when coordinating resource integration. *Marketing Theory*, 14(3), 291-309.
9. Farr, M. (2013). Citizens and the co-creation of public service innovations. In S. P. Osborne & L. Brown (Eds.), *Handbook of innovation in public services* (pp. 152-172). Edward Elgar.
10. Frow, P., McColl-Kennedy, J. R., Hilton, T., Davidson, A., Payne, A., & Brozovic, D. (2014). Value propositions: A service ecosystems perspective. *Marketing Theory*, 14(3), 327-351.
11. 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.
12. Gummesson, E., Mele, C., & Polese, F. (2019). Complexity and viability in service ecosystems. *Marketing theory*, 19(1), 3-7.

13. Jones, P. (2017). Services: Soft service design outside the envelope of healthcare. In E. Tseklevs & R. Cooper, *Design for Health* (pp. 39-57). Routledge.
14. Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of health and social behavior*, 43(June), 207-222.
15. Koskela-Huotari, K., Edvardsson, B., & Tronvoll, B. (2018). Emergence of novel resources in service ecosystems. In S.L. Vargo & R.F. Lusch (Eds.). *The SAGE Handbook of Service-Dominant Logic* (pp. 372-387), SAGE Publishing.
16. Koskela-Huotari, K., Patrício, L., Zhang, J., Karpen, I. O., Sangiorgi, D., Anderson, L., & Bogicevic, V. (2021). Service system transformation through service design: Linking analytical dimensions and service design approaches. *Journal of Business Research*, 136, 343-355.
17. Koskela-Huotari, K., & Vargo, S. L. (2016). Institutions as resource context. *Journal of Service Theory and Practice*, 26(2), 163-178.
18. Koskela-Huotari, K., & Vink, J. (2022). Tracing the Systems Turn in Service Design and Innovation: Convergence Toward Service System Transformation. In B. Edvardsson & B. Bard (Eds.). *The Palgrave Handbook of Service Management* (pp. 531-553). Palgrave Macmillan, Cham.
19. Lauzier-Jobin, F., & Houle, J. (2022). A comparison of formal and informal help in the context of mental health recovery. *International Journal of Social Psychiatry*, 68(4), 729-737.
20. Le Boutillier, C., Leamy, M., Bird, V. J., Davidson, L., Williams, J., & Slade, M. (2011). What does recovery mean in practice? A qualitative analysis of international recovery-oriented practice guidance. *Psychiatric services*, 62(12), 1470-1476.
21. Mars, M. M., Bronstein, J. L., & Lusch, R. F. (2012). The value of a metaphor: Organizations and ecosystems. *Organizational Dynamics*, 41(4), 271-280.
22. Mohr, B. J., & Dessers, E. (Eds.). (2019). *Designing integrated care ecosystems: A socio-technical perspective*. Springer Nature.
23. Moore, J. F. (1993). Predators and prey: a new ecology of competition. *Harvard business review*, 71(3), 75-86
24. Patrício, L., Sangiorgi, D., Mahr, D., Čaić, M., Kalantari, S., & Sundar, S. (2020). Leveraging service design for healthcare transformation: Toward people-centered, integrated, and technology-enabled healthcare systems. *Journal of Service Management*, 31(5), 889-909.

25. Pickett, S. T., & Cadenasso, M. L. (2002). The ecosystem as a multidimensional concept: meaning, model, and metaphor. *Ecosystems*, 5(1), 1-10.
26. Prendeville, S., Syperek, P., & Santamaria, L. (2021). On the Politics of Design Framing Practices. *Design Issues*, 38(3), 71-84.
27. Sangiorgi, D., Carrera, M., & Lucchi, F. (2019). CO-DESIGNING INNOVATION LABS FOR SERVICE ECOSYSTEM CHANGE The case of mental healthcare Co-Labs. In E. Gummesson, C. Mele & F. Polese (Eds.). *Service Dominant Logic, Network and Systems Theory and Service Science: Integrating three Perspectives for a New Service Agenda*.
28. Sangiorgi D., Lucchi F., Carrera M. (2020) Recovery-Net: A Multilevel and Collaborative Approach to Mental Healthcare Transformation. In A. Battisti, M. Marceca & S. Iorio (Eds.) *Urban Health. AIMETA 2019. Green Energy and Technology*. Springer, Cham.
29. Sangiorgi, D., Patrício, L., & Fisk, R.P. (2017), Designing for interdependence, participation and emergence in complex service systems, in D. Sangiorgi & A. Prendeville (Eds.), *Designing for Service: Key Issues and New Directions* (pp. 72-86), Bloomsbury, London, UK.
30. Sangiorgi, D., Vink, J., Farr, M., Mulvale, G., & Warwick, L. (2022). Designing as negotiating across logic multiplicity: The case of mental healthcare transformation toward co-design and co-production. *International Journal of Design*, 16(1), 35-54.
31. Slade, M. (2010). Mental illness and well-being: the central importance of positive psychology and recovery approaches. *BMC health services research*, 10(1), 1-14.
32. Slade, M., Williams, J., Bird, V., Leamy, M., & Le Boutillier, C. (2012). Recovery grows up. *Journal of Mental Health*, 21(2), 99-103.
33. Slay, J., & Stephens, L. (2013). *Co-production in mental health: A literature review*. London: new economics foundation.
34. Saxena, S., Thornicroft, G., Knapp, M., & Whiteford, H. (2007). *Resources for mental health: scarcity, inequity, and inefficiency*. *Lancet* (London, England), 370(9590), 878-889
35. Van der Bijl-Brouwer, M. (2017). Designing for social infrastructures in complex service systems: a human-centered and social systems perspective on service design. *She Ji: The Journal of Design, Economics, and Innovation*, 3(3), 183-197.

36. Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1–17.
37. Vargo, S. L., & Lusch, R. F. (2006). Service-dominant logic: what it is, what it is not, what it might be. In R. F. Lusch, & S. L. Vargo (Eds.). *The Service-dominant logic of marketing: dialog, debate, and directions* (pp. 43–56). Armonk, NY: ME Sharpe.
38. Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of Marketing Science*, 36, 1–10.
39. 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(4), 5–23
40. Vargo, S. L., Wieland, H., & Akaka, M. A. (2015). Innovation through institutionalization: A service ecosystems perspective. *Industrial Marketing Management*, 44, 63-72.
41. Vink, J., & Koskela-Huotari, K. (2021a). Building reflexivity using service design methods. *Journal of Service Research*, 25(3), 371-389.
42. Vink, J., & Koskela-Huotari, K. (2021b). Social structures as service design materials. *International Journal of Design*, 15(3), 29-43.
43. Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., & Wetter-Edman, K. (2021). Service ecosystem design: Propositions, process model, and future research agenda. *Journal of Service Research*, 24(2), 168-186.
44. Vink, J., Tronvoll, B., Edvardsson, B., Wetter-Edman, K., & Aguirre, M. (2017). Service ecosystem design: doing institutional work through design. In E. Gummesson, C. Mele, & F. Polese (Eds.), *Service Dominant Logic, Network and Systems Theory and Service Science: Integrating three Perspectives for a New Service Agenda*.