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Integrating Speculative and Systemic Approaches into Service Design

Lin, Zijun and Villari, Beatrice

Integrating Systemic And Speculative Approaches Into Service Design

To support service innovation that embeds systemic and future issues

Zijun Lin | zijun.lin@polimi.it | *Department of Design, Politecnico di Milano*

Beatrice Villari | beatrice.villari@polimi.it | *Department of Design, Politecnico di Milano*

Service Design is facing more and more complex and uncertain challenges when dealing with and designing services or service systems.

This study is based on the logic that the social systems people live in are composed of multiple interconnected and interactive service systems that the wider network included (van der Bijl-Brouwer, 2022).

Service challenges go beyond the design of a single product or service, toward the changing needs that people face in their daily lives (Mager et al., 2020), and the great degree of uncertainty brought by the unpredictable changes of the social systems (Locy, 2020).

Systemic Design
Systems thinking

→

Service Design
Service systems

←

Speculative Design
Future thinking

Both Systemic Design and the Speculative approach are considered capable of dealing with complex (social) problems (Auger, 2013; Jones, 2014; Mitrović, 2015).

Research questions

How does Service Design embed
Systemic and Speculative approaches?

And, when facing complexity and
future uncertainty, how do the Service
Design capabilities evolve?

Research questions

How does Service Design embed Systemic and Speculative approaches?

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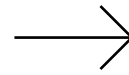
To understand the current integrated practice that engages Systemic and Speculative approaches or thinking in Service Design in design education and practice, then explore the possible further integration.

And, when facing complexity and future uncertainty, how do the Service Design capabilities evolve?

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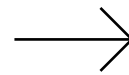
To explore what capabilities are brought (or needed) by these integrations and what should be noted in the discipline evolution.

Service Design

Service Design, a human-centered approach, originally focused on designing human experiences of customers and service providers (Sangiorgi, 2009). It goes beyond enhancing service experiences to a transformative practice and an intentional pathway to promote the service system transformation (Koskela-Huotari et al., 2021; Patrício et al., 2018, 2020; Sangiorgi, 2011; Vink et al., 2021).

As service design evolves, it is confronting the complexity, large-scale and future-oriented problems posed by the contexts in which service design operates (Locy, 2020; Manzini, 2011; Sangiorgi et al., 2017; Vink et al., 2021).

Service Design

a holistic consideration of system diversity and a long-term/visioning consideration of system possibilities

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Service Design

Systemic Design

The organic meshing of systems perspectives with design (Sevaldson, 2019), provides a panoramic view of the ecosystem (Tjendra, 2018) to help designers consider actors within the system to deal with the complexity of social transformation from a more holistic perspective (Jones, 2014, 2018).

Other than the designer's perspective, actors within the systems also play roles in Systemic Design. Strengthening the relationships between other system actors can contribute to changing their value systems, which in turn promotes systemic change (Drew et al., 2021).

Service Design

Systemic Design
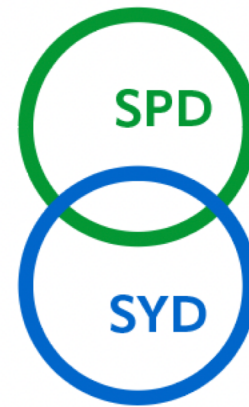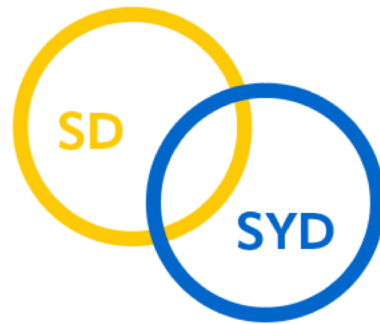
Speculative Design

A futures-oriented, critical, and discursive practice that provokes new ways of thinking and problematizes ideas or issues into focus by envisioning or crafting imagination and visions of possible scenarios (Auger, 2013; Dunne & Raby, 2013a; Mitrović, 2015).

Relationships in pairs
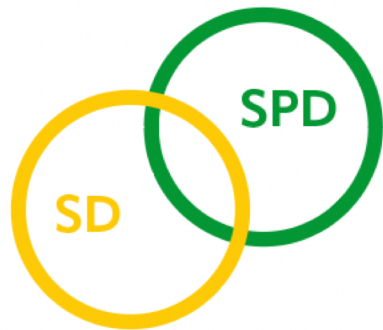
These three approaches both **complementary** but also in some **conflicts**

Systemic perspective on Service Design
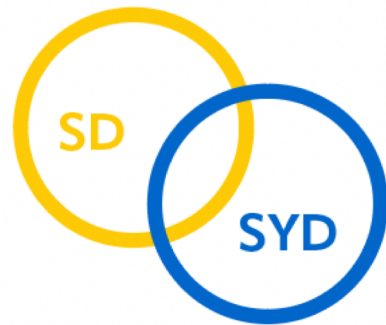
- The systemic perspective has been mentioned more and more in recent years and has become increasingly common (e.g., Sangiorgi et al., 2017; Van Ael & Jones, 2021; van der Bijl-Brouwer, 2017, 2022; Vargo & Akaka, 2012; Vink, 2021):

  - **Designing for Service** (Kimbell, 2011)
    The focus has shifted from directly designing service offerings to "proposing and creating new kinds of value relation involving diverse actors" within service systems (Kimbell, 2011, p42; Meroni & Sangiorgi, 2011)

  - **A reflective practice, which involves the evolution of the visible and invisible elements within the systems** (Vink et al., 2019; Wetter-Edman et al., 2018)**.**

Systemic perspective on Service Design
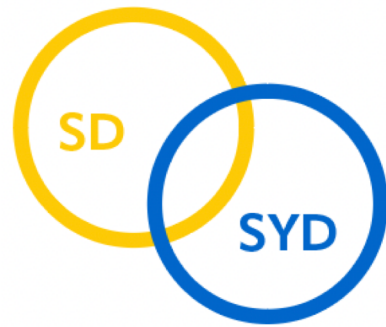
- Two systemic views on service systems (van der Bijl-Brouwer, 2022):

    - **Focus on system design**
    Focus on the parts of the system that can be designed (Patrício et al., 2011)

    - **Focus on systemic change or designing with the system**
    Focus on understanding and dealing with the complexity and uncertainty of service systems.

Systemic perspective on Service Design
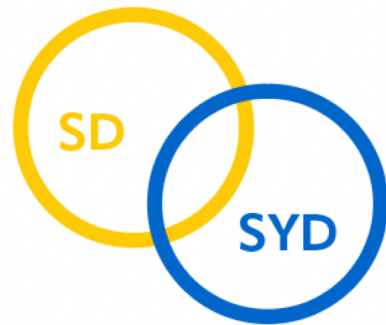
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    ↓

  - **The service ecosystem perspective** (Vargo & Akaka, 2012)
  - **Service Ecosystem Design** (Vink et al., 2021)

Systemic perspective on Service Design
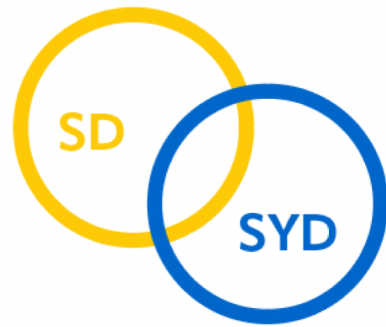
Service Ecosystem Design recognizes the agency and participation of all actors and emphasizes that through collective reflexivity and reformation by different levels of actors (from micro to meso to macro; Vargo & Lusch, 2016) to intentional shaping of institutional arrangements and promote the emergence of desired value co-creation forms (Vink et al., 2021).

Actors are able to consciously influence long-term changes in the complex service ecosystems in which they are embedded (Mele et al., 2018; Nenonen et al., 2018).

Speculative perspective on Service Design
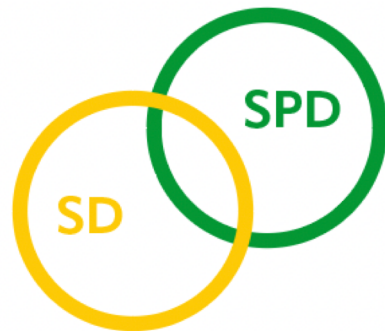
- Paradigm

  - Service Design:
    Currently, most accounts of service design apply a linear "cause-and-effect relationships" process that focuses on adapting the parts of a service system in isolation without addressing the complexity of the system as a whole ("Non-Linear Approaches to Service Design," 2021).
    Its paradigm focuses on humans, and its results focus on developing useful service solutions or improving service experience in the present contexts.

  - Speculative Design:
    A futures-oriented paradigm encourages not only designers but also actors around to think, critique, and question the current systems in different ways by striving for provocation and collective discursive (Gerber, 2018a; Pasman, 2016).
    More plausible futures that can be more unrealistic, critical, and reflective to arise the public's thinking, reflection, and discourse rather than a plan (Dunne & Raby, 2013).

Speculative perspective on Service Design
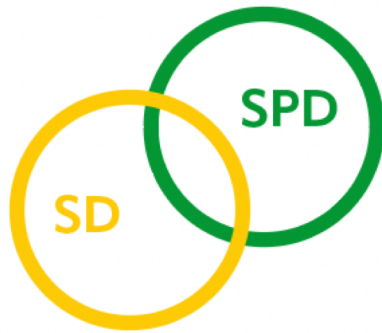
- Alternative futures

  - <u>Service Design:</u>
    Near future scenarios
    The near-future scenarios construction allows designers and participants better to understand the possible short-term effects of current changes.

  - <u>Speculative Design:</u>
    Long-term future scenarios
    The long-term future scenarios do not emphasize "realizability" can help designers predict the requirements, challenges, and impacts that may occur in the process, and further think and reflect on the current system through retrospection (Gerber, 2018b; Mager et al., 2020).

Systemic Design and Speculative Design
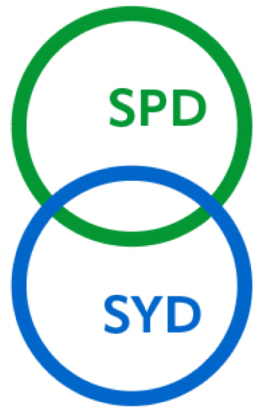
- Alternative futures

  - Systemic Design:
    Defining the Desired Future: Value proposition, foresight models (Van Ael & Jones, 2021).
    Multiple paths to future outcomes are often constructed to reveal a set of potentials and action points (Jones, 2017).

  - Speculative Design:
    Probable/plausible/possible/preferable futures (Dunne & Raby, 2013; Voros, 2003).
    More plausible futures that can be more unrealistic, critical, and reflective to arise the public's thinking, reflection, and discourse rather than a plan (Dunne & Raby, 2013).

Design processes of Service Design, Systemic Design and Speculative Design

PAST

PRESENT

FUTURE

near future   far future

trends/signals/data

research

discover

sense-making
(system mapping)

understanding
of the current
situation/system

define the
problem

validate   iterate

create
service concepts
/system
interventions

prototype

deliver

Road map

Design solution
for the future

catalyse

Transition
towards future

identify the
leverage point

desired
future

collecting signals/trend/tech/...

world building

possible → discursive

probable → reflection

preferred

plausible → critique

materialize

alternative
future scenario

output:
prototype
/speculation

discourse
/reflection
/public debate

back-casting

→ Service Design

→ Systemic Design

→ Specualtive Design

(Figure 3 - Matching processes of Service Design, Systemic Design, and Speculative approach; adapted from Design Council (2013; 2021); Dunne
and Raby (2013); systemicdesigntoolkit.org, Mitrovic (2016), The Extrapolation Factory (2016), Van Ael (2018), Van Ael & Jones (2021), Voros (2003))

Emerging connections

Expert interviews

Academia

Practice

- 10 expert interviews with Service Design and Systemic/Speculative approaches experts:

  - **In practice**
    Interviews with experts to contribute to the first question of how Service Design embeds Systemic and Speculative approaches

  - **In education**
    Interviews with schools' program leaders focus on the second question of how the Service Design capabilities need to evolve.

Opportunities

- **Not confined to the current contexts, think the "unthinkable"**

    Since Speculative Design is not limited by the current realities, alternative futures are more pioneering and can help people think about situations that are usually considered "impossible."

Opportunities

- **Not confined to the current contexts, think the "unthinkable"**

- **Break silos and create common scenarios to lower the participation threshold**

The Speculative approach helps break down social conventions and boundaries between people, and the relational thinking and long-term vision brought by the systemic approach can also contribute to creating shared future scenarios, which can encourage and engage everyone to have a say in the future.

Opportunities

- **Not confined to the current contexts, think the "unthinkable"**

- **Break silos and create common scenarios to lower the participation threshold**

- **Better communication of the complex/abstract issues to the 'audience'**

    In addition, placing people in the same (even co-created) future scenario allows them to think and discuss using more straightforward visual or experiential language rather than professional terms.

Criticalities

- **High threshold for the 'beginners' (refers to people who have not been exposed to such approaches before, with or without a design background)**

  The Speculative approach requires the use of imagination to envision possible futures and visualize to present them. And the systemic design requires a designerly way to deal with systemic tensions. Therefore, the entry threshold to using the approach is higher for beginners without a relevant background or design background.

Criticalities

- **High threshold for the 'beginners' (refers to people who have not been exposed to such approaches before, with or without a design background)**

- **The multi-directional speculations might bring confusion to the 'audience'**

  Although creating alternative future scenarios is meant to give people a space for discussion, making too many speculative scenarios in different directions might confuse actors when dealing with complex systemic problems.

Criticalities

- **High threshold for the 'beginners' (refers to people who have not been exposed to such approaches before, with or without a design background)**

- **The multi-directional speculations might bring confusion to the 'audience'**

- **It does be influenced by different contexts (geographical, socio-cultural, ideological, etc.)**

The future scenarios created are influenced heavily by the systemic contexts to which the creators belong, including geography, socio-culture, ideology, etc. Therefore, when using the Systemic and Speculative approaches, it is necessary to consider not only the context of the issue but also the contexts that the creators themselves have to avoid intentional or unintentional exclusion or bias.

Extension map

A comprehensive meta-process rather than a specific application process since the need for flexible adaptations for different issues with different contexts, including selecting the directions of the design process and the choice of methods and tools.
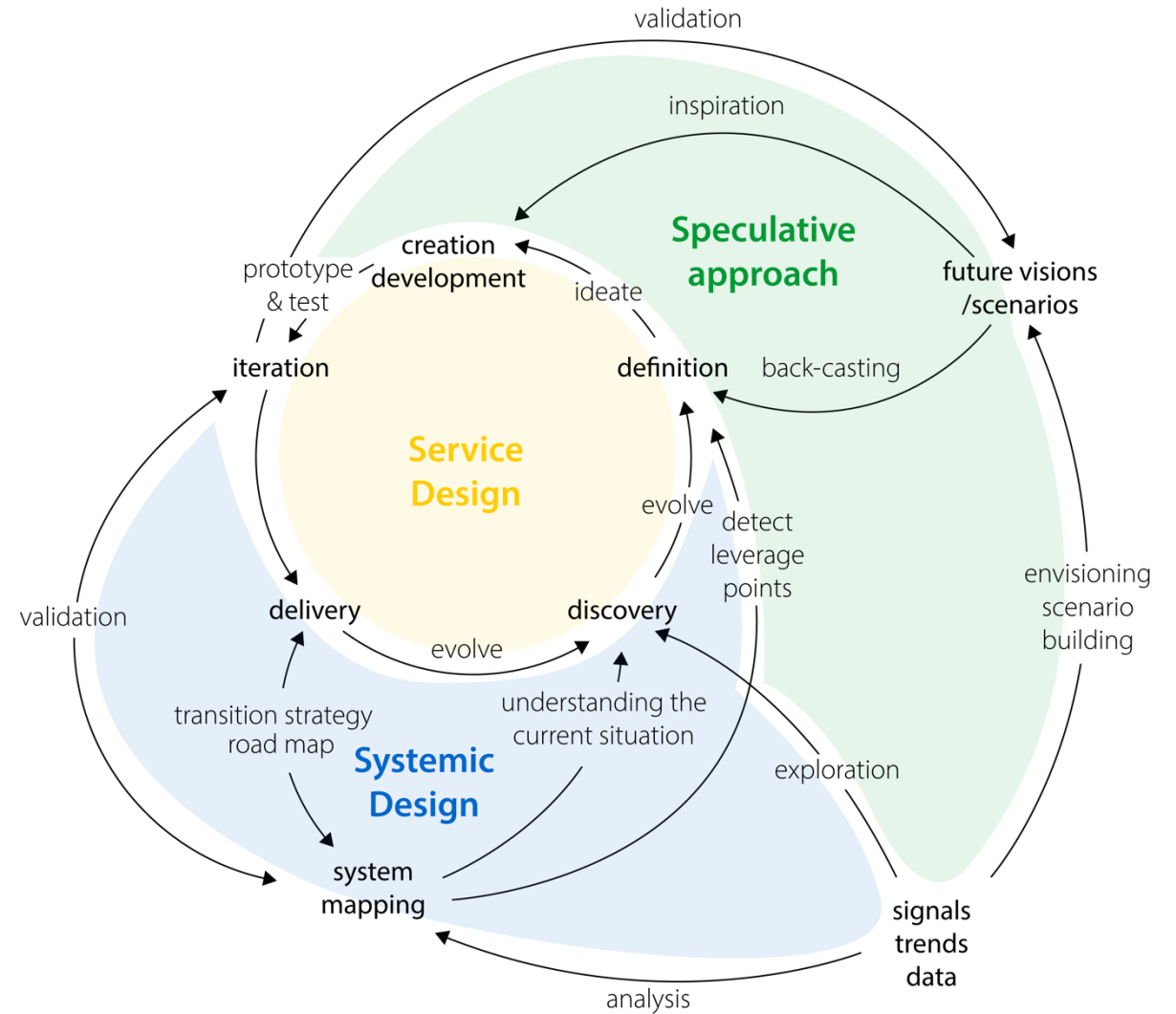

Figure 2 – A proposed extension of Systemic Design and the Speculative approach into the Service Design process

Methods and tools for selection

The stages of this table are based on the Service Design process and extend the Systemic and Speculative approaches' methods and tools into the Service Design steps. With this table, the service designer can choose different methods by referring to different steps.

Since most of these methods and tools can be used creatively and adaptively, many of the methods associated with individual stages can be useful for other purposes in other stages of the process.

Illustrative methods and tools

Service Design process	Service Design	Systemic Design	Speculative approach
discovery	Ethnography Design probes Contextual interviews Observations Environment scanning	Rich context Actors maps Niche discovery Contextual interviews Multicapitals systems map	Delphi Trends analysis Future timeline Future wheels
definition	Ethnography Design probes Contextual interviews Observations Environment scanning Actors maps	Systems maps Influence map Value proposition Three horizons Future state scenarios Leverage points	'What If' Questions Implication Mapping
creation development	Storyboard Journey maps Service ecosystem maps Service blueprint	Intervention strategy	Co-creation workshops Design games Trend cards Future Things Future personas Scenario building
iteration	Prototypes Testing	Systemic Evaluation ZIP-analysis	Provotype Drama Collaborative Provowriting Provotype Recap
delivery	Road maps Business model canvas	Transition strategy Adaptive cycle strategy Collaboration model Roadmap for transition	

Table 2 - Methods and tools grounded on the proposed extension into the Service Design process

(Service) Designers capabilities: a possible evolution

Five capabilities that were mentioned many times in the expert interviews.

These design capabilities are partially present in Systemic and Speculative approaches, but need to be further evolved in Service Design.

- **Critical and reflective thinking**

- **Future envisioning**

- **Systemic thinking and holistic view**

- **Visualizing and Shaping complexity**

- **Narrative, communication, and discussion**

(Service) Designers capabilities: a possible evolution

- **Critical and reflective thinking**

  Critical and reflective thinking is relevant to the collaborative design process and speculative output and extends to the designer's personal reflection.

  - *In terms of process and outcome, applying Speculative Design can bring about criticality and provoke reflection among actors.*

  - *From the designer's personal perspective, it is challenged to reflect on the way the designer sees the world during the design process (Søndergaard & Hansen, 2017). Designers need to expand and reflect on how their imagination deals with different types of information, known or unknown.*

(Service) Designers capabilities: a possible evolution

- **Future envisioning**

  Service designers better to expand their perspectives, explore the boundaries of uncertainty, and expand their imagination to broaden landscapes to see more possibilities for change and to build resilience (Prosser & Basra, 2018).

  - *When faced with the challenges of complexity and uncertainty, future thinking and long-term visions need to evolve further, unconstrained by feasibility and realizability (Asian Development Bank, 2020; Moffatt, 2007; WBCSD Sustainable Lifestyles Cluster, 2018).*

(Service) Designers capabilities: a possible evolution

- **Systemic thinking and holistic view**

    The systems thinking and holistic view that comes with the systemic approach should be conceived as a deeply ingrained mindset and a base logic of thinking throughout this integration (Prosser & Basra, 2018).

    - *The interconnected actors and services involved in the service systems, from the micro to the meso to the macro community level, are all part of a constantly changing system. The elements within service systems are not isolated, and with the change of elements, the interconnected parts interact and influence each other (Sevaldson, 2009).*

(Service) Designers capabilities: a possible evolution

- **Visualizing and Shaping complexity**

  Prototypes and artefacts of the tangible and intangible services in future scenarios that can be experienced and interacted with are more engaging and thought-provoking than presented only in words or pictures.

  - *Embodied futures take that one step further and essentially allow people to act into the future. Therefore, this requires service designers to evolve the capability of shaping and building to create more immersive future experiences, thus enhancing engagement in the co-creation process.*

(Service) Designers capabilities: a possible evolution

- **Narrative, communication, and discussion**

  Designers can lower the threshold of collective participation through better narrative and communication skills, to actively empower the public to think about the future and engage them in exploring alternative futures and visions of the future, encouraging long-term thinking and informing collective actions in the present to foster service and further societal transformation (McPhearson et al., 2016; Morgan, 2021).

  - *The active participation of actors is essential in the transformation driven by Service Design. The lack of collective discourses about long-term futures in wider society impede collective imagination and intelligence (Ramos et al., 2019).*

Thank you for your attention!

If you have any questions, please feel free to contact us ;)

Zijun Lin | zijun.lin@polimi.it | *Department of Design, Politecnico di Milano*

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