CONCEPTUALIZING TASK-TECHNOLOGY FIT FOR TECHNOLOGY-PERVADED VALUE CO-CREATION

28th European Conference on Information Systems

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Agenda

I. Motivation and Goal
II. The Socio-Technical Phenomenon of Technology-Pervaded Value Co-Creation
III. Conceptual Research
IV. Conceptualization of the Task-technology Fit Model for Technology-Pervaded Value Co-Creation
V. Limitations and Future Work

MOTIVATION AND GOAL

Different service research streams focus different aspects of technology-pervaded value co-creation

- Digital technology is pervasive to service (Yoo et al, 2012)), increases the number of (digital) touchpoints, and enables new types of interaction in value co-creation, causing phenomena like resource liquefaction and resource density (Lusch and Nambisan, 2015).
- The trend for *datatization* (Schüritz et al., 2017) increases the complexity in the already complex process of value co-creation.
- Siloed research streams on the technical factors (IS) and the co-creation process (Marketing) evolved in the literature

MOTIVATION AND GOAL

This paper aims to develop an integrative perspective on technology-pervaded value co-creation

Goal: Deconstruct the relationship between pervasive digital technology and value co-creation processes to provide an integrative perspective on the phenomenon

Contribution:

1) Conceptual development of the characteristics and properties of *digital technology* and *individuals,* enabling further specification and refinement (theoretical)
2) Description of the resulting TTF model for value co-creation, enabling future research to test and quantify the impact of TTF of resource integration activities (theoretical)
3) Discussion of the model in the backdrop to the literature to identify future research paths (theoretical)
4) Offer first indications on the successful alignment of (digital) technology with activities of value co-creation (managerial)

THEORETICAL BACKGROUND

S-D Logic provides a theoretical lens to investigate economic exchange from a service perspective

Three core notion of S-D logic

(Vargo and Lusch 2008, p. 6)

- " […] (1) service is the fundamental basis of exchange,
- (2) service is exchanged for service, and
- (3) the customer is always a co-creator of value […]."

Foundational premises of S-D logic

(Vargo and Lusch, 2016)

Found. Premise	Axiom Status	Explanation
FP 1	X	Service is the fundamental basis of exchange.
FP 2		Indirect exchange masks the fundamental basis of exchange.
FP 3		Goods are distribution mechanisms for service provision.
FP 4		Operant resources are the fundamental source of strategic benefit.
FP 5		All economies are service economies.
FP 6	X	Value is co-created by multiple actors, always including the beneficiary.
FP 7		Actors cannot deliver value but can participate in the creation and offering of value propositions.
FP 8		A service-centered view is inherently beneficiary oriented and relational.
FP 9	X	All social and economic actors are resource integrators.
FP 10	X	Value is always uniquely and phenomenologically determined by the beneficiary.
FP 11	X	Value co-creation is coordinated through actor-generated institutions and institutional arrangements.

THEORETICAL BACKGROUND

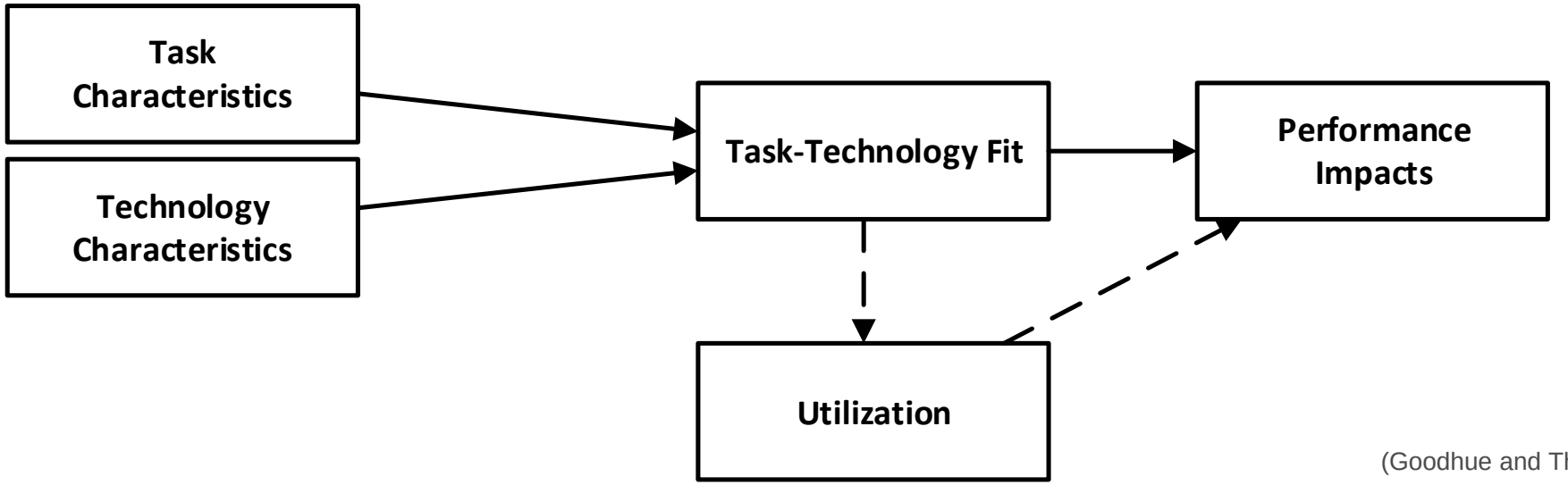
S-D Logic is based on four meta-theoretical foundations (Lusch and Nambisan, 2015)

- **Actor-to-actor networks:** value co-creation is embedded in a bigger context (i.e., service system) consisting of resource-integrating actors who are engaged in co-creation.
- **Resource liquefaction:** ability to decouple information (i.e., data) from its physical embedding (i.e., context).
- **Resource density:** ability to mobilize resources and (re-)integrate them context- and situation-dependent for the benefit of an actor who engages in service co-creation.
- **Resource integration:** all actors are resource-integrators since no resource is useful without integration

THEORETICAL BACKGROUND

The Task-Technology Fit model can measure user perceptions of information systems

- **Tasks** are goal-directed activities carried out by a specific actor, transforming inputs into outputs
- **Technology** are "[…] tools used by individuals in carrying out their tasks." (Goodhue and Thompson, 1995, p. 216)
- **Fit** (as matching) describes an optimal alignment between task characteristics and a technology's properties.
- **Utilization** reflects an individual's binary decision of using or not using technology.



(Goodhue and Thompson, 1995, p. 217)

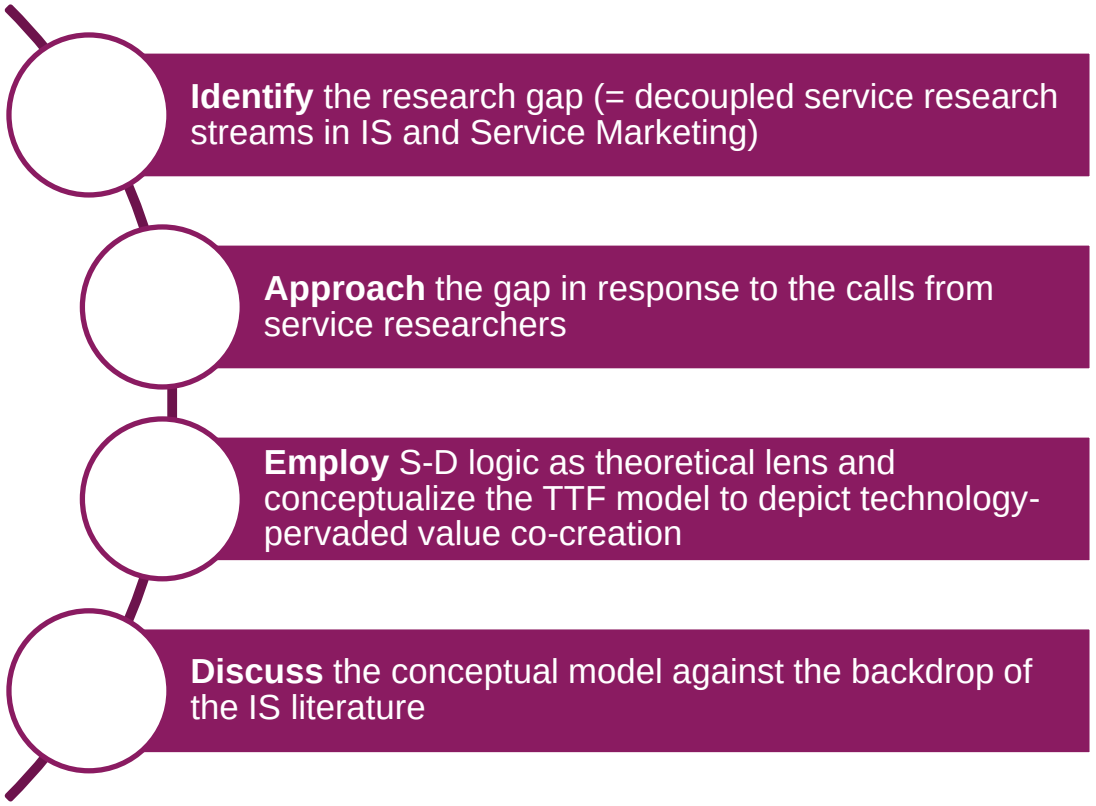
RESEARCH METHOD

Conceptual research is an important part of the academic knowledge gaining process

Conceptual Research…

- ... primarily focuses on **theoretical development** as an important part of the academic inquiry process (Yadav 2010).
- ...can result in four types of outcomes: **conceptual models**, conceptual frameworks, conceptual systems, or theory (Meredith 1993).
- ...can take two opposing paths: Conceptual induction or **conceptual deduction** (Meredith 1993).

Four-step research process (Mora et al., 2008)



Digital Technology is weak conceptualized in the IS literature

Characteristic/ Property	Borrowed from	Explanation
Openness	Digital platform	The degree to which a digital technology allows to integrate third parties (resources access and process participation).
Duality	Digital infrastructure Digital platform	The dual structure of digital technology, composed of stable core components, and a flexible periphery.
Connectivity	Digital infrastructure Digital platform Smart product	The interfaces for human-machine and machine-machine communication provided by the technology.
Storage and processing	Smart product Digital platform	The ability to store inputs and transform them into outputs (i.e., data) before transmitting them to another entity.
Actuators	Smart product	Enable technology to change its physical environment or (re-)configure its manifestation.
Sensors	Smart product	Enable technology to observe its environment by measuring specific conditional parameters.
Locatability	Smart product	Enables technology to be aware of and provide information on its location while being localizable by other entities.
Mobility	Smart product	Technology's ability to be carried around and not being tethered.

(Henfridsson and Bygstad, 2013; Tilson et al., 2010; Reuver et al., 2018; Beverungen et al., 2019; Atzori et al., 2010)

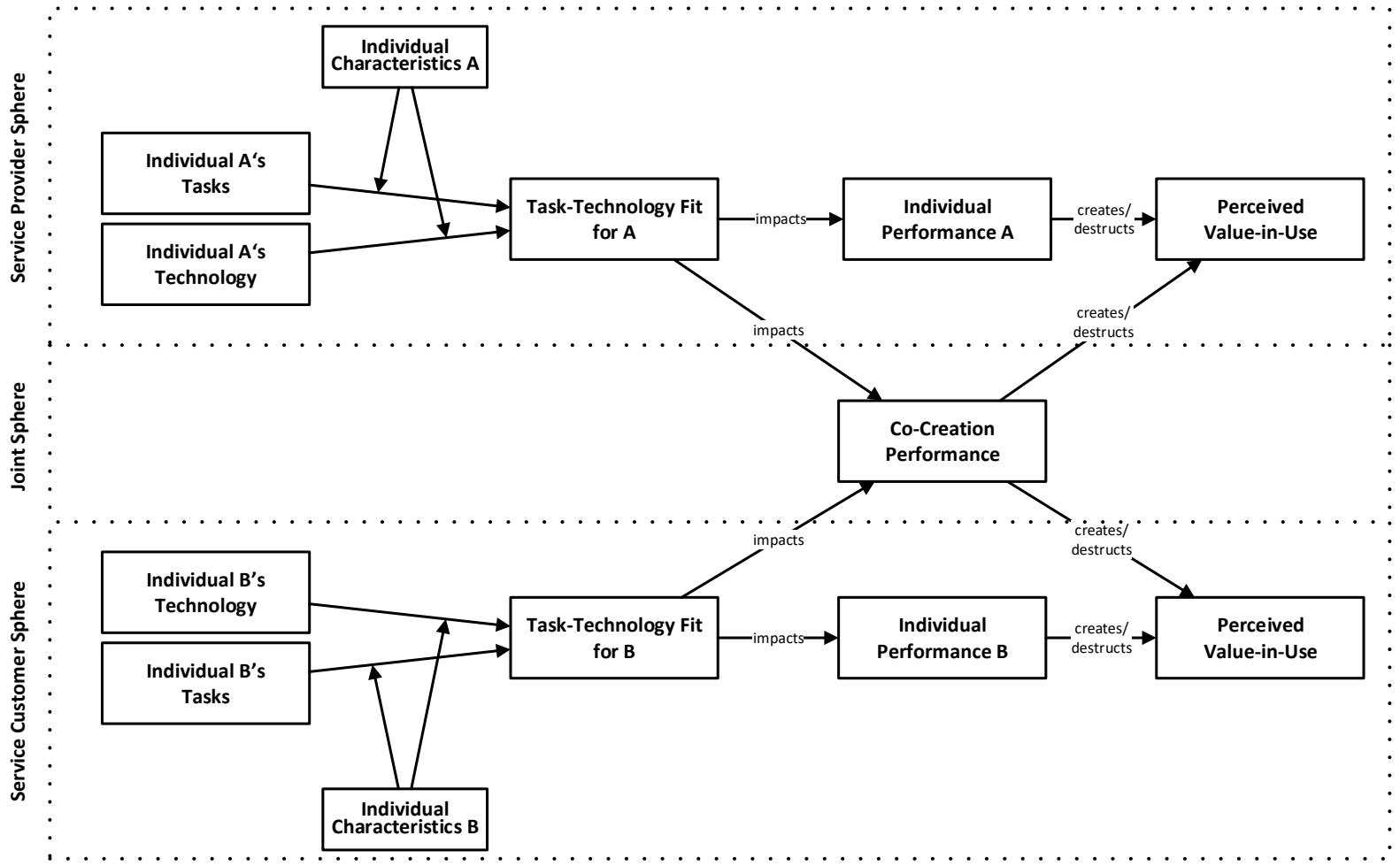
RESULTS

The characterization of an individual for judging personality is highly subjective

Characteristic/ Property	Borrowed from	Explanation
Value proposition	S-D logic	An individual's reason to engage in co-creation, subsequently impacting the result-evaluation (i.e., value-in-use).
(Un-)Faithfull appropriation	TTF	An individual's freedom to use technology different than intended by design.
Experience/ Training	UTAUT TTF	An individual's previous experience in using a (similar) technology.
Technology readiness	Technology readiness	An individual's predilection for using new technology.
Computer self-efficacy	TTF	An individual's convincement of his ability to use technology.
Cognitive style	TTF	An individual's predilection in information processing.
Role	S-D logic	An individual's role-determination in each instantiation of service co-creation
Demographics	UTAUT TTF	An individual's demographical data (e.g., age, gender, education).
Habit	UTAUT	An individual's routinized activities, which are more likely to be enacted in a specific situation.

(Vargo and Lusch, 2016; Lee et al., 2007; Venkatesh et al., 2003; Parasuraman, 2000)

The Resulting Task-Technology Fit Model for Technology-Pervaded Value Co-Creation



- Individual Characteristics moderate Task-Technology
- TTF impacts individual performance and co-creation performance
- Individual performance and co-creation performance construct and destruct value-in-use

DISCUSSION

The existing IS knowledge base provides important insights on the model's peculiarities

The dual nature of digital technology facilitates resource liquefaction and resource density

- An individual only perceives "her" interface as "the technology," while all other facets (core components and interfaces of other actors) are behind the line of visibility (Bitner et al., 2008; Becker et al., 2013).
- ➢ In our model, the evaluation of technology relates to the frontend technology an individual engages with, neglecting all other facets of the technology.

For long-term relational value co-creation, each individual must perceive a positive value-in-use

- In the long run, both the service provider and the service customer need to directly or indirectly benefit from their activities, through a positively perceived value-in-use, resulting in win-win interactions (Lenka et al., 2017).
- ➢ Integrating resources may lead to the co-destruction of an individual's value-in-use (due to negative impacts on individual performance or co-creation performance).

The sum of all individual TTFs does not determine co-creation performance

- Triangulating the performances determines an individual's perceived value-in-use.
- ➢ Where wrong resources (i.e., information) are integrated, or the information provided is misused by others in the co-creation process, the co-creation performance is negative.

LIMITATIONS AND FUTURE WORK

The results are subject to limitations that in turn offer up starting points for future research

Limitations

- We only provide an initial set of constructs and encourage others to engage in the discussion by adding, withdrawing, and refining the identified concepts, characteristics, and properties
- We assume that both individuals do engage in co-creation
- The model depicts a snapshot in time

Future Work

- Empirically test the set of constructs to refine the model.
- Investigate how and why individuals' anticipated TTF affects their willingness to engage in value-co-creation and which factors encourage a positive or a negative decision.
- Observe changing characteristics over time
- Integrate the notion of co-production (integrate customers during design-time)
- Not only individual's (characteristics) impact TTF but technology impacts individuals' (habits) as well.

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