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## Intermingling AI and IoT Affordances: The expansion of social opportunities for service users and providers

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*Reflection note:*

# Intermingling AI and IoT Affordances

## The expansion of social opportunities for service users and providers

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**Abstract.** This commentary looks at prediction as a technical affordance of AI, reflecting on how it can impact our framing of cybernized services. This reframing enables researchers to consider effects of intermingling the social and technology in processes of co-creation of value and co-destruction for cybernized services.

*Key words:* prediction, AI, cybernized services.

## 1 Co-creation and co-destruction of value as key concepts for approaching cybernized services

First, I would like to thank Tuure Tuunanen for his keynote presentation at the Information Systems Research Seminar in Nokia, Finland. His point about the need to study the transformation from digital to cybernized services focuses on social aspects of value creation, highlighting the need for a realistic view of the role of service users in co-creating value as well as its' opposite—co-destruction of value. Including both sides of the coin, so to speak, is an important part of ensuring future research is realistic through recognizing how positive and negative aspects of the social context of systems work together.

Tuunanen et al's (2019) argument rests solidly on the social side of cybernized services, including social reflections of the role of user identity as key to understanding

how cybernized services expand social opportunities for service users and providers. Affordances are indirectly addressed through descriptions of the features of cybernized services as 1) interaction points and formats, 2) fast-paced monitoring, 3) reaction to the services in real-time, and 4) construction of identities based on physical and virtual elements. They also characterize these services as context-aware and interactive in nature. Finally they reflect on how co-creation and co-destruction could be enacted via these features and characteristics. The social side of systems development deserves the attention they pay to it; however, to balance the social and technical, we should also consider rethinking the role of technical affordances for AI and IoT within Cybernized Services.

## **2 Deepening our approach to and use of affordances for AI and IoT in cybernized service contexts**

In order to rethink the role of technical affordances for AI and IoT, a deeper connection at the ontological level is needed. What really are the affordances of AI and IoT with respect to Cybernized service contexts? Here, I argue that description of affordances above could be dealt with on a different level, with more precision to current and emerging affordances of AI and IoT. This can complement Tuunanen et al's (2019) emphasis the context of system used as a key factor in value creation.

Orlikowski not only calls for context in 1995. Later, in 2005, she cautions us that “by privileging either the social or the technology, we lose sight of their intermingling” (p. 185). This begs the question of how AI and IoT affordances intermingle with the expansion of social opportunities for service users and providers. Can AI be construed as being another identity in the interaction between service users and providers, turning into an interaction between three actors relying on identity—one virtual and two physical? And is this role part of what Orlikowski terms as the intermingling between the social and technology.

When we bring the notion of intermingling of social needs and technical affordances to the front, we need to define affordances of AI and IoT from a technical perspective. These technical affordances of IoT and AI could be used to reveal additional elements to be considered in theorizing value co-construction and co-destruction for cybernetic services. For example, Agrawal et al. (2019) focus on prediction as a key affordance for AI. This leads to questions about possible roles for AI prediction in value co-construction and value co-destruction. Could the AI affordance of prediction intermingle with the social context in ways that affect service outcomes? Or that can influence users to move from co-destructive practices to those that co-construct value? Underlying issues

include: 1) potential interactions between IoT and AI and context; and 2) the extent to which service provider/service user/smart technology interactions can be theorized as part of the relationship between service providers and service users.

When virtual elements such as AI are part of the cybernized service process, we can also argue that, in engaging in co-creation and co-destruction, users rely on their interpretations of context for predicting outcomes of their actions. A further question to consider is the role of AI and its' ability to make prediction accessible and use it to interpret and learn from the context around it. This more technical exploration of the AI affordance of prediction leads to new questions. For example, what roles can and should AI prediction play in co-construction of value or co-destruction in these service interactions? How might these affordances play a role in affecting how users and service providers work together in co-constructing value or destruction as well?

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