

Engineering a Platform for Personal Data as a Service: The Economic model for the HAT (hub of all things)

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Purpose:

This paper depicts an economic model as part of engineering a multi-sided market platform for personal data. This model describes 'who does what and who gains what' in terms of value creation and appropriation of value on the platform for personal data use and exchanges.

Approach:

Thomas et al (2011) describes the two common features of all platforms such as "leverage" ('... generating an important impact with relatively little input', p.9) and "architecture" ('a set of low variety components surrounded by high variety components', p.10). Their "Architectural Leveraging" model depicts how to create and leverage the platform by addressing the architectures of the platform, value creation and appropriation of value in the platform through control mechanisms. According to Thomas et al (2011), three architectural factors need to be considered as boundary conditions for regulating the creation of the platform including "technological architecture" (design aspects , p.11); "activity architecture" (activities required for operating platforms ...coherently p.13); value architecture (sets of value drivers for supply side... demand...')(p.15). The resulting platforms can be leveraged for value creation through manipulating the boundary conditions by control mechanism by firms. Firms can thus create the conditions for value creation and appropriation of value that are most suitable for them. The three salient control mechanisms include (1) ownership of property rights ('control of the critical platform components and interface...') (p.18); (2) architectural control ('adjusting the level of modularity, level of access and adding functionality') (p.18) and (3) trend leadership ('... maintaining the continued relevance of the platform to all participants both in the past and in the future,... reputation management... build identity, reputation, trust, and legitimacy...')(p.21).

Findings:

Our research design, engineers and creates a multi-sided platform for personal data and propose an economic model for the platform that align incentives for all sides so that an ecosystem for personal data use and exchanges may occur. The model explicitly describes participants' engagement in the platform in terms of technological architecture, activity architecture and value architecture and what they can gain through their engagement. The model also reveals the regulatory roles of the platform leader would take and the control mechanisms for value creation and appropriation in the platform.

Research implications

Two core implications for research emerge from the findings. First, architectural features of the platform are boundary conditions for creation of platforms, which has significant implications for platform strategies such as leveraging the platform through manipulating the elements in these architectures. Second, regulatory roles are crucial for platform owners in terms of viability and evolution of the platform and value creation and appropriation of value in platform.

Originality/value

This research contributes to the multi-sided platform and economic models for personal data.

References:

Thomas, Llewellyn, Erkkö Autio, and David Gann (2011). "Architectural leverage: Putting platforms in context." *The Academy of Management Perspectives*(2014): amp-2011, p.1-30.

Key words – multi-sided market, control mechanism, leveraging, architecture, economic model, personal data

Paper type – Research paper

References:

Thomas, Llewellyn, Erkkö Autio, and David Gann (2011). "Architectural leverage: Putting platforms in context." *The Academy of Management Perspectives*(2014): amp-2011, p.1-30.