

Mobile operators need to embrace open innovation and cloud computing

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Mobile network operators are facing inevitable and hard reforms in their business. Although the consumption of mobile data increases rapidly, operators' user revenues have been sinking steadily for years. For now, operators are economically in good shape, but in their current state they run the risk of being left out of the mobile business ecosystem.

Researcher, Lic.Sc.(Tech.) Yrjö Raivio of Aalto University School of Science offers [mobile operators](#) two ways of survival: taking on open innovation and cloud computing. In his doctoral dissertation for the Aalto University Department of Computer Science and Engineering Raivio presents operators several strategic recommendations with which to keep up with the global business ecosystems of [information networks](#).

"Open innovation and cloud computing have for a long time been the cornerstones of internet companies. Based on my research I would claim they are suited to the [mobile world](#) as well," trusts Raivio.

Like large internet companies, such as [Amazon](#) and [Google](#), operators should open their data systems and resources to outside developers, even to competitors.

"Otherwise mobile operators jeopardise their control of the business ecosystem and service development and are thus in danger to reduce to mere bit pipe providers," warns Raivio.

Raivio further encourages mobile network companies to transfer and

distribute their operations and services into so-called cloud computing services. In clouds several users and companies make use of the [computational resources](#) of shared computers.

Revolution in business: from hardware trade to service ecosystems

In an open innovation environment developers can create new services and applications using the open interfaces and platforms of mobile operators.

"Many operators have sporadically experimented with opening their information systems, but all efforts have run into the same problem: the doubt there is profit to be made. Companies also have concerns about transferring their critical software to public cloud services."

Technologically there are no hindrances. Raivio believes that mobile operators need convincing that opening their application programming interfaces (APIs) to outsiders and competitors will spark new and profitable business.

"Operators have a great deal of assets, which go largely unused, in their closed information systems. For instance information about the profile data of operators' customers could be opened for developers to create new exciting services."

Cloud computing will benefit mobile operators in three ways, believes Raivio.

"Consumer services could very well be run in clouds according to Software as a Service (SaaS) paradigms, every operator not having to acquire their own hardware. Secondly, operators could use cloud

platforms (Platform as a Service) for their business support software. The capacity of cloud services is enough even for entire service infrastructures (Infrastructure as a Service) that require high and continuous performance abilities."

Raivio calls for brave and brisk actions from mobile operators. He also lines his work with a strategy for structural reform in the Finnish economy soon to be published, commissioned by the Finnish government. Raivio sees open innovation and cloud computing as the basic pillars of future IT business.

"Constant experimentation and the power of the community will be crucial. Only with proficient tools and by working together we can create the brightest gems. Disruptive, creative innovation will always meet resistance. Ideas that receive the most praise are often the worst ones."

More information: Lic.Sc. (Tech.) Yrjö Raivio will defend the dissertation "Techno-Economic Analysis of Novel Opportunities for Mobile Networks – Open Innovation and Cloud Computing" on 18 January 2013 in lecture hall T2, Konemiehentie 2, Espoo. lib.tkk.fi/Diss

Provided by Aalto University

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