

Peer-to-peer services are transforming the technology and business domains of the Internet

June 12 2012, By Mikko Heikkinen

Peer-to-peer (P2P) services are emerging in mobile devices, such as smartphones, equipped with an Internet connection.

In his doctoral dissertation, Mikko Heikkinen found that mobile P2P services are disrupting established [business models](#) on the Internet and affecting the development of mobile technologies.

P2P networks are self-managing systems whose organisation and use of resources are distributed. A significant part of the [data traffic](#) over the Internet consists of data sharing applications based on P2P networks because these networks enable users to quickly transfer large amounts of data to other users.

The [Voice over Internet Protocol](#) service Skype is an example of how P2P solutions can change established business models. Traditional telephone operators have lost revenue since Skype and similar communication services based on P2P networks have allowed users to make international calls and send messages at no cost or at very inexpensive rates.

The music [streaming service](#) Spotify is another example of a service based on P2P networks that has modified the structures in its business domain.

Communication and content sharing services have a good chance to prosper

According to Heikkinen's research, there is a good chance that mobile P2P based communication and content sharing services will become popular among Finnish smartphone users. Consumer attitudes had a major effect on how open users were towards new [mobile services](#). A significant part of the consumers was interested in trying mobile services subject to a charge or advertisement-sponsored mobile services.

The social networks of users played an important role when it came to communication services: a service is most useful to a user if his or her friends also use the service. Previous positive experiences of established [communication services](#), such as Skype, also encouraged users to try other services.

Other research results included in the doctoral dissertation:

The scenario planning method is well suited for the decision making related to emerging mobile services. The development of the market, the dominating position of established businesses, and technologies that complement each other are strongly related to how value develops in mobile P2P communications. The organization of actors and the configuration of services have an effect on whether independent service providers or established network operators dominate different development trends. The doctoral dissertation also includes a survey of the attitudes of Finnish smartphone users from 2008 and a measurement of mobile P2P usage in Finnish cellular networks during 2005-2007.

Provided by Aalto University

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