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How New Smartwatches Could Revolutionize the Artefact Surroundings of People

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As far as the future – and related – ecosystems of smartphones and the cloud are concerned, Apple/iOS (OS = Operating System) and Google/Android OS are currently dominating the smartphone markets. Microsoft Windows Mobile is struggling to become "the third alternative" in the near future and may do so by the end of 2013. In this market, new innovations are required to compete with the Apple/iOS and Google/Android OS business models. The artefact surroundings of people should be studied to devise new innovations for the contemporary mobile Internet industry.

Introduction

The contemporary mobile Internet industry is an ideal setting in which to speculate on the incremental innovations that might revolutionize the current artefact surroundings of people, i.e., innovations that might transform the physical movements and images of people into heuristics and digital images through the use of smartwatches as input/output (I/O) devices operating between the cloud and public and private infrastructures (for reference see Seppälä & Martikainen, 2011; Seppälä & Kenney, 2012b).

Over the last six years, Apple has been the market leader in introducing devices that communicate and create digital experiences, and Google has been following Apple closely over that same period. Furthermore, Apple has shown that it is highly capable of applying earlier designs and functionality of earlier mental images and associations in creating digital counterparts of devices and associations, and Microsoft Windows Mobile have struggled. Today, Apple/iOS and Google/Android have captured a dominant market share and the majority of new device users in the mobile Internet market. The current mobile Internet industry is converging with cloud computing at its unifying center and with intelligent communication devices at its edges (Armbrust et al., 2009; Zysman & Murray, 2011; Seppälä & Kenney, 2012b).

Is the smartwatch the next industry-level disruption?

Mobile Internet in the future era of Smartwatches

Mobile Internet firms and other consumer-centric companies are desperately searching for new ways to attract consumers[1]. Consumers, however, relentlessly and mercilessly punish those firms who fail to meet their expectations. This is particularly notable because creating and sustaining successful long-term profitable growth in the contemporary mobile Internet market is almost impossible without continuously investing in new innovation devel-

[1] http://www.fastcompany.com/3005528/most-innovative-companies-mark-parker-nikes-digital-future (accessed 14.2.2013)

opment, i.e., new technology platforms and the assets that complement such platforms.

What will determine successful and non-successful devices in the era of smartwatches? Some consumers make their purchasing decisions based on technical features, but the majorities do not. History has shown repeatedly that data and content together (= information) is king; the box in which the data and content come (radio, television or computer) in not as important as the experience the content (radio-, television, and software programs) provides. The current experience centers upon interconnectivity and how users can control their personal flow of information – such as e-mail, payments, music, videos, calendars, energy usage, weight loss programs, health monitoring or preventive monitoring, location finding, tracking & tracing, and whatever other information users are interested in. With information as the commodity of the future, any device or application that supports the channeling of data and information more easily will have a competitive advantage. Exchanging information at any time and place will be the key driver for the future of these devices, and the competitive factors will always relate to content and the reliability/security of the data transmitted.

We define the a smartwatch as a small device with a small touch display that holds personal data and (digital) identities and enables access to the digital world. With the Internet cloud becoming the warehouse of personal information (such as for music playlists or personal phone books), less memory and less processing power are required in the device itself (for reference see Thomas, 2012). In our opinion, the differentiating factor between the different models of smartwatches will be (1) connection speed and security, (2) user identification security, (3) connection reliability, and (4) the interface with private and public digital infrastructures (i.e., interoperability with other I/O devices, such as displays and applications). In this way, we believe the smartwatch will be a miniaturization of the smartphone.

Apple revolutionized the smartphone industry in 2007, and it might do the same with smartwatches in 2013; to do this, Apple must integrate the artefact surroundings and functionality of its new smartwatches with private and public infrastructures, as it did with its smartphones. The smartwatch is not a new concept; however, applying the smartwatch in the current environment and integrating the smartwatch into the existing portfolio of devices are new innovations. This innovation is consistent with Apple's earlier innovation strategies; for instance, iTunes used only existing technologies and services to create an innovation. In our view, Apple's smartwatches will eventually even replace Apple's smartphones; it would be the most innovative part of the process and would validate Apple's innovation adage – 'Kill you own business model (or product) or someone else will do it for you!'

Discussion

Beginning in 2007, the advent of the mobile Internet and the respective heuristics related to touch screen technology disrupted and transformed competition in the smartphone market (West & Mace, 2011; Seppälä & Martikainen, 2011; Seppälä & Kenney, 2012a, b). Similar incremental innovations have occurred in the past and caused market disruptions, such as the clamshell form factor introduced by the Motorola RAZR and the email application technology introduced by Blackberry (see Seppälä, 2013). In addition, new thoughts and innovations from other industries might also emerge and change the competition[2].

Miniaturizing different technologies in mobile phones has emerged as a competitive factor in the mobile phone industry. The proverbial "brick" that used to be carried around in a suitcase is now carried in a pocket because mobile devices have become lighter and more compact. Certain consumers continue to believe that smartphones are somewhat oversized and annoying to carry; they can be dropped, damaged, stolen or lost because they are not attached to the user. The next logical step after the smartwatch may be a device (chip) that is small enough to be implanted under the skin[3].

This brief paper has used insights from the literature on miniaturization and industry convergence to understand the next steps in the smartphone market and industry. This paper also considered that smartwatches are devices channeling data and information – gather-

[2] http://getpebble.com/ (accessed 14.2.2013)

[3] http://www.kevinwarwick.com/ (accessed 14.2.2013)

ing, structuring, and exchanging such data and information – and interfacing with public and private digital infrastructures to provide access to different sources of data and content in the cloud. Smartwatches will present the data and content in different display sizes. Moreover, this paper contributes a broadened understanding of the role of new innovations in contemporary mobile Internet industry convergence, which is currently underway with cloud computing at its unifying center and with intelligent communication devices at its edges.

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