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From a competing to a collaborative crowd: Tactics for co-creation with innovative bottom-up communities☆

Aljona Zorina

INTRODUCTION

Co-creation — a collaboration between producers and users initiated by a firm to generate value for and with customers — has become a prominent feature in practice and in academic discussions. Co-creation enables companies to involve their users in innovation processes, develop valuable solutions for free or at a very low cost, align their strategies with customers' needs, and thus become more competitive. With this principle in mind, a variety of companies ranging from big players, such as IBM, Procter & Gamble, Amazon, Dell, and Walt Disney, to small firms invest in co-creation with their customers, guide innovative user communities (IUCs), and develop the capabilities necessary to support these activities. However, a closer look at the co-creation boom reveals that one important aspect has been neglected — collaboration with non-customer groups, such as innovative bottom-up communities.

Innovative bottom-up communities (IBCs) are those communities that develop innovative alternatives to products and services offered by companies, which, for some reasons (e.g., a lack of supporting infrastructure, high costs, or remote locations), are not affordable for certain groups of people or do not respond to their needs. Therefore, in contrast to UICs in which customers are engaged in innovation co-creation focused on existing company products, IBCs are composed of non-customers who create innovative alternatives to a company's products. These bottom-up initiatives take place around the world, and they often succeed in areas where traditional companies fail or find their efforts to be unprofitable. In addition, they often go beyond specific company target groups.

In recent years, many IBCs have focused on the establishment of Internet infrastructure. In Canada, Belarus, Germany, Greece, Spain, the UK, and the US, bottom-up communities of residents have successfully developed high-quality Internet infrastructures that provide Internet access at lower prices than those offered by commercial Internet service providers (ISPs) (see Table 1). Consider, for example, "Guifi-net," an Internet IBC that connects 15,000 homes in Spain, or "B4RN," a broadband community initiative in rural areas of the UK, which was recently discussed by the BBC (http://www.bbc.co.uk/news/technology-21442348). Other examples of IBCs include Maker movements to offer alternatives to manufactured products, community television, community radios, and community gardens taking place worldwide; repair cafes in Belgium and the Netherlands; the Silicon Valley's Homebrew Computer Club; and numerous social-network and citizen hacker initiatives (see Table 1). For example, in the Belgian and Dutch repair cafes, communities of volunteers repair products that otherwise would be costly to mend or thrown away, and they do so for free. The logics behind the initiative are to reduce waste, to maintain the knowledge of retired equipment experts, to practice repairing as hobby, and to strengthen the social cohesion of local residents.

Some of these developments have been discovered by companies. In fact, a mutual cooperation agreement between an IBC and a firm can significantly increase the profitability and competitiveness of the firm, while also leveraging and supporting IBC innovations. For example, Steve Jobs and Steve Wozniak used the Silicon Valley's Homebrew Computer Club (see Table 1) as a testing arena for their Apple innovations. Nevertheless, the majority of IBCs are still waiting for their co-creation potential to be discovered.

Anthony Townsend, Research Director at the Institute for the Future (http://www.iftf.org) and author of *Smart Cities*,

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Table 1 Examples of innovation bottom-up communities.

Bottom-up initiatives	Country	Short description
Internet-related IBCs		
Homenets	Belarus	Communities of neighboring residents that developed wired and wireless mesh-based local Internet infrastructures, and linked them with Internet access provided by ISPs. Included more than 90% of all home computers in Minsk
Numerous grassroots initiatives	Canada	Bottom-up broadband community initiatives building communications in remote and rural areas. http://firstmile.ca/, http://knet.ca
BBNC (Citizens' Broadband Network Company)	Germany	Initiative in an isolated German village, Löwensted, aimed at dealing with slow, low-quality Internet access provided by companies. Citizens co-funded the development of high-speed fiber-optic. http://www.thelocal.de/20140601/german-villagers-build-own-broadband-network
A.W.M.N. (Athens Wireless Metropolitan Network)	Greece	A bottom-up broadband initiative started in 2002 by residents frustrated by Athen's slow broadband. The network offers high-speed Internet and incorporates more than 2500 users throughout the metropolitan area and neighboring islands. https://www.awmn.net
Wireless Leiden	Netherlands	Grassroots Internet community in the city of Leiden, the Netherlands.
Guifi-net	Spain	Grassroots telecommunications network built on an open and free peer-to-peer agreement. Anyone can join the network by providing his connection point, thereby extending the network and connectivity to all. More than 15,000 nodes connected. guifi.net
B4RN	UK	Community-owned broadband initiative in the northern UK. http://b4rn.org.uk/
Personal Telco	US	Grassroots Internet community located in Portland, Oregon, and created in 2000. Uses Wi-Fi to transform residential houses and apartments into wireless hotspots (or ''nodes''). https://personaltelco.net/wiki
Examples of non-Internet IBCs		
Silicon Valley's Homebrew Computer Club	US	*Alternative to a costly IBM PC* Community of hobbyists trading tips, hacks, and parts for building do-it-yourself (DIY) computers on the basis of MIT Altair and its DIY kit launched in 1975. Computers were based on the same micro-processor as the IBM PC and cost less than USD 400 (IBM's minimum price was USD 2400 and its maximum price was USD 10,000 with all add-ons).
Maker Movement	Worldwide	*Alternatives to company manufacturing* Building on the progress, variety, and decreasing cost of technologies available at home, people organize in communities to build something rather than buy it. The following areas are particularly vibrant: - *Technology and digital manufacturing*: e.g., 3D printers, web-design tools, electronics kits, laser cuts, open-source tools, sewing machines, welding equipment, robots, drones, microprocessors; - *crafts*: e.g., food crafts, gardening, kneeling, woodworking, fine arts, jewelry making, gifts; - *men's, women's, children's, and pet's clothes and accessories;- products*: e.g., food products, sports, musical instruments, media; - *furniture and home design*. The movement has a specialized magazine, *Make* (http://www.makezine.com/), and numerous Makerspaces that focus on DIY and do-it-with-others (DIWO) projects
Dodgeball	US	*A personalized local-search advisor* An early city-search social networking service co-founded by Dennis Crowley and Alex Rainert, and supported by tech-savvy user communities in New York, Seattle, Chicago, San Francisco, Los Angeles, and 17 other US cities, who developed the city's public Wi-Fi access before municipalities joined. The service allowed community members to text their locations and be notified notifies about friends' locations, friends' friends locations, and interesting venues nearby. Acquired by Google in 2005 and discontinued in 2009