Chapter 13
Lessons Learned from Grassroots Wireless Networks in Europe

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ABSTRACT

Grassroots groups in a number of European countries are building Community Wireless Networks (CWN) on small budgets. In underserved regions, CWNs are even surfacing as the principal Internet Service Providers (ISPs). These networks have identified and implemented innovative strategies for providing connectivity—encompassing aspects ranging from software development to infrastructure design and skills training. In other words, these grassroots Wi-Fi networks mobilize human, technical, and financial resources to create sustainable alternatives to telephone and cable companies. This chapter provides an understanding of both the strengths and weaknesses of these initiatives. The authors use data from action research and interviews with leaders and participants of six successful community Wi-Fi networks in Europe. The findings show that these ad hoc initiatives are forcing local incumbent ISPs to lower prices and alter terms of service agreements. In addition, these projects broaden the public sphere, create opportunities for civic engagement, and transfer knowledge among community members. The chapter suggests that community wireless networks should be fostered by governments and the European Union in order for them to function as true alternatives to conventional ISPs, particularly in the last mile. They conclude the chapter with key learned lessons and policy implications.

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BACKGROUND

Grassroots groups in a number of European countries are building large-scale public telecommunication infrastructures on extremely small budgets. The majority of these projects rely on a model of peer-to-peer networking. Instead of information passing from "one to many," it may travel from "many to many" (Castells, 2007; Rafaeli & LaRose, 1993, p. 277). Because a great deal of excess capacity exists in corporate-owned broadband networks and personal networks, this type of bandwidth redistribution and sharing is costless to the giver. Mesh networks, which are created by users themselves, grow *virally*. The design includes at least one access point with a direct connection to the Internet—via fiber, cable, or satellite link—and nodes that hop from one device to the next. As the popularity of these networks expands and their social objectives are advertised, new people join the network and share their nodes. As a result, signals have shorter distances to hop, higher bandwidth is available, and more redundancy is built into the system, ultimately strengthening the network (Rowell, 2007).

In underserved regions of Europe, wireless community networks are even surfacing as the principal Internet Service Providers (ISPs). In other words, the rapid growth of these projects suggests that community, neutral and free networks can function as true alternatives to conventional operators, particularly in the last mile. This research finds that these projects are creating opportunities for civic engagement and public participation for their members. Additionally, the data collected for this study finds out that grassroots Wi-Fi networks in Europe are helping to mobilize human, technical, and financial resources—simultaneously providing affordable broadband connectivity and advancing technology. It also examines the practical and theoretical implications of these initiatives. In particular, the research examines how both ISPs and government entities are responding to CWNs that use mesh technology, and whether their reactions signify a shift in the political economy of telecommunications. This study is based on action research supported by data collected through qualitative interviews with both leaders and participants of six established mesh networks in Europe.

THEORETICAL FRAMEWORK

The resource mobilization theory applies economic and organizational concepts to contemporary social movement theory (Meyer, 2005), and considers social movements as augmenting mainstream politics rather than as offering an alternative to them. This approach offers an ideal framework for understanding how peer-to-peer broadband networks emerged and how participants sustain them. The resource mobilization approach emerged as a sub-discipline of social movement theory during the early 1970s, a historic period that bore witness to large-scale protests and high-profile political actions. The Civil Rights and anti-Vietnam War movements, along with various groups struggling against colonialism in Asia, Latin America, and Africa (Little, 2008), forced sociologists around the world to adjust the lens through which they studied social movements by explaining the rational, purposive facets of activism (Waterman, 1981). Subsequently, communication scholars began using these concepts to ground their own research. While this approach is not universally accepted, a critical point made by resource mobilization theory is that average citizens would lack the know-how to participate in political action and, thus, must rely on professional advocacy organizations. Therefore, core group members develop a strategy to catalyze the sentiments expressed by those who feel alienated (McCarthy & Zald, 1987). They attract financial and human resources, seize media attention, foster relationships with people in power, and develop an organizational structure (Kendall, 2006; Hannigan, 1985). Resource mobilization theory as-

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