

Grande Wi-Fi: Understanding What Wi-Fi Users Are Doing in Coffee-Shops

by
Neeti Gupta

B.Arch (1997)
School of Planning and Architecture, New Delhi, India

M.A - Practice, Research and Advancement in South Asian Design and Architecture (1999)
De Montfort University, Leicester, United Kingdom

M.Des - Industrial Design (2000)
Indian Institute of Technology, Mumbai, India

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Signature of Author:

Neeti Gupta
Comparative Media Studies
August 1st, 2004

Certified by:

Keith Hampton
Assistant Professor of Technology
Urban and Community Sociology
Thesis Advisor

Accepted by:

Henry Jenkins
Director, Comparative Media Studies
Thesis Reader

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Abstract

The relationship between coffee-shops and Internet has recently been highlighted by the launch of wireless “hotspots” which provides e-access through Wi-Fi technology, in coffee-shops and several other public places in America. This thesis explores the social implications of introduction of Wi-Fi in coffee-shops, drawing on ethnographic research, online surveys and interviews with Internet users in coffee-shops, Wi-Fi providers and coffee-shop owners and their staff. It reviews the user experience of the Wi-Fi users in these public spaces. This thesis looks closely at Wi-Fi users everyday activities in four typical research-settings. It is suggested that a closer understanding of the ways in which Wi-Fi users interact – online as well as face-to-face, sustaining their offline and online relationships – is fundamental to understanding the impact of wireless hotspots in America’s public spaces.

Thesis Advisor: Prof. Keith Hampton

Title: Assistant Professor of Technology, Urban and Community Sociology

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An account of how Wi-Fi battles are raging [in coffee-shops] as individual technologists, corporate groups and everyday technology users push to define the boundaries created by new and emerging technologies. It focuses on players in the struggle between free and paid Wi-Fi providers, and how Wi-Fi users are responding.

Wi-Fi Battles

Maria used to be a regular at the Trident Cafe. A Massachusetts Institute of Technology lecturer, Maria usually visited Trident in the afternoons to get some work done and escape her monotonous campus routine. Here she read through her students' papers as she sipped her latte, periodically checking e-mail and often sending detailed feedback and long responses to her students' questions. This was her routine for over a month. She'd walk into Trident and immediately go over to her usual table, which was in a relatively quiet corner -- and, most importantly, close to where she could plug in. After she'd settled down, papers neatly stacked on the table and laptop plugged into a wall outlet, she'd order her tall extra hot latte and then dive into her reading for the next couple of hours.

Trident Booksellers & Cafe, housed in a beautiful early twentieth-century Victorian building, is located on famed Newbury Street in Boston, Massachusetts. Newbury Street is defined by its distinctive architectural style and its sense of place, offering visitors an idyllic Victorian era-style experience of strolling down pedestrian streets while window-shopping with friends and family window. Indeed, one of the pleasures of visiting and "hanging out" at Trident is being part of the Newbury shopping street, which has been popular for a hundred years. Early 2002 brought Newbury into the limelight once again. This time, it was marked by technology lovers hailing the roll-out of free Wi-Fi¹ access. Soon enough, Newbury had acquired the unique distinction of being a Wi-Fi community, where nine of the business owners on the street shared

¹ Reuters (2003). *Verizon Launches Wi-Fi Hot Spots*.

<http://www.wired.com/news/wireless/0,1382,58830,00.html>

Accessed on April 28th, 2004. Wi-Fi, or wireless fidelity, is an ultra high-speed wireless Internet connection usually available within a radius of a few hundred feet of a transmitter. Laptop computers or other portable devices with Wi-Fi cards tap into the wireless access points, which are physically connected to high-speed networks.

one high speed Internet line coffee-shop patrons like Maria could now bring their laptops to cafes along this eight-block street and surf the Internet while they sipped their café lattes.

However, something had changed in the last few weeks. When Maria walked into Trident today after her wonderful winter break in Istanbul, Turkey, she noticed that fewer of the regulars were there. She didn't think twice about it – she had a ton of papers to get through after the break -- so she headed straight to her favorite table, where she proceeded to pull out her sheaf of papers, her pens, her laptop, and her power cord. But she couldn't find a power socket to plug into. Maria had used her laptop here so many times that she was mildly surprised to find the power socket next to her table missing. Assuming it had been moved, she started looking for another table with convenient access to power. But was she in for a surprise! All the power sockets around the tables were gone. When the waitress stopped by, Maria asked her about the missing power sockets. The waitress told her she was new to the Trident, and had no idea where Maria could plug in. The new waitress seemed very confident that Trident did not offer its patrons access to power outlets. Maria was amazed, to say the least; she looked around again, then finally packed her things and left. She still had to get her work done, and walking back to campus was not an option. So she walked next door to Starbucks, where she was pretty sure she'd be able to plug in for a small price.²

Later, I learned from a barista at Trident that Trident management had recently decided to remove all the power outlets, in order to maximize customer turn-around time and minimize the time these “laptop-toting web-surfers” spent in their coffee-shops. Waiters at the Trident had observed that these “regulars” would buy a single cup of coffee and then set up camp for hours³. On the other hand, some of the “regulars” themselves noted that customers who wanted to stay for longer time periods tended to come in during off-peak hours, were not holding up tables, and were still buying something, even if just a coffee. But from the point of view of Trident management, given Trident's popularity and strategic location, too many Wi-Fi users were occupying prime coffee shop real estate for hours on end -- all for the price of a cup of coffee.

1.0 Is Wi-Fi causing customer conflicts?

The idea that free Wi-Fi access would lead to poor customer experience was certainly not something Michael Oh had in mind when he jumped into the Wi-Fi fray. Oh, an MIT alumnus

² Notes from observations at Trident coffee-shop – dated March 17th, 2004

³ Informal discussion with Trident coffee-shop waiter dated March 15th, 2004

became the much-talked-about Wi-Fi rebel who dared to challenge the practice of corporate coffee giant Starbucks, who charged for Wi-Fi access by the minute. Oh set up a free and independent Wi-Fi network that served the entire length of Newbury Street. His company, NewburyOpen.net, provided an Internet cafe and a free Wi-Fi network backbone for use by Newbury Street businesses. NewburyOpen.net sold itself as “a movement to promote the use of free Wi-Fi for public access and social justice in Boston”. Trident was one of Michael Oh’s first clients.

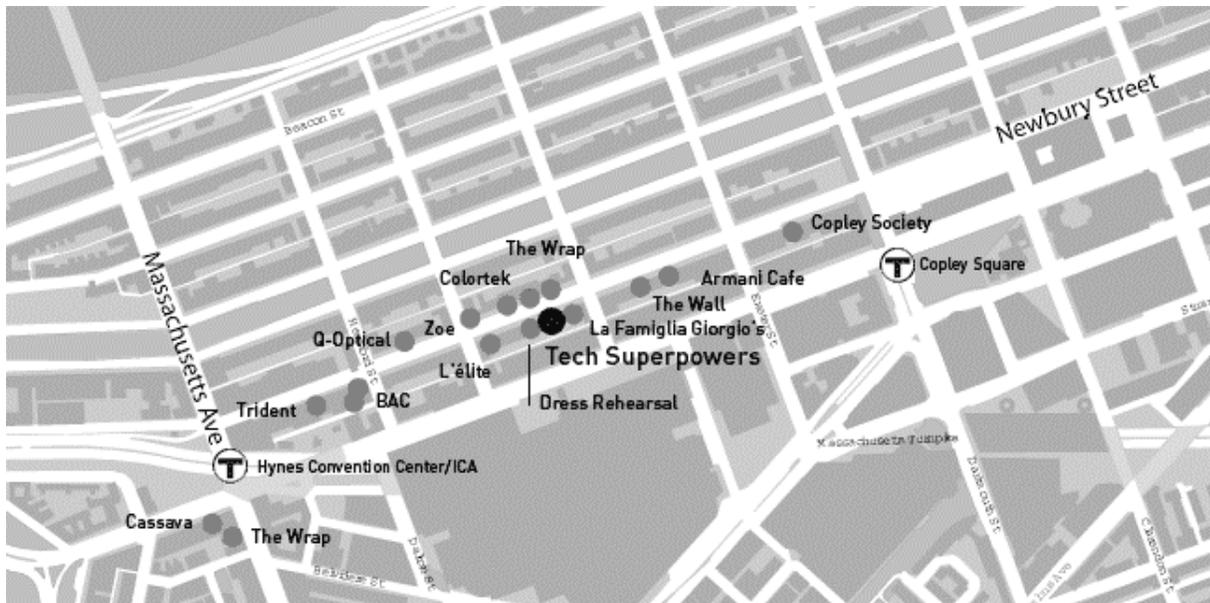


Figure 1: Community Wireless on Newbury Street. Source: www.newburyopen.net. Accessed 06.25.04

I met Michael Oh at MIT’s popular hangout Miracle of Science⁴ to talk to him what his current and future plans were for the community free Wi-Fi networks among others. I wanted to know what Oh’s ambitions were for his free Wi-Fi movement. Oh echoed the utopian argument of many Internet pundits: bringing Internet to people from all walks of life, as a new basis for social inclusion, social capital and community (Wellman 1997; Rheingold 2000). For example, he said that his Internet cafe currently provides computer access and technical support to new Wi-Fi adopters and disadvantaged communities. According to him, “anywhere, anytime access for everyday Internet users” would drive the Wi-Fi revolution. Oh’s perspective was that for a frequent business traveler, the need to stay connected to the office and home is paramount; hence such travelers are willing to pay for Internet access. However, for other segments of society, it may not be something that they would consider a priority to spend money on. They

⁴ To our surprise, Miracle of Science also had recently put in a free Wi-Fi node too. Michael Oh pointed to the Wi-Fi symbol and said he did not know that this place also had Wi-Fi..

might, however, consider spending time outside their home or office and get some work done if they know that they can check their e-mail, or keep in touch with family and co-workers,

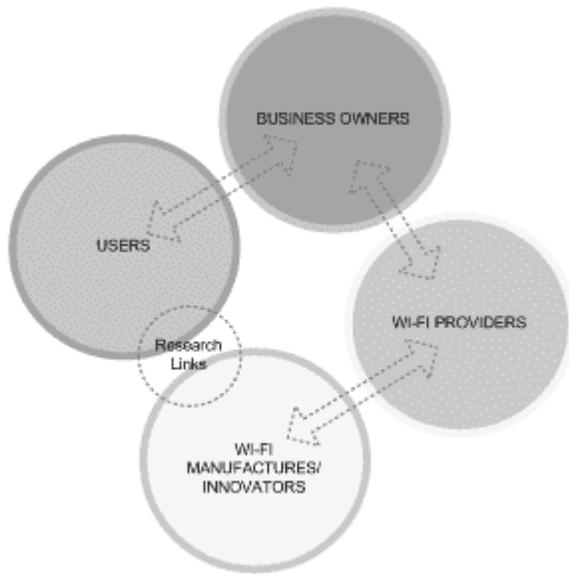
without having to pay extra. Free networks will attract a broad range of customers and diverse members of the community. And with a free community Wi-Fi network like Oh's, Trident attracts "a range of people from business travelers, students doing research, tech guys that are out of work -- pretty much anyone with a laptop"⁵.

But then what about Trident's covert strategy to keep laptop users at bay? Was Michael Oh aware of it? Oh mentioned that Trident management had decided to remove all the power outlets. When he spoke to the Trident manager, the manager told him that the decision was made because of old wiring problems. But Oh, too, speculates that part of the reason was to stop Wi-Fi users from staying at Trident for a long time. Oh has recommended that Trident considers putting the power outlets in one corner and letting the Wi-Fi users share the power cords, allowing them to interact amongst themselves to use the resources. By reconfiguring the way the space is utilized, he suggested the owners could establish control over where these people could sit, and laptop users would have an opportunity to interact with other users.

Oh admitted that he had not originally foreseen owners covert strategies to keep Wi-Fi users at bay as a consequence of free Wi-Fi access in cafes and restaurants, patrons would linger for hours, buying little if anything. Neither had he realized until now that businesses such as Trident could be left looking for solutions -- anything short of jamming radio signals -- to keep loitering lap-toppers at bay.

While looking for field sites, and over the period of my observations of Wi-Fi users in coffee-shops in Boston and Seattle, I have seen businesses employ a number of strategies -- covert and overt -- to keep Wi-Fi "squatters" away. Many have removed all power outlets in public areas; have considered or actively are cutting Wi-Fi access during peak hours; and, often, have also laid down rules controlling access to facilities such as the restrooms. Some owners have started asking wireless users to buy something, even if there are no rules such as a minimum charge or maximum time allotment just yet. Waiters come around often asking patrons if they need anything, hoping their prodding will guilt wireless squatters into buying something. Business owners are struggling to meet their own standards for providing a good customer experience, which traditionally has meant providing the maximum possible hospitality and convenience.

⁵ Michael Oh's comment



Now, they find their staff regularly dealing with technical problems related to connectivity and setup, tangles of power cords, laptop paraphernalia crowding whole tables, and, above all, Wi-Fi squatters during peak hours. And all these issues are becoming noticeable at a stage when only a fraction of the American population uses laptops in coffee-shops!

Michael Oh had clearly understood the real advantage of Wi-Fi networks over wired internet access. As he had suggested:

“[Providing] wireless is fundamentally different from providing wired access services.

Figure 2: Diagram showing different actors in emerging Wi-Fi industry. Source: Author

Internet cafes take up real estate and require the capital expense of equipment. But with wireless, users already have a laptop or PDA, and a wireless card. They are not taking up any more space in a given location than they would eating food, nor does their equipment come at the providers' cost. As the provider, you simply pay for the infrastructure, which can be quite affordable.”⁶

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From a Wi-Fi user’s perspective, Wi-Fi enabled laptops are supposed to be wireless or untethered -- in theory. But the fact of the matter is that users still have to carry bulky cables around, and finding power outlets in coffee-shops is getting harder. Where they are still available, power outlets are usually not located beside comfortable chairs and sofas (wasn’t that the hallmark of the new age of coffee house banter?), and customers must often compete with other laptop users for a disappearing resource. A laptop battery charge usually lasts for a day of intermittent use if charged overnight, and when it isn’t there is definitely a problem in using a Wi-Fi enabled laptop in cafes.

At this point, the different perspectives of three actors -- namely users, business owners and technology providers -- in the Wi-Fi game have become clear. The users would like good customer service, catering to both their hospitality and their technology needs. The business owners would like to be sure they are attracting clientele who are willing to pay for their main

⁶ Michael Oh. Posting from www.opennewbury.net

service (coffee and food). According to the business owners, they are investing in Wi-Fi services so that they can get more customers for their main. Meanwhile, the key motive of technology providers is to get more people to use Wi-Fi, so that they can make money selling equipment and services, as well as fueling adoption of new technology by encouraging users to display their tools in public.

1.1 F(r)ee ?

Before Trident management cleared all power outlets from their coffee-shop area, they had started getting repeat Wi-Fi customers who stopped by to check e-mail, work, surf and in addition also solve other people's connectivity problems. Trident's big predicament was that these customers came in order to use the free Wi-Fi, and did not pay, or paid very little, for Trident's core services and the public utilities they provided. The Wi-Fi users loved the fact that they could sit inside on a cold day for long hours in the cafe. What Trident Cafe had managed to do with introducing free Wi-Fi, located as they were on a great spot like Newbury Street, coupled with the publicity and service they got by partnering with Michael Oh's company, was to create an opportunity for mobile technology users to gather and meet other people.

Trident management had decided to offer a free service as an additional amenity that would allow it to be competitive with other cafes in the area. Then they realized that they had to find ways to limit the time Wi-Fi users spent at their location. Presumably, they had realized that it is a myth that Wi-Fi can create more revenue if it is provided "free" for unlimited amounts of time. Small businesses around the country seem to be discovering the same thing: that free Wi-Fi access invites laptop users who are not willing to invest in their main services. Therefore, it came as no surprise when I saw a banner at the Rusty Pelican in Wallingford, Seattle that said "FREE WI-FI IS HERE," and added below, in tiny type, "While dining."⁷

Another problem with "free" Wi-Fi is that users quickly got frustrated if they found the shared connection to be slow, or not working. Trident Cafe did not have to deal with Wi-Fi setup issues or troubleshoot connectivity matters, as they could direct their customers to Michael Oh's tech shop just a couple of blocks away, where customers would find technical support almost instantly. Oh's company is an example of how free community Wi-Fi is beginning to support Wi-Fi users and bring them out into public spaces. A grateful Wi-Fi user wrote to me, "Newburyopen.net down the street is very understanding of individuals who need to check email quickly and who have an airport card and they help." With support from Michael Oh's

⁷ Paul Andrews also noted this signage and reported http://seattletimes.nwsourc.com/html/paulandrews/2001848838_paul02.html

company, Trident was able to support various kinds of satisfied Wi-Fi users; in contrast, most other independent providers cannot cope with the technical problems that they face in providing Wi-Fi service. An example of free Wi-Fi cafe's not being able to provide technical support to novice Wi-Fi users is the Seattle cafe I studied.

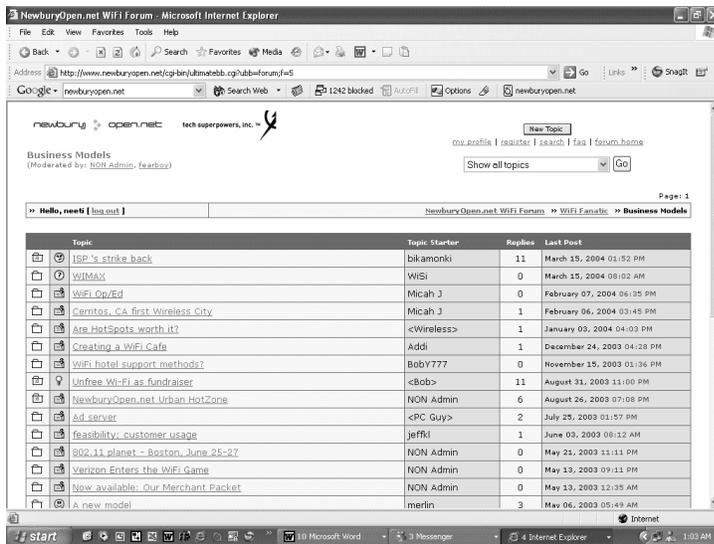
When I talked to staff at Chaco Canyon Cafe in University-District in Seattle, I was told that they had a hard time providing Wi-Fi service consistently. Their Wi-Fi service had been set up by the owner's brother, a Wi-Fi amateur, and a friend who had an interest in the new technology. He did not care much about Wi-Fi network's profit-making potential, but, rather, got involved with Wi-Fi because he was fascinated with the technology. He represents the breed of amateurs who are basically hobbyists. Techno-devotees, they leap into to get involved in what they see as new communications miracles. After the set-up, the friend did not have the time to fix all the café's connectivity problems and network was down a lot. So management saw many frustrated customers leave the café and not return. Chaco Canyon Cafe staff Sandy used the analogy of coffee when describing the Wi-Fi experience:

“When people are visiting a new town, they don't go to a small cafe to get their coffee; they go to Starbucks because people don't want to experiment with their coffee. They usually like to get coffee they like, and Starbucks promises them exactly that. Similarly, people who are looking for Wi-Fi connections will go to places where they know they will get a good connection, and where they can sit for some time and work.”⁸

Neither Trident nor Chaco Canyon Cafe is making any money by providing Wi-Fi hotspots. The Wi-Fi signs outside their venues do attract new customers, but there are also reasons why customers are also being driven away: in the case of Trident, these results from the covert methods it uses to decrease the time users spend on their premises; in the case of Chaco Canyon, bad connectivity is driving their customers away. Several other Seattle cafes that advertised "free" Wi-Fi had catches in their offers that made it difficult for users to really use Wi-Fi for free. At Online Coffee in downtown Seattle you could get fifteen minutes for free only if you bought a cup of coffee, and had to pay ten cents per minute for additional time. Elliot Bay, a popular bookstore cafe also in Seattle provided no outlets for plugging in laptop power cords. In any event, it was usually crowded by people from nearby offices who came for lunch, snacks or face-to-face meetings, making it nearly impossible for a laptop user to find a quiet place to work. Most Capitol Hill in Seattle cafes served as hangouts for very specific social

⁸ Information discussion with the Chaco Canyon Staff dated February 2nd, 2004.

groups, and was mostly frequented by members who knew each other well. At Bauhaus Cafe in Capitol Hill, it was difficult to get online; connectivity was poor; and users had to buy something if they wanted to spend time surfing the Internet there.



Since December [2003], several new cafes have started offering Wi-Fi. Most of them have experienced problems similar to the ones discussed above. Nobody has yet figured out a way to make money from free Wi-Fi networks. Just as in the early days of radio, industry experts have argued that Wi-Fi will not end up in every public venue in America until user-

experience quality -- that is, Wi-Fi connectivity -- improves at the infrastructure level.

Connectivity quality is one of the major issues in user-experience quality and that needs to improve at a Wi-Fi networks infrastructure level and corporations are working at the infrastructure level to improve the experience.

Figure 3: Newburyopen.net web forum. Source: www.newburyopen.net. Accessed.06.25.04

management removing outlets, and certain cafes being full of in-groups which monopolize the place are important to user experience.

As discussed earlier, apart from the connectivity issue, there are other issues such as cafes being crowded,

In a nutshell, community cafe models have some value in providing a place for Wi-Fi users to hang out. Michael Oh's model has merits if free Wi-Fi can be rolled out with a group of people who were willing to provide technical support -- and if, of course, after all that effort, coffee-shops did not cut off access to power. In addition to these localized issues, the wireless arena is changing daily, as new paid and free providers step in with new technologies and new offerings, changing the dynamics of the Wi-Fi market seemingly minute by minute. And, as we learn from the history of radio, while the free Wi-Fi community movement can attract a growing following among members of general public by providing an opportunity for community members to gather, it can only be possible as long as business owners are prepared to bear its direct and indirect costs.

Newburyopen.net sells its image as a “community Wi-Fi hotspot”. Community Wi-Fi hotspots are selling themselves as places to connect with collocated family and friends and at the same time be able to participate in online conversations to form and connect distant relationships or solve technical connectivity hurdles or even share similar interests. On the other hand, Starbucks, the chain of coffee-shops, sells the image of an urban community – promoting itself as America’s meeting place into which you and your co-workers or friends could walk for a cup of coffee. For Starbucks, providing Wi-Fi networks is meant to be an addition to the experience of a community meeting place that they are selling to their customers. The chain's customers are already the type of people who are loyal and return to Starbucks. They are willing to pay for the experience and the services that Starbucks provides them. This business model came as no surprise when in early 2002, Starbucks and T-Mobile partnered to bring for-pay wireless hotspots to U.S. Starbucks locations. As one of the users at Trident pointed out, “I usually work from Starbucks or Borders. I pay \$20 a month for T-Mobile's Hot Spot service, and the connections at those locations are really quick. And since I pay what I believe is a fair monthly service fee, I don't feel guilty about sitting there all day.” Since then, Starbucks has also partnered with other Wi-Fi technology companies, such as Hewlett-Packard. These partnerships have proved important to their business.

Despite ambiguities in how Wi-Fi is positioned, what is clear is that Starbucks is selling accessibility, availability, reliability and customer services that are harder for any independent provider to provide, unless independent providers have both support from their community and a technology group to take responsibility for providing technical support.

I am among those several regular visitors to Starbucks who enjoy the experience and the coffee Starbucks sell. For me it was convenient buy their coffee and pay a little extra for their Wi-Fi service when they started their service in early 2002. Often, I bring my laptop and work there in the afternoons, doing just what other people do: answering e-mail, researching, and surfing the Internet for work-related information. The Starbucks staff has been friendly and helpful whenever I encountered technical problems. I also found that there were other people who were Starbucks regulars, like me. I got to know some of them, but most of them became “familiar strangers”⁹ (Paulos and Goodman 2004), and I noticed their absence whenever these

⁹ “The Familiar Stranger is a social phenomenon first addressed by the psychologist Stanley Milgram in his 1972 essay on the subject. Familiar Strangers are individuals that we regularly observe but do not interact with. By definition a Familiar Stranger must be observed, repeatedly, and without any interaction. The claim is that the relationship we have with these Familiar Strangers is indeed a real relationship in which both parties agree to mutually ignore each other, without any implications of

people did not show up for their coffee. I definitely felt that working there was far more productive than working in my dorm room in Cambridge. My offline and online experiences became intertwined; I found it a great relief that I did not have to be tethered to my computer cubicle at school.

During my visits to coffee-shops, I noticed different types of users like me who also frequented the coffee-shop not just to socialize but also to access the Internet using Wi-Fi¹⁰ offerings provided at Starbucks venues. Often the users would be fellow students from MIT or business travelers like 37-year-old Suzie, a user-interface consultant for a software company. She could connect and reply to her e-mails between meetings instead of waiting until she got home (Hamilton, 2003). I made several new acquaintances with fellow Wi-Fi users such as Suzie and other MIT students and often kept in touch with them via e-mail.

My personal connection with these public spaces, and Maria's recent experience at the Trident, are perhaps cases in point of how we -- Wi-Fi users -- use these public spaces now. These experiences became a starting point for me for an intellectual inquiry into how Wi-Fi users use and relate to these public spaces. I utilized historical analysis and an ethnographic perspective to gain better understanding of coffee-shops and ways in which they are configured physically and electronically.

hostility. A good example is a person that one sees on the subway every morning. If that person fails to appear, we notice" (Paulos and Goodman, 2004).

¹⁰ This article by Anita Hamilton was published in the Times in November 2003, around the time I started thinking about my thesis. More than 2,600 Starbucks stores equipped with Wi-Fi, the duo has created the largest public Wi-Fi network in the U.S. It is also among the first to test consumers' appetite for paid wireless access outside the home.

To answer some of these questions, it might be useful to look at the historical accounts to understand what scholars had to say about physical coffeehouses as places of “sociability”- a place for human-to-human interaction. Further, this chapter also examines ways in which the development of media technologies has provided opportunities for users to engage in “virtual sociability” and what pundits and scholars have to say about this change.

A Case of Public Sociability

2.0 Seventeenth & Eighteenth Century Coffee-Shops

Markman Ellis (2001b) in his essay, “An introduction to coffeehouse: a discursive model” describes the work of Turkish historian Ibrahim-I Peçevi who portrays the behavior of coffeehouse customers. The coffee-house was called the *Cahveh Kaneh* meaning a meeting place. Ellis notes that “*Cahveh Kaneh* were places in which customers found as much society as coffee. They looked upon them as very proper to make acquaintances in, as well as to refresh and entertain themselves....” (Ellis, 2001b) *Cahveh Kaneh* was also a place where the unemployed went to look for jobs and people just went to share information, gossip or both. The coffeehouse provided a space for citizens to meet various kinds of people from traders to people in the community after their trip to the mosque.

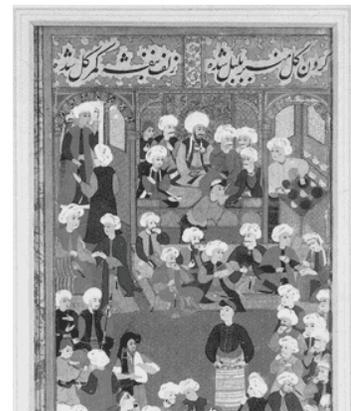


Figure 4: A Turkish Coffee-shop. Source: <http://www.kahve-house.com/kahve-.html>. Accessed 06.25.04

Ellis (2001b) mentions that the tradition of sociability continued in London coffee-shops as the coffee-shop experience journeyed from Istanbul to London through traveling merchants. The main activities of the people in coffee-shops were “drinking coffee, smoking their pipes, reading news-sheets and books, writing in their notebooks and staring off into space. These men talked and debated on issues concerning politics, commerce and the world.”



Figure 5: Seventeenth century coffee-shops. Source: <http://www.kahve-house.com/kahve-.html>. Accessed 06.25.04

Around the same time printing press had boomed and printed books were being made accessible to people who could read. Accessibility to printed books created a new class of people who liked reading, writing, and discussing books. The place that provided them a space for conversation and discussion of the newly published content were London’s increasing number of coffeehouses. London’s coffeehouses offered a place for citizens to meet other people and also a place where well-read gentlemen exchanged information and discussed subjects of their interest. All kinds of people engaged in conversation, discussing new ideas and information, meeting friends, business contacts and even strangers. People chose to go to coffeehouses for conversation rather than to taverns which had reputations for rowdiness. Tom Standage (2003) in his recent Economist article “The internet in a cup” provides a glimpse of the popularity of coffee shops in London and Paris and refers to the circulation of handwritten newsletters that provided opportunity for gossip, news and creativity serving as key ingredient to engage the local community. In this context, the importance of the coffee house was that it “fuelled information exchange function so important to the public sphere and without which it would be private”¹¹.

2.1 Coffee-Shop as a Conceptual Model: Public Sphere & Third Places

This public sociability has been discussed by several famous sociologists and philosophers such as Habermas, Oldenburg, and Putnam and others as a model of a meeting place where members of the community gathered to exchange local and global stories. In his work, *The*

¹¹ Feedback from Prof. William Uricchio

*Structural Transformation of the Public Sphere*¹², Habermas explores the theme of the “public sphere”. Habermas notes that several “physical places share ‘architecture of sociability’, such as theatres, debating rooms, and coffee-houses, but also notes the significance of the new infrastructure of social communication, such as the journalistic press, circulating libraries, and the post office.” (Ellis, 2001a)

While Habermas uses coffee-shops as a conceptual model for exchanging public opinion, scholars like Oldenburg touch on the need for a physical place in the community to gather. Oldenburg suggested that well into the twentieth century; Americans enjoyed spending time in public places to nourish sociability. Oldenburg (1999), in *The Great Good Place*, identified coffee-shops and other public, physical sites where people in the community meet to discuss issues, develop new social ties and interact with others, as “third places”. These places have been important for “community development, to retain cohesion and a sense of identity” (Oldenburg, 1999). Oldenburg points out that these third places are crucial to a community for a number of reasons. Third places are

“distinctive informal gathering places, they make the people feel at home, they nourish relationships and a diversity of social ties, they help create a sense of place and community, they invoke a sense of civic pride, they provide numerous opportunities for serendipity, they promote companionship, they allow people to relax and unwind after a long day at work, they are socially binding, they encourage sociability instead of isolation, and they enrich public life and democracy”(Oldenburg, 1999).

He argues that one of the important ingredients in building community is a physical public space that facilitates face to face social interaction and is fundamentally defined by its sociality (Liff & Steward, 2003).

So, from the perspective of my analysis, what is important is whether a place works as a “third place”. Third places usually have a constant flow of activity, and steady flow of people creates the possibility of encounters both scheduled and serendipitous. These encounters with people can be with people who are known to you and those ‘different’ - either unknown to you or do not share the same cultural values as you, usually trigger rituals of social interaction (Lofland, 1973). Examining the same idea from the social networks perspective suggests that the type of

¹² Habermas' work is influence by several important works. He borrows from Kant, Hegel and Marx. Most importantly, his ways of thinking about the public sphere are Kantian. He uses Hegel's concept of civil society as the basis from which public opinion emerges.

sociability is possible due to access to both weak and strong ties. Garton, Haythornthwaite and Wellman (2002) encapsulate the meaning of weak and strong ties. They define weak ties as

“Generally infrequently maintained, non-intimate connections, for example, between co-workers who share no joint tasks or friendship relations” while strong ties, “include combinations of intimacy, self-disclosure, provision of reciprocal services, frequent contact, and kinship, as between close friends or colleagues”. (Garton et al, 2002)

Both strong and weak ties are helpful in resource exchange networks. Strong ties provide resources such as loaning a \$1000 when you need while as Granovetter (1973) points out, weak ties are usually the people who can help with job search and career changes. If one has diverse kind of weak ties, the better it is as these diverse weak tie acquaintances probably are people who have different circles and access to different type of resources. The probability of meeting diverse kind of “weak ties” in these “third places” is higher than in first or second places (your work and home) where you normally will form social connections with your “strong ties”. The social network viewpoint of meeting “weak ties” in these “third places” makes these public meeting places important from a human-to-human interaction perspective.

While face-to-face social interactions have been studied in depth by scholars like Ervin Goffman and Lyn Lofland, my attempt is to understand the impact on our social interactions and relationships due to juxtaposition of what I call “virtual sociability” or technology mediated interactions. In the next section, I will try to glimpse through examples from media history to understand what happened when face-to-face interactions were mediated through printed books/newspapers, telegraph, telephone, radio, television and the Internet.

2.2 “Virtual” Public Sociability

Scholars have noted that the introduction of any new technology in society raises different kinds of debates about the nature of its impact on social interactions and public sociability. Utopians have argued that people turn towards communication technologies to socialize, exchange information, talk, chit-chat and gossip and use it to maintain their social ties. Utopians have celebrated each new technology as a tool for enhancing communication and information exchange amongst community members. Dystopians mourn the loss of face-to-face interaction due to use of communication technologies and suggest that technology mediation often created opportunities for people who control technology to control public opinion. Here I discuss a summary of some of the battles fought in the early days of printed newspapers, telegraph,

telephone, radio and television in order to highlight that these utopians and dystopians debates about impact of technology go back as far as the initial days of print.

2.2.1 Early Media Technologies

We learn from Adrian John's close study of print culture in early modern England that coffee house society participated in the social transformation where the printing press was an essential vehicle for empowering the common people was crucial. Readers were becoming empowered by learning more about their own neighborhoods, city, and the larger world due to literacy, book availability, and the leisure to read and public spaces to exchange their ideas and opinions. The newspapers from the press were "for the first time established as a genuinely critical organ of a public engaged in critical political debate ..." (Habermas, 1989). Utopians claimed that the rise of the public sphere allowed the public to come together to discuss different kinds of issues from literary to political. When the state authorities realized the power of the press and its role to influence public opinion, they tried to control the press and start the process of commoditization of news which continues in its modern form. Dystopians signaled the loss of freedom as the end of the era when people could freely exchange information and press lead to loss of social cohesion.

Paul Starr (2004), in his work "The Creation of the Media: The Political Origins of Mass Communications," puts forth the uptoian viewpoint while discussing telegraph as a new technology. It suggests that when telegraph was first tested, telegraph was thought to allow for faster exchange of information, mostly for businesses, but also for people to share their opinions. Standage (1999) in his work "The Victorian Internet" discusses how telegraph was used for private communications by people. On the other hand, a recent New Yorker article points out that "telegraph network in [America] wound up in the hands of a private monopoly, Western Union...Telegraph was still controlled so there was little chance for exchange of people's opinion" (Lemann, 2004).

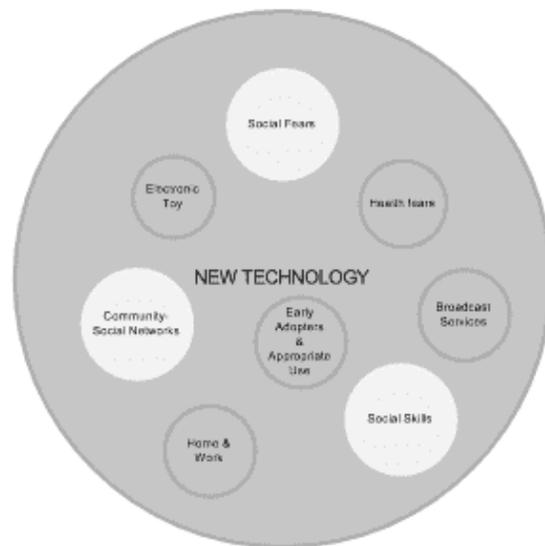


Figure 6: Issues related to new technologies.
Source: Author

Another example is that of the telephone. Once the country was wired, Starr (2004) suggests that it gave ordinary citizens the ability to trade information with one another and that provided an opportunity for individual participation in public discussions. Fischer (1992) tells us about adoption and the possible impact of telephone on the community, pointing out that public/private boundaries were blurring. People used telephone to socialize with both strong and weak ties. While industry targeted business groups and promoted the telephone as a tool for household and work management, it was used mainly for chit chat or gossip or to share news amongst members of the community. Dystopians now feared that telephone increased people's tendency to form private groups for socializing and that their use of phone reduced the time they spent out in the public places to socialize face-to-face.

Earlier radio was also seen as a way to revitalize "public sociability". In its early days, radio was an interactive medium. Users created it and dominated it. As its popularity grew, grassroots groups had fewer opportunities to create their own programming. Todd Lappin in *Wired Magazine* article reports,

"Thumbing through back issues of *Radio Broadcast* is an eye-opening experience: it is startling to discover how much like us our radio precursors were. They spoke with similar enthusiasm and asked many of the same questions. They believed in their new technology, and they believed that it should be harnessed to help make the future better than the past. "Will Radio Make the People the Government?" demanded a headline in a 1924 issue of *Radio Broadcast*. Political columnist Mark Sullivan was reluctant to answer the question definitively, but he had little doubt that the confluence of radio and politics was destined to profoundly impact on American democracy."

Early radio left enthusiasts listening to "voices from the ether for" for many years until radio was turned into a broadcasting media. From many to many, it became one to many and became a passive medium.

When television became popular, pundits raised similar concerns. Robert Putnam in his book, *Bowling Alone: The Collapse and Revival of American Community* raised an alarm about disintegrating American public life. He showed that with increased access to television, Americans were spending increasing time at home rather than engaging in any kind of formal or informal social interaction. One example that Putnam cites in his work is a popular TV show called *Friends*. *Friends* series was so popular since in many ways the series reflected the story of urban American social life where people lived in cities away from their families, and friends

became their close family. *Friends* show is a comedy about six close-knit young friends living in New York City. The show focuses on the friendship of three men and three women who constantly gather in each other's apartments and share sofa space at the trendy Central Perk coffee house. One critique is that instead of spending the time both earning members of the household have after work, experiencing the real life in coffee-shops; they spend time watching the six characters in the TV show socializing in the Central Perk coffee-shop. Putnam lamented the disappearance of social public places such as coffee shops and eating houses because no one had time to go there. Since, people were spending more time at home or at work, their private lives were taking priority over their public lives. He points out that with the increase in number of fast food eating places, people don't have any time to talk. He grieves that Oldenburg's "great good places", those hangouts that "get you through the day" are disappearing (Putnam 2000). On the other hand, in her recent work *Ambient Television*, Anna McCarthy discussed the 'invisible' presence of television sets in public spaces which includes sport bars, airport lounges, laundromats, waiting rooms, and retail establishments. She suggests the "possibility that the television screen may be used for location based forms of contests and critique, and the possibility that these practices might travel across political strategies of everyday life." which can bring television from the domain of "private" to "public". Even research on viewer-ship of public affairs programming in television has shown a positive effect on participation in civic life (e.g., Chaffee,1982; Noris,1996) – because in this case, television provides source information, much like the printed sources that the 18th century middle class read, that in turn becomes the basis for conversations.

The main idea to discuss these stories here is to understand how early media technologies were received by scholars and pundits. There is no consensus which side is good or bad for the society. These debates did not fade away with the rise of the Internet and other mobile technologies; in fact, more concerns, battles and fears that had existed with older media as discussed earlier have come to the forefront. I will discuss these debates in context of the Internet in the next section.

2.2.2 Internet's Place

Utopians have celebrated the new "virtual community" (Rheingold 1993) created by growth of the Internet. The Internet is where "people now go when they want to know about the latest business news, follow commodity prices, keep up with political gossip, find out what others think of a new book, or stay abreast of the latest scientific and technological developments," claims Standage (2003). Similarly, as scholars began to look at various uses of the Internet, as Wellman (1998) puts it, "they adopted the analytical framework that the Internet was like one of these "third places"- a growing sphere of social interaction where people played games and

socialized. They studied how individuals and small groups behaved within MUDs [Multi-User Dungeon or Dimension], MOOs[Mud, Object Oriented] and other specific environments (Wellman, 1998).” On the other hand dystopians complained about information overload.

Analysts have argued three perspectives while discussing the effect of the Internet.

The Internet creates isolated individuals

The Internet has a similar effect to that of television. People spend time checking their e-mails and surfing the web, going through entertainment and information channels and thus drawing people away from spending time with family and friends. Also since it allows people to communicate globally, it reduced interest in the local community and its politics (Nie, Hillygus, & Erbring, 2002).

The Internet increases communication amongst social ties

As the Internet is very economical and it is possible to communicate across time zones, it increases communication amongst dispersed friends and family. The Internet enables inexpensive and convenient communication with remote or local communities of shared interest (Barlow, 1995; Rheingold, 2000; Wellman, 2001). This thinking behind the social aspect of the Internet usage bears similarity to thinking behind usage of telephone and early radio.

The Internet is yet another way to support social communication

Wellman & Gulia (1999) argue that the “Internet is yet another means of communication to facilitate existing social relationships and follow patterns of civic engagement and socialization. The Internet blends into people’s life. People will use the Internet to maintain existing social contacts by adding electronic contact to telephone and face-to-face contact. Their offline hobbies and political interests continue online”.

2.3 Virtual and Local: the Case of Internet Cafes

With the increased popularity of the Internet, cafe’s become unique sites for e-access. Very little research has been done on cyber cafes worldwide. The complexity of cyber cafés as physical places where people engage in “virtual sociability” and various other social practices have been discussed using different analytical frameworks. Pushing Internet out from home and work into public spaces has required analysts to examine the kinship between physical and virtual spaces for various reasons, such as:

1. Internet Cafe is a physical, face-to-face community gathering place located in the neighborhood. Internet access provides an additional dimension of sociability to face-to-face interactions. Physical and virtual meeting spaces are converging in the same space. For example, Sonia Liff and Anne Sofie Laegran (2003) discussed the meaning and significance of Internet access in a cafe environment. They discuss cyber café as social and cultural enterprise rather than as a commercial one. According to Liff and Laegran, cybercafé's are seen as finding innovative ways of addressing (various) social objectives and creating distinctive cultural spaces. Though cyber cafés have not been supported at a policy level by government, they do perform a community function by acting as a local community resource center, keeping the kids off the street or encouraging the local community to participate in the information society (Liff et al, 2003).

Anne Sofie Laegran and James Stewart (2003) use an actor-network approach to discuss how Internet cafes are configured by technology as well as users. As they describe it, "The Internet may be the defining technology of the Internet cafe but, to understand the use and role of this techno social space, we have to look at how the Internet is integrated into the space and interacts with users as well as the social and physical aspects of the premises." (Laegran, 2003) Based on empirical studies in Scotland and Norway, in their article, Laegran and Stewart looked at various ways in which Internet is being used in the cafes. Their article concludes by suggesting that the Internet cafe is "neither a footloose space nor entirely locally embedded, but that spaces are configured in the intersection of translocal images and local circumstances". (Laegran, 2003) Scholars such as Wellman and Hampton (2001) have used the term "glocalization" - the combination of intense local and extensive global interaction.

2. It allows diverse sections of the society to have e-access because the Internet Cafe is open to the public. The fact that Internet Cafe is open to public has provided opportunity for the researchers to understand how people are using these public places to participate in the information age. Johanna Uotinen (2003) challenges Finland's rhetoric of being on the forefront of information technology claiming that there is a tendency to ignore social, regional and local differences. Uotinen describes a net café in North Karelia, a province in Finland and discusses how this net café provides a place in the community for spontaneous involvement and participation in information society. (Uotinen, 2003) While in these earlier articles, the discussion revolves around "cyber café", "net café" as a social place for e-access. "Uotinen sees the significance of the particular cyber café that she analyses as the integration of computers within a particular type of community

centre, based on social networks which encourage debate, dialogue and dissenting views rather than conformity”(Liff & Laegran 2003).

Sarah Lee (2000) researched users experience in an Internet café in South east England. She interviewed coffeehouse customers to explore the ways in which the Internet is differently perceived, used and gendered in the public spaces of an Internet café. She argues that public use of the Internet is not just a transitional phenomenon which precedes home Internet adoption. Her research revealed that “the Internet café provided a distinct and dedicated use space which was intimately bound up in the domestic and work routines of its users”. (Lee et al, 2000)

The research opportunity to study Internet use in public spaces is beginning to gain momentum. Also, as Laegran (2003) puts it, “we are still very much in a period of change, as networked IT becomes increasingly ubiquitous and new wireless systems allow use of individual terminals in public spaces. Symbolically this technology is changing, becoming more heterogeneous as it becomes more embedded in society. Cafes and public spaces of leisure and sociality can be expected to play an increasing role in shaping these meanings and becoming public representations of a practical and symbolic evolution of ICTs.”

Also, the Internet is a complex multi-dimensional technology as several media converge into one. The constant technological changes create a possibility of social affordances (Wellman et al, 2003). Anytime, anywhere access allows people to be connected to the Internet all that time. Ubiquitous access means that the Internet has become an integral part of our lives, as it is possible to think of something and instantly send it across. Higher speeds of connectivity also enable speed delivery and immediate response. Wi-Fi networks allow rapid exchange of information in multiple forms - text, images, videos or audio. Wi-Fi allows not only instant access like the mobile phone but also allows the users to share richer data. The spread of Wireless-Networking has increased portability and that in turn has increased personalized communication as well. Access to Internet through anywhere, anytime wireless-networking has resulted in person-to-person connections rather than place-to-place or door-to-door as it used to be in old days. Wellman calls the ability for person-to-person connectivity – the rise of “networked individualism” where individual not groups is connected to one another.

2.4 Mobility Gained through Wireless-Networking

Today, the launch and spread of wireless networks that promise ubiquitous access to the Internet have re-kindled similar debates to older media technologies. Some of these concerns, fears and battles are similar to the ones raised in earlier discussions. For example, scholars like Putnam (2001) have raised concerns about the decline of traditional face-to-face interactions, the loss of interest in taking part in social activities or inconsiderate behavior, privatization of public space, increased possibility of control and individual empowerment but loss of serendipitous encounters. Scholars have argued that as people spend more time on the Internet, people are likely to have an effect on their place-based social relationships which further might have implications on our understanding of the local community.

Researchers have explored the connections between physical public places & virtual public places in different contexts. People have described the “virtual” sphere of telephone conversations and Internet virtual communities as public spheres that could be accessed from real physical places that were formerly home or work or public Internet kiosks or cafes. Recent research studies have focused on personal cell phone and handheld usage in public spaces such as buses, trains, and transition spaces such as train stations and bus stops and also streets. Nina Wakeford, a sociology lecturer at the University of Surrey and Dr. Genevieve Bell, senior researcher and design ethnographer at Intel rode the number 73 bus through London, watching people as they used their mobile phones or handheld computers. They also stopped at bus stops and observed people. By watching people, they could see how different people used different technologies. In his recently published work Ling (2004) examines the mobile phone culture with respect to public places. While there are several studies being conducted on mobile phone usage in public spaces, there are no scholarly studies about Wi-Fi use in coffee-shops.

2.5 Goals of this research:

The aim of this research is to understand how mobile technologies affect our everyday activities and social interactions.

The research explored the following questions:

- How do people use Wi-Fi technologies to organize their everyday lives? Why would users leave their private locations to come out and use these new technologies in public spaces? What do their current practices tell about how Internet use is changing as it becomes more ubiquitous and accessible?

- In what way(s) has the introduction of Wi-Fi technologies impacted our face-to-face interactions and behavior in coffee-shops? Does technology change the fundamental role and impact of our public spaces?
- The coffee-shop is a place for social contact. How does the use of Wi-Fi networks influence social networks (formal and informal, bridging and bonding, local and global, weak and strong ties) online and offline? Are these technologies being applied to affect people's networks, social capital and community involvement?

2.5.1 Why this research is important?

This research is important for several reasons. First, Wi-Fi phenomenon has emerged in public spaces recently. While a lot has been written around the Wi-Fi technology itself, no academic study has been done to understand what users are doing with it. As use of the Internet in public spaces is expanding rapidly, there is a need to study effects of Wi-Fi Internet access on people and their relationships. In the social sciences and media literature, the argument is that technological changes have considerable potential for changing the way in which community and social capital are created and maintained.

My research builds on the tradition of studying behavior of people in physical and virtual spaces. Most studies have dealt with the creation of community on the Internet (Rheingold, 1993; 2000; Smith & Kollock, 1998). My research differs from studies of 'virtual communities' that look only at relationships online, but also from more traditional sociological studies of physical spaces (Jacobs, 1961; Goffman, 1963; Lofland, 1973; Oldenburg, 1989). Different authors such as Keith Hampton, Norman Nie, D. Sunshine Hillygus & Lutz Erbring in book edited by Wellman and Haythornwaite (2002), "The Internet in Everyday Life" point that understanding the combination of online and offline connections are important.

The first challenge is to report what this Wi-Fi phenomenon entails in terms of different players that are engaged in bringing the technology to the user. The second challenge is to utilize ethnography and survey methods to understand what users are doing in public spaces and then to contextualize these observations in terms of larger academic debates that were discussed in this chapter.

2.5.2 Thesis Overview

I began by taking a close look at Wi-Fi technology through a perspective of user's experience in Wi-Fi networked cafe. The first theme of my thesis that I discussed earlier has been an account of how Wi-Fi battles rage as individual technologists, corporate groups and everyday

technology users push to define the boundaries created by new and emerging technologies. This chapter focuses on players in free vs. paid Wi-Fi battles and how users were responding to it. Also, by understanding the context of technological structures we were able to understand its users and their usage.

For insights into looking at the various aspects of the Wi-Fi movements, I noted that historical analysis would be helpful because a historical analysis perspective could provide an opportunity to draw parallels to some of the concerns and issues raised by contemporary scholars. Thus, historical analysis formed my second theme. Firstly, this approach has provided me an opportunity to look at different players that are involved in the new technological movement (Wi-Fi) that is growing like wild fire. Secondly, as Prof. Henry Jenkins suggested historical analysis has offered me a way to provide “clearer continuities and differences within how media operates to build or breakdown community engagement in these spaces”.¹³

The third theme of my thesis will chart different kinds of human-to-human interactions and encounters in contemporary coffee-shops by careful observations of people’s behavior in public spaces. I systematically investigate what practices people have conceived for various types of media usage in coffee-shops. I draw on the history of intellectual tradition of observing people in their everyday life and utilize terminology from Ervin Goffman and Lyn Lofland’s works. I will show how people use their Wi-Fi enabled devices much like they used earlier media such as newspapers, magazines and public television, to conduct themselves appropriately in this social space. Previous European research in the area discussed in chapter two of “wired cyber cafes” provided background for previous relevant research overview for my work and thus was reviewed here.

My fourth theme weaves data from my observations, interviews and research to explore boundary spanning that takes place in coffee-shop as online and offline interactions co-exist and intertwine. The Internet has a pervasive presence in Wi-Fi users’ everyday lives through three aspects of Internet use through social communication, information source and place for public commentary. These observations tie into the fact that people are forming social connections, which is helping towards community binding and social capital.

In my final chapter, I will discuss my findings drawing on the various aspects of research such as historical analysis, observations and key points from various chapters.

⁷ Thesis feedback provided by Prof. Henry Jenkins.

I have tried to make sense of the Wi-Fi phenomenon by noticing patterns and certain things that require explanation. In this section, I discuss my trials and errors through describing my research design and methodology.

Research Design

3.0 Introduction

This chapter deals with the methodology and methods used in the research. I outline my research design: a combination of quantitative and qualitative methods of data collection. The qualitative methods used include observations, face-to-face and e-mail interviews. The use of online questionnaires represents the quantitative method. Methodological limitations are discussed in context of each method I have used.

For this study, I have largely relied on qualitative methods using participant observation to place individuals in a group context and gain a realistic picture of the dynamics of individual and group behavior (Whyte, 1984). I also used online surveys, face-to-face and e-mail interviews to gather data that I could not have got by just observations. This data includes understanding what people say they are doing in coffee-shops and gaining access to their online usage patterns. Further, user support forum at newburyopen.net has provided me insights into user issues dealing with day to day technology usage patterns.

3.1 Participant Observation

The best way for me to find out what people were doing in coffee-shops with their mobile devices was through observation and immersion which meant that I spent a considerable

amount of time, about 120 hours in coffee-shops observing people's everyday activities. This allowed me to understand the coffee-shop culture in depth. Since, there is very little precedent study in this emerging area of technology usage I required a field method that allowed me to explore the relationship between technology users' social practices and technology they are using. Qualitative field methods are widely used for investigating the relationship between technology and technology usage and evaluation of the impact. Ethnography (participant observation) is currently the widely used field method for design research.

Since, the aim of this research is to study Wi-Fi users in coffee-shop, the technology tools that are utilized in the coffee-shop context, and the processes/procedures/everyday rituals that mobile technology users employ and how technology mediates between an individual and the coffee-shop environment; I decided to use ethnography as my main method. Ethnography is an excellent methodology for developing thick description of users' activities, communications and everyday lives. One particular ethnographic method that is used by researchers to inform design work is 'participant observation' method. This basically meant I went to the coffee-shop with my laptop, checked e-mails, chatted with friends and sipped coffee like other Wi-Fi users. This allowed me to understand the different issues related to using Wi-Fi devices in coffee-shops such as connectivity, speed of access, control and comfort. I made detailed notes on how people were using their personal devices and what where they doing when they were connected to the Internet. To get a better sense of who the users were, I kept a detailed log of their activities to develop a thick description of users. Through detailed field notes, I made observations about their use of public space and types of encounters.

From December 2003 to March 2004 and I observed Wi-Fi users in four coffee-shops in Seattle and Boston. The locations of these coffee-shops are selected on basis of different city districts to get a better distribution of people who visit these coffee-shops in commercial districts, suburbs and near universities. Since during my initial observations, I did not find much wireless activity in the suburbs; I concentrated on commercial and university district. Initially, I had decided to do my observations only at Starbucks. After looking at the strong free Wi-Fi movements especially in Boston, I decided to look at two independent coffee-houses as well.

3.2 Research Settings

The coffee-shops selected are Starbucks in 6th & Union (on a commercial street); Chaco Canyon Cafe near University of Washington (close to University); Newbury Street (on a commercial street); Starbucks in Central Square (close to MIT). I was familiar with Starbucks at 6th & Union as I used to go there quite often when I lived and worked in Seattle. I selected this particular

Starbucks due to its proximity to the City Centre and offices in Downtown commercial district. I found it difficult to find completely free Wi-Fi cafes in Seattle in December 2003 when I started my observations. Most had some form of hidden price tag. Others were run by very close-knit homogenous social groups which was a problem because I was looking for research settings that attracted diverse sections of the local community. I selected a small Chaco Canyon Cafe near University of Washington because it offered free Wi-Fi service with no hidden tag and also attracted different kinds of people from the U-District neighborhood. In Boston, it was relevantly easy to select Trident Cafe. Trident cafe is the first cafe which popularized the free Wi-Fi community movement. I selected Starbucks cafe in Central Square because of its proximity to MIT and Harvard University. I also planned out my observations based on different times of the day. I observed people during weekday and weekends early morning, mornings before work, lunch sessions, and evenings. I also spent time during Monday mornings and especially Friday & Saturday evenings to see what people were doing during those hours and who did they come with. Below is a description of each coffee-shop and details of how I decided to select that particular research setting. I have also provided details of my observation timings along with each research setting.

a) Starbucks – 6th & Union in Downtown Seattle



Figure 7: Starbucks in Seattle. Source: <http://www.starbuckseverywhere.net>. Last Accessed: 06.25.04

Seattle is home to Starbucks' coffee chain. Interestingly in 1971, there was only one store located in Seattle's historic Pike Place Market. Today under CEO Howard Schultz's leadership, Starbucks has a current number of 7,200 stores in all 50 states in United States and 30 countries worldwide. While Starbucks attracts several patrons, it also has been a target of critics who suggest that Starbucks was instrument in eroding Ma and Pa coffee-shops which once were core to America's social fabric. While older men and women still

look for their favorite Ma and Pop coffee-shop down their street competing with them is Starbucks coffee chain stores which are located now in nearly every block in Seattle. I had considered selecting the first Starbucks on Pike Place Market initially but when I visited it, I found a large tourist population rather than locals at that coffee-shop. I spend two hours in eight (Pike Place, Westlake Center, Pacific Place, Pine Street, Plaza 600, Century Square Borders, Fourth & Blanchard and 2nd & Leonara) other Starbucks in the downtown Seattle area and eventually selected Starbucks at 6th and Union as it provides typical Starbucks settings which contribute towards making my research generalizable. Also, Starbucks at 6th and Union is located at a strategic location in the heart of commercial district in Downtown Seattle. Its proximity to city center pulls a lot of business people and shoppers during the day. It is one of the nicer and larger Starbucks with plenty of room to spread out. I used to go there several times before coming to MIT and wanted to go back and also wanted to see how Wi-Fi popularity in Seattle has affected its atmosphere in last two years. This Starbucks can get a bit busy on weekdays, but weekends there is space to relax, sit and work. This location has Wi-Fi service since early 2003 when Starbucks partnered with the local Seattle Company T-mobile and had just started their new Wi-Fi venture. It is a pay for service. Despite it being a large Starbucks, Wi-Fi signals is strong throughout the coffee-shop. It is not open late in the evening but always open punctually at Mon-Fri 5:30am-7pm, Sat 6am-7pm, and Sun 6:30am-6pm. See observation timings Table 1: Starbucks – 6th & Union in Downtown Seattle in appendix I.

b) Trident Booksellers & Café – example of community Wi-Fi (free)



Figure 8: Trident Booksellers & Cafe - an example of community Wi-Fi. Source: <http://www.tridentbookscafe.com>. Accessed: 06.25.04

Trident Booksellers & Café is located on Newbury Street in the heart of Boston's trendy commercial district. Trident's owner Bernie Flynn pioneered the bookstore-café combination 20 years ago in Boston. This model which was novel 20 years back is part of book store chains such as Barnes and Nobles. Similarly Trident pioneered a new model for community Wi-Fi. The store is equipped with NewburyOpen.Net, a free wireless LAN provided by Tech SuperPowers. NewburyOpen.Net claims Trident Booksellers and Café on Newbury Street "attract customers that return weekly to use the Wi-Fi network while dining." Trident has been featured in various magazines including Wired as a place that combines new mobile technologies and coffee-shop sociability.

Trident is located in a shopping are and has large clear windows that open on to the street front. Several Wi-Fi users sit near that window and watch pedestrian and people in their cars passing by as they watch them sitting in the cafe. A lot of people from the Newbury commercial district come by for lunch; others come by to browse magazines and books. Trident also draws a large Wi-Fi user's crowd. Trident had a very obvious regular crowd, people who knew the staff and the manager. Trident owners saw free Wi-Fi as a way to market their bookstore and cafe and enjoyed wide publicity they got due to NewburyOpen.Net's founder Michael Oh's involvement and technical support. Trident is

open everyday from 9:00a.m. to midnight and draws diverse crowds. See observation timings Table 2: Trident Cafe in Boston in appendix I.

c) Starbucks – Central Square, Cambridge



Figure 9: Starbucks at Central Square. Source: <http://www.starbuckseverywhere.net>. Last Accessed: 06.25.04

Central Square in Cambridge is a hub of activity as it has a rich variety of shops, restaurants and other civic organizations. It is usually frequented by students and professors, business people, visitors, and neighborhood residents. There are also several coffee-shops in the vicinity. Central Square Starbucks is a popular hangout for Harvard and MIT students and is a nicer Starbucks than the Kendall Square Starbucks. While considering which Starbucks to select, I checked the Intel hotspot listing and narrowed it down to Kendall Square and Central Square. One other criteria that I used while selecting the coffee-shop was to make sure it was in a safe neighborhood, since I was going alone and doing the observation late in the night. Central Square Starbucks is not only considered to be safe but also attracts diverse group of people from Central Square neighborhood. Starbucks in Central Square also offers paid Wi-Fi service through T-mobile and usually gets a dedicated group of Wi-Fi users and has the Wi-Fi service still working. Tech Superpowers, the same company that operates the free Wi-Fi network on Newbury Street has been working on a project that was trying to bring free Wi-Fi to the chain of Carberry's Bakery and Coffee Houses in Central Square which has not been able to get much success due to Wi-Fi provider and business owner

problems. Starbucks at Central Square was an interesting case study because a lot of university students and visitors to Cambridge go there. It is a relatively spacious Starbucks with sitting space near the windows that open onto Central Square and Prospect Street. It is an interesting place for Wi-Fi debates and stop-by-place for various kinds of Wi-Fi users. Starbucks is usually open late in the night Mon-Thurs 6:00am-9:00pm, Fri 6:00am-10:00pm, Sat 7:00am-10:00pm, and Sun 7:00am-8:00pm. See observation timings Table 3: Central Square Starbucks in Cambridge in appendix I

d) Chaco Canyon Cafe – a new independent cafe in University District Seattle



Figure 12: Chaco Canyon Cafe in Seattle. Source: http://seattle.citysearch.com/profile/38463156?cslink=search_image_cust&ulink=boc-results_53_searchslot8_510__1_profile_2_1. Accessed: 06.25.04

Chris Maykut opened Chaco Canyon Cafe in the University District (47th and Brooklyn in the U. District) in early 2003. Chris is a Seattleite and is active in various local community activities. He is a social activist who supports fair trade and organic food. It is no surprise that Chaco Canyon Cafe has a wonderful selection of raw foods, organic juices, fair trade coffees, and is open from 8am - 8pm Monday - Friday; 10am - 4pm Saturday and Sunday serving the local student community and U-district neighborhood. Chris, his brother and a friend decided to put Wi-Fi because they wanted to experiment with Wi-Fi networks and draw Wi-Fi users to their new cafe. They are also internet savvy and believe that Wi-Fi is cheap and Wi-Fi amenity can potentially draw many customers for their business. Their cafe has a home like setting with golden oak tables provides a nice neighborhood setting for users. Their regular customers were early morning joggers, health conscious students, homemakers, dating crowd and recently Wi-Fi users from University of Washington who enjoyed the ambience of an independently run cafe like Chaco Canyon. Chaco Canyon Cafe setting gave me an opportunity to look at neighborhood cafe culture and their combination

of free Wi-Fi network supported in-house by cafe staff themselves which is possible because Wi-Fi equipment is cheap and anyone with \$300-\$500 dollars can set it up. See observation timings Table 4: Chaco Canyon –Seattle in appendix I.

3.3 Online Survey Questionnaires

I created a web-based survey to learn more about Wi-Fi users online experience while they were at the coffee-shops using Wi-Fi (also see Appendix II). I administered these surveys to every fifth person using laptops and handhelds in the selected coffee-shops. Online survey helped me get data about Wi-Fi users' internet usage from the users. For example, to understand who the users were, I also asked them to fill out their demographic information which does not identify them by name but allows me to gather information on gender, age, area they live in, so that I could understand whether there was any specific gender or location pattern that emerged. I asked them to fill information about their education, occupation and their current employment or student status so that I could understand their backgrounds and understand what kind of people were using the coffee-shops. A few recent articles had suggested that only unemployed, students or business travelers frequent the coffee-shops to use Wi-Fi. So, I wanted to understand if that was valid or not. Further, I asked questions about the frequency of their visits to coffee-shops in the past and the average time they spend at coffee-shops to understand if Wi-Fi users were even spending time in coffee-shops. Putnam had suggested that these gathering places were turning into fueling centers and people did not have time to sit and relax in these places. The frequency of visits question helped me answer whether Wi-Fi users also used the coffee-shops just as fueling tank or otherwise. I also asked the Wi-Fi users about what kind of social ties did they come with normally to coffee-shops and who did they connect while online. This helped me to understand their offline and online social ties. The users were also asked about their electronic device ownership, to understand what kind of communication channels they use. I also asked them about their internet usage habits such as how long do they use e-mail and how long to they use internet and further what kind of activities they engage in while surfing the web for information. I gathered information about diversity of their social networks by asking them to fill the position generator. The questionnaire was chosen as a method to establish a general description of the users in terms of patterns or regularities, especially in order to find typical users and typical usage of Wi-Fi access, but also to investigate their preferences, online interactions and social networks. The quantitative method also explored connecting relations between the use of technology and different aspects of social capital and community. I pre-tested my survey with five Wi-Fi users at Central Square Starbucks and that helped me refine my survey design. I shortened the survey on their suggestion from thirty questions to twenty three questions.

At the field sites, to collect data regarding people's activities when they were online, I gave them a letter signed by my advisor (see Appendix III) explaining that I am a researcher at MIT. I also gave them a project description of my project (see Appendix IV) and gave them a URL of my internet survey. I asked them to fill the survey online whenever it was convenient for them in next 24 hours. Sometimes, people started talking to me to narrate their experiences. I used the opportunity to ask more questions such as what are they doing in coffee-shop, why do they like coming to coffee-shops. In Seattle, not many people filled out my survey and I had to revise my methodology a bit. My observation was that most people who I gave the surveys to forgot about the survey because I had no way to remind them once they left the coffee-shop. So, I decided to ask people to volunteer to sign up for e-mail interviews.

3.4 Interviews: E-Mail and Face-To-Face

After finishing my online survey's I conducted e-mail interviews. Most people with exception of one girl agreed to speak to me and also receive e-mail from me. Asking for people's e-mail also significantly increased the response rate. I think people felt somehow responsible to fill out my questionnaire. Using e-mail to ask people further questions provided me an opportunity to delve deeper into some aspects of my research. I e-mailed people who were willing to help me three times during the study. I wrote to them, once to ask if they were willing to answer my questions, then to ask them the questions and then to thank them I spoke to managers and staff informally to understand their perspective when I was in the coffee-shops. Talking to coffee-shop staff helped me to gain their trust and support.

E-mail interviews were used later as a way of understanding the patterns identified in the observations and the survey. The interviews allowed me to participate in a personal interaction with the participants and, therefore, to understand why they preferred to be at coffee-shops rather than home or work, also asked them what amenities they prefer in coffee-shops that would make their experience better. These e-mails consisted of ten interviewees (both men and women). I exchanged about twenty e-mails with them in total. I conducted in person interviews with two users who were from Cambridge and agreed to meet me at their favorite cafe in Kendall square and Central Square and one person called me to talk to me. I transcribed these meetings immediately so that no data is lost. Any informal discussion was also documented by me immediately afterwards.

3.5 Analysis

Results from survey, e-mail interviews, close reading of posting on newburyopen.net and

ethnographic data are combined to address the broad questions outlined in my research study. Twenty out of fifty people who I gave the survey to responded. I got most response from Trident Cafe (10), followed by Starbucks in Boston (8) and Starbucks in Seattle (2). I just met two Wi-Fi users at Chaco Canyon in Seattle and neither answered my survey. I did an exit interview with the staff at Chaco Canyon who told me that their Wi-Fi network is not very reliable, so Wi-Fi users who came earlier have stopped coming in and the frequency of their regular Wi-Fi users has also decreased due to unreliable Wi-Fi connectivity. However, they are planning to put up another Wi-Fi network soon. Throughout my thesis, I have utilized comments and opinions from each transcription and reorganized within the different categories. Throughout the analysis, the findings are illustrated with observations, quotes from the e-mail interviews, including name and age of each participant. The participant's names have been changed keeping their gender and background in mind, since their anonymity was to be ensured. I also deleted the electronic version of e-mails from the participants and have only kept their answers. The research protocols followed here is in accordance with the MIT Committee on the Use of Humans as Experimental Subjects (COUHES), no personal information is collected that would be used to identify the user. Individual participation in research project was purely voluntary. They were free to decline and discontinue participation or refuse to answer specific survey questions at any time. Keeping that in mind, I have concealed the identity of participants in the thesis report. The participant number that the Wi-Fi users provided on the questionnaire was only used to the specific location and time of the survey to identify.

This section examines how the use of Wi-Fi devices affects users' face-to-face social interactions. The two key observations discussed here are first, the way in which the Wi-Fi users utilize their devices in interactions with co-present others in coffee-shops and second, the

pleasures of being in public spaces that Wi-Fi users much like other patrons come to experience at coffee-shops.

Wi-Fi users and Co-Present Others

Starbucks, 6th and Union, Seattle.

Monday 10:30 AM. Adam, 45 walks in with two women dressed in business suits. Adam is dressed less formally - a pale cream shirt, grey sneakers and grey slacks - and has his hair in a long plaited ponytail. He's clearly the oldest in the group and in command, telling the others what to do. First order of business: they find a table for four in a far corner, making sure they have easy access to a power outlet. Adam sets up his Dell laptop, plugs it in, takes out his notepad and pen and starts taking a few notes. The women head over to get some coffee. Once they're back at their table, the three continue to discuss, Adam takes more notes. A fourth person joins the group shortly. Dressed in a formal suit, he appears to be the "party" they're here to meet. The newcomer sets up his laptop so the others can see the information on his screen. Quickly the four are lost in a deep discussion, only looking up when someone approaches the nearby table or when the barista makes a quick round to bus the next table.

Monday 3:00 PM. I return for an afternoon pick-me-up mocha. Adam and one of his colleagues are still at their table. Later when I start up a conversation with them, Adam mentions he finds Starbucks a convenient place to work from while on business trips or away from home. It is a great place to conduct business meetings or as a meeting point for business acquaintances. And they do serve a pretty good cup of coffee.

When I approached Adam to give him my survey, he told me that it had been a busy day and that he got a lot of work done. He had come to Seattle for an Information Sciences conference and his firm had asked him to talk to a various people. He felt that it was easier for him to schedule his meeting in a Starbucks coffee-shop than meet people at the conference hall. His colleague, Smith was helping him to arrange these meeting with his business clients and also a few interview candidates to meet him here, they would meet and greet them and Adam would quickly make notes and update his files for other colleagues to see on the company Intranet. It was raining outside; he felt he had got a lot work done. He was hoping to make some business decisions and take the red eye to the East Coast that same day.

Adam and Smith were quite aware that they were using Starbucks coffee-shop as a temporary office and a meeting room. Adam had spread his paraphernalia on the table, in a way marked his territory in the public space. As I sat observing, Adam and Smith and other Wi-Fi users, it was clear that the use of Wi-Fi devices in public spaces draws on several dimensions of social interaction: co-present vs. remote interaction and focused vs. unfocused interaction. Also there are no clear boundaries between these social interactions and media usage intertwined with face-to-face interactions.

Wi-Fi users' and laptop users' behavior is similar in many ways: both laptop users and Wi-Fi users make use of their devices to read and write during their time at the coffee-shop. The users' main activity is reading or typing which resembles the main activity of the newspaper reading or writing in coffee-shops. Wi-Fi users have access to information on the Internet, they e-mail/instant message frequently to communicate with people in different physical locations and different social situations from them. Wi-Fi users' mostly interacted non-verbally with co-present others and via text with remote-others and these forms of communication frequently spark verbal contact either through face-to-face encounters with co-present patrons or via mobile phone with remote-others. Wi-Fi users interact on a double front stage (Ling 1997). Wi-Fi users are interacting synchronously or asynchronously with their virtual social ties but also with those in near proximity usually via non-verbal communication.

Here I discuss some observations of how Wi-Fi users behave with co-present others.

4.0 Goffman's schema

Use of coffee-shop as a work space is a typical activity for business travelers. Adam and Smith are conducting their key work activity –meeting business clients in a coffee-shop. It is obvious that people have varied and different reasons to visit coffee-shops from easy access to good cup of coffee, Wi-Fi access and the social and physical coffee-shop ambience. All these factors support opportunities for social interactions. I begin with Adam and Smith's case as an example because it demonstrates several types of social interaction activities that are common among other Wi-Fi users. These can be broadly classified using Goffman's schema as:

1. Context and Time
2. Unfocused Interaction Vs. Focused Interaction
3. Entrance And Exit Interaction Rituals
4. Civil Inattention
5. Co-presence means accessibility and availability

6. Verbal Vs. Non-Verbal

4.0.1 Context and Time

The coffee-shop is a place with constant flow of activity. During my observations, I found that there were different rhythms of users' daily activity. Wi-Fi users mostly came to coffee-shops early in the mornings and early in the evenings. Some who came during the afternoon normally stayed through the evening. There were also cases like Adam and his workmates who stayed at the coffee-shops for almost the entire day. More Wi-Fi users were seen during the weekends, mostly during afternoon and early evenings. I also noticed that there were fewer people with laptops during peak hours such as lunch hours or dinner time. Those I met during dinner time were either talking to someone by phone or chatting online. I found no customers with laptops on Christmas Eve, and although I did not do my core observations during that time, I was curious to see whether what Goffman had suggested holds true for Wi-Fi users. Goffman (1963) points out that

“Morning and lunchtime are times when anyone can appear alone almost anywhere without this giving an evidence of how the person is faring in the social world; dinner and other evening activities, however, provide unfavorable information about unaccompanied participants, especially damaging in the case of female participants. Weekend nights, and ceremonial occasions such as Thanksgiving, Christmas, and, especially New Year's Eve, are given special weight in this connection, being times when an unengaged individual in a semipublic place may feel very much out of place.”

My finding was that presence of Wi-Fi users in public places depends on the day, week and month and is tied up with their work routines.

4.0.2 Unfocused Interaction Versus Focused Interaction

Adam demonstrated both focused and unfocused interactions with people in the coffee-shop, and the other twenty seven people who were co-present in the coffee-shop showed unfocused involvement with Adam. Unfocused interaction is "the kind of communication that occurs when one gleans information about another person present by glancing" while focused interaction is "the kind of interaction that occurs when persons gather close together and openly cooperate to sustain a single focus of attention, typically by taking turns talking" (Goffman, 1963). People can also be partly focused especially in conversation where are more than two people.

Adam's focused behavior with his business contacts especially interviewees can be best described as a focused interaction involving face engagement or an encounter which comprised initially of small talk where Adam made the business contacts comfortable in an informal setting and followed it by a formal discussion about the company. These business discussions largely comprised of spoken exchange and was supported by eye-contact and gestures where Adam and business contact were fully focused and attentive to each other.

While Adam's colleagues were also present while Adam was asking questions, they were partly focused. For example, at one instance, I noticed that Smith would look at his laptop or PDA, and browse through his e-mail while he listening to the discussion between Adam and the business client. Then Smith would look up when the business client had to answer and would make eye contact with the client. As Smith made eye contact with the client, the gesture appeared to make client somewhat uncomfortable and they preferred to focus on Adam when answering. I observed as in case of Adam, most Wi-Fi users are partly focused in their face-to-face conversations while connected in a cafe. Being partly focused allows them to go back and forth between their online interactions and face-to-face conversations. This interaction pattern is subtly obvious when Wi-Fi users are communicating asynchronously through e-mail but became obvious when they are communicating online synchronously using instant messenger. While communicating online synchronously using instant messenger, most Wi-Fi users were much more focused online as they had to reply instantly. While using asynchronous forms of communication such as e-mail Wi-Fi users' attention was not immediately required by the online contact so they had time to look around and be partly-focused.

4.0.3 Entrance and Exit Interaction Rituals

Adam also employed Smith as a person who would mark the entrance and departure of these business contacts. These encounters were of an obligatory nature. The host got up, greeted the entering party, made eye contact and included them in the existing group and allowed them to participate in the conversation, and the exit was marked with a similar kind of interaction pattern. This interaction was always followed by leave-taking notes. Adam effectively used his laptop as a shield during the time Smith used the interaction ritual to loop the clients in the conversation. Adam continued to work on his laptop using the Internet to surf information until the client was right by his table and Smith formally introduced them. Similarly, Adam would go back to working on his laptop, right after Smith thanked the business client and got up to escort the client to the coffee-shop door.

Like Adam, Wi-Fi users spend the time gap between the different face-to-face interaction rituals to either check their e-mail or surf on the web. While waiting for an e-mail reply, Wi-Fi users stare at other co-present users, look around or just stare outside.

4.0.4 Civil Inattention

I noticed a pattern while Adam was waiting for the clients alone or when Smith was working on his laptop. Adam would stare openly and fixedly at others sitting in the coffee-shop, or at people walking on the street and even at Smith. It was either that he was just gleaning what other people were doing or acting as if they were not at all there, “as objects not worthy of a glance, let alone close scrutiny” (Goffman, 1963). Basically, Adam and his workmates avoided looking at other people in the coffee-shop who stared at them and were probably curious to understand what they were doing in the coffee-shop. Alternatively, when not staring at their screens, Adam and his colleagues would stare at other people as if the other people in the coffee-shop did not exist. Adam and his colleagues stared at people around them not because they wanted to be arrogant but because they were displaying what Goffman (1963) calls “civil inattention – what seems to be involved is that one gives to another enough visual notice to demonstrate that one appreciates that the other is present (and admits openly to have seen him), while the next moment withdrawing one’s attention from him so as to express that he does not constitute a target of special curiosity or design)”.

And if someone made an eye contact, he would either smile back and look away or stare at his laptop, mobile phone or PDA screen. It is interesting how users employ these shields to manage their encounters with others and establish a boundary between themselves and others. Goffman (1963) also mentions portable involvement shields such as fans, masks, our own hands to conceal our facial expressions. Handhelds fall into the category of portable involvement shields and Wi-Fi users employ it to communicate various non-verbal messages to people around them.

4.0.5 Non-verbal communication

Much of real-world communication is non-verbal, consisting of physical actions such as gestures, facial expressions, vocal tone, etc. Wi-Fi users were constantly using non-verbal communication with co-present others. Coffee-shops staffs that I studied were apt at understanding patron’s body language and gestures. Whether they were providing service at the counter, cleaning the floor or removing the trash, they were constantly alert to customers’ gestures, movement and position in order to provide good customer experience. They would constantly look around to see if people were waving or trying to make eye contact with them, trying to get their laptops set up, looking for help with connectivity issues or even damaging

the store property. Also, when providing service at the counter, they were constantly monitoring the customers' actions and would wait to provide them their receipt to sign or their hot coffee.

4.0.5.1 Gestural/Gazal Interactions

Wi-Fi users employ gestures and gaze to communicate subtle social interactions; these gestural and gazal interactions tell us about the occasion and the relationship. Body language is a form of important non-verbal interaction that is usually taken for granted and usually carried out automatically. The situation becomes even more interesting when there are co-present partners, for examples a couple with one laptop or co-workers with their own laptops or a group of people with one or two people in the group having a laptop (as usually happens when people are conducting business or fundraising meetings in coffee-shops).

Couples or close friends or what Goffman calls accredited groups of individuals usually sit on the same side of the table close to each other, looking at content on the screen and then exchanging glances, talking, exchanging smiles with each other. I saw such a couple sitting at one end of the coffee-shop. They were sitting on the same side of the table. The woman was reading off the screen and the man was looking at the screen. The man was drinking tea and eating a sandwich and contributing when the woman stopped reading. They looked at each other, exchanged smiles and laughed.

While sharing the content, the Wi-Fi users communicated with people in accredited groups of individuals non-verbally. While online, they used emoticons and written expressions to communicate similar feelings.

4.0.6 Involvement

While Adam was discussing business, I noticed that his involvement would vary through the discussion. At moments, he would be attentive, engaged in the conversation, would ask the questions and respond to the client's queries. He would look up their documents on his laptop screen and ask them further questions. Adam conveyed his involvement through his gestures and his constant eye contact with the client. Whenever he was required to look at his laptop, he would involve the client in the process by either pull it towards them to share the screen or quickly glance at it or get back to the conversation. He showed sustained attentiveness in the encounters where he was asking questions. However, as I pointed out earlier, when Smith

started asking questions, he would stare at his screen and listen to the conversation and nod in between.

When Adam was alone, he drank coffee and ate cookies as a side activity while his main activity was to read and reply to his e-mails. Smith closed his laptop and sipped coffee as he discussed the various business opportunities with him, making coffee drinking his primary activity. The same activity, for example, drinking coffee in the coffee-shop, could be a primary or secondary activity for Wi-Fi users. In coffee-shops, we may think that drinking coffee is the prime activity, but I have observed that when people drink coffee alone, they either stare out of the window, pretending they are watching people outside or read newspaper, magazine, notebook or loose print outs.

Similarly mobile technology users employ their devices whether it is mobile phone, laptop or PDAs to the same effect. The key point here is that there is a continuity of how media types are used. People have used newspapers, magazines, books and televisions as substitute companions in public spaces. Now they are using Wi-Fi enabled laptops, mobile phones (when not talking) and PDAs as substitute companions for secondary involvement while drinking coffee or eating in the coffee-shops.

4.0.6.1 Not Shutting Down But Paying Careful Attention

I observed when a Wi-Fi user like Adam was alone, it was easier for him to focus his gestures and gaze on the laptop screen and avoid eye contact, than to focus on communicating with a remote party, especially while using synchronous communication. However, when composing e-mails, contributing to blogs and posting pictures, it was difficult for him just like a laptop user writing an essay on the word document to stare at the screen for too long. I observed that in the latter cases, users looked around at other people sometimes watching other patrons, watching people outside on the street, glancing at activities of staff at the counter or sometimes just staring blankly. Such behavior is very similar to what Ellis had reported patrons doing in seventeenth to eighteenth century coffee-shops.

As a social etiquette, people avoid making eye contact with other patrons, but watch them when they are not looking. If people happen to make eye contact, they either exchange smiles, nod their heads in greeting or if they are sitting across the table, there are high chances these encounter leading into a conversations. In such cases, I noticed that the mobile device becomes a starting point for discussion. For example, an old lady,

Don, was sitting across from Avid, a business traveler. Don finished reading her paper, and looked around. Avid was also looking around as a group of loud teenagers entered the coffee-shop; they were talking loudly amongst themselves. Avid looked at the old lady sharing his table, they greeted each other, and the old lady asked him which laptop he had and whether he was visiting. The old lady and Don chatted for next twenty minutes, sipping coffee while Don kept his screen open occasionally glancing at his screen.

This observation points to the fact that Wi-Fi users were not completely immersing themselves in private cocoons in public places but looking for reasons and ways in which they could communicate with other people in the coffee-shops.

4.0.6.2 Fear of Having No Purpose

The other thing I observed is that when we are alone in a public place, we have a fear of “having no purpose”. If we are in a public place and it looks like that we have no business there, it may not seem socially appropriate. In coffee-shops where it is okay to be there to drink coffee but loitering is definitely not allowed by coffee-shop owners, so coffee-shops patrons deploy different methods to look “busy”.

Being disengaged is our big social fear especially in public spaces and people try to cover their “being there” with an acceptable visible activity. Some of these activities may be looking out of the window as if waiting for someone, writing on a notebook, reading or flipping through a newspaper, magazine or book and browsing the Internet, typing, reading or even staring at the screen of the laptop, PDAs or mobile phone. These moments as Goffman (1963) would put it are “legitimate momentary diversions” and we don’t look as if we don’t have a purpose or business. For example, I noticed that Roth walked into the coffee-shop. He bought a coffee and walked to a corner window seat for two. He pulled out his laptop and kept it on the table. He gazed outside the window and then adjusted his belongings, opened his jacket and hung it on to the chair besides him. He pulled his adaptor and looked around for the power outlet. Then he sipped coffee for few moments and started his laptop. While his laptop was starting, he looked out of the window and sipped his coffee. He then put in his wireless card and logged into the T-mobile account. He opened Microsoft Outlook and checked his e-mail. He was surfing the web for a bit and then opened a document with a dimensioned drawing on it and then continued to browse. Then he made a phone call, looked around. He continued to work on his laptop; he looked around frequently and sipped his coffee. He stared

outside the window and then went back to surfing a website with a lot of pictures. He was in the coffee-shop for almost thirty minutes and decided to leave. The two men occupied that table where he had plugged in his power outlet. He asked the two men if he could unplug his cord and got into a conversation. He stood there for a while talking to these two gentlemen. He packed his belongings and left. In the above observation, the man was constantly doing something to show that he was engaged.

4.0.6.3 Over-Involvement

I also noticed that there are some activities where people may be over-involved. Examples include: reading a novel or a book, silently immersing themselves in a video game and in case of Wi-Fi users, engrossed in surfing the web, solving a code problem or chatting with someone on instant messenger, or in case of a mobile phone talking to someone. In these cases, people are so deeply involved in an activity that they forget that they are physically present in the coffee-shop. Ling (2004) has suggested this behavior as users' disregard for those co-presents and has made a case for increased privatism in public space by Wi-Fi users. However, this over-involvement is not particular to Wi-Fi or mobile phone users only: a good book or a newspaper article can have the same effect. When over-involved users disengage from an absorbing activity, they hastily try to reallocate their involvement either by moving out of the space, fiddling with their mobile device paraphernalia or some item.

4.1 What Does Wi-Fi Users' Behavior With Co-Present Others Suggest?

Adam's and Smith's story is a case in point on various ways in which Wi-Fi users much like other media users can be seen in the coffee-shops – creating private cocoons of close group of people or themselves when they are alone. These observations have made pundits complain about the age old fears that new media technology creates isolated individuals and groups, that there is no social interaction taking place in public spaces, and therefore no place for social cohesion and community. Further, those Wi-Fi users who are seen alone (and I observed that most were) are pitiable, as scholars and observers who have studied public places usually think that being alone in the public place is “pathetic”. Lofland (1973) notes that scholars such as Jane Jacobs discuss the assumption that “people are “on the street” only because they don't have “decent homes” to go to”.

However, Lofland suggests that “the pleasure (of being alone) may reside in the comfort of being surrounded by the hum of conversation”. I used the opportunity to ask my respondents why they like to spend time using Wi-Fi in coffee-shops. I got several responses which support

Lofland's argument and what some respondents called "background noise [that] helps me focus--and I know other people who think so too". One respondent viewed it as a break. He said,

"I do a lot more writing at home, actually, but sitting in a coffee house is a temporary break. At home, usually means that I walk a mile down to town, work there a while, and then walk back, so it's a matter of changing the dynamic, though sometimes that means using my writing pad instead. When I'm on the road, as I was when in Cambridge, it's just the most pleasant place I can find to take some writing time away from doing whatever I'm there to do - I have a very hard time sitting in a hotel room for any length of time."

Other respondents argued that change of pace helps them focus. One said, "It is nice to get out of the office if I don't have a specific reason to be there. The change of pace seems to be good for my productivity. I don't have Internet access at home." Others felt that they can be more productive especially if they were traveling far from work or home, and could do work between meetings. Still others suggested that they "derived the joy from a sense of oneness with the other inhabitants of a setting" or as one coffee-shop patron suggested,

"Instead of using the laptop at their home - I like to be in a place where some positive distractions - happy people, playing children, music (not always so good at SB [Starbucks] though), attractive woman occasionally walks by, etc... I can focus on what I'm doing and then when I want to de-focus - it's a nice distraction."

People-watching was the other reason coffee-shop patrons suggested why they liked coming to the coffee-shop. One respondent claimed,

"Also, it's a great place to watch people and see how they interact. I guess many people go to coffee-shops to do that, but when you've got a laptop and Wi-Fi, it is great material if like me (sometimes) you're trying to write some fiction."

Having co-present people around in the proximity suggests, firstly people are accessible and available for a potential encounter and secondly, there is pleasure in people-watching and being watched. Further, being among strangers permits the pleasure of being anonymous for real in public - something that is usually enjoyed while socializing in chat rooms online where it is possible to remain anonymous.

a) Co-presence means accessibility and availability for both scheduled and serendipitous encounters

Adam's and his colleagues' actions did convey to people in the coffee-shop that "something was going on", even though it was not their business. Obviously, for Adam and his workmates, being present in Starbucks coffee-shop meant they should be ready for potential face-to-face encounters with friendly strangers, coffee-shop staff or fellow conference delegates who happened to stop by at this particular coffee-shop. Wi-Fi users utilized the coffee-shop as a place for face-to-face scheduled encounters; however some of the encounters were not planned. Adam happened to get into conversations with people trying to plug in their laptops. He did not come to the coffee-shop with the intention of meeting other people but these chance encounters added to his experience of the Starbucks coffee-shop.

Some of these chance encounters were also tied to Wi-Fi users work routines. For example, several other regular Wi-Fi users would come to Starbucks early in the mornings to get coffee before heading to their offices and also spend some time checking their e-mails and preparing for their morning and afternoon meetings. They would meet other Wi-Fi users who also shared their morning routine of stopping by at Starbucks to start their day. Coffee-shops emphasized the person-to-place connection that allowed people to connect with familiar strangers who crossed path.

b) Pleasures of Public Solitude:

Even when the Wi-Fi user enters the coffee-shop alone, the user's rituals of entering, using the tables, and looking for power cords creates interaction rituals which are always creating opportunities for them to interact. Users also use their devices as screens to give off signals to show if they are available, busy or unavailable to the people around them. The constant signaling by the users is also part of subtle interactions.

For the people coming alone or with others, people watching also ties in with what Lofland discussed as audience role prominence which is similar to Goffman's theater metaphor where both watching and being watched becomes a pleasurable activity. It is even better when you have a new gadget or device. The association of being seen with the latest gadgets adds to pleasure.

Lofland (1973) uses Playfulness/Frivolity/Fantasy to describe the “pleasures that involve a release from “real” identities and responsibilities –from the serious stuff of everyday life” which may not hold if a Wi-Fi user is doing work at a coffee-shop. Some Wi-Fi users mention that they are not concentrating as hard on work while they are at the coffee-shop as they would at office. There are a fewer distractions in an office cubical but coffee-shops are very eventful. Lofland also noted that watching lovers and close friends allows people who are alone to engage in their own fantasies. For Wi-Fi users, possibility of playing out their fantasies works both at the front stage in the physical coffee-shop and the back stage which is the virtual space on the Internet. Wi-Fi users are not just “working” while they were in the coffee-shops but also connecting with their social ties such as friends, coworkers, family and other acquaintances online.

4.2 Are Wi-Fi Networked Coffee-Shops Serving As Third Places?

Among scholars who have spoken passionately about the joys of being in “third places” and person-to-person interaction is Oldenburg. As he puts it,

“The cardinal and sustaining activity of third places everywhere...is conversation. Nothing more clearly indicates a third place than that the talk there is good; that it is lively, scintillating, colorful, and engaging.”

The type of sociality that Oldenburg (1999) describes for third places is mainly strong ties. I found that users in coffee-shops formed fairly heterogeneous (strong and weak) ties as not only did the Wi-Fi users come with their friends and family to the coffee-shops they also indulged in fleeting discussions with strangers in the coffee-shops. These various types of relationships are discussed in detail later. The heterogeneous membership of the coffee-shop allowed for low barriers to entry for weak ties (Liff & Steward 2003). There is definitely room for cultural variations because unlike India or parts of Europe such as Spain the festivities of the “third place” are not supported in America. But that a coffee-shop is a place which people find pleasurable is beyond question. While I did not observe intense social and emotional interactions happening in the coffee-shops like these countries or find people as Oldenburg’s described, “patting on the back” and engaged in a verbal discussion, there were definitely different ways in which users enjoyed being physically present in the coffee-shop. Wi-Fi patrons did feel relaxed being in the coffee-shop environment. Even focused business people like Adam wanted to conduct business in coffee-shops rather than conference cubicles so that clients could feel at ease. My finding is that these coffee-shops showed third place affordances cannot yet claim to be “third places” as Oldenburg describes.

However as the penetration of Wi-Fi technologies increase, these patterns of collective social rules of using new technologies in coffee-shops will become more obvious. Further, information exchange is crucial to understanding whether there will be revitalization of the public sphere. People watching and non-verbal communication dominates face-to-face communications, opening channels for serendipitous encounters. In the next chapter, I'll investigate what kinds of activities users are engaged in while they are online and how their online experiences intermingle with their face-to-face experiences in the coffee-shop.

This section looks at online and offline experiences of Wi-Fi users. Since these experiences and pleasures of public sociability are intertwined, I weave my observations of human-to-human interactions that I discussed in last chapter with data from my online survey and e-mail interviews.

Wi-Fi Users' Web of Relationships: Offline and Online

It is 9:00 PM on a cold Boston winter evening. Neither is the air too cold nor is it snowing for the moment so lots of people are out walking around Central Square. The coffee-shop in the heart of the place is warm and packed. Some people wait in line for their drinks, other sit around in cozy circles chatting away. Some sit alone reading newspapers and still others are working away on their laptops. On the opposite table in the corner by the window, Allen, a 30-something coffee-shop regular, is engrossed in watching a video on Yahoo! News while keeping tabs on his Yahoo e-mail. Then abruptly he scrolls down the screen to search for something, clicks a link and surfs the web for a while. Then he quickly collects his stuff and walks over to the service counter and starts chatting with another coffee-house customer. The two apparently know each other well, the friend puts away his mobile phone and the two walk back towards the seat near the window. Allen once again flips open his laptop positioning the screen so both can see the action. Allen instant messages another buddy, a common friend back in their hometown. Pretty soon both Allen and his friend are completely immersed in their friendly chat with their online buddy while they sip away at their lattes.

A coffee-shop is a space where the public and private co-exist. Coffee-shops are now a realm where our online and offline relationships co-exist. Besides the grab-and-go trips to the coffee shop, these spaces have also served as places to meet up with friends and family, get a drink, a snack maybe and simply "hang out". Often hanging out leads to meeting other regulars or newcomers, people who are in just for a quick swig of caffeine or others who prefer to take a long relaxing break on comfy wicker chairs, reading or clicking away on their laptops. All in all, hanging out in a coffee-shop these days entails engaging in a variety of social interactions. While in the past these interactions were limited with people who are collocated, an increase in the availability of Wi-Fi networks in public places such as coffee houses now allows users to actively intermingle both their offline and online social relationships seamlessly. Most people I spoke to felt that the Internet had become an integral part of their life. They indicated that their laptop and cell phone give them the mobility they desire. Easy Wi-Fi access in these "enabled environments" in turn allows access to online information and helps connect with their remote contacts at any time. Some went so far as to suggest a feeling of total dependence on the Internet and felt "(they were) missing something" if they didn't have access to the Internet.

Most Wi-Fi users I spoke with also had Internet access at home or work or at both places. Many felt comfortable or as some would suggest compelled to stay connected even in the somewhat public space of a coffee shop. Some spent just a few minutes on-line, chatting or downloading information. Others spent hours chipping away at their work, connecting intermittently or staying connected all the time. And some spent the entire day at a coffee-shop engaging in a variety of social interactions online and off. Respondents stated engaging in a broad range of online activities such as information gathering, communicating with their social contacts, shopping, and listening to music, etc., a large majority indicated they used the Internet to stay in touch with friends and family. Arguably Wi-Fi access is effectively presenting these coffee-house patrons opportunities to easily mingle with their online and offline communities, build on some weak and some strong ties, and thus add to their social capital.

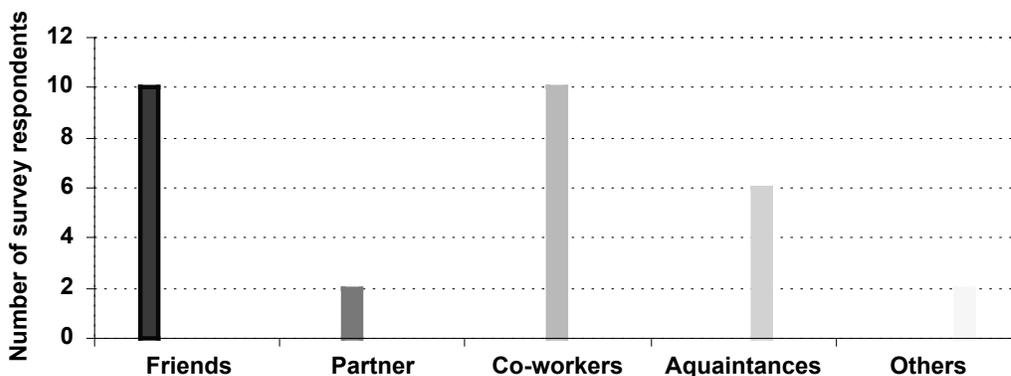


Figure 13: Wi-Fi users utilize Internet to keep in touch with their social ties. Source: Author.

While Wi-Fi access in coffee houses enables untethered access to online spaces for information work and social interaction and the physical setting affords the ambiance and opportunity for collocated social interaction, my data has uncovered certain marked differences in the way coffee-house patrons using Wi-Fi services are capitalizing on these opportunities to shape their social networks. My observations have led me to uncover two basic user profiles which map closely to Putnam’s notion of bridging and bonding social capital. The Wi-Fi users that engage in task-oriented interactions primarily with others in their work or home environments can be described as “true mobile(s)” vs. other type who can be termed “socializers” as they freely engage in social interactions with casual acquaintances and primarily seek to connect with other patrons.

5.0 True-Mobiles Vs. Socializers

Ashley is a true mobile. As an independent consultant with clients scattered all across the Boston metro area he often needs to meet clients in their neighborhoods. He schedules his meetings in the neighborhood coffee shop which allows for a convenient yet neutral territory. While he waits for his clients he remains focused on his work. Although he often finds himself in the middle of coffee house buzzing with activity he continues to stay aware of the fact that his priority is to get the work done, not meet people he doesn't know. Sometimes he continues to work in the coffee shop after an appointment to effectively make his day more productive.

For true mobiles, coffee shops function as a backdrop for their primary activities such as reading or working at their computers. True mobiles seek a change of place of work without losing the convenience and functionality of untethered access to the Internet. For true mobiles often working from coffee-shops means loosening up their social interaction routines at work or home from the demands placed upon them by the immediate environment. These users also typify those who extended their workspace into the coffee-shop by working overtime or between meetings at coffee-shops. True mobiles check their inboxes, send e-mail, download software or access business data on their corporate intranets. In the coffee shops these users remain primarily focused on their tasks and then leave without much fanfare. When not at the coffee shop, true mobiles use the Internet to stay connected with their social networks: their friends, family, and co-workers, local and otherwise. The coffee-shop setting is more of a convenience where they can get Wi-Fi access and interact unfettered with other people in relation to the task they are doing. The extent to which they can be distracted from their work depends on the atmosphere in the coffee-shop but most of those interviewed maintained they could freely interact with their online contacts and still focus on getting work done. Wellman describes these true mobiles as "networked individuals". These individuals interact with their networks in a truly untethered fashion because as Wellman (2002) points out "moving around with a mobile phone, pager, or wireless Internet makes people less dependent on place. Because connections are to people and not to places, the technology affords shifting of work and community ties from linking people-in-places to linking people wherever they are. It is I-alone that is reachable wherever I am: at a house, hotel, office, freeway or mall. The person has become the portal". Wellman's argument points to the notion that "I do not need to be tied to home or work (place), that I can move around and still reach others and be reached if required." And while true mobiles engage their online networks they tend to participate in a peripheral sense in the goings-on in their physical environment.

Socializers on the other hand seek the inherently casual sociability afforded by the physical setting. They are the ones who actively contribute towards building the coffee-shop community.

Socializers come to coffee-shop to “hang-out”, do something and possibly nothing in particular, to fill or kill time. These active community members use their devices and Wi-Fi connectivity as a premise to entering and engaging in the social hub-hub of the coffee-shop, essentially talk to staff, other patrons, and in turn shape the “sociability” aspect of the coffee-shop’s atmosphere. For them Wi-Fi is the means – what appeals to them is the sociability of the coffee-shop where they can engage in casual interactions while they surf the web, check e-mail, and just enjoy the ambiance. They are usually familiar with the coffee-shop and given the proximity to their homes or work hang out regularly. Some of them spend time chatting with their friends in their physical vicinity or remotely via online chat rooms or instant messaging, and share information through blogging and e-mail.

For example, David is a recent graduate and runs his freelance business and due to his flexible work and home routines, he is able to spend more time in coffee-shops. He says,

“Don't have a work office - traveling more than half the time so don't need one - especially with Starbucks around. Instead of at home - well - don't have a home either - just crash with friends wherever I'm traveling. Instead of using the laptop at their home - I like to be in a place where some positive distractions - happy people, playing children, music (not always so good at [Starbucks] though), attractive woman occasionally walks by, etc... I can focus on what I'm doing and then when I want to de-focus - it's a nice distraction. [He] Met people face to face. [He has] Spoken to people several times. People ask me about laptops frequently - and about wireless services - helped several people learn what they need to buy. Also, while in line about to order - meet people sometimes. Religious people sometimes use [Starbucks] to make connections and invite me to their church.”

Business travelers or local full time employees who like to spend some time away from their office cubicles and work were mainly “true-mobile” types but there were also exceptions, especially if their offices was close by or they came to the coffee-shop after their meetings to relax. Students seemed to also straddle the two categories. There were fewer women Wi-Fi users than men, and these women were mostly locals and they came mostly alone. Those who came alone seemed to be mainly socializers. The older users - 40-50+, most of them were activists, non-profit executives or business consultants and were mostly socializers. Younger people which included users between 25-35, spoke to people around them less but were mostly into people-watching and socializing with friends on the Internet or phone.

From my survey results, I also noticed a pattern that socializers visit more often. Most “true mobiles” replied one to two times but socializers replied that they have been to the coffee-shop almost every day of the week. I also asked people how much time they spent in a coffee-shop. Both “true mobiles” and socializers replied that they spent more than thirty minutes in the coffee-shop. Six out of twenty survey respondents had also mentioned that they usually stayed more than 4-5 hours and that it was common for them to spend afternoons at coffee-shops. A user said that he worked from Monday to Thursday at the office and every Friday from Starbucks. It is common for Wi-Fi users to spend increased amount of time at coffee-shops irrespective of the fact whether people came alone or with friends, co-workers or partners.

The coffee-shop provides a setting for both these user profiles. In fact, some coffee-shop has come to embody these profiles in the very nature of their offerings as they offer anonymity or community in varying degrees. The free Wi-Fi community coffee-shop, Trident, attracted largely the socializer types. Chaco Canyon could not provide good service, so it was neither popular among socializers nor “true mobiles”. On the other hand, Starbucks where users pay a small premium for Wi-Fi access but can gain access at one of the several hundred locations nationwide was popular among “true mobiles” who find it a good place to spend time between meetings, to get work done and spend time when traveling away from home or work. But these bounding notions of what coffee-shops embody are getting blurred as the Internet extends the coffee-shop space beyond the local physical space.¹⁴

5.1 Types of Relationships

Both socializers and “true mobiles” form different kinds of person-to-person relationships in coffee-shops. These types of relationships are also reflected in their online interactions. Using Lofland’s vocabulary, I will describe the relationships of Wi-Fi users in terms of: the fleeting, the routinized, the quasi-primary, and the intimate-secondary relationships.

5.2.1 Fleeting Relationships. Mostly, the “true mobile” types participate in these kinds of relationships with co-present other but the “true mobile” had busy asynchronous online life. These relationships occurred for a very brief duration (seconds or minutes). For example, one Wi-Fi user had a question about connectivity, he asked another Wi-Fi user on the table next to him: “Do you know how to get this working on my machine?” The other person replied, “no” and went back to surfing the web. Another Wi-Fi user

¹⁴ Similar results found by Laegran & Stewart: *Configuring the Internet cafe*

entered a busy coffee-shop and asked a person, “Is this seat taken?”, the person before him shook his head and the Wi-Fi user sat down.

5.2.2 Routinized Relationships. Fleeting and routinized relationships are common in coffee-shops. Both of these are interactions with strangers or coffee-shop staff. The customer-staff relation can be seen as a routinized relationship. They seem to be helpful, and they comment on the Wi-Fi gadget when they are cleaning the table or the floor next to a Wi-Fi user. Both the parties go through their work without putting too much effort in their interaction; however, these interactions also serve as icebreakers and help open doors to other kinds of interactions such as quasi-primary or intimate-secondary relationships described below.

With Internet access, Wi-Fi users extend their routinized relationship to interaction with their strong ties. For example, business travelers let their co-workers or family members know where they have reached or that they have finished their meeting or completed working on a task. Often, business users want to make meeting notes and keep a written record of their discussions and convey it to their co-workers. They also use e-mail rather than phone calls because of its asynchronous nature, keeping in mind time differences.

5.2.3 Quasi-primary relationships. Lofland claims that positive quasi-primary relationships generate sociability. For example, Wi-Fi users who have the same new model of laptops discuss prices, or technicians exchange shop talk with other technically-inclined users. One Wi-Fi user might be surfing a website when another user stops to look at the website and starts a discussion around the products featured on the website, or a Wi-Fi user finds an interesting article on art and shows it to the artist sketching beside him. Since, these relationships are more of “similar interest supported relationships”, these encounters last longer than fleeting encounters.

5.2.4 Intimate-secondary relationships. These kinds of relationships again as Lofland suggests are similar to quasi-primary relationships. They mostly occur amongst weak ties but are longer lasting and usually have a “personalized link” to them. Some Wi-Fi users have reported meeting their future partners in coffee-shops in encounters where they commented on a device and began conversations which lead them to meeting again. Others have reported spending hours talking to the barista. Both socializers and “true mobile” Wi-Fi users reported forming intimate-secondary relationships online.

5.2 Wi-Fi Users and Their Online Usage Routines

Most Wi-Fi users I observed, especially the “true mobile” type, are perfect examples of people who are internet savvy and for them coffee-shop is yet another venue for using the Internet apart from home, work, school or libraries. Both “true mobile” and “socializers” can be categorized further into a range that extends from “expert” to “newbie” Internet users. The “experts” were usually technology savvy users and “newbies” were novices teaching themselves how to use technology. These different users had varied online usage routines.

I observed that Wi-Fi users’ different Internet usage routines also align with different times of the day. Most business people after settling down, turning on their computer, and connecting, check their different e-mails. Normally business people or professionals open their work documents and then check online newspapers, weather and stocks briefly in between going back to e-mail again and then going back to the documents. Others, normally checked e-mail and surfed during the day. During the evening it was mostly surfing and instant messaging. Students generally worked on word documents and alternated between reading and writing e-mails. Most people seem to be checking their e-mail as a routine behavior as soon as they were connected. People working on documents or researching also seemed to take e-mail breaks to write e-mails.

Usually local office people come to coffee-shops for couple of hours during the day. Being at the nearby coffee-shop allowed these Wi-Fi users increased freedom to check their personal e-mails and take breaks between completing work and preparing for meetings. Further, these breaks at coffee-shops are usually accompanied by offline behavior described in the chapter four.

5.3 What are the Wi-Fi users doing online?

E-mail and web-surfing were the two main activities that all respondents (which included true mobiles, socializers, experts & newbies) reported to be doing while they were online in the coffee-shops. Mostly e-mails were sent to friends, co-workers, acquaintances and partners from coffee-shops. The e-mails to friends dominate as the majority of Wi-Fi users tend to be single and socialize more with friends. E-mail and mobile phone were used by Wi-Fi users to coordinate face-to-face scheduled encounters with their friends and family especially during lunch and in the evenings.

The other main activity which Wi-Fi users are usually engaged in is looking for information. Some of the Internet usage was for important activities, like looking for very specific content information about weather, online banking, stocks etc. However, much of the activity was

checking weather, directions, staying in touch with their friends and family. The everyday Internet users staying connected and looking for daily information, was most prevalent in coffee-shops and also was the main connector to users' everyday life.

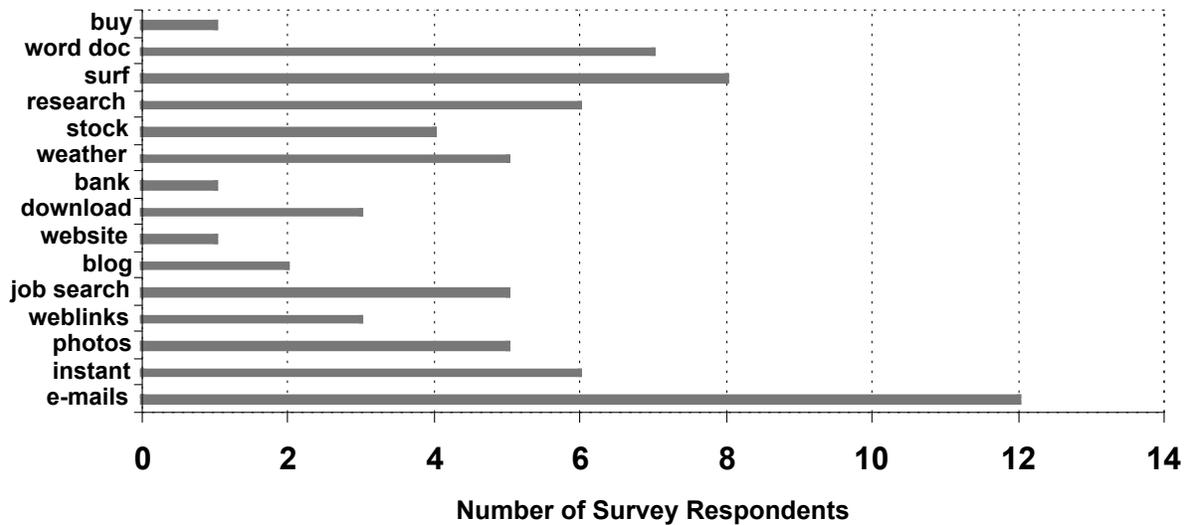


Figure 14: Activities of Wi-Fi users while on the Internet. Source: Author.

Wi-Fi users' spend several hours each day surfing the web without really looking for anything or finding anything or sometimes finding some information serendipitously through search engines. Job seekers and news readers usually looked for targeted information. Wi-Fi users who spend significant amount of time surfing on the web said that if they finding something they identify will be of interested to people they know, they point the information to those people. The information would usually be photos, web links, job listings, music downloads. Exchanging information not only helps them to maintain their relationships but they also use the information exchange as a connector especially connecting with new people.

5.4 Using Internet for Social Contact

Wi-Fi users make use of e-mail as an asynchronous tool to connect with both their kin and friends. E-mail was also seen as the most common activity amongst users not because it is asynchronous but because it is cheaper than the phone – especially across long distances. My observation is that use of e-mail does increase social contact especially with distant friends and kin living in different time zones. Wi-Fi users draw on e-mail with phone which in some cases leads to face-to-face meetings. Mostly, scheduled encounters are organized through use of e-mail and phone.

5.5 Using Internet for Public Participation

A few users reported using e-mails to keep in touch with the organizations of which they are members and some suggested that religious groups also target coffee-shop patrons to promote their groups either face-to-face or through e-mail. Several Wi-Fi users and independent cafe owners were also activists or connected to non-profit groups and belonged to several civic organizations and their main goal was to create public awareness. These users reported that they use e-mail and most recently blogs as a tool to spread their message. Users utilized the Internet just to maintain their ongoing public involvements or find information about other similar organization and local & global political events. I also observed people reading online newspapers and sending their friends links to the articles they had read. This online information exchange activity can relate to Habermas' concept of the public sphere. This information exchange also differentiates Internet usage from passive television watching at home. Some users mentioned that they came to the coffee-shop during weekends to keep themselves from watching television all day. In contrast to television watching, Internet usage through information exchange provides a platform for public participation.

I observed Wi-Fi users reading online newspapers, exchanging links to articles with friends and also discussing it with co-present friends or co-workers. Some users also spoke of their political involvements in the interviews. These users were usually political activist themselves or students from MIT, Harvard or University of Washington. They seemed to be more interested in current political events, public debates, decision made by government. They followed it through multiple channels, through television, online newspapers and various commentaries on the Internet by political organizations.

5.6 Sense of Offline and Online Community

The users are keeping in touch with their families and friends through the Internet. This type of social contact contributes towards their sense of community. The activists and non-profit groups did talk about their active participation in various organizations and political interest and they seemed to suggest a greater sense of community. Users also use their cell phone and online instant messaging to chat with friends, co-workers and family. As Quan-Haase(2003) et.al., suggest, online chatting is an environment for socializing, a place for schmoozing, bonding and bridging and having serendipitous interactions. Chatting and surfing the web for recreation is associated with general sense of community.

5.7 Key Point: The Wi-Fi Users and Social Capital

The Wi-Fi users in coffee-shops came from diverse sections of society. Their demographic reveals that people from all walks of life and technical know-how came to the coffee-shop to use Wi-Fi and engage in different kinds of Internet activities. My observation of Internet usage patterns of Wi-Fi users in coffee-shops suggests that there is both potential for bridging and bonding of social ties which contributes to a positive sense of community, public participation and political participation that is linked to increase in social capital. These observations can only provide a glimpse into the Internet usage in public spaces in the future as more people start using Wi-Fi.

To summarize, the physical ambiance of the coffee-shop provides a relaxing background for Wi-Fi users. The connection to the Internet provides an opportunity for them to connect with their social ties both strong and weak, allowing them to access different kinds of resources. Internet use is also less disruptive than the cell phone usage. Wi-Fi users have opportunities both online and offline to socialize, some users utilize online space at some time while others utilize the offline or face-to-face opportunity to socialize.

As Wi-Fi technology gets more pervasive, interesting opportunities that allow for various permutations and combinations of how Wi-Fi users make use of various types of technology to compliment their social interaction needs will become visible. At that point it would be interesting to revisit some of these observations that I have made in an attempt at documenting the beginning stages of the Wi-Fi movement. In the next chapter, I summarize some of my findings.

Findings

6.0 Detailed Findings

6.0.1 Continuity of media usage

A consistent behavior pattern emerged amongst all the media users I observed. I watched people using media forms such as books, newspapers, magazines, notepads, sketchbooks and walkman. They all looked busy, serious, and focused on their work and seemed that they were “not available.” However, what they were really doing was looking at the people around them, watching what other people and the staff were doing, eavesdropping on other people’s conversations, and absorbing the nuances of their social environment.

One point that was evident in my observations is that these media objects (devices, books, newspapers, etc.) worked as props that helped users play a social role in the coffee-shop context. The users employed their props to display of appropriate levels of involvement as discussed in chapter four and as a way to negotiate their online and offline experiences while they were alone, or with other co-present others or in a group. The observation that people were utilizing props to display appropriate level of involvement did not mean that none of them were interacting. In fact, most Wi-Fi users were engaged in, at least, non-verbal communication, if not fleeting encounters, with those co-present others and interacting online with their friends, co-workers, family or acquaintances. What was clear is that Wi-Fi users continue to engage in face-to-face interaction habits much like people reading a newspaper, magazine or a book in the coffee-shop. However, is that the Wi-Fi users can maintain their social ties much like mobile phone users. In addition, they bring along Internet usage habits that they have acquired at

home, work or school. Wi-Fi users constantly go back and forth between their online and offline presence.

6.0.2 Interactivity is key to Public Sociability

In my observations both online and face-to-face, I noted that Wi-Fi users were engaged in two main levels of activities. At one level, Wi-Fi users enjoyed just hanging out people watching, being watched, and just engaging in fleeting relationships, and continued a similar pattern online as Wi-Fi users surfed the web for hours. At a second level, Wi-Fi users talked to people in the coffee-shop as they were engaged in face-to-face encounters. Wi-Fi users formed routinized relationships, quasi-secondary relationships, or even intimate primary relationship while also maintaining their strong social ties online and exchanging information online. Currently, people watching or surfing activities appear to be more prevalent than socializing activities. The majority of Wi-Fi users watched other people rather than getting into a conversation. Similarly, a lot of people reported that they were spending time surfing the Internet for information, rather than actively exchanging information. Both people watching and surfing the web are activities that are good for creating a face-to-face first contact. However, until this contact can be sustained through information exchange, Wi-Fi coffee-shops will only offer “third place” affordances and cannot be termed as “third places” as Oldenburg defined it.

a) Face-To-Face Relationships Reduce Isolation and Encourages Serendipitous Encounters

Another notable observation is that Wi-Fi users enjoyed the face-to-face relationships that I described in greater detail in chapter 3. The non-verbal exchanges, expressions, and corporeal presence of other patrons complemented the lack of these social aspects in their online connections. Not only did the users report that they “felt good” but “relaxed”, “more productive” and “refreshed”. Being the presence of other people also helped Wi-Fi users to reduce anxiety and isolation.

Wi-Fi users, especially socializers, enjoyed chance encounters with strangers, and some of them reported having kept in contact as well. People felt comfortable using their personal devices to connect with others, and after making observations in the field, I believe that, provided a reason to converse with other patrons, even “true mobile” or task-focused types are willing to participate in dialogue or a discussion with co-present others. Currently, most face-to-face encounters of Wi-Fi users are either serendipitous which means that they are chance encounters that users had no control over. The serendipitous face-to-face encounters are triggered either by users’ rituals of use of their

devices. Among these rituals were the way they access the power outlets where they have to reach out against their own personal space to get access, they spread their paraphernalia using a table space for two or four people for themselves and the way in which they walk around the coffee-shop in order to find the right spot to have good connectivity, these rituals provided opportunities for users to get into conversations with other people.

b) "Anytime, Anywhere" Internet Access Is Expected, Not Just Desired

With the explosive growth of Internet usage at places apart from coffee-shops -- home, work, and everywhere in between, including schools, libraries, airports, and restaurants -- Wi-Fi users find it harder to leave the Internet behind. The visibility of laptop-toters looking for Wi-Fi network signs on restaurants and coffee-shops is on the increase. Wi-Fi users I interviewed identified local "hotspots" where they could go to access the Internet, and travelers often relied on either spotting a Wi-Fi "hotspot" or going to Starbucks for their Internet needs. Not only did they expect to find a Wi-Fi hotspot in the city they were in or traveling to, but they also relied on the fact that they would be able to connect at these places. Inability to connect or find resources such as power outlets caused frustration and customer conflicts. One example cited in chapter one is that of the Chacho Canyon Cafe in Seattle. At Chacho Canyon independent cafe, a Wi-Fi network was put together by the owner, his brother and a new technologically savvy friend, but Wi-Fi users grew frustrated when the cafe's connectivity later failed and did not return. Several independent cafes that I visited in Seattle in April were experiencing similar problems of technical maintenance and the difficulty in providing good customer service was a result of the technical problems that Wi-Fi users faced and coffee-shop staff could not solve. Internet usage has become such a core part of our everyday life that "anywhere, anytime access" is expected by the Wi-Fi user, and is articulated by the user as a need rather than a service that is merely desirable. Most users made use of terms like "missing something" or "lost without the Internet". The Wi-Fi users usually had cell phones as well. I observed that when some users failed to connect to the Internet, they would then use their cell phones to inform their families, friends or co-workers that they are unable to connect so they won't be "available" online or need help trouble-shooting. Wi-Fi users reported that without their cell phone and their laptop they felt that they cannot connect with their friends or partners or get their work done on time and the loss of social contact caused them anxiety and they showed signs of frustration.

All users reported that Internet access in public places has made it possible for them to connect to friends, family and co-workers even if they are away from home or work, whether for a short while or for a long period of time. The Internet has also allowed them to access information whenever required. The Internet is now used alongside other means of communication to facilitate existing social relationships and socialization patterns. Different kinds of communication technologies that include Internet, phone and face-to-face connections -- are used to maintain social contacts.

6.0.3 Which Wi-Fi users' types contribute towards local community building?

Wi-Fi users of the "Socializer" type are usually at the coffee-shop to "hangout"; for them it is a place to relax and take a break from their home or work routine. They look for opportunities to get into conversations with people co-present and are friendly with the staff; they frequently call other friends, family members, or other social contacts; or they chat with friends, and contribute to blogs. They directly participate in creating a local community. These people come from diverse backgrounds; most of them tend to be locally-employed regulars, students, freelancers and small business owners. These users see co-presence as being accessible and available and an opportunity to socialize and meet new people.

For "true mobile" or task-oriented users, on the other hand, Internet access is an important requirement. They therefore go to places which offer them reliable connectivity and other public amenities. "True mobile" group of users usually goes to public spaces to access the Internet, not to socialize with people who are co-present. They maintain their social ties using the Internet and participate in their social activities remotely, participating in debates about politics among other things by using the Internet. They form very specific face-to-face relationships in the public space which are either fleeting relationships or routinized relationships. They need ice-breakers to get into conversations. They usually talk to people who approach them, or if they detect some clue indicating a shared special interest, but are otherwise reluctant to socialize. Their main activities are usually watching other people, maintaining their existing social ties through the Internet, and getting work done. The majority of users I observed carried both mobile phones and laptops, while some also carried handhelds and one of the new hybrid devices. These types of users do, at times, signal their need for privacy and display inattention towards other people. The longer these users stay in the coffee-shop, the possibility of them talking to other users is increased. I found that several people who have been in the coffee-shop for longer than 3-4 hours chatting with either staff or some regulars occasionally during their stay there. From my observations, I have concluded that, "true mobile" types pretend to look busy but they are also available and accessible for face-to-face conversation if there is something

that interests them. Looking from a design perspective, “true mobile” group might receive help through social-networking or icebreaker types of applications in their devices, which could give them an excuse to start a conversation.

6.0.4 Low Barrier for Wi-Fi Access Increases the Value of a Coffee-Shop as a Community Gathering Place

One lesson learned from a free Wi-Fi coffee-shop venture in Boston was that if there is a low barrier for entry and some form of technical support provided by the coffee-shop and if the coffee-shop is physically located in a commercial/residential district, it is likely that physical public place will act as a place for Wi-Fi patrons to gather. While early adopters like business people and employed or well-off students are willing to pay for the Wi-Fi service, there are other sections of society who also use the Internet on a daily basis, and who would like to have access when they move around in the city. A subsidized Wi-Fi offering is a model that could work: for example, a “pay while dining” model, with paid technical support service to allow people to resolve technical difficulties and also the provision of software and hardware required for the gadgets to work. A subsidized Wi-Fi coffee-shop with technical support would not only attract users with different technical skills to spend time in the coffee-shop, it would also allow them to get immediate help with technology problems, making their experience better in these public spaces. A better user experience means that Wi-Fi users could become regulars and have reasons to spend time in public spaces.

We know from historical analysis, as I presented in chapter two, that for the price of a cup of coffee, people in the seventeenth and eighteenth centuries spent time in coffee-shops reading books, pamphlets and newspapers. The social face-to-face proximity of the coffee-shop also allowed them to meet new people and discuss their interests in arts, sciences, politics and various other subjects that they read about in the print material. So, the more Wi-Fi users a public place can draw, the better it is from a sociological perspective. My finding is that if the barrier to entry is low, then public places such as coffee-shops will attract different sections of society. The more diverse the Wi-Fi user group is, the better the chances of non-users adopting the technology gets, as well as the chances of Wi-Fi users meeting new people.

We know from Granovetter’s famous essay, “The Strength of Weak Ties,” that meeting new people or what he calls forming weak ties improves people’s access to different kinds of resources such as new careers or job changes. Also, we know from social networks literature that the more diverse these ties are, the better position an individual will be in to gain access to different kinds of resources. Furthermore, Putnam points out that bridging social capital can

only happen if people meet new people. He also suggested that bridging social capital is good for public participation, echoing Habermas' concept of the public sphere where people can express their opinion about political and intellectual debates.

I found that the Internet did allow Wi-Fi users to participate in public and political activities. However, it is too early to conclude whether the Internet serves as a public sphere, because not everyone has access to the Internet yet, and as Habermas pointed out open access is one of the key criteria for the formation of a public sphere.

6.0.5 Wi-Fi Internet in coffee-shops offers “third place affordances” and supports community

Wi-Fi users suggested to me that the coffee-shop serves as a place for them to relax. Internet usage has fit into the traditional social function of a coffee-shop as a place to relax, rather than re-defining the coffee-shop as an office. Wi-Fi users' home and work-space routines are reflected in their behavior in these public places. Users also expect to enjoy the same level of comfort they have at home or at work while working in the coffee-shop. They seem to be essentially doing what they would have done with their mobile devices at work or home, except that they have elected to work in a public place. However, they are also relaxed about checking their e-mail, taking breaks, looking around, and often chatting with strangers -- things which normally would not happen in offices.

Several Wi-Fi users reported that they preferred to work in coffee-shops rather than alone at home or in their dorm or office cubicle. They said that at home they were subject to distractions, such as TV, pets and guests. Others said that it was harder to sit in the same cubicle at work throughout the day.

Some also said that they were currently spending four days working at their job, and one day working at a coffee-shop. Others divided time between their office and coffee-shops on the same day; they took extended lunch breaks if there was a good coffee-shop near their home or office. Others who were traveling, or were away from work or home, also liked the fact that they could be connected to work or their families via Wi-Fi, saying that they can be productive in between meetings. Wi-Fi access in coffee-shops offers “third place affordances,” but it will take time for it to “constitute” a third place; that is, users are only beginning to get comfortable and socialize.

Another important point is that using the Internet in coffee-shops did not keep Wi-Fi users from being part of the coffee-shop environment. It allowed them to be in touch with their friends and

families who were not co-present, while also allowing them to engage in various ways with those co-present. My observation shows that use of the Internet does not socially alienate Wi-Fi users from the co-present.

I also observed them connecting with their friends and family using the cell phone. E-mail and chat was another layer apart from their face-to-face and cell phone social interaction. Thus, Internet usage does not break communities but help users maintain their social relationships. In addition, Wi-Fi users' presence in a public place allows them to be involved at various levels in face-to-face relationships, which can only help build community.

6.1 Future Work

Wi-Fi users reported that they feel relaxed and enjoy the pleasures of public sociability with co-present patrons, while, at the same time, they are able to be connected to their friends, co-workers and family via the Internet. Both face-to-face interaction and online interaction seem to provide a positive sense of community for Wi-Fi users. However, there is still a place for technological interventions that could utilize the opportunity of coffee shop as an "open region," where patrons can utilize the benefit of being collocated and get to know people with similar interests or share and exchange information. William Whyte describes another condition which is the possibilities of triangulation with an "external stimulus" such as public art, shared emergencies, etc. In the case of Wi-Fi users, it is usually their physical electronic devices that induce face-to-face conversations. Recently, some experiments with handhelds at an electronic public display showcase at the UBICOMP 2004 conference in Seattle engaged the co-present patrons in online applications that also served as an ice-breaker. I call these applications using the village well effect. This effect can be achieved either through physical-space design intervention, or software applications that mediate and accelerate the collocated networking possibilities. The idea of the "village well effect" is not novel; several technologists have been experimenting with the "village well effect" idea by utilizing shared desktop display systems and large-scale display technologies in public places to attract technology users to interact in collocated spaces. These experiments are attempting to create ways in which people located in the same space can share or exchange information; most of these public display experiments require face-to-face interaction apart from interacting with the screens. Wi-Fi access in public spaces has opened collocated spaces for variety of social networking technology experiments where the Internet supplements the face-to-face and cell phone social connectivity.

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APPENDICES

APPENDIX I

Observation Timings Table 1: Starbucks – 6th & Union in Downtown Seattle

	Mon Dec 15 th	Tue Dec 16 th	Wed Dec 17 th	Thu Dec 18 th	Fri Dec 19 th	Sat Dec 20 th	Sun Dec 21 st
5:30a.m.							
6:00a.m.							
6:30a.m.							
7:00a.m.							
7:30a.m.							
8:00a.m.							
8:30a.m.							
9:00a.m.							
9:30a.m.							
10:00a.m.							
10:30a.m.							
11:00a.m.							
11:30a.m.							
12:00							

12:30p.m.							
1:00p.m.							
1:30p.m.							
2:00p.m.							
2:30p.m.							
3:00p.m.							
3:30p.m.							
4:00p.m.							
4:30p.m.							
5:00p.m.							
5:30p.m.							
6:00p.m.							
6:30p.m.							
7:00p.m.							

Observation Timings Table 2: Trident Booksellers & Café

	Mon Mar 15th	Tue Mar 16th	Wed Mar 17th	Thu Mar 18th	Fri Mar 19th	Sat Mar 20th	Sun Mar 14th
9:00a.m.							
9:30a.m.							
10:00a.m.							
10:30a.m.							
11:00a.m.							
11:30a.m.							
12:00							
12:30p.m.							
1:00p.m.							
1:30p.m.							
2:00p.m.							
2:30p.m.							
3:00p.m.							
3:30p.m.							
4:00p.m.							
4:30p.m.							
5:00p.m.							
5:30p.m.							
6:00p.m.							
6:30p.m.							
7:00p.m.							
7:30p.m.							
8:00p.m.							
8:30p.m.							
9:00p.m.							
9:30p.m.							
10:00p.m.							

10:30p.m.							
11:00p.m.							
11:30p.m.							
12:00p.m.							

Observation Timings Table 3: Central Square - Cambridge

						Sat Feb 14th	Sun Feb 15th
	Mon Feb 16th	Tue Feb 17th	Wed Feb 18th	Thu Feb 19th	Fri Feb 20th		
6:00a.m.							
6:30a.m.							
7:00a.m.							
7:30a.m.							
8:00a.m.							
8:30a.m.							
9:00a.m.							
9:30a.m.							
10:00a.m.							
10:30a.m.							
11:00a.m.							
11:30a.m.							
12:00							
12:30p.m.							
1:00p.m.							
1:30p.m.							
2:00p.m.							
2:30p.m.							
3:00p.m.							
3:30p.m.							
4:00p.m.							
4:30p.m.							
5:00p.m.							
5:30p.m.							
6:00p.m.							
6:30p.m.							
7:00p.m.							
7:30p.m.							
8:00p.m.							
8:30p.m.							
9:00p.m.							
9:30p.m.							
10:00p.m.							

Observation Timings Table 4: Chaco Canyon - Seattle

			Wed Jan 28 th	Thu Jan 29 th	Fri Jan 30 th	Sat Jan 31 st	Sun Feb 1 st
	Mon Feb 2 nd	Tue Feb 3 rd					
5:30a.m.							
6:00a.m.							
6:30a.m.							
7:00a.m.							
7:30a.m.							
8:00a.m.							
8:30a.m.							
9:00a.m.							
9:30a.m.							
10:00a.m.							
10:30a.m.							
11:00a.m.							
11:30a.m.							
12:00							
12:30p.m.							

1:00p.m.							
1:30p.m.							
2:00p.m.							
2:30p.m.							
3:00p.m.							
3:30p.m.							
4:00p.m.							
4:30p.m.							
5:00p.m.							
5:30p.m.							
6:00p.m.							
6:30p.m.							
7:00p.m.							
7:30p.m.							
8:00p.m.							
8:30p.m.							
9:00p.m.							
9:30p.m.							
10:00p.m.							

APPENDIX II



Phone 617.803.1368
Fax 617.258.5133
Email neeti@mit.edu
<http://web.mit.edu/neeti/Public/survey/comments.html>

December 13, 2003

Dear Participant,

You have been randomly selected to participate in a study on mobile technology use in public spaces by the Massachusetts Institute of Technology. Neeti Gupta, a graduate student in Comparative Media Studies, is conducting this research for her Master's thesis project. The purpose of this study is to develop an understanding of how mobile technologies affect our everyday activities and social interactions.

Please help increase our understanding of how these emerging technologies influence our public spaces and lives. Within the next 24 hours, please visit <http://web.mit.edu/neeti/Public/survey/comments.html> and complete a short online survey. When you visit the website please enter the attached "participant number". This number cannot be used to identify you, but allow us to match your survey with the specific location and time of day when you were provided with this letter. This is important to help us identify the types of people who use technology in different settings. It will take you 10-15 minutes to complete the survey.

By participating in this study you are assisting scientific research, this is not a marketing study. No personal information will be collected that could be used to identify you. Participation in this survey is purely voluntary. You are free to discontinue participation or to decline to answer specific survey questions at any time.

If you have questions about this study, or would like a copy of the results once the study is complete, please contact Neeti Gupta at (617) 803-1368. You may also contact Prof. Keith Hampton at (617) 258-0461. If you feel you have been treated unfairly as a subject, you may also contact the Chairman of the M.I.T. Committee on the Use of Humans as Experimental Subjects (617) 253-6787.

Sincerely,

Neeti Gupta
Graduate Student
Comparative Media Studies

Keith Hampton, Ph.D.
Assistant Professor of Technology,
Urban and Community Sociology



Massachusetts Institute of Technology

MOBILE TECHNOLOGIES IN COFFEEHOUSES

Please, fill the survey at

<http://web.mit.edu/neeti/Public/survey/comments.html>

Your participant number is

APPENDIX IV: Data from the online survey (20 Wi-Fi users completed the survey)

1. Highest level of education:

Level of Education	No. of responses
Not complete high school	0

Completed High school diploma	0
Not completed high 4 year Bachelor Degree	4
Completed Associate Degree	5
Completed Masters Degree	0
Completed Doctoral Degree	0
No reply	11

2. Wi-Fi users present occupation:

Present occupation	No. of responses
Full time employed or self employed	9
Part time employed or self employed	1
Unemployed, looking for work	0
Unemployed, not looking for work	0
Freelance	2
Own your business	1
Homemaker	0
Student, Student/Part time	7
Retired	0
Volunteer	0
Other - Waitress	

3. Self employed employment status:

Status:	No. of responses
Consultant	0
Freelance	0
Own business	0

4. Student status:

Status:	No. of responses
Full time	5
Part time	2

5. Number of times in last 7 days Wi-Fi users visited a coffee house:

Number of times/Week	No. of responses
1/week	3

2/week	5
7/week	3
10/week	1

6. Time spent in a coffeehouse:

Time	No. of responses
Just got coffee and leave	0
Stay for 5-10 minutes	0
Stay for 11-20 minutes	3
Stay for 21-30 minutes	3
Stay for more than 30 minutes	10

7. Wi-Fi users went to the coffee-house with:

Relationship to the user	No. of responses
Alone	10
Work contacts or co-workers	3
Spouse/Partner	2
Children	0
Other relatives	2
Neighbors	0
Members of a common organization or club	2
Friends	7
Other acquaintances	2

8. On the day the Wi-Fi users got the survey they were accompanied by:

Relationship to the user	No. of responses
No one	13
Work contacts or co-workers	0
Spouse/Partner	0
Children	0
Other relatives	0
Neighbors	0
Members of a common organization or club	0
Friends	2
Other acquaintances	2

9. In the last 7 days, hours did spend on e-mail, in total:

Hours	No. of responses
0-5	7
6-10	5
11-15	4
16-20	3
21-25	1

10. In the last 7 days, hours spent on Internet (excluding e-mail):

Hours	No. of responses
0-5	4
6-10	3
11-15	5
16-20	2
21-25	6

11. Device Ownership:

Device	No. of responses
Cell Phone	17
PDA (i.e., Palm Pilot, Pocket PC)	7
Laptop	20
Pager	1
Gaming device (i.e, Game boy, etc)	1
Others	7

12. Usage pattern at the time of meeting with the author (ethnographer):

Usage of	No. of responses
Laptop	20
Wi-Fi for Internet access (i.e., Hotspot or 802.11)	17
PDA (i.e., Palm Pilot, Pocket PC)	1
Pager	0
Gaming device (i.e, Game boy, etc)	0
Others	blackberry

13. Have you ever used Wi-Fi (i.e., 802.11 or wireless hotspots) hotspots in a coffeehouse?

Wi-Fi -Yes	17
Wi-Fi- No	0
No Answer	3

14. When online in a coffee-shop, user is either communicating with/ or

Communicating with/or	No. of responses
Work contacts or co-workers	9
Spouse/partner	7
Children	1
Other relative	4
Neighbor	1
Member of a common organization or club	2
Friend	10
Acquaintance	4

Meeting someone new online	2
Checking and sending e-mails	13
Sending or receiving instant messages	3
Sending or receiving music files	1
Sending or receiving photos	5
Sending or receiving weblinks	3
Accessing work Intranet	4
Searching career or job opportunities	5
Contributing content to a blog	3
Contributing content to a website (other than blog)	1
Downloading music	4
Watching movie clips	2
Banking or investing	3
Checking weather	5
Checking stock market	4
Researching a topic, hobby or personal interest	6
Working on web design	0
Surfing the web for information	9
Buying something online	3
Work on word processing software	6

15. When users received the survey, if users with online or chatting, they were communicating with

Relationship to the user:	No. of responses
Work contacts or co-workers	4
Spouse/Partner	1
Children	0
Other relatives	0
Neighbors	0
Members of a common organization or club	0
Friends	4
Close acquaintances	2
Others	3 (dating partners)

16. For some people coffeehouses are places to meet new people.

Number of new people met: 1-10

Number of new people met in the past 7 days: 1-5

17. Of *all* the new people users met at coffeehouses, how many did they:

- Later, talk to on the phone- 1-7
- Arrange to meet in-person outside of the coffeehouse – 1-5
- Exchange email addresses or other information so that you could communicate over the Internet -2-3

18. Of *all* the new people you have met at coffeehouses, how many would users consider to be “friends” – None

19. How many of those people would users consider to be “close friends” – None

20. Position generator: Did not use for the study

Age Group	No. of responses
18-21	1

22-25	12
26-35	4
36-45	3

21. Gender:

Male	16
Female	4

22. Zip Code:

02139 (5), 02141, 02129, 98166, 95472, 02138, 01841, 02104, 94109, 02115, 90004 (Both locals and travelers)