**Investigating Public Access to Technology:**

What King County libraries in Seattle have the most up to date and easiest access to computers and Wi-Fi available for public usage?

Sinead Rafferty

8-13-18

**Introduction:**

**Literature Review:**

With the rise of technology becoming a staple in the everyday lives of working citizens libraries have adopted technology to give everyone equal access to gain knowledge and many surveys have been produced to monitor the availability of technology to the public.

The Information Technology Access and Adoption in Seattle report that was performed in 2014 details Seattle Washington’s rise in technology ownership and how public access to technology compares to the demand. Using multiple methods of research, including surveys, interviews, and focus groups, researchers took into account age, race, gender, at home access, Wi-Fi services, and many other variables to create a clear picture to determine if the demand for public access to technology was being met. The City of Seattle Department of Information Technology Community Technology Program addresses survey in different forms where they have a survey available online and the same survey also available on mobile phones since some people may only be able to access the survey using phone or computer. In one study done by the department, it showed that in both the phone and online survey an overwhelming amount of respondents sought internet access from home, relatives, a neighborhood cafe or restaurant, or their work (Moore & Gordon, 2014). On another study within the same technical report the departments research findings found that “88% of Seattleites have a home computer (laptop or desktop) and 89% use the internet” yet only “85% have access to the internet at home” and “72% have internet via cable or DSL” Moore & Gordon, 2014). Analyzing this data the department found that many Seattle citizens may have access to a computer but not have Wi-Fi access at home or not have a computer whatsoever. This also reflects many of the other issues that Seattle currently faces like the homeless epidemic who need public access to technology as well as access to Wi-Fi because there is no where else for them to receive it. These citizens are heavily impacted by having lack of access to free technology services because they are unable to compete in the job force which requires them to have at least some basic skills in how to use computers and navigate the web. Evaluating this data, it’s easy to infer that having public access to Wi-Fi is integral for many Seattleites.

Access to technology, specifically computers that use Wi-Fi, has become more demanding with the increase of technology usage in the workplace as well as school. Many terms to define the issue have surfaced which consists of terms like technological desert's. A technological desert is defined as a place that has have no Wi-Fi or internet access and little to no access to public computers. Technological desserts have been found in every part of the world with many areas needing access to technology but not being able to access it. Public access is defined as having free and maintained access to technology that anyone, regardless of their race, gender, or sex, can access online services via a technological device. Maintained accessibility can be further defined as having dependable timeframes when citizens can access technology. For example, a library will have posted times of when they are open and closed to the public. Looking directly at technology, being up to date is defined as having the latest and most efficient technology. For example, if a library only had computers from 2005 in comparison to a library that has computers from 2017 the 2005 computers would be much less efficient and wouldn’t necessarily help the user because these computers are not standardized in the workforce. These terms allow departments and researchers determine if communities have suitable access to sustainable technology access.

**Statement of Problem:**

The problem facing the City of Seattle is the need for more technology resources available to the public via king county libraries. To determine the accessibility and usability of the technology provided the focus needs to look at what neighborhoods have more up to date and faster Wi-Fi in comparison to neighborhoods that do not. Having up to date and functioning resources is necessary for citizens who do not have access to technology in their homes to maintain knowledge of computer functions so they can get a job. Having these skills ultimately makes it easier to find and keep a job to pays a higher wage. Libraries have managed to fill some of the gaps for free access to technology but the technology with the latest developments and fastest services, at least in personal opinion, has usually been seen only in wealthy areas like downtown unlike underrepresented areas of Seattle that tend to have lower income residents. Accessibility resources for technology are provided on the Seattle Information Technology Department website to showcase a feature where users can “just click on a point in the interactive map below for details about each center's operating hours, phone number and address” which is also integral to citizens being able to access technology if they don’t have any at home access (Where to go for free access). For example, the Odegard library which is mainly used by students at the University of Washington is open 24/7 to ensure that students have full access to the resources they need to succeed at college if they don’t have any access to those resources at home. Factors necessary to analyze accessibility issues are the neighborhoods in which libraries are located, the times these libraries can be accessed, and technology running efficiently with dependable Wi-Fi access as well as having the latest developments.

**Research Question:**

From analyzing this research I will be asking the research question what King County libraries in Seattle have the most up to date and easiest access to computers and Wi-Fi available for public usage? I’ll be focusing in on king county libraries specifically to see if technology dispersed to certain libraries located in specific communities has less access or availability in comparison to communities that are richer. This will involve analyzing specific factors and king county library locations specifically in Seattle to determine if there is a disparity of technology resources in certain communities in Seattle.

**Methods**

**Design:**

The design of the study will be centered around using multiple research methods to properly gauge if there is a disparity between king county libraries. I will be using surveys and going into applicable libraries to access the variables necessary for the research. Using these quantitative research methods I plan on designing the research as being designed to observe technology in use in king county libraries and then provide a survey to be filled out by randomized citizens to rate their local king counties library effectiveness in certain areas when it comes to technology accessibility.

**Sampling Frame:**

The sampling frame for this research will be Seattleites and more importantly Seattle from neighborhoods with King County libraries. This focus doesn’t allow for broad generalization and focuses in on a certain provider or resources for the Seattle public.

**Prosed Sample:**

The proposed sample will most likely be Seattleites who have experience with their local king county library because they will bring in the nest results as goes the survey results. This proposed demographic would most likely consist of students as well as middle-aged people who use the library more often than younger or older audiences.

**Sampling Technique:**

For the sampling technique of this research, I will be using multi-stage sampling to focus in on the Seattle area and then select areas that specifically have King County libraries. In these communities or sectors, I will make a survey and have it randomly filled out by participants which will be the first stage of randomized cluster sampling. Then, once surveys have been selected the research team will randomly select each King County Library to visit and have researchers go in to asses how fast the Wi-Fi is, the hours of operation, and the computers to test if it has the latest developments which will be the second stage of observation methods.

**Data Collection:**

For the data collection, the survey and cross sectional observation route are the best methods to use because it involves taking direct inference from public opinion and then going directly into libraries to document the variables directly to see if in person investigation aligns with the public opinion of resources being provided.

**Construct Operationalization and Measurement:**

To define these measurements the survey answers will be sorted into labels to organize the responses which will allow us to translate it into data. For example, focusing on responses to verbal questions they would be sorted into numbers like number one, number two, and etcetera so that they can be sorted and turned into data. Then the data received will be cleaned of outliers for people who may not have filled out the entire survey for filled it out more than once. These surveys will be distributed to the public by contacting local King County Libraries and asking for them to distribute them via email to Library members so that data can be collected. The survey will also be promoted by having all computers in the library have a sign asking for participants to provide feedback in the survey with the link included on the front page of the current web browser they open once starting up the computer.

To test the efficiency of the computers and Wi-Fi capabilities researchers will go into the libraries and use a numbered scale to rate technology access and effectivness. For example, if a library has very bad Wi-Fi service that is very slow than on the rating scale for the question “how fast is the computer in terms of Wi-Fi capability?” it would receive a one. If a computer has great Wi-Fi capabilities and runs incredibly fast it would receive a 10, the highest number, on the grading scale. To control the results of these observations researches going directly into the randomly selected king county libraries would perform a series of tests like opening Google and trying to search something, seeing what accessories are included on the computer for public use, what software is available for public usage, and etcetera. A great example of this is a study done by the University of Washington titled Connecting people for development: why public access ICTs matter performed in 2013 where part of the research study analyzed the factors of accessibility that influence a citizen to use a library more often on a global scale. The study looked at telecenters, cyber cafes, and libraries as areas for the public to access technology and Wi-Fi and when focusing on libraries the study found that “for library users, the top three reasons for using public access venues were internet access, better equipment, and working with friends, suggesting a context in which higher levels of familiarity with computer and internet technologies allow a shift to purposes that transcend simple access” (Sey, 2013). This means that libraries provide an environment that provides unique access to certain equipment and resources unlike cyber cafes or telecenters but still lack in the department of providing in-person help which is one of the factors for accessibility. Other accessibility variables that topped the charts were good working computers, cost, location, hours, no waiting, safe environment, and the quietness. These would be examples of just some of the variables that would be tested in the observation filed. computers will allow for controlled testing of how the computers perform so that it can be compared to computers located at other King county library locations. These instructions will vary for different computers like the instructions on how to test usability for a PC will be different than a Mac because they may use different web browsers and different types of software available. Having these instructions in place is integral to receiving consistent data but if any outliers are received they will be cleaned out when processing the data, however, this is probably unlikely because multiple researchers will be sent in to test multiple computers and Wi-Fi capability at once.

**Limitations:**

Limitations of this research project include not being able to analyze all Seattle libraries due to the sheer amount of resources it would take to accomplish the project. With this project, we won’t be able to determine the management of technology by the King County libraries in Seattle because of the focus is on computer and Wi-Fi functionality and accessibility. Being able to manage and take care of tech is an important factor into if a library can afford the most up to date technology but including it in the research would take away from the main focus and stray more towards IT management within king county libraries. For the participants in the survey the participants must be members of any King County library to participate. Membership is freee for the any King County library but some seattleites who use the technology and Wi-Fi in the library may not check items out but instead just use them during operation hours. This may exclude some participants from participating because they may not want to take the time to get membership to fill out a response survey. Another limitation would be that when researchers would be going into libraries to study the factors of computers and Wi-Fi accessibility their bias might play a role in how they rate accessibility. For example, the age of researchers and their experience with technology can affect how they rate certain factor like how fast the Wi-Fi is.

**Work Cited:**

Moore, Elizabeth, and Emeritus Andrew Gordon. Information Technology Access and Adoption in Seattle Progress towards Digital Opportunity and Equity. Edited by Sabra Schneider et al., City of Seattle Department of Information Technology’s Community Technology Program, 2014, pp. 1–22, Information Technology Access and Adoption in Seattle Progress towards Digital Opportunity and Equity.

“Where to Go for Free Access to Computers and the Internet.” Human Trafficking - Police, Seattle Information Technology, [www.seattle.gov/tech/services/internet-access/free-access-to-computers-and-the-internet](http://www.seattle.gov/tech/services/internet-access/free-access-to-computers-and-the-internet).

Sey, Araba, et al. Connecting People for Development: Why Public Access ICTs Matter. University of Washington S, 2013, pp. 1–241, Connecting People for Development: Why Public Access ICTs Matter.