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The Impact of Limited Internet and Computer Access
within an Urban Community

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Author Note

Marie Alonzo, Department of Health and Human Services, California State University, Monterey Bay. This capstone project was created to help inform Loaves, Fishes and Computers on possible ways they can work with other organizations on programs to help low-income individuals obtain low-cost technological access in Monterey County. Correspondence concerning addressing this article should be sent to Marie Alonzo, California State University, Monterey Bay, 100 Campus Center, Seaside, CA 93955.

The Impact of Limited Internet and Computer Access within an Urban Community

Abstract

Loaves, Fishes and Computers (LFC) is a non-profit organization located in Monterey County which focuses on helping low-income individuals obtain computers and other services, such as low-cost internet access and technical support, to help bridge the technology gap in the county. It has been seen that there is a lack of accessibility to the Internet and computers within the low-income community of Gonzales, CA. The impact of limited accessibility within the community is affecting the way individuals gain the knowledge necessary in attaining their goals and becoming self-sufficient. This project helped collect data to build a collaboration to help bridge the gap. The method used to obtain this data was a questionnaire that was conducted through phone calls. Sufficient data was collected to determine what organizations LFC can work with to offer Internet access at a lower cost to the low-income community. LFC will develop an implementation plan in the near future.

Keywords: low-income community, technology, computers, Internet access, questionnaire

Agency and Community Served

Christian Mendelson, the Founder and Executive Director of Loaves, Fishes and Computers, started doing computer repairs for others as a hobby and soon realized that there were many usable computers that could be made available to those who needed them but could not afford them. From this insight the organization was born. Since 2009, Loaves, Fishes and Computers (LFC) has taken donated computer equipment, trained volunteers to refurbish them, and provided them at low-cost or no-cost to low-income individuals who are residents of Monterey, San Benito, and Santa Cruz Counties. The hope is to keep seniors, students, and the disabled connected to the resources, opportunities, and community through technology. By providing a low-income family or individual with a ready-to-use computer we can help them achieve their goals of job searching, career advancement, education, and/or life improvement (Loaves, Fishes and Computers, 2017).

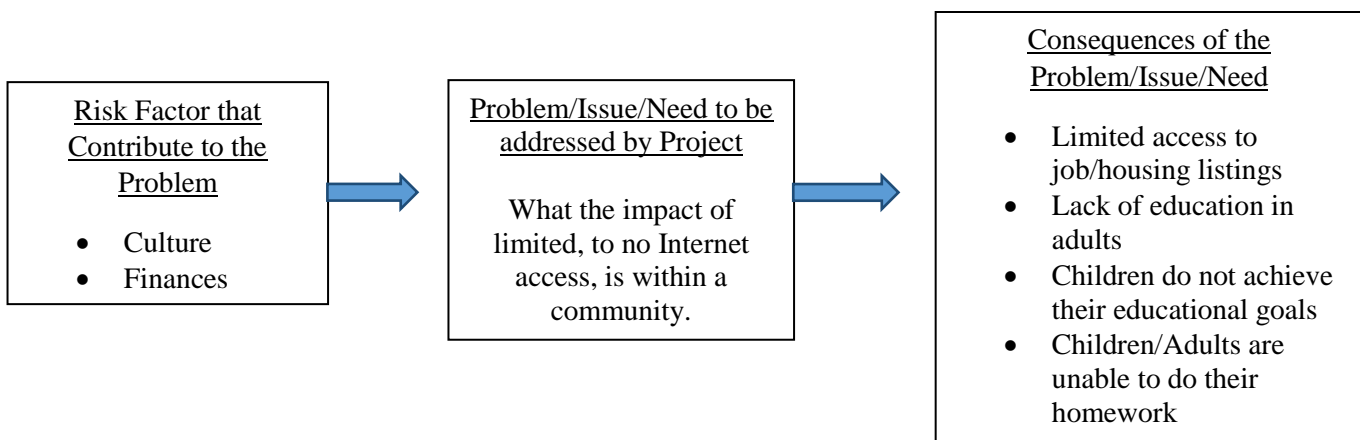
Loaves, Fishes and Computers offer three programs at its location in Salinas. One of the programs that is offered is a community supported digital inclusion and computer reuse program which provides approximately 500 computers annually to individuals, families and nonprofit organizations. There is also a technical support and computer repair program that is also offered. This program provides technical assistance and repair services at a low cost to the low income community. The third program that is offered is the volunteer career training, job exposure, and community engagement program. This program brings in volunteers to help them gain valuable skills that they can use to help with their job search and career advancement. These programs help tremendously by helping improve the lives of the clients that are served and the volunteers that are donating their time at the organization.

Problem Statement

There is a lack of accessibility to the Internet and computers within the low-income communities.

Problem Definition

The ways that we communicate and engage today has changed dramatically over the past decade. We now are seeing more participation on social media not only from employers but housing owners. Ninety-two percent of organizations are now using social media to find employees (Morrison, 2015) and fifty-seven percent of housing owners state that they will start uploading their apartments and houses for rent onto websites (Collatz, 2017). This has become a problem for those who are digitally illiterate and do not have ample access to the Internet or computers. This in turn affects the lives of so many low-income individuals who do not have access to these. These individuals do not have the knowledge or access to the Internet to find a steady job that will help them gain an advantage in the economy and find housing for themselves. There are many reasons to this divide that we are seeing. One of the many issues is that many that do not have Internet access are not able to afford it and that discounted Internet programs are reaching very few individuals (Rideout & Kats, 2016). This is where the low-cost and no-cost computers from LFC come into play.



Contributing Factors

There are many contributing factors that pertain to Internet access and low-income individuals. Generally, there are a variety of material factors that contribute to this issue. Dr. Schradie (2011), from the Department of Sociology at UC, Berkeley, states that there are three major factors of importance. These factors are that (1) owning or having access to the economic capital of hardware, software and other technological devices are paramount to going online, (2) human capital in terms of media literacy and skills having a strong association with class in the likelihood of online use, and (3) scholars having linked cultural resources with class-status. Implications of access at certain locations where economically disadvantaged people have no control (ex. library, school) limits their time and what they can do in that time. Social networks and cultural capital are key mechanisms in what resources are available to each individual. This is because there is a big difference between cultures. Middle- to higher-class Caucasians are more likely to have access to the Internet than those of low-income communities.

Native Americans, Latinos, and African Americans are more likely to use online services, such as taking classes and searching classified ads, and their access to internet services hindered their full engagement than Caucasians (Modarres, 2011). Soltan (2016) confirms that fifty-six percent of teachers in low-income schools state that their students' inadequate access to technology is a "major challenge" for using technology as a teaching aid. This seriously hinders children's education and their capabilities in becoming functioning adults in the workplace.

According to the Pew Research Center (2013), about 1/3 of people making up to twenty five thousand per year are not online at all and older adults heavily dominate non-users. The 1/3 that actually goes online does not have broadband at home. More than half of the low income individuals lack the resources necessary and present a major challenge in incorporating

computers and Internet access in the home. The access to the Internet is out of the price range that they are able to afford and depend on gaining access elsewhere.

Consequences

The consequences that stem from the contributing factors are many. First of all, due to the lack of Internet access at home, there is limited access to job and housing listings. By having less access to these listings, there is a loss of jobs and housing among the low-income community. At this point it is hard for individuals even to find decent housing. The rents are too high and many buildings are not in livable conditions. It has been shown that the number of low-income households far exceed the affordable housing units available to the community (Habitat for Humanity, 2018). The process of finding a job that will cover expenses is very tough also. Even if they did have a full-time job, it rarely covers ones cost of living to the fullest. Habitat for Humanity (2018) states that virtually nowhere in the United States can a full-time minimum-wage employee afford a one-bedroom apartment. “Even two such jobs won’t rent a two-bedroom apartment in 29 states and the District of Columbia, three in California, and four in Hawaii” (Habitat for Humanity, 2018).

Secondly, there is a greater lack of education in the adult population. According to World Education (2018), two-thirds of U.S. adults scored at the two lowest levels of proficiency in solving problems in technology-rich environments and that current levels of federal and state funding combined do not come close to meeting the need for these individuals. A strong education system is an economic imperative for the economic success and is vital not only for individuals but also the nation.

Thirdly, many children will not be ready to achieve their educational goals. Cole (2008), an educational consultant, states that unequal access to electronic resources further reduces poor

and minority students' chances of receiving equal opportunities to learn. Poor and minority students typically attend schools that receive less funding compared to those who attend schools that receive more funding. As a result of the lack of funding, they are taught with inferior materials, equipment, have fewer manipulatives, laboratories, and facilities.

Finally, many students would be unable to complete their homework tasks. In today's schools, technology is an important aspect of learning in and out of the classroom. Many students do not have that type of connectivity when they go home and end up staying long hours afterwards either at school or at the public library to do their work. Students whose parents graduated from college or graduate school are much more likely to report regularly using tablets than their peers whose parents didn't attend or complete college (Harris Poll, 2014). This has to do with a higher socioeconomic status that certain students have.

Without adequate access to technology (internet access and computers), low-income individuals do not have the tools necessary to succeed in the 21st century. The digital divide creates social inequalities due to it influencing social status by increasing the capacity of those with digital literacy to create new opportunities to realize their goals in the social, political, or economic sphere (Wookjoon, 2016). This leads to the gap in societal opportunities and achievements. It is denying these individuals equal access to knowledge and information that are not only part of education but how they live in today's society.

Project Description and Justification

Title: The impact of limited Internet and computer access within an urban community.

The project entailed one-on-one interviews with clients in Gonzales, CA who had limited to no access to Internet services and computers. This included working on ways to support low-income individuals who do not have Internet access or computers at home. This stemmed from

an apparent digital divide between low-income and high-income households. We now use the Internet to search for employment, housing, government services, health information, health providers, and insurance options. Being connected has become an essential part of life to help find resources that are much needed. A framework shows that there is a multidimensional approach that draws attention to five key aspects of digital inequality, each of which shapes digital illiteracy (Department of Housing and Urban Development, 2016). The five key aspects are approaches to digital inequality, approaches that emphasize variations in autonomy, perspectives of digital inequality, variations in the level of social support, and a perspective that emphasizes variations in the purposes for which people use technology. The Department of Housing and Urban Development (HUD) (2016) found that low-income household populations tend to face digital disadvantages. By interviewing our clients, we can find ways that will minimalize the difference of socio-economic class that these individuals have compared to those who have the means to be connected. With the data, the organization can make accurate customer connections to Internet services and computer access to see what the growth is before and after access. The organization will be able to open the door for individuals to learn and grow digitally for themselves. It will help understand what the importance of Internet and computer access is for these individuals and the difference it makes in their lives. This brings us to an important question: When was the last time we saw a community that had limited internet access convert to city wide access for all?

Description of the Implementation Plan

The project implementation took place in the months of September and October 2018. Phone calls were made to participants living in Gonzales, CA that were delivered Chromebooks between the months of March and May 2018. Individual information was gathered through the

applications that were filled out by the clients when they bought the Chromebook. Information gathered is only from those who indicated that they had no problem being contacted after a 3-month period. A contact list was made that included the clients' names, addresses, phone numbers, date of purchase and, if provided, the reason for their purchase.

The survey conducted was in both English and Spanish and consisted of 20 questions that were designed to determine the impact of not having internet access in their home and how it has affected them (see Appendix I). Those who are Spanish speakers had their answers translated into English. The survey was done over the phone and recorded manually on individual surveys. Confidentiality was discussed during the first 2 minutes of the phone call. Administrative staff was trained and helped with the process of receiving phone calls from clients calling back to take the questionnaire.

Evidence-based

Research shows that a lack of skills and awareness is one of the greatest barriers to Internet adoption and use and cultural acceptance can also be an impediment (World Economic Forum, 2016). Urging the government to introduce policies that aim to improve infrastructure coverage and quality, provide financial assistance to those who cannot afford to get online, and set up public Wi-Fi will be very beneficial for low-income communities. This strategy seems to be working in some cities around the United States. One such city is Gonzales, California that is looking into implementing citywide Wi-Fi access points for its residents. Currently, Internet suppliers only offer services to the outskirts of the city. If the implementation takes place, the whole community will end up having access to free to low-cost Internet access in their homes which would be terrific. There needs to be more of these cities across the nation to help minimize the digital divide that we see today.

Participants

The clients that bought a Chromebook from Loaves, Fishes and Computers between the months of March and May at the Gonzales Adult School were called and asked to participate in a quick survey. Their answers were recorded and later analyzed to determine the effect that little to no Internet access has had on their life. It also inquired about how having access to the Internet helped them and their family. For this project, the help of Christian Mendelson (Executive Director), Jordan Azevedo (Program and Operations Manager), Linda Segovia (Program and Operations Assistant), Meghan (Volunteer Coordinator), LFC's administrative staff and the Gonzales Adult School were of great use.

Scope of Work and Timeline

For implementation purposes, a survey was prepared with 20 questions. Each of the clients that agreed to be contacted was placed into groups of 10. In September and October 2018, phone calls were made to those clients. After acquiring the data, a data analysis was done to determine how having little to no Internet access has affected the clients. This took 2 months of data collection and analysis to retrieve adequate results for the project. Appendix II shows the table which goes into further detail of the activities that were done, the deliverables for each, the timeline each activity took, and the completion date for each.

Expected Outcome

The expected outcome of this project was to bring awareness to the need for individuals to have access to the Internet and computers and the ways that LFC can help them find the access needed. The goal was to show the role that LFC is playing in the community to help improve the lives of the residents. Thirty clients were expected to give feedback and answer the survey questions which would give a more in depth understanding of the before and after effects of

obtaining Internet and computer access in their homes. Only twenty-one clients answered the questionnaire. This was still a great outcome because by gaining this information, LFC will be able to further its connections with outside organizations to help connect these individuals Internet services at a low cost. This helped determine the effectiveness of having a computer at home with Internet connectivity and the positive changes that each individual and family has had due to it. This showed the improvement in the clients' lives and gave them the opportunity to educate themselves to help give them a brighter future.

Outcome Measures

For this project, the outcome measure includes the information gathered from the twenty-one clients who participated in the questionnaire process. The process included phone calls to clients who participated in the LFC presentation and buying of a Chromebook at the adult school in Gonzales, CA.

Assessment of Project Outcomes

The project outcome was successful in showing the need for Internet and computer access in the home. The data retrieved from the project gives the needed information to show that low-income individuals have trouble doing homework and searching for jobs when they do not have internet and computer access readily available to them in the home.

Results

As a result of the project, LFC will be able to look into working with Internet providers in the future to help implement low-cost Internet services for low-income individuals in urban areas of Monterey County, such as Gonzales. Results have shown that almost half of those who answered the survey questions stated that the lack of internet access had affected them in one way or another as shown in Figure A, below.

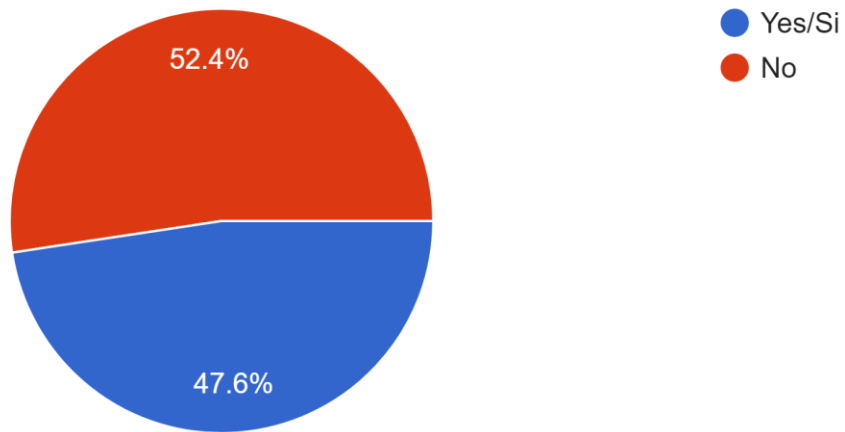


Figure A: Has the lack of internet access ever prevented you or almost prevented you from completing a school, extracurricular or work assignment?

The data gathered also shows that thirty-seven percent of the twenty-one individuals who participated stated that it affected them by not being able to do homework and twenty-seven percent stated that it affected them by not being able to help their children with their homework as shown in Figure B, below. It also shows that these individuals are unable to work from home or do any kind of research due to the lack of Internet access at their disposal.

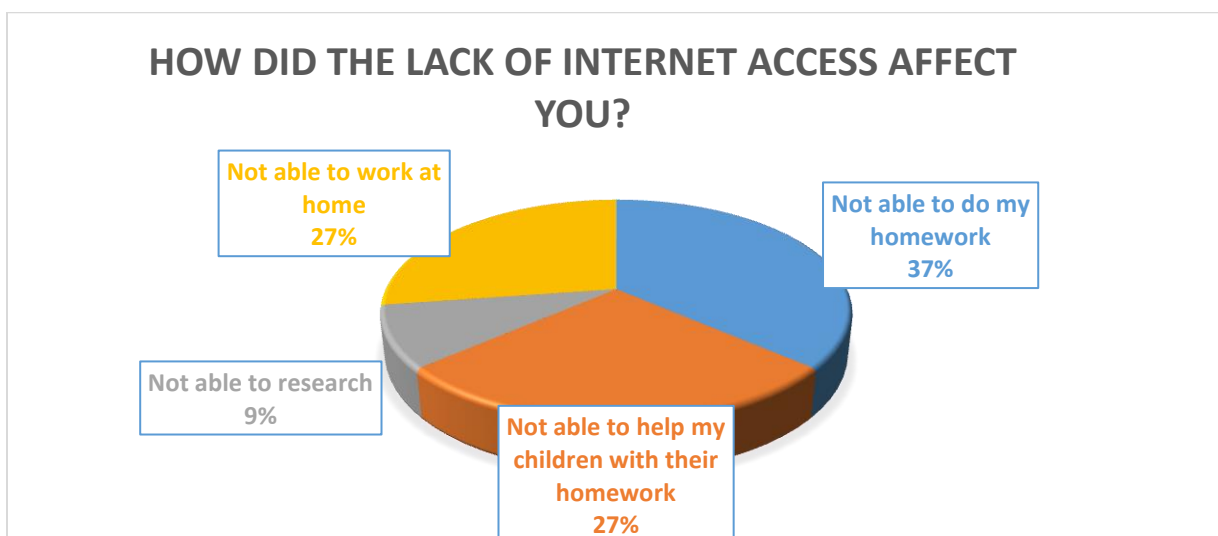


Figure B: How did this affect you?

Also seen in the data from Figure B, above, the lack of Internet access has impacted the lives of these individuals to the degree that they are not able to further their living situation and live a productive life. This can be seen as the need of having Internet access at home for low-income individuals so that they can finish their education and find better jobs to help maintain their families. This is why it is so important for them to have it at home. Figure C, below, shows the reasons why having Internet access is so important to these clients. The main reason for this is being able to do homework at home instead of having to do it elsewhere. Some of the clients showed interest in keeping up with the news and doing job search which is essential with keeping up with today’s society.

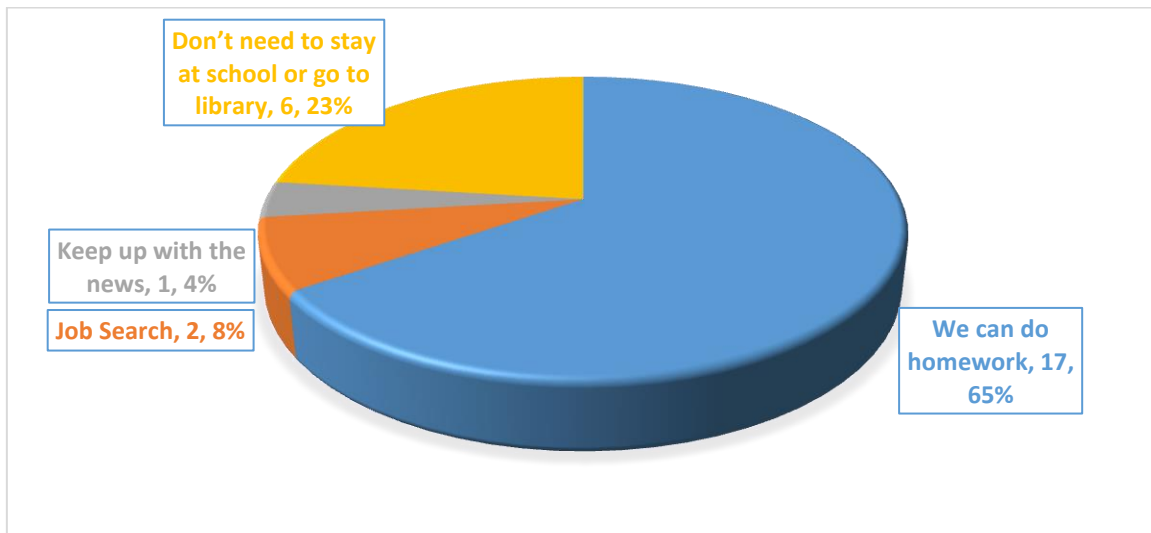


Figure C: What is the main reason you would like to have/or already have internet access?

Strengths

The main strength of this project was gaining the knowledge from clients of how their lives have been impacted by the lack of Internet and computer access in their homes. Having this information helps LFC further understand the struggles that low-income individuals are having

so that they can help find resources within their reach. Another strength was the support given by the staff and volunteers at LFC. This was helpful in being able to receive input on the process of the project and how it could be improved. It was also helpful to have the volunteers help with making the phone calls and giving the questionnaire to the clients.

Challenges

The main challenge to this project was the lack of participants in the questionnaire process. Out of the 59 clients that were listed, only 21 participated by answering the questionnaire. There were a few reasons for the low number of participants. Some clients who had agreed to be contacted no longer wished to participate in the survey process. This was not a problem due to being able to contact other Gonzales, CA clients that had recently purchased a Chromebook from LFC. There were also a couple of phone numbers that were incorrect or disconnected at the time of making the calls. Phone numbers had not been updated. There were quite a few clients that had not updated their information with us. Again, this did not affect the outcome since there were more individuals that were called. Other challenges were that clients did not answer due to their work and school schedule, clients did not return phone calls when a voice mail message was left, and clients not having time at the moment but stated that they would call back and did not. This may have been due to the day and times phone calls were made. Phone calls were made on Saturdays between 10:00 am and 3:00 pm. Many of the clients work during at this time or may have been busy with other tasks and unable to answer. For these, the phone calls were made at a different time to increase the chances of the clients answering and taking the survey.

Implications of Results of the Agency

Based on the data collected from the questionnaire, being able to have access to an affordable Internet program and a computer is necessary to clients acquiring much needed resources. With this data, LFC will be able to make connections and form relationships with Internet providers and other organizations to help find ways to provide a low-cost service to these individuals. This may take a while to do but is something that LFC will be able to work towards in the future.

In order to obtain better results that will help form the relationships with Internet providers, LFC should continue gathering data from clients who live in South County. To help improve the chances of participation, presentations should be held at the different city adult schools and be held at least twice a month instead of just once.

Personal and Professional Growth

During the process of the project, there were a few things that were learned. The first thing was that the planning process for a project is long and, at times, tedious. This is due to not knowing exactly what went into planning and preparing a project. Secondly, many of the clients struggled with not having any kind of access to technology in their homes, including not having Internet or computer access. After obtaining both, they were able to have more control over doing things that were most important to them such as doing homework and looking for work. There was a realization that the project was able to be planned and implemented. Finally, the data from the project will help further the organizations relationship with outside organizations in which they can help benefit the lives of the clients LFC serves on a daily basis throughout the county. Being able to bring this information to the organization has been a great

accomplishment. It has given the data needed so that the organization is able to work in the right direction to give the residents the much needed access they deserve.

Broader Social Significance

The broader social issue that the project helped address was that of the digital divide that we see in today's society. This divides our society into two groups; those who have access and those who do not. With the information obtained, the organization will be able to develop relationships with Internet providers to help provide low-cost Internet access to the low-income community that LFC serves.

Recommendations for Future Students

There are a few recommendations for future students that decide to intern at Loaves, Fishes and Computers. Feel at home at this organization. The staff and volunteers are always welcoming and are always there to help you. LFC is a family and everyone wants you to accomplish your goals no matter how big or small they are. If you are ever in doubt about something, ask about it and they will help you find the answer that you are looking for.

As for capstone projects, the sky is the limit. There are unlimited topics that you can work on at LFC that will help you towards your goal. Make sure that you have multiple ideas on the table as a precaution. This is partially due to there being many other interns and each having to work on their own project. Also, make sure to keep track of your progress and keep your work in one place. This will help in the future as proof of your writing skills for your Linked-In profile or your e-portfolio for future jobs.

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Appendix I

Questions to Survey

1. Name of person
2. How many people live in your household?
3. What are the age(s) of your child(ren)?
4. What school does your child(ren) attend?
5. Do you have a computer at home?
6. What kind of computer do you own?
7. What is the primary use of the computer?
8. Do you have access to the internet at home?
9. What kind of internet access do you have?
10. If you do not have internet access, why not?
11. Do you go online somewhere else?
12. How has the access to a computer and internet helped you and your family in your daily lives?
13. How comfortable are you with using the computer and internet in general?
14. What is the main reason you would like to have/or already have internet access?
15. Have you heard that the city will soon implement city-wide access to the internet?
16. What are your thoughts on the city-wide access?
17. How will this help you?
18. Has the lack of internet access ever prevented you or almost prevented you from
19. How did this affect you?
20. Do you have any other comments or concerns?

Appendix II

<u>Activities</u>	<u>Deliverables</u>	<u>Timeline</u>	<u>Estimated Completion Dates</u>
Outreach at Gonzales, CA Adult School	Applications with approval from clients to contact them	March to May 2018	May 10, 2018
Survey	Survey	May to June 2018	June 5, 2018
Research articles about Gonzales' implementation of city-wide Wi-Fi access		April to June 2018	June 15, 2018
Research other cities that have implemented city-wide Wi-Fi access		April to June 2018	June 15, 2018
Contact Sheet	Contact sheet with client information	May to August 2018	August 15, 2018
Data Collection from Calls	Survey/Database	Sept. to Oct. 2018	October 15, 2018
Data Analysis	Database with answers	October 2018	October 20, 2018
Presentation of Data to LFC	Findings of data and research will be presented to LFC staff	December 2018	December 7, 2018
Capstone Presentation	Presentation of findings from project	December 2018	December 20, 2018