Assessing Smartphone Use in Ghana

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Introduction

In an ever progressing world, smartphone use serves as a catalyst for the proliferation of connectivity on a global scale. From navigation on Google Maps to promoting business products on WhatsApp status, smartphones have become integrated into everyday use for some. As the developing nation of Ghana continues to see immense technological advancements, it is important to understand the ways in which different social groups - i.e., male vs female; rural vs urban - use mobile Internet. The framework method was used to comprehensively analyze how different people use smartphones in Ghana.

Research Method

The **framework method** was used to analyze 42 case study interviews. Through the determination of codes, the appearance of key concepts were indicated, marked with a corresponding value. In the study conducted, a 1 or 0 was used should the code be mentioned in the response of the individuals from Ghana. For instance, codes used for the group "Work" under the subgroup "Online Business" included "sell products online," "buy products," and "communicate customers," among others. An analysis of the Ghana case interviews involved reading responses sectioned in groups and subgroups, and coding the case interviews for converting qualitative data to quantitive data. Once the quantitative data was obtained, comparisons were able to be made among different demographics.

An example of the Framework Method for analyzing qualitative data

Comparison of Use Cases Between Demographic Groups
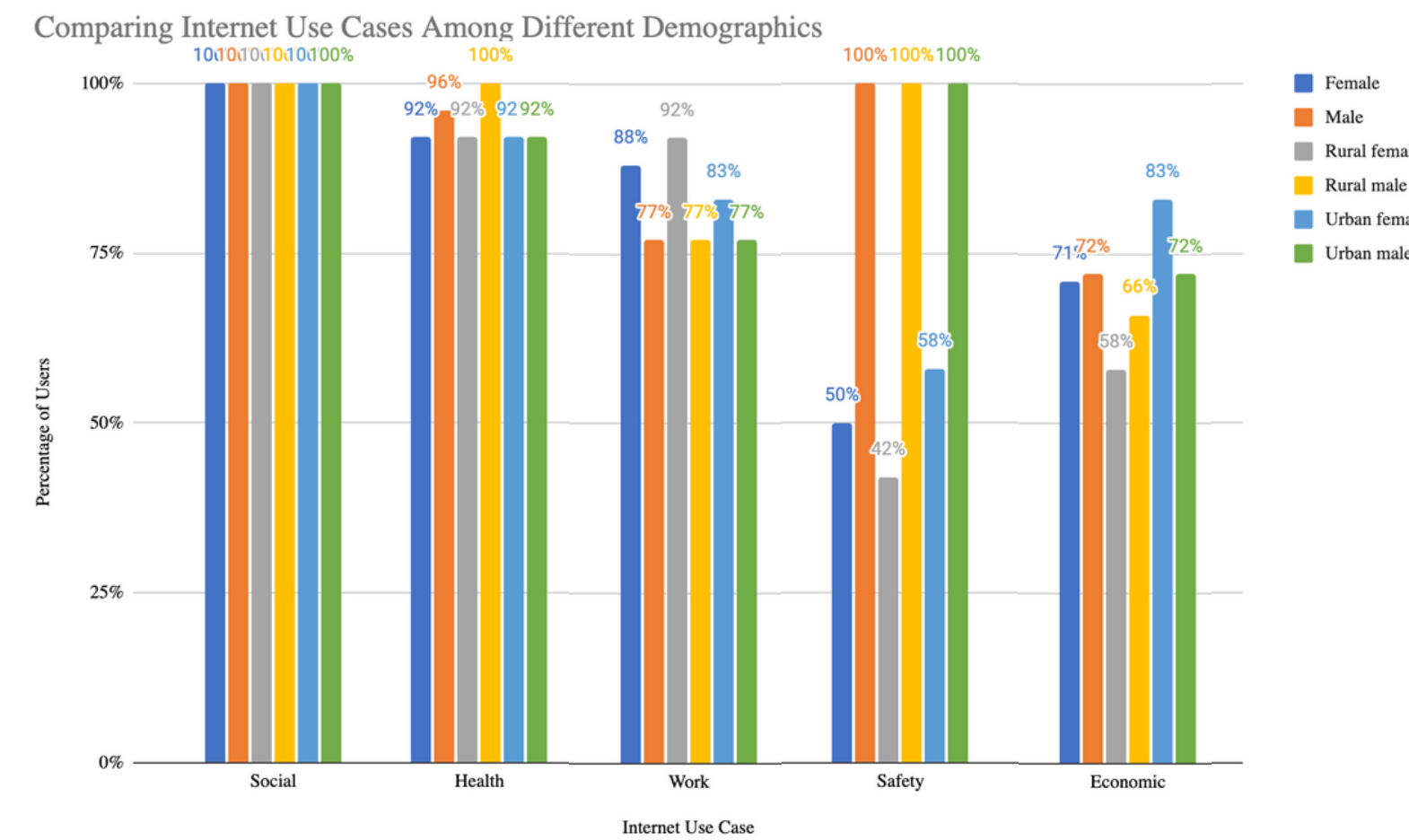
This chart represents the variation of internet use cases among users of different demographics based off of 42 case study interviews.

Observing Use Cases of Smartphones in Ghana

Towards the beginning of the project, background research was conducted to establish a base for potential use cases of smartphone and internet technology in Ghana, through reading various literature reviews surrounding internet accessibility policy in Ghana and other countries, as well as implications in education and economic activities. A comprehensive spreadsheet was made to account for many potential use cases of smartphone and internet technology from different groups of people.

During the research, 42 case interviews from Ghana were read, and qualitative analysis was performed. First, through creating the framework to code the interviews, large topics were created: social connectedness, economic activities, work, health, safety, and social norms. Then, in each group, subgroups were created. These entailed on the basis of larger subgroups, relating the usage of their internet and smartphone technologies, and were based on the previously conducted background research. New categories were continuously suggested and implemented throughout this process.

After all case studies had been analyzed by multiple researchers, results were compared and slight differences in perspective were revealed by this comparison. The researchers worked as a group to resolve these issues and decide on set values for each data point.

Summary of Results

The results of this project are based on the 42 interviews conducted in Ghana, and are visualizable in the charts above. Upon examination, it was found that smartphone use cases vary significantly based on certain demographics of the user including type of area (rural or urban), and gender of the mobile phone user. Based on the findings of the 2021 Ghana case interviews, urban males tended to use smartphones and broadband internet technologies for the purpose of conducting online business more frequently than their rural male counterparts, demonstrating how different demographic areas impact the use of broadband internet technologies. Additionally, the primary use of smartphones for social connectedness was communication, for economic activities it was "online shopping," for work "task management," for health "search for medical information," and for safety "navigation."

Future Steps

As Ghana and other nations continue to develop, it is imperative to ensure easy access to broadband technologies to support residents' livelihoods as different use cases contribute to socioeconomic outcomes. Significant data preprocessing has occurred to evaluate the exemption of import duties on smartphone and internet technologies through the synthetic control method. The research involves collecting data of economic indicators from control countries that are similar to Ghana in size, GDP, and region, while their import duty change is absent in the year of Ghana's change. Such research that measures the effect of tax policies on smartphone penetration can help us understand the impact of socioeconomic factors on smartphone use and distribution.

Acknowledgments