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## Introduction

The digital divide is an issue facing rural America that affects the agriculture industry. In Tennessee, farmland loss and lack of broadband accessibility in rural communities are two of the most pressing topics in the industry. This research aims to understand how broadband accessibility and technology usage contribute to farmland loss, migration from rural areas, and a farmer's decision to leave the industry in Tennessee. It works to gauge awareness of programs that are designed and funded to address the issue of rural broadband accessibility.

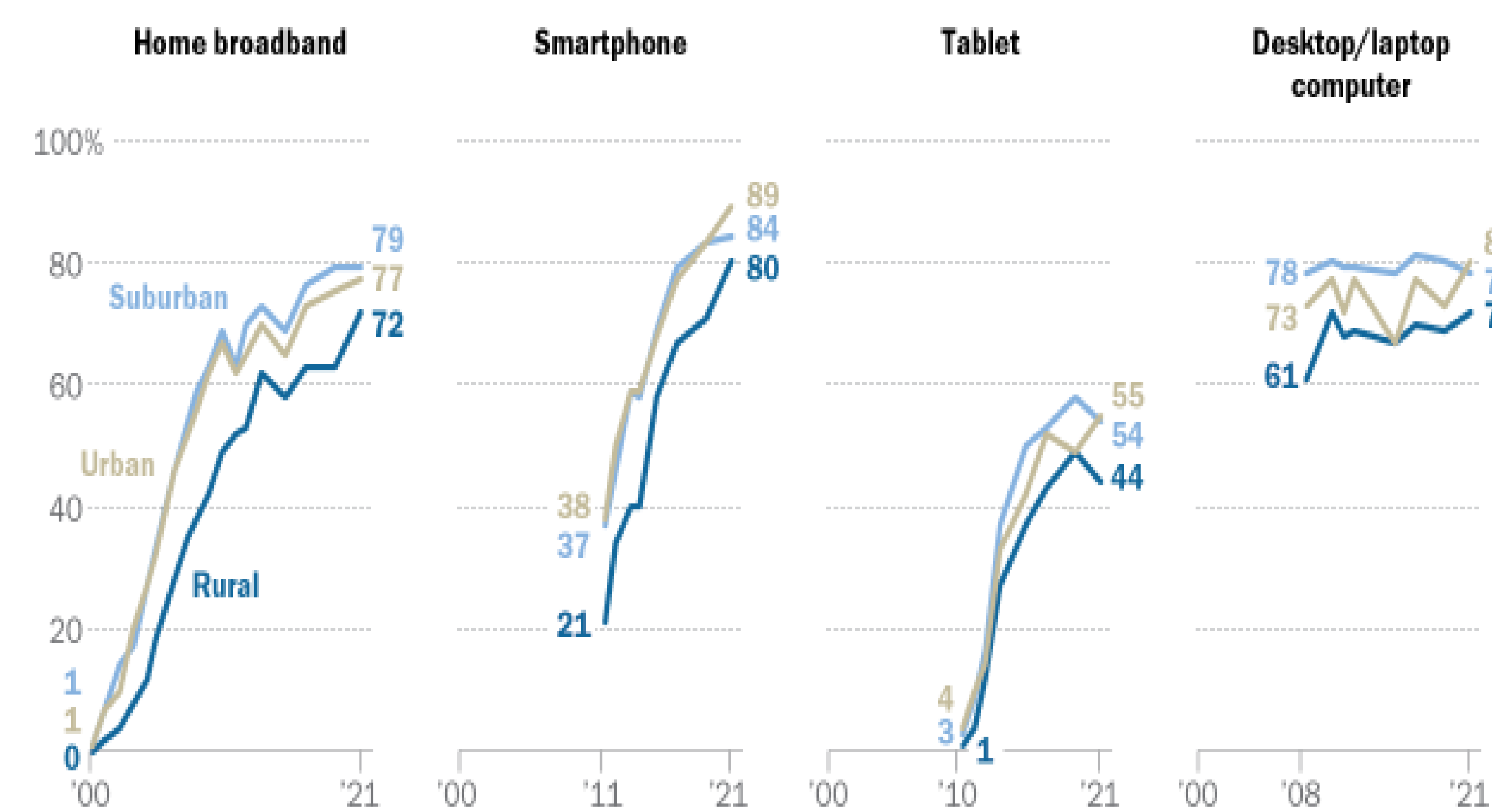
## Background

Research on the digital divide in rural areas can be categorized based on main topics. Research often focuses on healthcare accessibility, education levels, social well-being, and a comparison between rural and urban areas. Furthermore, research on agriculture and broadband access focuses mainly on two factors – productivity and yield of farming operations [1], and programs that assist with bringing high-speed internet access to farmers [2]. Our research aims to combine both the social well-being lens and the agriculture-specific lens to create a holistic picture of how limited broadband accessibility affects farmers in rural Tennessee.

## Theory and Methodology

The term ‘Digital Divide’ has been used since the 1995 publication of a National Telecommunications and Information Administration study. The study, “FALLING THROUGH THE NET: A Survey of the "Have Nots" in Rural and Urban America”, aimed to understand the diffusion of internet services across the United States, much like we are today. The NTIA examined internet access based on race, age, education level, and geographic location. They found that poor or minority communities lacked internet access at the greatest rate, this was only exacerbated in rural communities [3]. Although the gap has closed and legislation works to serve these areas today, the Digital Divide is still ever present.

% of U.S. adults who say they have or own the following



Source: Survey conducted Jan. 25-Feb. 8, 2021.

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[4]

The above graph demonstrates the difference between urban, suburban, and rural residents who have access to technology in their homes. This data was collected via survey. We used Qualtrics to create a survey designed to collect data pertaining to our research question. The survey was distributed via social media, email, local Farm Bureau offices, and agriculture teachers across the state. All participants are farmers in the state of Tennessee. The Qualtrics survey allowed us to collect data in a timely and organized manner. Each section gathers general data about the use of the internet on the respondent's farm, how they feel about their career in general, outside agency support to them, and their technological literacy.

## Expected Contributions

Both the agriculture and technology industry can benefit from understanding what role broadband access is playing on the farm. Agriculturists can benefit from understanding what level of awareness farmers have of resources and why they are choosing to sell their farmland and/or leave farming altogether. Those in technology will gain a clear picture of demand and learn more about which areas are suitable for their services. This research aims to present a comprehensive guideline so parties on both sides can make decisions about how to proceed regarding broadband accessibility issues by including farmers in the conversation.

## Acknowledgements

This project was created as a part of the MTSU Chair of Excellence Urban and Regional Planning Scholars Program.

Special thanks to Dr. Sam Zaza for mentoring this project and providing a wealth of knowledge through the process.

Thank you to the Tennessee Farm Bureau Federation for their help in collecting data.

## Works Cited

- [1] LoPiccolo, K. (2020). Impact of Broadband Penetration on U.S. Farm Productivity. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3749647>
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