Investigating Impacts of the Intra-Rural Digital Divide on Rural and Super-Rural Crowd Workers

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Abstract

Crowd work could assist economic development in rural and super rural communities in the United States but does not currently have a significant presence in these populations (Braesemann, Lehdonvirta, and Kässi 2020). The intra-rural digital divide, differences in technology access and use between residents of areas classified as rural, has not yet been studied in the US, but international research and local evidence in other domains suggests it is likely present (Hertz & Silva 2020; Hambly and Rajabiun 2021). The presence of intra-rural cultural and digital divides creates additional challenges for super-rural crowd workers as they may be unable to rely on public infrastructure and face additional barriers to accessing high speed internet. This proposal discusses avenues for research on the impacts of intra-rural divides on rural and super-rural crowd workers.

Motivation for the Proposed Research

As prior work has noted, infrastructure can be a challenge for rural and super rural crowd workers (Flores-Saviaga et al. 2020). Despite the ubiquity of computing and internet technology in the lives of many Americans, the digital divide still affects many members of rural communities, with computing and internet technology being either unavailable or outdated and expensive (LaRose et al. 2007; Strover et al. 2020). This issue is particularly rampant in rural Appalachia (Laeeq Khan et al. 2020; Mehra et al. 2020) – a geographical designation including areas in 13 states across the Eastern United States. While urban crowd workers may have greater opportunity to take advantage of publicly accessible ICT infrastructure, rural and super rural populations are still dependent on and advantaged by publicly available internet (Griffis & Johnson 2014; Gordon et al. 2003; Moore & Gordon 2002). With this in mind, this research seeks to more deeply understand how rural and super rural Appalachian communities utilize publicly accessible ICT infrastructure.

This understanding can assist with developing strategies for supporting rural and super rural crowd workers.

An additional factor of this research is the comparative analysis of rural and super rural settings. Rurality in the United States is often oversimplified, too broadly designating non-urban areas as collectively "rural" or "non-core" without a more granular consideration of different levels and characteristics of rurality (Cloke et al. 2006; U.S. Census Bureau n.d.; USDA Economic Research Service 2019). A secondary goal of this research, therefore, is to better understand the unique differences in rural and super rural utilization of publicly accessible internet. This can inform the aforementioned strategies for supporting rural and super rural crowd workers by specifically tailoring those strategies to the unique challenges and advantages each community faces.

Background and Related Work

Crowd work can afford opportunities for economic development to rural Americans who often experience isolation from economic hubs (Braesemann, Lehdonvirta, and Kässi 2020; Doogan et al. 2018). Appalachia is one rural area which experiences higher poverty and unemployment rates than the rest of the country (Appalachian Regional Commission 2021). As traditionally dominant employment wanes in this area – namely the coal industry – it is important to introduce new, sustainable employment opportunities to residents of this area (Garside 2020; Hanrahan et al. 2020). The remote, flexible nature of crowd work positions it as a well-suited form of employment for residents in this region (Flores-Saviaga et al. 2020). However, poor internet accessibility across this region poses challenges as many households do not have access to high-speed internet (Laeeq Khan et al. 2020). Publicly accessible internet, often available in public libraries and cafes, may be able to mitigate this limitation as

many citizens of rural America are highly engaged with these services already (Real et al. 2014; Swan et al. 2013).

Recent political proposals have aimed to aid the set up of high-speed internet infrastructure to resolve the digital divide in Appalachia by setting up broadband infrastructure in areas where it is currently lacking (Hodge, 2021). While plans like this are significant in addressing lack of internet access and availability, they do not prepare residents for effective use of the internet.

In addition to rural/urban disparities in income and internet access, there is growing inequality within rural America. In the last 10 years, rural income inequality has risen sharply, reducing the urban/rural gap, but with increased rates of rural poverty (Hertz & Silva 2020). As inequality in rural areas grows, it becomes more necessary to explicitly account for different levels of rurality in research rather than grouping areas together under the blanket term "rural" (Cloke et al., 2006). Researchers on rural topics have recently developed more nuanced rurality measures that fall on a continuous, rather than categorical, scale (e.g., Doogan et al. 2018; Inagami et al. 2016; Mao et al. 2015). Evaluating the impacts of rurality on different topics and conditions with these measures has uncovered intra-rural disparities – wide differences in conditions between different rural areas – which explain why urban-rural divides on some topics seem to be closing while rural conditions have continued to worsen (Hertz & Silva 2020). While an intra-rural digital divide has yet to be studied in a US context, it seems likely that digital disparities exist between rural and super rural communities in the US based on known disparities in other sectors (e.g. Hauenstein et al. 2007; Hertz & Silva 2020; Laditka et al. 2009; Monnat 2020) and a recognized intra-rural digital divide in international contexts (Donnermeyer et al. 2003; Hambly and Rajabiun 2021; Koutsouris 2010; Warren 2012). Therefore, it is appropriate to account for possible intra-rural disparities in this research context by evaluating the rural and super rural research settings both independently and comparatively.

Description of Proposed Research

Research Questions

RQ1: What technological challenges do rural and super rural communities face and how might these challenges impact the feasibility of crowd working in these communities?

RQ2: How can publicly accessible internet be utilized to support rural and super rural crowd workers respectively?

RQ3: How can crowd work assist in upskilling rural workers for sustainable long-term employment?

Planned Methodology

The study methodology will consist of observations and interviews at four research sites. The study will take place in two closely located towns in rural Appalachia, specifically, West Virginia. One of these towns is rural (population 3,886) and the other is super rural (population 1,250). In each town, observations and interviews will take place at both the public library and a local café with freely accessible internet. Each of the four research sites will be observed on a week day and a weekend day to account for different uses of each space and its internet at different times.

We do not anticipate that many (or any) of our participants will currently be engaged with, or possibly even aware of, crowd work. Therefore, interview themes will focus on labor and employment as well as internet and technology usage more generally.

Qualitative observation and interview data will be supplemented by datasets from the Institute of Museum and Library Services to support the presence of an intra-rural digital divide in the US.

Research Issues and Challenges

Based on preliminary work conducted with our research communities, we have found that many super rural community members are fairly avoidant of technology. How do we account for those members of the local population when observing and interviewing people who are already using publicly accessible internet in these locations? How can we identify who in these populations would be best suited for and benefit most from crowd work? Should we focus more on developing implications for design for crowd work platforms to better suit these populations or for the towns' public ICT infrastructure to better suit crowd working?

While this research is intended to primarily focus on the cultural aspects of crowd work and rural/super rural populations, it is impossible to avoid addressing infrastructural challenges. If internet is found to be highly unstable in the settings that we research, how can we pivot the study to account for this?

While the presence of an intra-rural digital divide has not yet been confirmed in the United States, many goals of this research hinge upon its presence. How could this work be reframed if it is not possible to identify an intra-rural digital divide?

How can we work with local businesses to observed technology-using patrons ethically (i.e., with consent)? We have considered using a "help-desk" model where we offer to help people with technology issues as a way of understanding usage habits and giving back to the community but we are concerned this may not provide a complete picture of technology usage and challenges faced by community members.

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