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## **Examining Multiple Facets of the Digital Divide: Empirical Studies on Access, Capabilities and Outcomes**

### **Extended Abstract**

The popular discourse around information and communication technology (ICT) considers technology as one of the great equalisers as it provides benefits without discriminating based on gender, class or creed. However, disparities exist and in many forms. The social structure, through different forms of structuration, establishes different types of inequalities. The extant literature on the digital divide has identified different forms of inequalities (Dewan & Riggins, 2005; Singh & Vimalkumar, 2019; Wei, Teo, & Chan, 2011). In this thesis, I build upon the existing body of knowledge on digital disparities to understand the ever-evolving multiple facets of the digital divide. Here, I propose three studies to examine three different kinds of the digital divide, based on the broader framework proposed by Wei et al. (Wei et al., 2011). They categorise digital divides into digital access, digital capability and digital outcome divides. I start by examining the digital access and capability divides arising due to contextual factors that influence the gender-based digital divide. Then, in the second essay, I attempt to study how the digital capability divide influences the outcomes of a crowdfunding campaign. Finally, in the third essay, I examine the digital outcome divide by considering how bridging the digital divide can support financial inclusion.

In the last decade, international agencies, multinational companies, and policymakers have made considerable efforts to bridge the digital divide. However, anecdotal evidence indicates that the digital divide still exists in India; especially in the form of a severe gender-based digital divide. While the extant literature provides contrasting evidence regarding the influence of socio-demographic factors such as gender on the digital divide, contextualisation of digital divide has been largely overlooked (Tsatsou, 2011). Thus, in my first essay, I focus on contextualising the gender-based digital divide by considering household, societal and institutional contextual factors. I attempt to theorise the relationship between gender and the digital divide through the lens of Social Learning Theory (Bandura, 1986, 1997, 2005). I empirically evaluate the gender-based digital divide using large-scale national representative sample data from India. My results indicate that the gender-based digital divide in India not only exists, but it is also persistent and severe.

Caste, household size, marriage and the presence of digitally literate women in the family are found to be influencers of women's computer self-efficacy, which in turn impacts the gender-based digital divide. I finally argue that interventions to bridge the digital divide in India need to address these contextual barriers.

In the second essay, I examine the digital divide associated with crowdfunding. The literature on crowdfunding is new and sparse. The success and failure of crowdfunding projects is an essential topic for researchers in both Information Systems and Entrepreneurship research, and previous studies have analysed the factors that influence outcomes on a crowdfunding platform. However, researchers have questioned the participatory nature of crowdfunding platforms (Davies, 2015). In this essay, I pursue this line of enquiry. While crowdfunding platforms appear to be neutral, allowing everybody to participate equally, disparities in the digital capabilities of the individuals creating campaigns may influence their outcomes and hence the benefits appropriated. The characteristics and design of a campaign and crowdfunding platform might exclude a certain group of people, thus creating a digital divide. To pursue this research objective, I considered medical crowdfunding projects, where a fundraiser raises funds to meet extraordinary medical expenses. This model is well-suited to understand disparities in the system as the funders do not have any economic motive to contribute, and the task of persuading funders to contribute lies entirely with the fundraiser. Thus, this essay uses medical crowdfunding as a case study for understanding the participatory nature of crowdfunding and the disparities within. Different types of fund organisers (e.g., family members of patients, doctors, NGOs) organise medical crowdfunding campaigns, and each type of organiser has different capabilities. As the organisers play a considerable role in determining the outcomes of the campaign, I believe the differences in their capabilities can influence differences in the outcomes. To examine these disparities, I use the textual content of crowdfunding campaigns collected from a well-known crowdfunding platform, Milaap.org, and perform content analysis with the help of Language Expectancy Theory (Burgoon & Miller, 1985; Burgoon, Pauls, & Roberts, 2002; Parhankangas & Renko, 2017) and the Elaboration Likelihood Model (Bhattacharjee & Sanford, 2006; Du et al., 2015; Petty & Cacioppo, 1986). My results indicate a clear difference in the benefits generated by different users; particularly, they showed that the probability of one-time users generating benefits is significantly lower than that of experts. Further, I explored the influence of language elements such as

objectivity, readability, interactivity and psychological distancing on the success of crowdfunding. My results also indicate how these elements work differently for different categories of users.

The third essay focuses on the role of ICT in influencing the outcomes of development initiatives. While it has been well-established that mobile phones have become ubiquitous and play an important role in development, there is still a dearth of literature on the development outcomes derived from them (Andersson, Grönlund, & Wicander, 2012; Reinartz, 2016). Thus, I extend the digital divide literature by examining the developmental outcome that can be derived by bridging the digital divide. I examine how mobile phones can actually assist in achieving developmental objectives such as social inclusion. To examine this, I consider the financial inclusion of women as a case for social inclusion and explore the effects of digital inclusion on the relationship between women's autonomy and financial inclusion. Gender and development studies provide sufficient evidence of the relationship between women's personal autonomy and the achievement of developmental objectives (Mishra & Tripathi, 2011). However, in a patriarchal society like India, the 'structure of constraints', particularly time and mobility restrictions, can limit the activities of women, which in turn leads to social exclusion (Goyal, 2011; Kabeer, 2018; Kleine, 2013). Given such a scenario, autonomy alone may have a limited influence on financial inclusion, particularly active financial inclusion. On the other hand, mobile phones are uniquely suited for women as they mitigate time and mobility constraints (Goyal, 2011). Given that technology innovations in the financial sector have enabled the virtualisation of banking transactions and self-efficacy is an essential predictor of technology use (Wei et al., 2011), it can be hypothesised that mobile phone self-efficacy positively influences financial inclusion. That is, high self-efficacy, along with autonomy, can strengthen financial inclusion. I empirically evaluate this relationship between mobile phone self-efficacy, gender autonomy and their influence on financial inclusion using a large-scale nationally representative sample data set from India. My results indicate that mobile phone self-efficacy indeed mediates the relationship between gender autonomy and financial inclusion, and it plays a crucial role in ensuring women's financial inclusion.

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