

## ABSTRACT

The importance of information and communication technologies (ICTs) in achieving both economic progress and sustainable development goals (SDGs) has been acknowledged. ICTs have transformed the global transfer of information and knowledge with low prices and the ability to overcome distance. ICTs can particularly play a potentially powerful role in the empowerment of women. It is widely accepted in the development world that policies and activities that do not account for gender inequality will be ineffective and expensive in the long run. However, when data is collected in aggregate form, gender inequalities are obscured, leaving women's experiences unreported and neglected in statistics and policymaking. Towards this end, the International Telecommunication Union (ITU) has begun collecting gender-based data on ICT, which is sex-disaggregated statistics and guarantees that both men's and women's realities are reflected in national ICT data.

Past research on ICT and gender has conceptualized three groups: women who use ICTs in their jobs, women who use ICTs for recreation and ICTs as infrastructure affecting women. While previous research has shown that leveraging ICT for women can have significant implications for social as well as economic development, few scholars have theoretically examined the relationships between ICT and gender equality. In fact, there is a longstanding call in research to focus on studying ICT and gender, as women are important contributors to development 'Equality for women' has also been highlighted as a major

societal issue for ICTD research. Past studies are largely derived from studies at the individual level of analyses, and there is a scope for understanding the broad country-level relationships between ICT and gender. There is also scope for studies examining theoretical links between ICT and gender as well as the gender digital divide. Thus, this thesis explores the nexus between ICT, gender and development and examines ICTs impacting women and its implications using cross-country analyses.

In this regard, this thesis is positioned as a collection of studies investigating the relationships between ICT and gender equality and its implications. Motivated by the dearth of theoretical and empirical underpinning of the role of ICT on gender and its implications, this research undertakes the following research objectives (ROs): (1) To investigate the effect of ICT on gender (in) equality and income inequality (2) To investigate how gender digital gap in mobile and internet usage intersects with gender equality (3) To investigate the influence of social capital and gender equality on the relationship between ICT and women's economic participation.

The first study investigates the relationship between ICT, gender (in)equality (SDG 5), and income inequality (SDG 10). We theorize the relationships between ICT and gender (in)equality (SDG 5) and income inequality (SDG 10) by conceptualizing ICT as an institutional actor and using the Capabilities Approach. This study uses archival data from reliable sources, such as World Bank and UNDP, to evaluate the proposed model using a sample of 86 nations from the year 2013 to

2016. The study uses a cross-lagged panel analysis to evaluate the proposed hypotheses. The results of the study show that ICT reduces gender inequality, and there is a favourable association between gender inequality and income inequality.

The second study examines the relationship between gender digital gap in mobile and internet usage and gender equality. Further, this study also explores the role of national institutions in the above relationship. Drawing on the theoretical perspective of intersecting inequalities and grounding the study in gender digital gap literature, we investigate the relationships between gender digital gap in mobile and internet usage, gender equality and national institutions. In this study, gender digital gap is represented using the gender gap in mobile phone and internet use. We focus on the impact of the digital gender gap in mobile phone and internet use on gender equality and how this relationship is affected by national institutions. Towards this end, we conduct a dynamic panel data analysis of publicly available country-level archival data from 77 nations from the year 2017 to 2022. Findings suggest that national institutions are essential to comprehending the relationship between the digital gender gap in internet and mobile phone use and gender equality.

The third study examines the influence of social capital and gender equality in the relationship between internet penetration and women's economic participation. In this study, we ground our work in the literature on the relationship between internet penetration and women's economic participation. We draw from social capital theory to explore the influence of social capital in the above relationship across countries.

We also examine the influence of gender equality in this nexus of internet penetration, social capital, and women's economic participation. Our study uses archival data to conduct a panel data analysis of 66 countries from 2014 to 2021. Results show that social capital acts as a mediator between internet penetration and women's economic participation. Gender equality also moderates the above relationship.

In sum, this thesis is positioned as a collection of studies investigating the relationships between ICT and gender equality and its implications. However, there is a paucity of theoretical and empirical support for how ICT and gender equality are involved. This thesis aims to bridge this gap by exploring the nexus between ICT, gender and development using cross-country analyses.