

Bridging the Hidden Gap:

Examining Female Editors' Identity and Agency Negotiation Process within Indian Wikimedia Projects and Communities

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Abstract: A 2011 Wikimedia Foundation survey revealed that only 8.5% active Wikipedia editors worldwide were identified as female, and editor communities in the Global South usually suffer from even greater gender asymmetry in the open knowledge movement. With the rising popularity of Information and Communication Technologies for Development (ICT4D) in recent development discourse, bringing women in the Global South online to bridge the “gender gap” and “digital (access) divide” has become a new instrument of “empowerment.” This study, however, explores the problematic side of this discourse and concept through investigating the often overlooked post-digital-divide barriers faced by women. Using Wikimedian communities in India as our qualitative research case study, the researcher found that women continue to face a *hidden gap of power, identity, and agency recognition* within the male-dominant online and offline societies. The research seeks to decode how female Indian Wikimedians negotiated their identity and agency when facing the hidden gap and how they incorporated such experience in their local Wikimedia gender-gap-bridging initiatives. The research adopted a feminist lens to examine the conceptual frameworks in identity and agency negotiation as depicted in Manuel Castells’ “network society” and Amartya Sen’s “capability approach.” By comparing the theoretical framework with the female Wikimedians’ narrative, the results show that the two framework, along with the ICT4D discourse, only partially explain Indian female Wikimedian’s experience, as they omit the structural complexity of an inseparable online-offline gender power relations in contemporary society.

Keywords: ICT4D, gender empowerment, Wikipedia, gender gap, feminism, digital equality

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Chapter 0: Glossary

Below are several key terms (in alphabetical order) used in this study and their clarifications.

- **Community(s)**

In this study, the word “community(s)” is used loosely, primarily referring to the self-formed, volunteer-based groups that function as both a socializing and working space for local Wikimedians. The groups may also include indirect contributors such as institutional partners or Wikimedia Chapter officials who provide financial and non-financial support. A community can be diverse in their means of interaction and communications. While some interact mostly through online platforms, such as messaging apps, social media groups, or Wiki Talk pages¹, others may hold offline gatherings and editing events.

Communities also differ greatly in size and may have sub-communities that work more closely together. For example, while Indian Wikimedian communities are typically divided by language (e.g. Marathi Wikimedian community), there can be more division and sub-groups based on the region (e.g. Marathi Wikimedians in Pune) or specified by institution (e.g. Marathi Wikimedians in the Indian Institute of Technology Bombay).

- **Edit-a-thon**

An edit-a-thon is one of the most common formats in gender-gap-bridging initiatives in India. It is essentially an “editing-marathon” where participants choose one theme(s) to write on for a period of time. Edit-a-thons, especially those with shorter duration, are often held offline where participants gather at a place to write on the subject.

- **Female / woman / women**

In this paper, the terms “woman/women” and “female” are designated to describe individuals self-identifying as female in gender with consideration of their socio-cultural contexts, rather than on their biological sex. The term “non-female” refers to individuals of any gender other than (self-identified) female.

- **Indian**

In this study, “Indian” Wikimedians refer to Wikimedians who are (a) Indian by nationality and/or (b) residing in India at the time the research was conducted.

- **Wikimedian**

A “Wikimedian” refers to an editor contributing to a Wikimedia project(s), including but not limited to Wikipedia(s). The reason for using the term Wikimedian instead of Wikipedian is because the latter is only applicable to editors who contribute to

¹ A Talk page is a separate tab on each Wikipedia article or Wikimedia project page where editors can post comments and hold a discussion on the page content.

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Wikipedia(s) while in reality many community members are involved in more than one Wikimedia project, such as Wikidata, Wikimedia Commons, to name a few.

- **Women-related articles**

Women-related articles include but are not limited to women's biographies, articles on gender studies and feminism, women's health, women and cultures, as well as articles on objects that are predominantly used by women or associated with femininity.

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Chapter 1: Introduction

In many Open Source projects, gender imbalance has been observed in the contributor demographics (Haklay & Budhathoki, 2010; Perkins, 2014). A Wikimedia Foundation (WMF) survey in 2011 revealed that only 8.5% of Wikipedia editors worldwide were identified as female. Statistics from the same survey shows that the underrepresentation of women/non-male was even more pronounced within editor communities based in low and middle income countries (Wikimedia Foundation, 2011). Perhaps due to the low female participation rate, research has also shown that women-related topics and female biographies receive less coverage in Wikipedia; and in the cases that they were covered, researchers often found lexical bias (e.g. using the term “female writer” instead of “writer”) and structural biases (e.g. a female biography is linked to a biography of her male colleague or partner but not the other way around) in those Wikipedia pages (Wagner, Graells-Garrido, Garcia, & Menczer, 2016; Graells-Garrido, Lalmas, & Menczer, 2015; Wagner, Garcia, Jadidi, & Strohmaier, 2015).

The underrepresentation and under-participation of women in knowledge creation is not news, considering the historical gender inequality and power imbalance in the knowledge systems. However, when referring to Open Source projects' gender gap issue in medium/low income countries and regions in the world, the focus has too often been placed on women's lack of access to technology or their lack of technical skills to create open knowledge/open source content. With the rising popularity of *Information and Communication Technologies for Development* (ICT4D) in recent development discourse, bridging the “gender gap” and “digital divide” seemed to be a matter of increasing women's access to the internet and technology to achieve empowerment. We must however consider online content creation as more than a technical enablement, but as a cultural process; and we must consider empowerment as more than simply granting access to the marginalized, but as providing a safe and productive space for growth and self-exploration.

In other words, although the question of access and skills are valid, it is not the *only* barrier against women's meaningful participation online and their empowerment through ICTs. Little has been taken into consideration of what happens *after* women in these regions have overcome the digital (access) divide and acquired sufficient technical skills. This naive imaginary and determinism that access equals empowerment requires further scrutiny, especially in today's time as the global internet penetration rate rises on an unprecedented scale and the lines between an online and offline life continues to blur.

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1.1 Research problem statement

The researcher hypothesized that other than the digital (access) divide, there is another "*hidden gap*" faced by women, particularly in medium/low income countries, that requires them to exert additional efforts when negotiating their identity and agency within online communities. In this case study, the researcher looked at the Wikimedian communities in India that have shown signs of stark gender imbalance in participation.

The decision to choose Indian Wikimedia communities as the case study to examine women's identity and agency negotiation online was partially due to research convenience factors, such as the researcher's work environment and social circle. Additional key factors were also considered:

- Wikimedia projects are diverse in their nature, most of which do not require rigorous technical fluency (e.g. knowledge in programming languages). This allows individuals to contribute in different ways according to their strengths, interests and comfort level, supposedly posing less technical skill barriers as compared to other Open Source projects.
- Several Wikimedia projects, such as Wikipedia, are available in Indian languages, while most Open Source platforms still rely on an English-based interface and programming languages. This should allow participation from individuals who are not familiar or comfortable working in English.

The above reasons supposedly make Wikimedia projects one of the friendlier, more equitable platforms for women in medium/low income countries and regions to participate. Nevertheless, as it is proven by survey and empirical data, the projects' gender disparity is still pronounced globally and locally. This puzzle leads the researcher to assume that the culture and women's experiences within Wikimedian communities could be a factor that directly or indirectly affects women's willingness to participate - and hence, the hidden gap against women's full participation.

By understanding the challenges and negotiation process women editors in these communities have faced, the study will hopefully allow for a more holistic view on what ICT for development and women's empowerment through online participation entails.

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1.2 Research questions and objectives

To depict the process of power negotiation, the researcher chose two variables - *identity* and *agency*. The two terms are chosen for their importance in depicting empowerment in the sociology and social science disciplines. The research seeks to answer the question: *How do female Indian Wikimedians negotiate their identity and agency within the male-dominant Indian Wikimedian communities and does it resonate with the ICT for development / empowerment discourse and its theories?*

In this study, **identity** refers to what we call *social identity* in sociology, where “*individuals identify their positionality through their interactions and encounters with other various social groups based on their putative demographic categories, such as race, religion, and class* (Tajfel & Turner, 1986).” **Agency** (or *individual agency*) in this study refers to the way individuals act and mobilize power - rationally and intentionally - to achieve certain goals (Mills, 2010).

The study adopts a deductive qualitative analysis (DQA) approach, using the conceptual frameworks of Manuel Castells' “network society” and Amartya Sen's “capability approach” and compared them to the interview data collected from female Indian Wikimedians. To elaborate, the researcher identified six main themes from Castells' and Sen's conceptual frameworks and used them as null hypothesis on the patterns of identity and agency negotiation. The qualitative interview data will be coded accordingly to determine if the conceptual frameworks sufficiently explains their experiences. An inductive approach will also be practiced (e.g. looking for recurring patterns that are not covered in the two frameworks) to help improve the theories. Through the rigorous process, this study not only maps out female Indian Wikimedians' experience and patterns in power negotiations, but also sensitizes the two frameworks that are used in the ICT4D/empowerment discourse. The research hopes to enrich both our conceptual and practical understanding of women's participation in Wikimedia/online communities, particularly in the medium/low income countries' contexts. The two main objectives of this research are:

- To assess and understand the interaction and gender power dynamics in Indian Wikimedian communities
- To critically examine the limitation of current ICT4D/gender empowerment discourse and its relevant theories

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Chapter 2: Context

This chapter aims to provide sufficient context and background on the Wikimedian projects and ICT for development/empowerment discourse. The first section, *Wikimedia projects and the gender gap bridging movements*, explains the projects' nature and some key Wikipedia guidelines essential to the debates of the platform's role in epistemic (in)equality. The section will also briefly introduce current global and local (Indian) community practices in response to the gender imbalance both in its editorship and content.

The second section, *Internet and Wikimedia projects in India*, introduces the growing internet penetration rate and the increased usage of Wikipedia in India. The section shows that Open Source movements and online community dynamics in countries like India play an increasingly vital role in the development of online culture and content.

2.1 Wikimedia projects and the gender gap bridging movements

While Wikipedia, particularly the English Wikipedia, remains one of the most researched platforms when it comes to the gender gap within Open Source communities, this research does not solely concentrate on editors' participation in one project (i.e. Wikipedia), rather, it emphasizes on the power dynamics within the communities whose members may very well be engaging in multiple Open Source and Wikimedia projects.

Wikimedia projects are the eleven Open Source software-based, collaborative projects under the Wikimedia Foundation; the most well-known and sizable of all being Wikipedia with 298 language versions (including 23 Indian languages) available to this date². However, not all Wikimedia projects are divided by language, projects like *Wikimedia Commons* and *Wikidata* are multilingual. The content format of each project also differs; for instance, while Wikipedia requires text-based input in an encyclopedic style, Wikimedia Commons is a platform for multimedia content contribution, and Wikisource serves as an archive for classics, laws, and other notable documents (under free licenses) where editors contribute by uploading scanned copies, indexing, proofreading, and sometimes translating. These projects, although different by their nature, are not independent from one another. Editors with a registered Wikimedia account can, and often do, participate in multiple projects. Content created in one project are often linked and/or imported to another. For example, images shown in Wikipedia articles are essentially from Wikimedia Commons. Hence, again, while the "gender gap" is largely

² [List of Wikipedias](#)

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associated with the Wikipedia platform, this imbalance is not a standalone phenomenon, nor is its impact restricted to only one Wikimedia project.

Among all the Wikimedia projects, Wikipedia has the relatively rigid editing rules and sometimes results in debates and conflicts among its contributors. Wikipedians have had a bittersweet relationship with the three key rules in Wikipedia editing – Notability, Verifiability, and Neutral-Point-of-View (NPOV). The *Notability* guideline requires a topic to have “*significant coverage from a reliable secondary, third-party source*”³ for a Wikipedia page of it to be worth creating. *Verifiability* refers to the encyclopedia’s mandate that all materials included in a page should be properly cited with a reliable source – which is “*published by a respected house,*” preferably peer-reviewed and professional⁴. The *NPOV* guideline, on the other hand, strictly prohibits the misuse of “opinions as facts” and vice versa. The NPOV guideline also mandates proper inclusion of opposing views in relative prominence and the avoidance of “*stating seriously contested assertions as facts*”⁵. While established with the good intention to safeguard Wikipedia articles’ quality, these guidelines encourage reliance on mainstream knowledge mediums, and thus were criticized for perpetuating the knowledge dominance of a Western, colonial, and patriarchal system of epistemic inequality.

Another popular debate of the power within the Wikimedia projects, specifically Wikipedia, is the role of admins. *Admins* are usually experienced volunteer editors in their respective language Wikipedia. An admin’s duty and power include marking articles and edits for deletion when they are deemed to not meet the above mentioned guidelines. Unsurprisingly, the power relations between general editors and admins have long been a question of whether truly neutral, equitable knowledge creation could be achieved.

The gender gap issue shown in the 2011 Wikimedia Foundation (WMF) editor survey shows that the project has much room for improvement to create a decentralized, open knowledge community that is welcoming to all. In response, the WMF and Wikimedian communities worldwide have taken up various campaigns and interventions to bridge the gap.

To address the content gender gap, Wikiprojects⁶ like *Women’s History Month* and *Women in Red* are dedicated to creating more women-related Wikipedia articles. For these

³ [Wikipedia: Notability](#)

⁴ [Wikipedia: Verifiability](#)

⁵ [Wikipedia: NPOV](#)

⁶ A WikiProject is a group of contributors who want to work together as a team to improve Wikipedia. These groups often focus on a specific topic area (for example, human rights), a specific location or a specific kind of task (for example, checking newly created pages). Extracted from Wikipedia: Wikiprojects (<https://en.wikipedia.org/wiki/Wikipedia:WikiProject>)

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campaigns, “Edit-a-thons” are held where Wikipedians, new and experienced, participate in an editing marathon to create content. In India, similarly inspired events such as *Lilavati’s Daughter*⁷ in 2013 and *Indian Women in Science Edit-a-thons* from 2014 onwards have proven great success and popularity in bridging the content gap on historic women’s contribution.

The gender gap in editor demographics, however, is not so easy to mitigate through single intervention or events. Observing recent Annual Grant Proposals⁸ submitted by Wikimedia chapters around the globe, many have proposed to improve community health through enforcing a friendly space policy and inviting diverse editors to the movement.

2.2 Internet and Wikimedia projects in India

Internet users in Developing Countries⁹ officially surpassed those in the Developed Countries in 2008; and since 2014, the former group has more internet users than twice the number from Developed Countries (ITU, 2016) as shown in Figure 2-1, 2-2. India, for example, has seen exceptional growth in its internet penetration rate (Figure 2-3), with over 11% of the world internet users in 2016 residing in India (Figure 2-4).

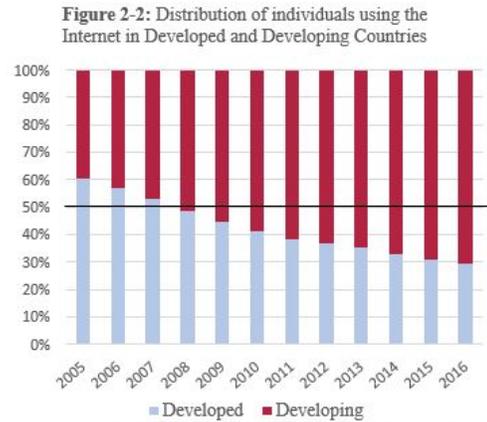
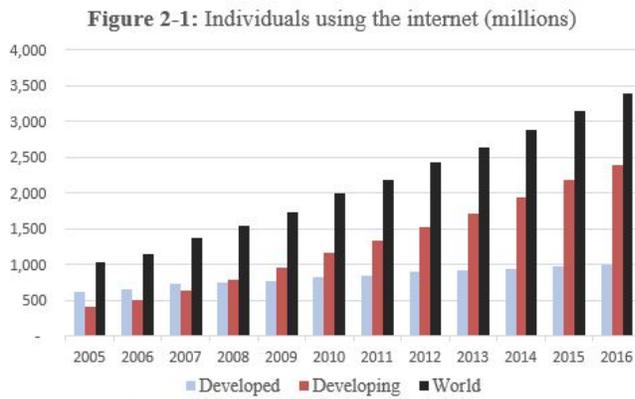
According to the Telecom Regulatory Authority of India (TRAI), internet subscribers in India predominantly access the internet through mobile wireless (phone or dongle), and the use of broadband is increasing sharply in recent years, meaning a higher bandwidth is becoming available for faster and more dynamic online activities (TRAI, 2016). This trend signals an indispensable force and influence that users in countries like India will have, or already have, greater and greater influence on the immaterial (such as internet culture) and material aspects (such as content created) within the online society.

⁷ “Lilavati’s Daughters” is originally a collection of essays and biographies of Indian women scientists since the Victorian Era.

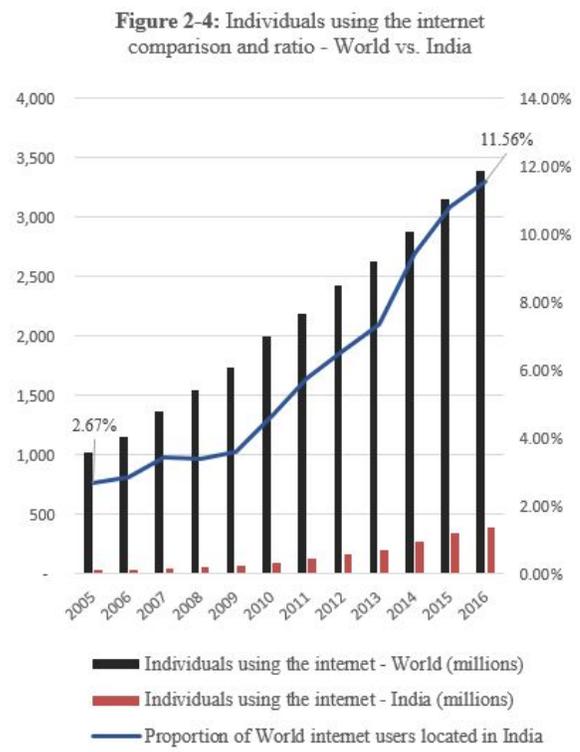
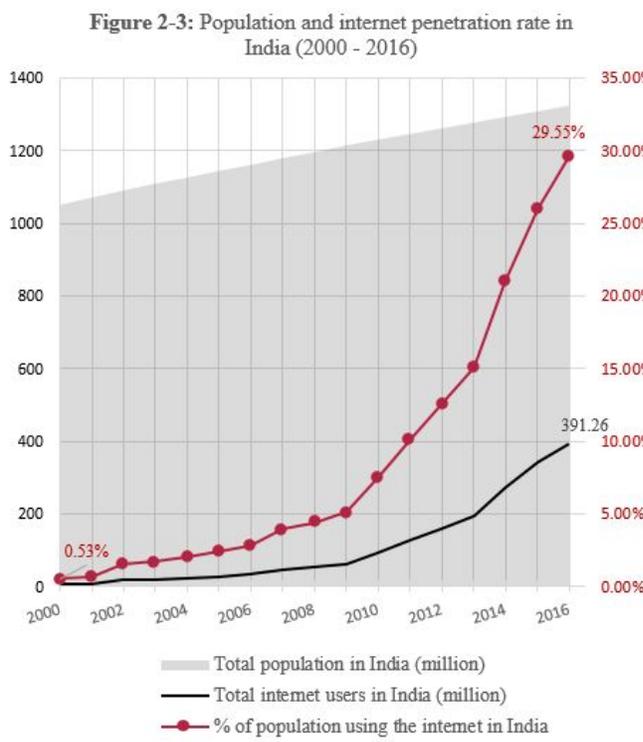
⁸ Annual Grant Proposal (AGP) is WMF’s annual plan grants for affiliated entities (i.e. formal Wikimedia communities).

⁹ “Developed” and “Developing” were the terms used in the ITU statistics, the country classification could be found at <https://www.itu.int/en/ITU-D/Statistics/Pages/definitions/regions.aspx>

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Sources (Figure 2-1, 2-2): [ITU \(Global and Regional ICT Data\) Key ICT Indicators 2005-2017](#)



Sources (Figure 2-3): [ITU \(Country ICT Data\) Percentage of Individuals Using the Internet](#)

Sources (Figure 2-4): [Cross-analysis between ITU Country ICT Data and ITU Global and Regional ICT Data](#)

Taking gender and rural/urban divide into consideration, according to the 2016 report of Internet and Mobile Association of India (IAMAI), 59% of internet users in India reside in urban areas, and among them, the gender ratio is estimated as 2 (female): 3 (male), while in rural areas it is about 1 (female): 3 (male) (IAMAI, 2016, p4). A similar survey from the Pew

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Research Centre (2015) indicated that 27% of male population in India and 17% of females use the internet at least occasionally, that is about the ratio of 3 (female): 5 (male) when taking the country's population (World Bank, 2018) into the calculation. None of these estimated ratios, however, comes close to the gender gap revealed in the aforementioned Wikimedia Foundation editor survey (2011), where a staggeringly low gender ratio was revealed for Indian Wikipedians: 3 (female): 97 (male). Taking the popularity of Wikipedias in India into account, as Wikipedia.org being the 8th most visited website in India (Alexa, 2018) and that about 3% of Wikipedia page views and 2.6% of page edits worldwide being from India (Wikistats, 2013), we cannot consider the staggering gap within the Open Source community as a simple outlier that does not impact the wider population and the global knowledge system.

This stark difference between the gender gap in "access" and that in India's Wikipedia editorship suggests that "access to the internet" is surely not the sole reason for low female participation rate in Open Source projects. Among all possible explanations, this research considers the hidden power gap as one of the reasons that women may feel reluctant to join or incline towards disengagement overtime. A thorough understanding of women's power negotiation, hence, could be important in developing a more effective way to bridge the gender gap in Wikimedia projects and other platforms alike.

Chapter 3: Literature Review

To build on the context and address our research question, the literature review chapter aims to provide both the existing literature on the Wikipedia/Wikimedia project gender gap research and its connection to the conceptual frameworks used within ICT4D/empowerment discourse. The first section provides an introduction and critique around prominent conceptual frameworks on empowerment through ICTs, out of which I concentrate on Amartya Sen's *capability approach* and Manuel Castells' *network society*.

The second and the third sections adopts feminist lens to further cover the subject of identity, agency, and empowerment through ICTs. The two sections are crucial in terms of sensitizing our own discourse in this study – to understand the “hidden gap (power asymmetry)” as multidimensional, intersectional, and structural barriers established through historical patriarchal practices and systems, rather than as standalone incidents on today's internet. The last section narrows down our focus to the Wikipedia /Wikimedia project gender gap research to help identify the missing elements in recent research.

Key arguments of the various conceptual frameworks and elements covered in this chapter are later used as our null hypotheses, the “codes,” on the patterns of empowerment through ICTs. These codes will then be applied when reviewing our qualitative data to test their viability to the actual power, agency and identity negotiation experiences of female Indian Wikimedians interviewed in this case study.

3.1 Conceptual frameworks: identity, agency, and empowerment through ICTs

In the early conceptualization of empowerment itself, Batliwala (1994, 2007) defines empowerment as a “socio-political process” emphasized for the power transition between and across both individuals and social groups. In such process, ideologies and institutions justifying and sustaining social inequality would be challenged by grassroots movements of the oppressed, who are not simply beneficiaries but agents initiating empowerment. Batliwala especially stresses that there is no “one-shot magic bullet” (2007) by which a panacea could be applied without consulting the cultural and historical contexts, such as the mere access to microcredits, or as in our case – the access to ICTs. Following its predecessors Women in Development (WID), Women and Development (WAD), and Gender and Development (GAD), however, “empowerment” has become a buzzword among development actors, many of whom deliver their versions of “empowerment” only through manageable, and marketable targets in a

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top-down, neoliberal manner (2007).

To apply Batliwala's original idea of (gender) empowerment as a socio-political process, this study focuses on *social identity* and (*individual*) *agency* to explore how empowerment, besides the mere access to ICTs, is acquired by (or denied to) women in the Wikimedean communities. *Social identity* refers to how one perceives their positionality(s) through interactions and encounters with various social groups (Tajfel & Turner, 1986). *Individual agency*, on the other hand, refers to how one mobilizes her power and/or challenge the power relations within the macro-structure in which they reside (Hewson, 2010).

In this study, I use the conceptual frameworks of Manuel Castells' *network society* and Amartya Sen's *capability approach* to understand the relationships between empowerment, social identity, and individual agency in prominent ICT4D/empowerment narratives. Castells' work combines that discussion of network interactivity and one's identity and agency transformation through this ICT-enabled economy/society. His idea of a *network society* illustrates the societal, political, and economic changes brought about by the new culture of instant interactivity and (virtual) spatialization. Castells' idea continues to shape the current ICT4D/empowerment discourse today in terms of how power regime and economy could be reconstructed through a bottom-up fashion (Smith & Reilly, 2013).

On the other hand, Sen's *capability approach* focuses on a sequential capacity building process that leads to internal power transformation and external effects on one's overall livelihood. Sen, although not a scholar in the technological aspect, has been a key figure in the discussion of empowerment and international development. His philosophy in capability approach, which was initially used to explain poverty reduction plans, in fact has been adopted extensively throughout the time to explain ICT4D strategies and has been used in relevant program evaluation (Klein, 2011; Garnham, 1997). Sen's statement that development is freedom and capability building rather than receiving material satisfaction has been a key argument parallel to that of the ICT4D ideology, that ICTs and the internet are tools to provide a freedom and capacity-building opportunities, rather than simply to satisfy immediate needs of information and resources.

Of course, both scholars' views and conceptual frameworks have faced constant contestation, the most notable ones being Castells' over-emphasis on "access" (the binary inclusion-exclusion discourse) to networks, as well as Sen's simplification of "agency acquirement." These issues, as we had previously discussed, align closely to the access-centric narratives we have observed in ICT4D/empowerment. Hence, I propose that understanding the

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assumptions and key critiques behind these two conceptual frameworks would be an especially crucial and useful first step to acknowledge the hidden gap's existence.

3.1.1 Manuel Castells and the network society

In a narrower sense, Manuel Castells defined network society as “a society whose social structure is made up of networks powered by micro-electronics-based information and communications technologies (Castells, 2004, p1).” From his trilogy covering the complexity and significance of a network society, economically, politically, socially, and culturally, the researcher drew three key ideas that touch upon individual agency and social identity:

- the new hierarchy in a network capitalist society,
- *project identity* and feminist movement, as well as
- the *culture of real virtuality* that weakens the symbolic power in traditional structures.

Castells proposed that in an Information Age made possible by ICTs, traditional hierarchies will be gradually replaced by more ephemeral, flexible “power of flows” within the networks, and that new marginalization is constructed through one's exclusion from and/or disengagement in the networks (1997, 2010). The new hierarchy in a network society in Castells' theory, is not necessarily more equal to the structure it replaces. In fact, he accepts the possibility for the existing, traditional system of power would remain powerful through the ever-expanding network. One of his examples is a capitalist economy:

“Indeed, the network society, for the time being, is a capitalist society, as was the industrial society in most of the world... However, analysis of capitalism in general does not exhaust the understanding of the dynamics of power relationships, because the brand of global capitalism we live in today is very different from previous historical forms of capitalism, and because the structural logic of capitalism is articulated in practical terms with the specific forms of social organization in societies around the world. (Castells, 2011, p784)”

“Power in the traditional sense still exists: capitalists over workers, men over women... Yet, there is a higher order of power: the power of flows in the networks prevails over the flows of power (1997, p15).”

Despite the prevailing capitalistic nature of the network society, Castells states that a networked capitalist nowadays must rely on more prevalent, but less controllable flows of capital – which is now in many hands of workers, who were once in the bottom of the

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exploitative capitalist hierarchy but now engaging in the network of investment and capital flows (1997). His idea of power acquisition in the networks is not limited to capitalists or investors, but including the participation of consumers, programmers - those with the ability to shape the network flows and structure, and switchers - those who cooperate between nodes of networks (2011). In other words, Castells argues that the prevalence of a networked economy and society enables individuals to renegotiate their role economically and socially through their participation and contribution to the new economy of rapid capital flows. The network society structure generates new types of control and power dynamics clashing with traditional hierarchies. Castells used this example to further emphasize that those who are excluded from the network, the flows of information, and this new capitalist global economy are essentially the new marginalized.

This argument has its weaknesses, however. It resonates with the access-centric discourse in current ICT4D agenda, oversimplifying the nature between inclusion and empowerment, particularly in the assumptions that (a) those who were once powerless would be aware of their new positionality and potential in a networked economy, and (b) they will actively negotiate their role and power enabled by the network. The binary logic of inclusion and exclusion also decontextualized how hierarchies, both in traditional and in digital networks, are intertwined with one's socio-political background. A second weakness of his argument is the emphasis on a capital-driven economy which may not apply to alternative network economies like those of a non-market-oriented, volunteer-based Open Source community.

As an alternative view of the network economy, Benkler (2006) in his *The Wealth of Networks* introduces the provision that an information economy will be established more through collaborative, decentralized efforts of individual work. In Benkler's networked information society, empowerment, relies less on crossing the threshold of inclusion-exclusion or taking up new roles in a networked capital flow. Instead, empowerment is made possible by the new opportunities available in a non-proprietary, knowledge-sharing economy as compared to those in a centralized, corporate-controlled media culture. His idea is more similar to the Wikimedia movements where the "democratization of knowledge" is pictured and a new freedom could be found outside of the market-oriented model.

"These changes have increased the role of nonmarket and nonproprietary production... a new information environment, one in which individuals are free to take a more active role than was possible in the industrial information economy... This new freedom holds great practical promise: as a dimension of individual freedom; as a platform for better democratic participation; as a

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medium to foster a more critical and self-reflective culture; and, in an increasingly information-dependent global economy, as a mechanism to achieve improvements in human development everywhere. (Benkler, 2006, p2)”

While the Open Source and Open Knowledge movements have mostly been aligned with Benkler's idea, there is still the possibility that the cultural context of countries like India and the de facto (opportunity) cost would render different attitudes towards such *Gift Economy* that Benkler had envisioned.

Another key idea of Castells' argument on power transition lies in the possibility of new identity forming within the network society. His use of the term “project identity” refers to individual or collective power realization established for an ongoing project challenging the existing social structure (1997, 2010). Using the rising feminist movements in an information age as an example, Castells argues that within a disintegrated civil society but flourished network society, a project identity will become increasingly dependent on “communal resistance” where myriad of niche cultural communes made possible by the networks create collective refuge and power mobilization for those once oppressed (1997, 2010).

This assumption, however, was met with mixed responses. Wittel's (2001) “network sociality” argues that wherein a hyper-networked society, bonds between people become more ephemeral, individualized, and apathetic. This resonates with Benkler's idea that a collaborative network is built on individuals who enjoy their new-found autonomy in a decentralized structure (2006). With Wittel's argument that network sociality inevitably leads to the erosion of traditional relationships, we must question whether a call to action could be efficiently and substantially realized through network participation as Castells assumes. While empirical studies have shown that in male-dominant online communities, women tend to stick together and a women-only space is often considered much more welcoming (Alagaraja et al., 2016; Beyer, 2012), there has not been strong support to label these “enclaves” as a hierarchy-challenging force. Rather, they are often simply the coping mechanism against unfavorable encounters (Beyer, 2012).

Some also argue that the environment of a male-dominant online community often affects how female members receive and portray their individual identities to begin with, even when women-only sub-communities (enclaves/ cultural communes) exist.

“Programming culture sustains certain forms of masculinity which makes women concerned about being ‘unfeminine’ in their connection to technology, or

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'too feminine' by attracting unwanted male attention (Nafus, 2012)."

The masculine, geeky culture of online communities, such as those of programmers, gamers, and Wikimedians, are often off-putting for women who struggle between revealing one's gender identity or concealing it to fit in (Kubik, 2012; Beyer, 2012; Margolis & Fisher, 2003; Johnson, 2010; Spender, 1996). Hence, the very willingness of women to establish a visible and hierarchy-challenging project identity is contestable.

The third idea from Castells' network society framework is the culture of real virtuality in which he envisions an alternative reality (a world of "made-believe") to be constructed and taking over the offline reality.

"All realities are communicated through symbols. And in human, interactive communication, regardless of the medium, all symbols are somewhat displaced in relation to their assigned semantic meaning. In a sense, all reality is virtually perceived... (Castells, 1997, p 403)

"[T]he new communication system radically transforms space and time, the fundamental dimensions of human life. Localities become disembodied from their cultural, historical, geographical meaning, and reintegrated into functional networks, or into image collages, inducing a space of flows that substitutes for the space of places. (Ibid, p 406)."

Of course, Castells did not make the statement that one's identity offline would be "erased" through a click to the internet; his emphasis is on the "realness" of such online experience and this experience's real impact both online and offline to weaken certain symbolic power in the traditional (offline) society. Many, however, argue that instead of creating new, alternative identity and virtual communities, the digital networks are more likely to simulate a hybrid, quasi-public, in-between sphere where hierarchies in the real world, especially those in terms of state authority, could be reformed, but not necessarily weakened (Fuchs, 2008; Fraser, 2005; Gurumurthy, 2011). Feminist scholars especially states that even on the internet, women's online experiences are inseparable from her experience through female-body shapes outside of the network society. The decontextualization and oversimplification discourse of an "alternative" culture, without taking gender and other identity factors into account, could downplay gender inequality online as individual "lacks" in the online space (Gurumurthy, 2012; Gurumurthy & Thomas, 2016).

Gurumurthy (2013) also warns against the "tyranny of structurelessness" where the seemingly powerless space fails to contest the very power structure it is built upon – most of

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the time, a patriarchal and colonizing system. It is, hence, worth exploring later in our data analysis, whether this narrative of disembodiment -the separation of online experience from one's physical, concrete lived experiences offline - helps or hinders women's negotiation of identity and power within this in-between space of reality and virtuality.

3.1.2 Amartya Sen and capability approach

Sen's capability approach is selected in this study not only for its significance in the current development discourse, including those in ICT4D, but also for its depiction of women as active and responsible decision-maker towards their own empowerment rather than merely the beneficiaries of aid (1999). Sen stresses that rather than fixating on resource endowment or reaching immediate achievements or satisfying immediate needs, capability building should be the focus.

"A person's capability set can be defined as the set of functioning vectors within his or her reach. In examining the well-being aspect of a person, attention can legitimately be paid to the capability set of the person and not just to the chosen functioning vector. This has the effect of taking note of the positive freedoms in a general sense (the freedom "to do this," or "to be that") that a person has. (1985, p201)"

Sen does endorse the idea of resource (re)distribution; however, his theory emphasizes that rather than exclusively concerning the fairness of resource endowment, development players should pay more attention to distributing resources based on individuals' prospective capability (doing and being) and how they would be able to utilize such resources to pursue further freedom. Hence, Sen considers some utilitarian resource endowment as "fetishistic" and ineffective in achieving long term, real fairness and freedom (Sen, 1985; Sen, 1992, Arneson, 2006).

Freedom, often referred to as "well-being freedom," enables people to pursue well-being and certain functioning. In his earlier writing, Sen distinguished this "well-being freedom" from the broader idea of "agency (freedom)" which depicts the "freedom to achieve what the person decides he or she should achieve" (Sen, 1985), although in his later writings when considering individuals' higher level of well-being and self-realization, he made less distinction between the two freedoms.

While Sen's capability approach focused on poverty elimination and well-being originally, his ideas that "freedoms include the liberty of acting as citizens who matter and whose voices count, rather than living as well fed, well clothed and entertained vassals (1999)" resonates with women's empowerment in the online space. In short, Sen's concept of capability depicts the

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ability and freedom (e.g. access to education) to achieve certain functioning (e.g. literacy) in order to pursue longer-term self-realization. Sen especially stresses that greater degree of freedom is not bound to individuals, but performs in a compound fashion that enhance the overall society's freedom and development through the agency aspect (1999).

In recent years, the capability approach has been widely used in the research and discussion of ICT4D. In one of the first adoptions of the capability approach in ICTs, Garnham (1997) endorses the approach by stating that it helps to transcend the discussion on ICT for empowerment from a superficial "access" focus to a much more substantial capacity building focus:

"What the capability approach highlights is that access is not enough... we need to take into account both the range of communication options made available, and these must be real options not mere choices between products and services with minimal real differences, and the ability of people actually to make use of these options, to achieve the relevant functionings. (Garnham, 1997, p 32)"

This idea summarizes our critique on the current ICT4D discourse, and resonates with our call for power equality for women online and in Open Source projects and communities. In other words, Garnham (1997) acknowledges that access does not render the same capability and utility for users of different backgrounds and positionality, and argues that it is the equal entitlement to the *capability* that matters in ICT for empowerment.

Similarly, Kleine (2011) argues that while the internet offers its users a myriad of options and information, it should not be considered empowerment if there is no room for one to build their capability and to increase freedom. Klein states that the true empowerment through ICTs should be determined by one's agency to question (a) who made what kind of choices available on a platform, under whose ideology and interest, (b) whether this freedom acquired from technological intervention will continue to empower the user in other aspects of life (i.e. capacity building), and (c) whether the creation of new available choices will continue to meet and adapt to a user's needs for capacity building and self-realization. Klein (2011) also pointed out that most ICTs today are pre-designed for certain functionality. Tools and instruments used in ICT4D are mostly designed with a pre-determined development targets in mind, where the users' freedom to determine their own being and doing through the usage of technologies has not been the core focus. In comparison, Open Source projects like the Wikimedia projects may be a great example of ICT4D instruments that provide a higher level of freedom. Hence, the Open Source communities should cultivate a space allowing for individuals to challenge

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pre-determined functionality, knowledge and structure to create a more equitable, sustainable, and adaptable platforms for the underrepresented.

However, Sen's approach has also received critiques. Hill (2010) argues that it has not clearly explained how individuals should become aware of their freedom and how they should acquire knowledge through ICTs to exercise such capability and act differently. In other words, Sen seems to assume a rather idealized picture of agency acquisition where people are constantly aware of the opportunities and options available (freedom), and that they exercise their agency to achieve better well-being. This is similar to the assumptions and the flaws of Manuel Castells mentioned earlier.

Nussbaum's (2000) modification of the capability approach partially addressed these problems. Nussbaum argues different levels of capability exist – basic, internal, and combined capability. Basic capability is the natural ability that one is endowed since birth; *internal capability* is the ability one is able to develop throughout their life course trajectories in order to perform requisite functioning. *Combined capability* is where one's internal capability and external condition meets equilibrium to stimulate actions towards self-realization and further freedom. In other words, one must first internalize their own capability, and will exercise their agency consciously and strategically according to their position and their observation of the situation. To elaborate more on the external conditions and its effect on one's agency and action, we draw additional insights from Kabeer's (1999) definition of agency exercising:

“Agency is about more than observable action; it also encompasses the meaning, motivation, and purpose which individuals bring to their activity, their sense of agency, or ‘the power within.’ While agency tends to be operationalized as ‘decision-making’ in the social science literature, it can take a number of other forms. It can take the form of bargaining and negotiation, deception and manipulation, subversion and resistance, as well as more intangible, cognitive processes of reflection and analysis. It can be exercised by individuals as well as by collectivities.”

As Kabeer (1999) explains, part of the process of agency acquisition and exercise is, similar to identity negotiation, being aware of one's power relations to the bigger structure, and mindfully making decisions on one's choice of (in)action. For example, in Masika and Bailur's (2015) study on Ugandan and Indian female workers in the information technology sector, they found that women strategically exercise and negotiate their power and agency. When the negotiation poses risks on one's social status and relationships within the broader society, these women may choose to forgo the chance to “empowerment” altogether. Many hence

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propose that the real “empowerment” for women in a (network) society is to be able to recognize this external and internal signs of power and oppression and critically examine and/or challenge the structural biases individually or collectively (Hill, 2010; Hartsock, 1983; Rowlands, 1998; Batliwala, 1994). This notion of empowerment and agency puts more emphasis on one’s capability to recognize structural power imbalance than one’s ability to mobilize visible actions that challenge the system.

3.2 Women, technology, and the Internet

Researchers have been exploring reasons behind the underrepresentation of women in various Open Source projects (Perkins, 2014; Stephens, 2013; Haklay & Budhathoki, 2010). However, the gender asymmetry in online participation is not limited to Open Source platforms, nor is it purely an “online” phenomenon. The issue is a result of many systems that have been patriarchally constructed throughout history, including the internet, technologies, and knowledge creation.

With the rising use of the Internet and ICTs, many question if the new tools and platforms allow power deconstruction or perpetuation, or a bit of both (Rheingold, 2000; Castells, 1996). As Jordan (1999) puts it, “offline hierarchies are subverted by cyberspace but are also reconstituted in cyberspace.” While some believe the internet, ICTs and connectivity brings transformative influence to the existing power dynamics, feminist scholars are aware of their patriarchal origin (Kubik, 2012; Gajjala & Oh, 2012; Spender, 1996).

While computers used to be considered a feminine tool and programming was deemed as a job for women in the 60s, it was far from an equal playing field in the information technology sector. Female workers were associated with computer jobs similar to how female typists were associated with typewriters earlier where they did not typically take up innovative or critical decision-making roles - a woman’s hands were for “typing” rather than “writing” (Spender, 1996). Their work was administrative and manual, and their roles as characterless “operators” rather than creators (Light, 1999). As software development started to take over the sector in recent decades, programming has also become an increasingly male-dominant, exclusive field, estranged from its feminine origin. Decades after the invention of computers, this work culture still resonates the way women’s roles are considered in the technical, online spaces where their mere presence (online and in the information and technology sectors and projects) is celebrated, without taking into account the different, unequal power dynamics within such a male-dominant environment (Gajjala & Oh, 2012).

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The creation of the internet started with the ARPANET project of the U.S. Department of Defense in the 1960s. Its development in the following decades was also closely associated with the military, industry, and academia, all of which have been male-dominant, if not male-exclusive (Scott, Semmens, & Willoughby, 1999; Kwami, Wolf-Monteiro, & Steeves, 2011; Spender, 1996; Wylie, 1995). The disproportionate under-representation of women in the early decision making of the internet perpetuated the institutional, educational, and industrial barriers which have discouraged women's participation until today (Spender, 1996; Nafus, 2012). The same exclusion exists for those in low and medium income countries as the international internet governance regime continues to be constructed under a North-South hegemony (Mendes & Gurusurthy, 2011).

The problem behind the underrepresentation of women, gender asymmetry and bias in the creation of the internet is the notion that the internet could be understood apolitically as a bodiless, genderless medium (Rheingold, 2000). In 1992, when the U.S. Internet Architecture Board (IAB) decided a universal definition of the "internet," it was concluded that the definition should avoid any cultural and socio-political stances of the medium, but as a pure infrastructure (DeNardis, 2009). When it comes to the individual level, some have supported the "disembodied" view that one's identity does not matter in virtual networks, similar to Castells' idea of real virtuality. However, today, the line between our offline and online identities are blurred (McGerty, 2004; Marwick, 2012), so are the nature of one's online and offline activities, such as how some Wikimedian communities depend heavily on their members' gathering and interaction in real life. At the same time, anonymity may no longer be possible or an optimal option for one's meaningful engagement online and in real life. All of these trends and factors raise questions on whether the internet and the technologies we rely on could still be considered separated from our physical experienced offline or be seen as purely an infrastructure free of cultural, socio-political implication. Essentially, the idea that one's involvement and input as an internet user will be interpreted as no more than lifeless and characterless data points is problematic and inaccurate (Nafus, 2012; Fallows, 2005).

While in recent years advocates of feminism and cyberfeminism have broadened the discussion on gender sensitivity in the virtual, networked society, intersectional factors such as class, race, caste, are often ignored in the development of feminism and Cyberfeminism which have been criticized for their Anglo- and Euro-centric view of cyberspace activism and women's struggle online (Haraway, 1991; Gajjala & Oh, 2012). Jain (2016) argues that most feminist movements in India have been very cultural-specific, such as the practice of *dowry* and *sati*

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(widow burning). These movements proves that intersectionality must be considered a core element of cyberfeminism as women's struggles, experiences, and call to action all differ in various settings. Gajjala (2004) warns that when researching women who use the internet and ICTs in low and medium countries, we must be aware of the potential biases as those who have access and skills to actively participate in online activities and to voice their struggles are often already the more privileged ones.

3.3 Gender and knowledge production

Besides platforms and tools, the system of knowledge creation has also been patriarchal in its construction. Like the discourse of disembodiment in technology, gender biases in knowledge itself is often undetected in the discussion. Knowledge, although being much less tangible than technologies, followed a similar path in power construction and systemic marginalization. In the Foucauldian theory, knowledge is a way of exercising power and control.

“There is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations (Foucault, 1977).”

Rewinding a few centuries back, before press printing was invented, churches in the Middle Age “guarded” and controlled information and knowledge inside the religion system (Spender, 1996). When press printing technology was invented in 1450, the ability to distribute knowledge at low cost and in short time left many optimistic about the revolutionary “knowledge democracy,” much like how we view the internet or, more specifically, Wikimedia projects today. However, the printing technology reconstructed a different kind of hegemony. An example of how this piece of technology disrupted gender and knowledge creation was its impact on nunneries. Copywriting and editing was a common practice in nunneries within churches where women were able to preserve their perspectives on knowledge in medicine and history despite living in a male-dominant (knowledge) system. The practice was essentially phased out after press printing was made available (Spender, 1996). This example proves that (a) knowledge distribution and communication technology advancement are inseparable, and that (b) the latter may not always work in favor of creating a more equalized knowledge system, even in the name of knowledge democracy – as this “democratization” is truly in the eye of the beholder, or more specifically, the power holder in the new form of knowledge creation.

The Enlightenment movement in the eighteenth century was another key point where knowledge production became an even more rigid, uneven playing field for the powerless.

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Glorifying the language and focus on scientific and objective “knowledge,” the Enlightenment movement disapproves the idea of an experience-based, personal way of knowing. This division of the “mind” and “matter,” often called “Cartesian Dualism,” separates mind from body; truth from emotions and feelings. It is argued by feminist epistemology scholars, however, that one’s knowledge and perception of the world can never be separated from one’s life course experiences related to their intersectional identities, of course including gender.

“[I]n societies stratified by race, ethnicity, gender, sexuality, or some other such politics shaping the very structure of a society, the activities of those at the top both organize and limit on what persons who perform such activities can understand about themselves and the world around them... [T]he experiences and lives of marginalized peoples, as they understand them, provide particularly significant problems to be explained or research agendas. These experiences and lives have been devalued or ignored as a source of objectivity-maximizing questions. (Harding, 1992)”

Scholars of feminist epistemology, hence, argue that a pursuit of such nominal “objectivity” perpetuates the male-default cognition of truth and neutrality (Ramazanoğlu & Holland, 2009; Haraway, 1991). This pursuit, ironically although unsurprisingly, resonates with the Wikipedia editing guidelines. Gruwell (2015) found that the pursuit of “objectivity,” “neutral point of view (NPOV)” and the avoidance of “(personal) point of views (POVs)” have made it harder for women to write about feminism and women’s issues that are personal, internal and intertwined with emotions. In other words, the language required to create formal knowledge – to make it into a “common sense” – is genderless on the outside but essentially male-defined as the masculine language of objectivity are more favorable on Wikipedia (Smith & Smythe, 2009; Harp & Tremayne, 2006). Nafus (2012) argues that the idea of an “open and free” platform online exacerbates the apathy towards women’s knowledge as one’s contribution is “more real than his/her gender” behind the computer screen and that the contributors’ identities can be ignored as long as their efforts serve as a greater public good.

3.4 The Wikipedia gender gap

Taking into the consideration of privilege and the history of knowledge and technology, it is not surprising to find that contributors of Open Source projects worldwide are predominantly white, middle-aged, male living in North America or Europe (Glott, Schmidt, & Ghosh, 2010; Graham, 2015; Perkins, 2014; Stephens, 2013; Haklay & Budhathoki, 2010; Smith & Smythe, 2009; Nafus, 2012). As several surveys and research (UNU-MERIT, 2010; Wikimedia Foundation,

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2011) have confirmed, Wikipedia, and potentially other Wikimedia projects, shows a wide “gender gap” not only in the editor demographics but also the content created. However, the researcher found that current Wikipedia gender gap research and literature have predominantly overlooked the question of identity and agency negotiation for women in the editor communities.

A large share of the literature has covered the existence of a content gap. For example, by investigating the content of biography pages on English Wikipedia, researchers have found that the number of female biographies is much lower than men's, and women's biographies on Wikipedia often bear linguistic bias (such as using a generalizing tone on women's failure but men's success), topical/lexical bias (such as more narration on a woman's marriage, domestic life, and her gender), and the lack of centrality that female articles will link to male ones but more rarely the other way around (Wagner, Graells-Garrido, Garcia, & Menczer, 2016; Graells-Garrido, Lalmas, & Menczer, 2015; Wagner, Garcia, Jadidi, & Strohmaier, 2015). Wagner et al. (2016) have also proved that Wikipedia contains a “glass ceiling” where the threshold of notability for a female-identified individual to have a biography page is significantly higher than that of their male-identified counterparts. In other words, while there are biographies of globally known figures on all genders, for locally known figures there seems to be less female coverage than males'. These biases not only signal the imbalance within contributors' choice and focus, it further marginalizes the knowledge of women and a feminist viewpoint of epistemology.

Other studies have approached the question of “reasons” behind this gender imbalance in contributor demographics. To research the hostility and discrimination embedded in online communities, Sichler and Prommer (2014) reviewed contentious online dialogues in German Wikipedia and found that women's “social inferiority” in the offline society is reinforced in the online discourse where male editors have used discrimination and abusive language based on one's gender. Similarly, Smith and Smythe (2009) observed hyper-hostile behaviors in Open Source developers' online forums and concluded that as a coping mechanism, women developers often create their own closed communities as an “imperfect but more mutually supportive” haven. Chevalier (2014), on the other hand, investigated women's negotiation for more inclusive language on an Open Source collaborative platform where the request was later dismissed as “irrelevant” and “trivial” to the contributor community.

Aside from blunt hostility or discriminatory treatment, however, there exists prejudice wherein a male-as-default culture is set to subjectively define “meaningful” contribution or vandalism. Lam et al. (2011) discovered that in English Wikipedia, women's edits are

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significantly more likely to be reverted due to reason of “vandalism” and their first few edits are also more likely to be reversed than those made by men even when holding all else variables (quality, controversial level, etc.) constant. The researchers reasoned that this bias could be a cause of female contributors' high early dropout rate.

Still some researchers believe the reason behind this participation asymmetry lies behind men and women's inherent difference in psychological responses. Bear and Collier's (2016) survey indicates that women tend to show less confidence and more discomfort when editing other contributors' work, and when receiving “critical remarks”, women respond significantly more negatively than their male counterparts. Some also state that women are less assertive and active in negotiation which can result in more frustration and less efficacy in a consensus-based online environment like those of the Open Source projects (Stuhlmacher, Citera, & Willis, 2007; Sichler & Prommer, 2014; Nafus, 2012). These studies, however, often fixate on the incidental reactions and overlook the structural pressure and oppression for women to negotiate in those incidents. In other words, one's attitude and response do not simply emerge from a power vacuum that is only inherent to one's gender; instead, they are shaped and reshaped by one's lived experiences and projected expectations from real life. To understand the structural barriers women face before, during, and after joining an Open Source community, more critical research approach that looks at gender power dynamics offline and online should be applied.

At the same time, more research on the non-Western and non-anglophone contexts are needed. Some researchers have worked in Open Source/Open Knowledge communities in the Global South. Besides the lack of awareness, other common reasons for women's low participation rate are (a) the lack of time due to family and career responsibilities, and (b) the lack of access to adequate equipment and technical skills (Harshey, 2014; Lannon, 2014). While some studies started to argue that nowadays urban-residing women in India have a very different experience from women in rural India as they may in fact have more leisure time than (urban-residing) men and there seemed to be less difference in educational opportunities between urban-residing women and men in India (Motiram & Osberg, 2010), it is important to note that availability does not guarantee agency or choices (Sen, 1985).

Even with free time, a woman could still face barriers participating in volunteer-based projects like the Wikimedia projects as she continues to bear the conventional expectations on how her leisure time is spent and how she should or should not engage in online and offline communities (Lannon, 2014). In a recent study, Krishnani (2015) revealed that most urban

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Indian women have experienced online harassment and verbal violence that make them refrain from making public opinions or making oneself “visible” in online communities and on social media. While young women in (urban) India may now have access to computer training and internet at school, possession of a personal computer or the use of a desktop computer at home is still considered unnecessary or ungirlly in many households (Johnson, 2010). Women’s participation online and in Open Source projects is closely related to the structural, patriarchal power relations passed on in real life society.

Hence, to sum up, there are still more aspects that have yet to be fully explored in the Wikipedia/Wikimedia project gender gap research. First, it became clear that most of these studies are examining English Wikipedia, with majority of the studies specifically looking at the North American editor community. Communities and projects of languages with smaller speaker populations in the Global South, and the experiences of their members have been generalized or simply ignored. Secondly, we need to reimagine the Wikipedia(media) gender gap as a dynamic movement of power deconstruction and reconstruction. In other words, while it is important to point out historical, structural barriers, we must not perceive the gap as a static situation or an unchanged percentage, but as a dynamic process of reshaping and challenging the discourse in the masculine power structure online and beyond. Finally, the rhetoric on the issue so far has rarely included women’s identity, agency, and power negotiation as part of the study. Women (whether an editor or not) should be portrayed as an active actor of power transformation, rather than merely as victims of the gap or beneficiaries from the gender-gap-bridging movements.

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Chapter 4: Methodology and Research Design

The research data is collected through semi-structured interviews (via in-person, audio call, and email interviews) with twenty-three (23) informants whose identities would remain confidential throughout the paper.

The study utilizes a deductive qualitative analysis (DQA) approach to answer our research question: *How do female Indian Wikimedians negotiate their identity and agency within the male-dominant Indian Wikimedian communities and does it resonate with the ICT for development / empowerment discourse and its theories?* Based on the conceptual frameworks previously covered, a DQA approach enables us to roughly outline possible patterns of women's identity and agency negotiation within Indian Wikimedian communities. Six (6) preliminary codes derived from the conceptual frameworks guided our data analysis to test the frameworks' viability. By comparing the data to our preliminary codes and looking for themes that were not covered by or are contradictory to the codes, the analytical process enabled us to improve and critique on the conceptual frameworks, and to better capture a more holistic pattern(s) that reflects the female Indian Wikimedians' experiences in identity and agency negotiation.

4.1 Background: Early research design and changes

In the early stage of research design, the study had a very different research question angle which focused on the reasons behind women's absence in Wikimedia projects – a very similar focus as the existing literature mentioned in the previous chapter. However, having noticed that most prospective research participants reachable by previous researchers (Lannon, 2014) and the researcher in this study were predominantly female editors who have *already (and usually, actively)* participated in Wikimedia projects. The original research question was reconsidered as it was questionable to inquire *active female Indian Wikimedians* of the reasons why *other women (non-Wikimedians)* were not participating. This would have not only posed the risk of misrepresentation, but also ignored the existing layers of privilege Indian female Wikimedians have in India. Hence, the research question has shifted along the way to focus on these female Wikimedians' power negotiation experiences within the communities they have or had been actively involved in.

Due to this shift, interview questions asked inevitably varied between the first few interviews conducted and the later ones. Follow-up interviews and additional questions were

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conducted in the later stage to minimize any discrepancy, although not all earlier participants were reachable over time and that it is possible that a change in the interview format (from in-person to a follow-up Skype interview) could have affected one's responses. All data collected throughout the research period is still taken into consideration regardless of the questions they were answering. In fact, although interview questions that specify on personal power negotiation were not included in a few earliest interviews, a handful of informants had indirectly mentioned and provided useful insights on the subject.

4.2 Data collection and management

In total, twenty-three (23) Indian Wikimedians across eight (8) communities were reached and interviewed either through in person interviews, audio (phone/Skype) calls, or email exchange. Among all, twenty-one (21) were female, with the remaining two non-female informants were selected for their extensive experience in local gender gap bridging activities.

Participants were recruited through snowball (chain) sampling and convenience sampling. Snowball (chain) sampling is applied when existing research participants could recommend other prospective research participants to the researcher. This sampling method is especially helpful in reaching more female Wikimedians within the same language community, as well as in reaching Wikimedians that had collaborated during local gender gap bridging initiatives. Convenience sampling, on the other hand, refers to the cases when research participants were recruited during Wikimedia events as allowed by the researcher's nature of work in India. All informants' participation in this study is voluntary regardless of the sampling method; the same research consent, either through verbal agreement or on paper, had been explained thoroughly and acquired from all research participants.

To minimize the inconsistency within research participants recruited through the two sampling methods, several criteria were applied in both sampling. First, all research participants should be self-identified as female, exception applies to non-female Indian Wikimedians who had/have extensive involvement in gender gap bridging activities and initiatives. For liability concerns, Wikimedians under the age of eighteen (18) were not eligible to participate in the study; there were no capping rules for a maximum age. All research participants must have joined the Wikimedia projects and communities at least one year prior to the time when the interviews took place, although they do not need to be consistently active. Lastly, a Wikimedian who had made minimal or no engagement with other Wikimedians will not be considered eligible to participate in this study.

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All participants in this study had/have engaged with Indian Wikimedians communities that had/have been involved in gender gap bridging initiatives, including but not limited to community-wide Women's History Month celebration, gender gap bridging edit-a-thons, and other gender awareness programs. It is important to note that, however, not all communities associated with the informants were dedicated to bridging the gender gap in the same way, nor were they created in the same nature – some communities were formed based on language, while others may be characterized by a shared geographical or institutional space, still others were established through initiative or campaign collaborations.

Despite these differences, the researcher considers these variations across the communities to be reasonable and helpful in understanding women's experience across different settings. The variation of community setting and nature in the data collection process could also help capture a more holistic pattern on how women navigate identity and agency.

Community (In alphabetical order)	# of Informants	Medium	
Bengali	1	1	(In person) group interview
English	4	3	Skype audio call
		1	(In person) individual interview
Institution-based (mixed language)	2	2	Skype audio call
Malayalam	4	2	(In person) group interview
		1	(In person) individual interview
		1	Skype audio call
Marathi	9	5	(In person) individual interview
		4	(In person) group interview
Odia	1	1	(In person) individual interview
Telugu	1	1	Phone call
Punjabi	1	1	Email interview
TOTAL	23	8 reached via (in person) individual interview 7 reached via (in person) group interview 7 reached via phone/Skype audio call 1 reached via email interview	

Table 4-1 Informant details

Interview data were stored and transcribed upon completion of the interviews. Due to the consideration of informants' comfort and concerns, the majority of interviews conducted were not audio-taped but notes were taken by hand during the interviews. The researcher has tried

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her best to document all conversation details, including wording, hiatus, and emphasis (if any). However, a slight difference from the actual words used by the informants is expected in the transcription. Names or any identifiable details of informants, including usernames, community of belonging, edited pages, etc. will not be included in the research findings section, nor will the quotations be assigned a pseudonym or code (such as "participant M"). However, in the case of presenting a conversation between two informants (in a group interview), participant will be numbered.

4.3 Interview questions

All interviews conducted are semi-structured interviews, each consists of eight to ten open-ended questions and lasts approximately twenty to thirty minutes. Most interviews conducted were one-on-one interviews in a private setting; however, depending on participants' comfort level, group interviews of two to three informants were also allowed at times. All interviews were conducted in English and no translator was present.

The eight basic interview questions are listed below, although the wording and order may be different from interview to interview based on the conversation flows:

- a. What's your opinion on the gender gap in Wikimedia projects? Do you think it affects you and/or your community?
- b. Could you tell me a little bit about your journey as a Wikimedian? What has helped and what motivates you to keep editing?
- c. What are some challenges you see yourself and/or other female Wikimedians facing within the Wikimedian community?
- d. How do you think of your role and involvement in the community as a woman?
- e. Did you participate in any gender-gap-bridging movements in your community? What do you think about the movements?
- f. Do you see any difference in yourself throughout the time you are involved in Wikimedia projects/ Wikimedian communities?
- g. Have you encouraged other women to join (the community/the projects)? Why or why not? If yes, why do you think they should join?
- h. Do you feel being in the community and editing Wikimedia projects gives you a sense of freedom? Do you feel you are free to be yourself and make decisions for yourself?

The interview questions were designed to be open-ended and generic in order not to lead informants into any preset position. When informants brought up key information or stories in the interviews, follow-up questions not included in this list had been asked for clarification and elaboration.

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4.4 Data analysis methods

Using the interview data collected, the researcher used open and axial coding in a mix of deductive and inductive approach. Primarily, the data analysis is deductive, using six (6) preliminary codes derived from the conceptual frameworks covered in the literature review chapter to examine the frameworks' viability in our empirical data. However, throughout the coding process, inductive approach will also be taken in order to detect recurring themes that were not covered in our preliminary codes.

4.4.1 Code development

Each preliminary code is developed from a key argument in the conceptual framework, and will have two properties – the null and alternative hypotheses. A null hypothesis (H0) is an expected situation derived from and aligned with the conceptual framework's argument, while an alternative hypothesis is developed from an existing critique of such argument which we covered in the literature review chapter. There can be more than one alternative hypotheses, in such cases, the two will be coded as H1 and H2, otherwise H1 will represent the only alternative hypothesis.

Preliminary Code	Conceptual framework argument	Null (H0)	Alternative
C1	Power transition through increase control on flows of capital (Castells' network society)	[C1H0] Participants find their involvement in their communities characterized by the power to control information flows (even if it is not market-oriented)	[C1H1] Participants endorse the idea of a knowledge-sharing information society and advocate for a non-market scheme practice
C2	Project identity (Castells' network society)	[C2H0] Women participants shape niche community based on a distinctive project identity to tackle gender and power imbalance issues online and beyond.	[C2H1] Niche community and project identity were not effectively improvised or mobilized due to the weakened ties and individualized culture in Wikimedian communities
C3	Real virtuality (Castells' network society)	[C3H0] Participants find their virtual identity and experience offline diverge from and prevail traditional identities and power relations offline	[C3H1] Participants find their offline identity especially embedded in and affecting their experience within Wikimedian communities [C3H2] Participants prefer to celebrate and emphasize their offline identity within an Wikimedian community
S1	Resource endowment based on one's prospective capability (Sen's capability)	[S1H0] Participants have received increased access to resources and opportunities according to their	[S1H1] Participants reflect on that the power asymmetry where their access to (or control over) equal opportunity and/or

	approach)	capability. (Not be distributed exclusively on fairness/tokenism)	resources are denied [S1H2] Participants reflect on more systemic level barriers where power is perpetuated within the community/project practices of resource and opportunity endowment
S2	(Aware of and exercising) Increased freedom and choices (Sen's capability approach)	[S2H0] Participants perceive increased freedom and choices (online and beyond) through participating in editing	[S2H1] Participants are unaware of (or unwilling to exercise) certain freedom, opportunities, and choices available
S3	Capability building and self-realization (Sen's capability approach)	[S3H0] Participants successfully build new capability (achieve certain functioning) and have experienced certain level of self-realization/self-accomplishment	[S3H1] Participants are aware of their freedom to pursue capability enhancement and self-realization, but are hesitant due to external circumstances

Table 4-2 Key labels from conceptual framework

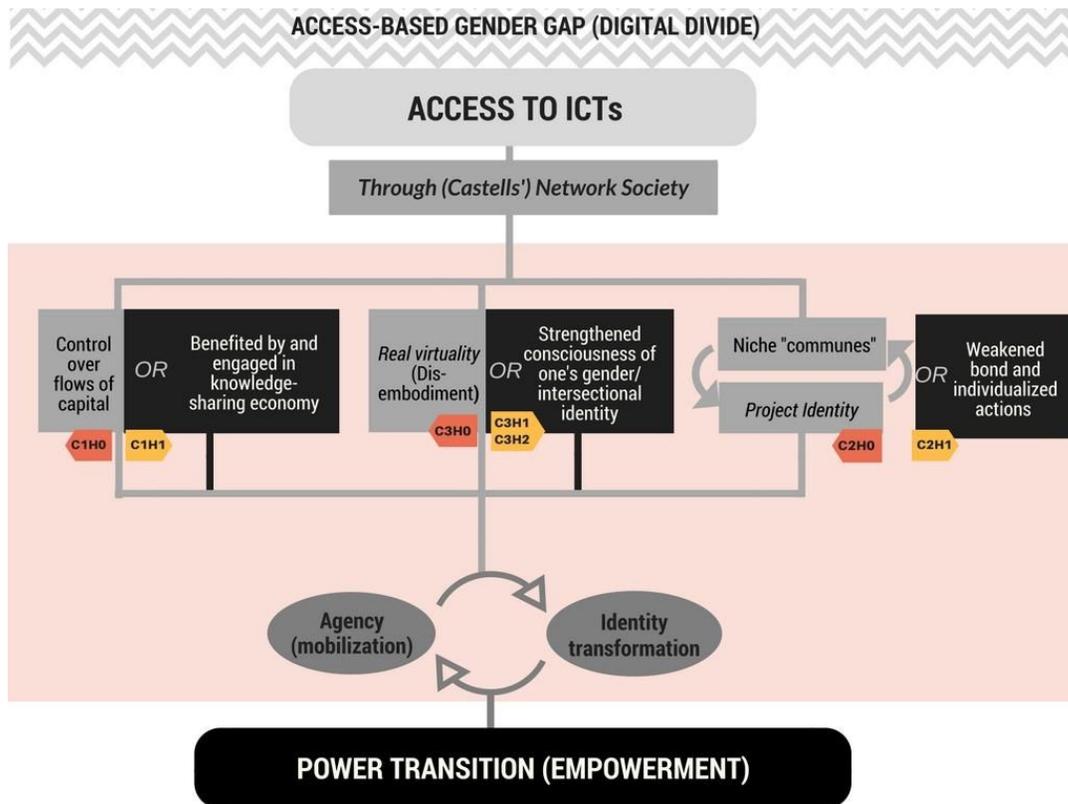


Figure 4-1 (above) Conceptual framework testing in Castells' network society

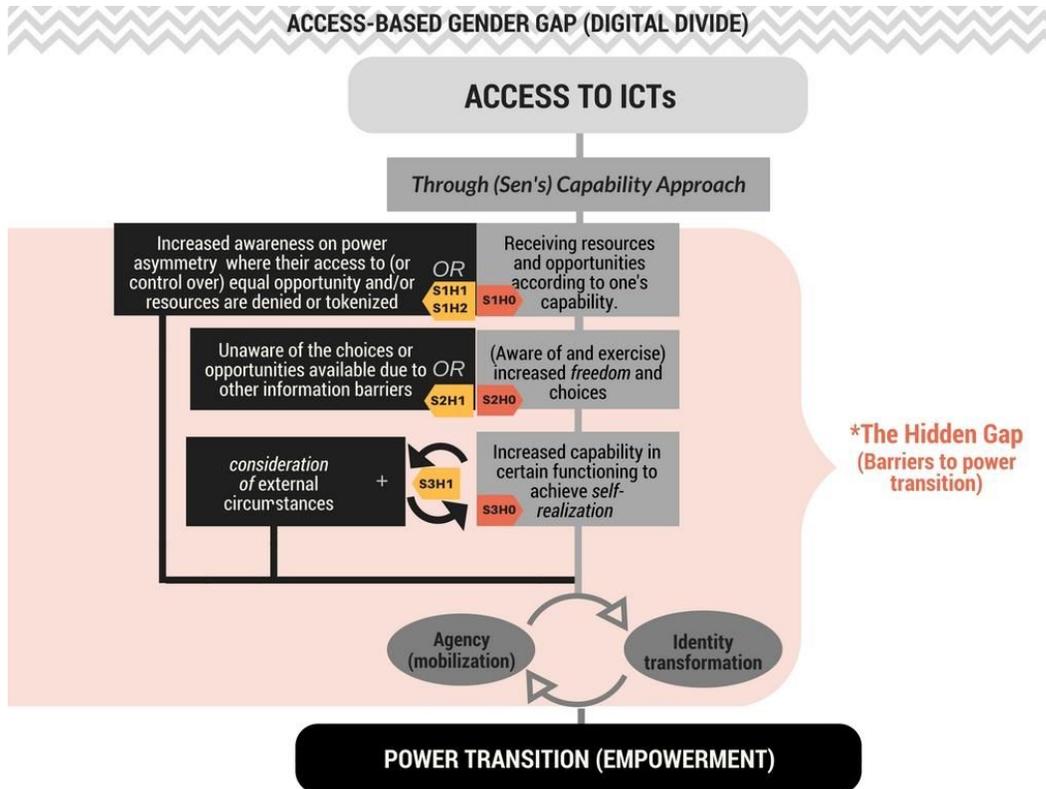


Figure 4-2 (above) Conceptual framework testing in Sen's capability approach

4.4.2 Hypothesis-testing

Due to the nature of a qualitative research method, we cannot perform a quantifiable hypothesis testing like those performed in quantitative research. The "hypothesis-testing" in this study is not to produce the conclusion to reject certain hypotheses but to discover any overlooked dimensions in them – Which part(s) of a hypothesis is debatable and which part(s) find less contestation from our empirical data? How heated the debate(s) could be based on the number and frequency of counter-statements we observed from the informants? And in general, how inclusive is each the hypotheses to capture the empirical narratives in our research context?

4.5 Researcher positionality and limitation

Working with the Indian Wikimedians communities as a designated advocate for gender gap bridging initiatives and as a foreigner without prior knowledge of any Indian languages certainly has impacted the researcher's relationship with the local Wikimedians communities and the research process. For example, as a foreigner who cannot communicate in Indian languages,

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community members with relatively limited English vocabulary may have been filtered out during the call for participants. As a foreigner, the researcher also suspects certain doubt or nervousness for informants to provide their full stories during the interviews. Alternatively, it is possible that as a non-community-member, the researcher would have encouraged the women editors to disclose more details and criticism that they did not feel comfortable expressing in their close-knit communities. The ethnicity and gender identity of the researcher as a visible woman of color (East Asian growing up in Asia) also matters.

The researcher's internship position at the Centre for Internet and Society Access to Knowledge team (CIS-A2K), a local stakeholder affiliated with the WMF to carry out and support local Wikimedia activities, may also impact how people perceived the research work. Community members may associate the independent research with the authority position of CIS-A2K or WMF. This concern was later confirmed during a follow-up interview where one participant expressed having less reluctance to share certain criticism "*now that you are away (from the CIS-A2K team).*"

Moreover, as some of the interviews took place in gender gap bridging events, interviewees may have felt obligated to show more concern about the gender gap issues. Alternatively, due to the research focus, it is also possible that the researcher has over-analyzed or misinterpreted in her reading and coding. However, the researcher had tried her best to get clarification from the participants to understand their answers. Based on the very limited data provided, this research cannot draw conclusions on the average female experience in India Wikimedian communities. However, the data will still shed light on some existing barriers faced by female Indian Wikimedians.

Chapter 5: Research Findings

Through our six preliminary codes, the study has found some empirical evidence that both challenges and supports some of the arguments in the two conceptual frameworks. The study shows that the “*hidden-gap-bridging*” patterns through identity, agency, and power negotiation could not be fully depicted by Castells’ and Sen’s concepts.

Among the six null hypotheses, two were particularly more extensively contested than the others – C1: power transition through increase control on flows of capital or power, and C3: real virtuality and the identity disembodiment inside a network society. The result on C1 is very much anticipated as our case study of Wikimedian communities is rooted in the culture of openness as opposed to the capitalist network economy Castells envisions. However, this does not mean that Benkler’s idea of a “non-market-oriented” knowledge economy is fully supported. In fact, through inductive open coding, we found informants questioning the equity within a “gift economy.”

In terms of C3, informants’ narratives show strong disagreement with the assumption of real virtuality and disembodiment, indicating that gender identities are far from irrelevant to their experience in the male-dominant Wikimedian communities. Our findings on the four other preliminary codes (hypotheses) show relatively even distribution of opinions for and against the conceptual frameworks.

In short, through both deductive and inductive analysis approach, the study shows that the conceptual frameworks do not always match the data collected in this case study because they do not fully encompass three key goals in women’s negotiation within the hidden gap –

1. **Consideration of offline identity:** Women often face various societal expectation and opportunity costs when joining Open Source projects.
2. **Untokenized freedom and support:** Freedom should not stop at functionality; women have been negotiating more procedural control over *how* they could engage and gain support as capable individuals, rather than as tokenized members that follow the communities’ expectations.
3. **Recognition and appreciation:** Female community members strive for not only achievements, but the proper recognition within the communities. In a male-as-default knowledge system, it has been difficult for women to find their gendered knowledge being

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accepted and celebrated, even though their presence online is celebrated.

The following section will cover each of the preliminary coding results. There are also a few new codes developed through the process of inductive open coding, which helps us expand the discussion and variables in the conceptual frameworks. Table 4.1 is a quick overview of the major codes the study has used, alongside with their short definitions. Figure 4.1 is the quantified visualization on the number of statements gathered through semi-structured interviews. While keeping potential interpretation bias in mind, the researcher tried to classify the statements into three categories - "Strong statement," "Moderate statement," and "Brief mention" - in order to provide both a quantitative and qualitative idea of how intensely each hypothesis were discussed and mentioned throughout the narratives.

Codes	Conceptual framework argument	Null (H0)	Alternative
C1 (Preliminary)	Power transition through increase control on flows of capital (Castells' network society)	[C1H0] Participants find their involvement in the communities characterized by the power to control information flows (even if it is not market-oriented)	[C1H1] Participants endorse the idea of a knowledge-sharing, non-proprietary information society, and advocate for a non-market scheme practice
(new)	BENEFIT	Participants reflect on the "lack of benefit" when contributing for free	
	FAMILY	Participants mentioned the expected duties in family create higher opportunity cost for them to participate for free (responding to the BENEFIT code)	
C2 (Preliminary)	Project identity (Castells' network society)	[C2H0] Women participants shape niche community for distinctive project identity to tackle the gender and power imbalance issue online and beyond.	[C2H1] Niche community and project identity were not effectively improvised or mobilized due to the weakened ties and individualized culture in Wikimedian communities
(new)	SOCIAL	Participants imply that the niche communities are more of socializing nature than "project" or "movement" purpose	
	ALLY	Participant express interest in having male members within the broader Wikimedian communities to join the gender-gap-bridging movement	
C3 (Preliminary)	Real virtuality (Castells' network society)	[C3H0] Participants find their virtual identity and experience offline diverge from and prevail traditional institution offline	[C3H1] Participants find their identity especially visible and embedded in their experience within an Wikimedian community [C3H2] Participants prefer to celebrate their offline identity and find distinctive purpose to maintain it (or even strengthen it) within an Wikimedian community
(new)	OFFSPC	Participants comment on their experience in an offline setting with the Wikimedian communities, and express their gendered experience in real life (whether positive or negative)	

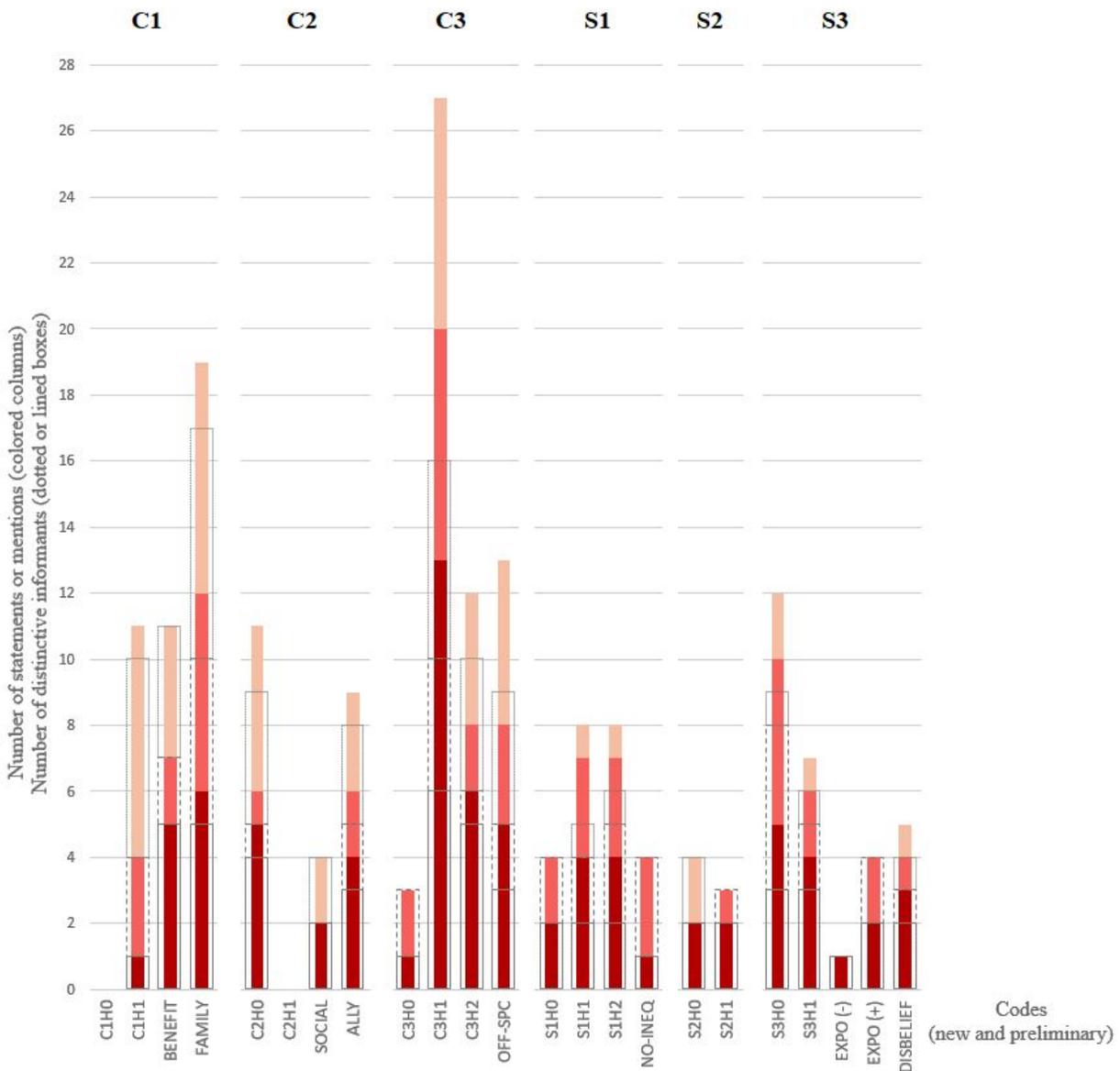
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S1 (Preliminary)	Resource endowment based on one's prospective capability (Sen's capability approach)	[S1H0] Participants have received increased access to resources and opportunities according to her capability. (Not be distributed exclusively on fairness/tokenism)	[S1H1] Participants reflect on that the power asymmetry where their access to (or control over) equal opportunity and/or resources are denied or tokenized [S1H2] Participants reflect on more systemic level barriers where power is perpetuated within the community/project practices of resource and opportunity endowment
(new)	NO-INEQ	Participants state that they do not observe any gender inequality incidences or attitudes within the communities	
S2 (Preliminary)	(Aware of and exercising) Freedom and choices (Sen's capability approach)	[S2H0] Participants perceive increased freedom and choices (online and beyond) through participating in editing	[S2H1] Participants are unaware of or denied to certain freedom and choices
S3 (Preliminary)	Capability building and self-realization (Sen's capability approach)	[S3H0] Participants successfully build new capability (achieve certain functioning) and have experienced certain level of self-realization/self-accomplishment	[S3H1] Participants are aware of their freedom to pursue capability enhancement and self-realization, but had hesitated due to consideration of external circumstances
(new)	EXPO(-)	Participants express reluctant to become more exposed (known/visible)	
	EXPO(+)	Participants express the increase visibility and acknowledgement of one's accomplishment as a major benefit of joining the communities	
	DISBELIEF	Participants mention that their accomplishment or self-realization was faced with disbeliefs or dismissive attitudes by others (including by members of the Wikimedians communities)	

Table 4.1: Code index and definition

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Figure 4.1: Quantitative visualization of statements coded by preliminary hypotheses and codes



Classification guide

- Strong statement counts
 - Moderate statement counts
 - Brief mention counts
 - Strong statement distinctive informant count
 - Moderate statement distinctive informant count
 - Brief mention distinctive informant count
- **Strong statements:** A statement/argument that possesses strong tone of support to or disagreement with a preliminary hypothesis, often shows a more exclusive preference towards a standpoint (or against another).
 - **Moderate statements:** A statement or comment that is derived from one's general observation and contains a general attitude for or against a hypothesis. Terms such as "should," "might" are used in narration rather than in stronger tones.
 - **Brief mentions:** The informant's opinion was briefly and indirectly mentioned when discussing about a more general topic.

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5.1 (C1) A Contested Non-Market-Scheme Knowledge Economy

Deriving from Castells' idea of a capitalistic information society, our first null hypothesis (C1H0) investigates female editors' intention and aspiration in Wikimedia project participation, as the researcher reckoned that the way female Wikimedians see the projects and their involvement may have certain explanation to the hidden (power) gap they face and how they react to it. Thus, the hypothesis was to test if the informants would find their participation in these communities characterized by motives of power-over-information-flows, even if it is not in a profit-oriented setting. For instance, it could be that an editor finds herself working hard in the community in order to acquire adminship or other social capital to exercise certain authority on Wikimedia projects and beyond.

After the open coding, we do not find statements resonating such rationale. This is expected since Wikimedia projects are indeed based on the Free/Open Knowledge ideology; hence a capitalistic information economy mentality may not be so applicable. Instead, when asked about their views and motives behind participating in the projects, many had stated their endorsement of a democratic and non-for-profit knowledge-sharing society, a closer narrative to Benkler's information economy.

■ "(There is) satisfaction of using your knowledge for a good cause and for knowledge equity at large."

■ "Wikipedia does a lot for you... whenever you search or give some information searching... Wikipedia gives you results. So I think everyone should contribute something. If a woman is technically strong they can edit but if not, they can still upload pictures... or do other basic things."

However, Benkler's idea was not uncontested by our informants. Many (under the new code "BENEFIT") had expressed support to the free knowledge movement but also commented on its difficulties in encouraging and retaining women to continue editing or even to start editing. Some informants stated that they have faced self-questioning and/or interrogation when contributing for free on Wikimedia projects. One argument is that many conceptualize knowledge and education as "human capital" for income generation. The idea of knowledge as common goods is foreign and taking up this "hobby" requires certain privileges in one's educational background, income level, as well as dispensable time.

■ "[Our state] is very forward in education and literature you see. A drawback is consumerism. Here once people graduate they got a job and they want to be peaceful in life and relax... not bothering about this project kind of thing. They will ask 'what do we get after [joining] this thing?'"

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“The idea of sharing common knowledge for free is less here.”

“... see, people would think we're not getting anything from it and it takes so much time from us with no monetary benefit. But for me it's only satisfaction; jokingly they (my friends) simply think I am mad.”

While the unfamiliarity of a gift economy culture does not seem to be gendered at first glance, the consideration of this “privilege” – free time for self and income – has proved to be closely related to one's identity. With the societal expectations of women's roles, duties, and behavior, women face much higher opportunity cost to engage in an Open Knowledge/Open Source movement than for their male counterparts. This cost is not entirely monetary, more often than not, it also includes certain emotional cost when finding justification in one's “hobby.”

“In many families, people often ask if you get some honorary or benefits (going to a Wikimedian event), if yes, then yes you can go.”

“[There are some] casual approach of family and friends towards their (women's) interests [as] ‘useless stuff,’ ‘unimportant’ entitlements... In India, the interests of girls are not taken seriously and any visionary approach or idea is taken lightly. *The usual approach of families to educate their kids is a secured future, financial security that comes with a nice job.* As working on wiki is a voluntary work and the individual contributing receives no monetary reward for their contribution and it is time consuming, they (family and friends) usually call it as ‘useless work.’ Only few families where parents are educated and truly believe that education is for enlightenment, they support their kids in whatever interests them.” (*Emphasis added*)

“Most priority is the... family concern. We (family members) are not so aware of this work (editing Wikipedia) and so family could not understand why I am doing and where I am going. There was a Wikisource event in [a town nearby] some time back, and some people... some participants go (came) so far... from [another state] they come to [this town]. My family don't even allow me to go from [where I live]. They say I had to be back by 8(pm)... so I didn't go. If some community members can communicate with families, they (the family members) will be more understanding. If they let me apply or arrange scholarship for some transportation, it may be better... But see family will still say no, because if a girl is traveling alone, it is an example for ten more girls... I know I am missing these things a lot ... I am convincing my parents.”

Interestingly, as one informant expressed, this negotiation for women's freedom to pursue an Open Source hobby does not necessarily happen inside the male-dominant online community but it could start in the household environment with the objection and criticism by their female relatives. Seemingly, the negotiation for one's freedom to pursue meaningful participation in online projects does not necessarily happen in the online communities where women are a gender minority; many start their initial negotiation at home, sometimes against other female family members with whom they supposed share a common “role.”

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“Even some distant relatives came, if anything is disorganized they comment ‘ah she is not doing her duty, she’s wasting her time on computer, not even professional job.’ Training can make them understand that we are doing many great work here... But because when they (men) are brought up they are taking granted of everything. *You don’t think if there’s anything wrong by default that women do the housework first. Usually objection (on one’s participation in Wikimedia projects) is initiated by women (in the household) only.*” (Emphasis added)

“I have a three-year-old daughter, and when I have to come to the events I also worried if my husband can take her well. It’s a mindset in Indian family that women should take care of things like this.”

It seems like while the female editors have embraced the nonproprietary, knowledge-sharing culture of the network society Benkler has envisioned, they still face constant resistance that requires constant negotiation within one’s traditionally perceived role(s). While the society may have started to accept that the use of ICTs could potentially improve women’s livelihood, women still face skepticism from others when joining Open Source projects like Wikipedia editing - since the reason behind one’s participation is more so to become an altruistic, “empowering” character rather than an “empowered” beneficiary. The dilemma presents that, on the one hand, women’s participation is urgently needed in the pursuit of knowledge democracy; on the other hand, it may very well be exactly this “democratic, “open” and “free” mechanism that detains these prospective members from participating since it is not considered a priority.



This section in a nutshell:

- Our informants did not show strong intentions in exerting control or power as their motives of joining Wikimedia projects; they were **mostly compelled by the free knowledge ideology**
- The idea of **free knowledge** has **not yet been culturally accepted**, and is considered a **privilege** when compared to the traditional view of knowledge as human capital to secure employment
- **Women have higher opportunity cost** to start and keep participating in the Open Source projects due to conflicts with their duty and time allocation
- Some female Indian Wikimedians’ **negotiation** for their decision to participate (and stay active) in the projects **often begins from home**, and could be between them and female relatives (rather than with men in an unfamiliar, male-dominant online space)

5.2 (C2) Project Identity and Gender Gap Bridging

Castells defines project identity as the “new identity that redefines their position in society and, by doing so, seek the transformation of overall social structure (1996, p8).” He suggests that for people who share experiences of certain oppression within the society,

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networks provide the opportunity to connect and establish niche communes that help mobilize power transformation. In our preliminary hypothesis testing, we find several statements from informants that suggested similar communities as Castells' "cultural communes" in project identity, and we do not find statements supporting our alternative hypothesis (C2H1) where the formation of project identities was curtailed by weakened ties and individualization.

However, from both our data and researcher's observation, communal efforts towards gender-gap-bridging on the Wikimedia projects tend to be ephemeral and derived from the existing local Wikimedian communities. In other words, these cultural communes or task force of Wikimedian women were mostly short-lasting (event or activity-oriented) and served as subordinate groups under an existing Wikimedian community, rather than organically formed by members sharing common identity and experience.

■ "We started a wiki page on meta and then we have our own core group... that time we used to have regular community meetups in [the region] every two months or so. So we were quite a close-knit group... And we wanted to do follow-ups for [a previous event] and we said since one of the key issues is gender gap, let's do a gender gap workshop."

■ "As a group, we are friends turned Wikimedians and we all are working on Wikipedia for our personal reasons. We appreciate each other's contributions and also motivate each other to try something new. As a team, we focus on what needs to be done and cumulatively work towards a common goal."

■ "We can have more Wikiwomen activities. Like in the past we went to the [a community event]. There, they have many women talking about Wikipedia and the gender problem. I think what can be good is also some active online groups to help women be connected, at least for... initially. Something like... independent workshop for women and conference to promote women-oriented issues, or regional women communities. To target women's insecurity, we can provide classes."

Another discovery is that rather than constructing a project identity or commune exclusively for members sharing a common social identity and experience, Indian female Wikimedian have been relatively open to the idea of mixed-gendered ally for gender-gap-bridging initiatives and movements. In fact, when asked about major improvements they would like to see in current gender-gap-bridging efforts, many informants have emphasized the collaboration between female and male members (as shown in code ALLY). This could possibly be partially attributed to the collaborative culture of Wikimedia projects.

■ "If I have fifty percent male participants (in community events) talk about the gender gap issue, that... an even number of male and female talking about the problem... even if we didn't create a lot of articles, I think it is a success. Because I think that is the biggest 'gap' in our gender gap problem, most events are mostly women and only women are talking about it."

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“I think the problem is when there are events that are gender-specific, men are barely there. It is considered “a women’s event.” But when you go online, you see so many males. I will really want to encourage more men to come. Because why wouldn’t they turn up, considering the gender ratio online in the community? I hope more men comes to these events.”

“I think I would like to include a lot of men in my gender gap... issues. Because just... just having women is like reaching to the require(ment).”

Based on the evidence, we noticed that instead of thinking about challenging the social structure using a clear-cut communal identity derived from one’s gender, many considered improving cross-gender communication and interaction within Wikimedians communities the first step towards effective gender-gap-bridging. Additionally, Indian Wikimedians communities, including those event-oriented gender-gap-bridging groups/communes, are often more casual and socializing by nature (under the new code SOCIAL). Although Wikimedia projects do have a common mission to promote and create free knowledge, many Wikimedians communities in India have stressed less on the mission and more on bonding and interpersonal exchange of ideas. The format of “a friendly gathering” has also been prominent in the practice of gender-gap-bridging activities in India. Many consider the primacy to be women’s comfort and bonding rather than deliberate content creation or advocacy.

“And I think we can make it like a fun workshop creating a small community of women, so that you don’t have to sit alone and edit all the time... And we basically make it a fun thing, half a day, come in and edit, and hangout, have some snacks, making it a social... editing session, I think it would be much more fun.”

“Usually women don’t take (up) work and they just stay home. Coming to Wikipedia will increase their social life too. Meeting people outside of their districts”

“Although now there is not that many people in [this region] itself joining Wikipedia, maybe because of awareness issue, but people who like social activity will join us. Here, our socializing is really good, and people always come, they come and they have something... like... a very happy mood.”

In other words, while Castells’ concept of project identity predicts a more formally structured communal identity to be formed for those mandating power transition within the network society, women in Indian Wikimedians communities studied have shown much less of a women-exclusive project identity. Many of those who are working towards gender-gap-bridging make use of the collective identity within existing local communities (say, of a locality or common language) to stimulate more communication and interaction among male and female

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members. The informal and socializing-oriented approach has also been helpful in maintaining women's ties with the projects and communities, rather than exclusively focusing on women's obligation to "fix the gap" by her project identity.

In fact, it was mentioned by one informant that previous efforts exclusively promoting gender-related thematic editing sometimes experienced backlashes because the event participants (editors) were too absorbed in writing about a specific gender-related theme to fix the gap, rather than actually being attentive to editing or consulting the community members for advice.

"Subject factor expertise is very different from say gender-specific edit-a-thon or say Indian edit-a-thon where it is too broad. One of the things I always ask is that you should edit in the themes that you are already doing, so that you are interested, and you understand the contexts... *That's why sometimes those gender-specific edit workshops backfire. Sometimes the bio articles got deleted afterwards because they are missing contexts and proper references. If you are creating a bio just because this person is a woman then I think it is missing the whole point of Wikipedia.*"
(Emphasis added)

Since Wikimedia projects are essentially a collaborative space with common rules of in contributing as well as a shared mission ("creation of free knowledge"), I propose that Castells' idea of "project identity" may not be the most appropriate to describe the agency exercised by Indian female Wikimedians in gender-gap-bridging initiatives. Rather than simply expressing resistance, female editors who wish to challenge the male-dominant culture in the projects often choose to work alongside the existing male-dominant communities; their activities could be more laid-back, but their practices must still align with the guidelines and goals of the online projects to be part of the movement.

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This section in a nutshell:

- Project identity of female Indian Wikimedians are not as formally and systematically organized as Castells assumed; most were **small-scale, temporary cohorts** gathered for **event-oriented** purposes. Most of these cohorts are **sub-groups under existing language or regional Wikimedian communities**.
- Rather than drawing a clear line emphasizing “women’s” movement, the idea of “**mixed-gender ally**” was encouraged (although so far inadequately implemented) according to our informants
- The focus of such project identity/cohort (for gender-gap-bridging) is not always advocacy. **Creating bonds** and a **casual, friendly socializing space** for women was considered primacy
- Advocacy on gender-gap-bridging **must still abide by the bigger rules, goals, and practices** of the Wikimedia projects; campaign on (content or demographic) gender balance without making content contribution to the actual projects are rare and perhaps not considered as effective

5.3 (C3) The Intertwined Space and (dis)Embodiment

One key common argument between Castells’ network society and the contemporary ICT for development/gender empowerment discourse is the binary understanding of inclusion and exclusion. The technological deterministic discourse has been challenged for its arguments on the online/offline attachment or detachment. In our third hypothesis, we tried to test whether through participating in online projects, one feels her real-life identity less of importance within the Wikimedian communities (disembodiment). If so, should it be a positive force to help women negotiate power and freedom that they could not otherwise acquire in real life? Or, if not, in what way is one’s gender identity still attached to and embedded in the virtual community setting?

The result of our analysis, in short, shows much stronger support to the later idea that gender identity matters in the Wikimedian community setting, and that the dynamics and culture of the Wikimedian communities have, in fact, made it hard for one to remain exclusively “online.” The research found that there are two different attitudes towards participating online. Some chose to primarily engage online as a way to distance themselves from uncomfortable offline interaction with others (males, strangers),

“Actually, if my first one (event) was offline I may not have come. I might have felt ‘maybe next time’ because I didn’t know the people. But if I am just writing online then it’s ok. Now, if I am meeting someone that is not introduced to me by [a Wikipedian friend] or other people I might still hesitate and think ‘who am I meeting?’”

“Personally, I haven’t experienced any hindrances in my initial wiki days. But, some other community members have stated at various events that the lesser number of female editors discourages them to be a part of an offline event.”

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Still some see online engagement as a transformative way to challenge the gender stereotypes where the projects encourage them to accomplish something they were typically expected to do in real life.

“The society says that women can't do any more than housework or women's things, but in here, in the Wikipedia community, it's different.”

In our data analysis, the first type of attitude has been more frequently mentioned as informants considered computer-mediated-interaction as a means to maintain a comfortable distance and a way to not be so visibly different. While in other occasions, informants have mentioned their accomplishment after joining the communities. However, even for those who expressed a sense of accomplishment in their online contribution, there was little mention to support that one's online involvement could uplift their offline situation and challenge the offline societal expectation. Many stated the structural barriers and discrimination associated with their gender and other intersectional identity offline continue to replicate themselves in the virtual space.

In [a local language] Wikipedia, some woman wrote about an entry of [a local dish] without reference and her name shows an upper caste status, she didn't meet aggression. Another woman wrote about some oppression in society kind of topic, and her name is showing a lower caste last name, and her edit got deleted, even though it was with proper references... I would say that discussion page (on the oppression article) was very... 'vocal.'”

For those who prefer an online space, it is often a preference not simply due to one's introverted nature, but also to the discomfort in visualizing one's minority status within the male-dominant communities in real life. In these cases, the internet does render a certain degree of disembodiment – however, it is not to a substantial level as proposed by Castells since both male and female editors are still well aware of the gender and power imbalance online. In fact, this avoidance of offline interaction and visibility should be seen as a red flag, as multiple informants expressed that they had encountered threats, sexual harassments, and discrimination when engaging in offline Wikimedian community events.

“When I first went to [an offline event] in [the region], there were seven guys and only one girl. That is me. The meetup was at an urban hub... it's just not safe for girls... Almost everywhere boys sitting... and people will look. Urban hub is like a park... but there are so many guys, street boys roaming around. I was the only active girl (editor) in [the region], and I feel a bit bad. I feel... maybe I should not come here because it's all boys.”

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“(During an offline community event) ...he (a male editor) doesn't just comment on my contribution but also things like... my physics (physical appearance). He commented and say that I look... umm I don't know what's the English word for it... how to say this... Basically the meaning is that 'your looking is very sad.' And not just my appearance, he also commented on my thinking and everything because I am a woman. And I was honestly depressed by this.”

“I have attended a [local language] (offline) event, it was not gender gap specific, but I don't have quite pleasant memory for it. It was held at a college and most participants were male from that same college. I don't know... when a lot of men are around and that they know each other, they like to act superior in my opinion. It was too few women on the site and it gave me this sense of how real world looks like.”

“...somebody connected me personally, approaching me on a personal level... going out or things like that. It's uncomfortable! I agree that I said I'll help you (with editing) but not like for you to connect to me on this level to ask me things like this. And if I said no then they become rude at times... Sometimes they get your name, connect you through social media and talk to you about something totally outside of the work, making unnecessary conversation, nothing about Wikipedia, and that's not right. I am not okay with it so I had to block some of them.”

“Women also don't know how to do this... and they think about the risk of using internet, like uploading pictures, public stories, comments on posts.”

While it seems that offline activities are not necessarily preferable for women, staying exclusively online is often not an option in the close-knit communities, especially for newcomers who wish to learn more from in person mentorship.

“The in-person interaction is definitely something different. I feel like that is something the online events will be missing out. And online events also filter out new people. So there is definitely need for offline activities.... The peer pressure, peer groups, in-person interaction are still what I think really important in offline events for new editors. For people who are self-learners, they don't necessarily need in-person support or help anyway. So that would work for them. But I think there is still need to do offline events for new people.”

“If I missed out an (offline) event, maybe we could have done some online sessions, calls, so I know what's going on there and I can communicate and express my problems. I know I am missing (out) these things a lot...”

Female editors who had played the role of event organizers have expressed their intention to create a more inclusive and safer space for women. This is not limited to the idea of women-only spaces, but also more thorough logistic planning for women's needs and safety, as well as strategies to lower women's opportunity cost in coming to an event while juggling between family duties and editing.

“I see this pattern that when I organize a women's (Wikimedia) event I will have to think more about the turn out rate... if there's enough women's washroom in the venue, did I call enough

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women's organization to talk about the events. I will be extra careful to make sure the public policies are followed and pay attention to any disturbance tutors, organizers, or any non-participants can cause... Also, I make sure that events always happen in the day time. Not in the early morning and not running till too late, since it may be dangerous for female participants... And I will provide instructions of how to get there by public transit (as women might not drive themselves). I will make sure to them that it is not in some remote or unreachable places because sometimes women may not want to come due to location concern... One problem that I haven't been able to solve is handling children of participants. We haven't been able to find childcare facilities or babysitting service that can take care of our attendants' kids. And sometimes we just haven't been thoughtful enough. This may create barriers for women who want to bring their kids to the event or those who cannot leave their kids at home."

The argument against the idea of "disembodiment" is not only supported by the discomfort women face both online and offline, but also by one's interest, focus, and behavior online that is inseparable from her identity - as what cyberfeminism and feminist epistemology had emphasized, since a person understands the world through a certain gender and body, their intentions and behavior, whether offline or not, are intrinsically gendered. This is especially true in the sense of Wikipedia/Wikimedia project editing where editors mainly choose topics out of their interest areas, or the fields they find especially of personal importance.

"I wrote about the Pakistani female politicians. The reason I wrote about them... I... sorry to say this but we always know that Pakistan... is set to be a country where women's equality is very much in need. And I think these women, under this situation, they are still securing their position in the government and in the politics there. It's very interesting, and also I want to let people see how they gain and sustain their power as women."

"I mostly work with women and I make sure that the topic and articles are on women related subjects and women figures - I want the participants feeling somebody as a "role model" for inspiration"

"I feel women can empathize and understand the importance of information on women's health concerns more than anyone else, thus making the information more valuable and reader targeted."

Unfortunately, these decisions and interests could sometimes lead to discrimination, as some of our informants expressed their concerns of being too "visibly feminist" in the communities and in the movements. This raises the question that whether the inclusion of women was partly tokenized, as the cyberfeminists put it - it is only the presence of women online that is celebrated; when a feminist discourse challenges the existing patriarchal structure online, their participation is deemed unsuitable and punishable (Gajjala & Oh, 2012).

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“Women who write topics that ‘threatens’ men, they get more critiques and aggression. Topics that is marked as ‘anti-men’ like feminism and such. So it also matters what kind of things you are editing.”

“What happens when a woman is editing, it’s more likely she got asked again and again about her choices. It’s more aggressive and that pushed these voluntary women away. It’s a combination of both gender discrimination and edit count problems, when a content is edited by a woman... interestingly for many women... because they chose gender neutral topic, their edits are untouched.”

Contrary to Castells’ idea of real virtuality, we must recognize that patriarchal beliefs and structures do not diminish or vanish in a virtual setting. The idea of a “neutral” identity or opinion (as in Wikipedia’s “neutral point of view” guideline) is highly contestable and has been used to legitimize the silencing against women and inducing self-censorship.

Still most female editors have no intentions to hide their identity and motives. Many of them actually celebrate their gender identity and constantly use it to encourage more women in the same shoes (see alternative hypothesis C2H2). With different trajectories and community dynamics, women respond to gender-based discrimination and discomfort in two ways. Some chose to leave or become self-censored, while still others take it as a personal mission to combat the gender asymmetry. In the second case, their awareness of their minority status becomes partly the motivation to their advancement in the communities.

“Sometimes we need to tell them (women) very explicitly that ‘you are a woman and you can do this.’ Some women are like ‘why should I contribute?’ so you have to tell them it is worth the work and guide them technically, so they can follow. Right now, we only have maybe 1% of female in [local language] editors, and now (by guiding them and informing them of the gender gap) they know that they can improve this rate by participating.”

“After that (an unpleasant incidence with a community member) I take it as a challenge. I want to prove that I can do much more than their expectation. This is the potential of a girl.”

“Me being a women instructor also makes a difference. I feel like I have more access to engage with them also because of my gender.”

“They (male senior in the school) ask women to conduct seminar for other ladies. We want to show that ‘A lady can do anything if she wants to’ so they have us ladies to encourage more women.”

[Researcher: Are you aware of the gender gap issue on Wikipedia? How do you feel about it?]
“Yes (I am aware), but because of that (the gender gap) I want to edit Wikipedia more too.”

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While this type of “empowerment” seems common in our study, we must bear in mind our sample are all Wikimedians who have stayed in the community for at least a year. Many women could have in fact dropped out shortly after the discomfort mentioned. Hence, for those who stayed in the communities, it is not that they have not experienced discrimination or discomfort, which could in fact be their daily reality, but they are able to see the value of their participation while transforming the adversity into their motivation.



This section in a nutshell:

- Some informants **use the online space as an avoidance to visualize their (gender) minority status** in the community member composition; some have expressed **unpleasant experience and treatments during their offline interaction** with other community members
- Individuals' **offline identity** (gender and intersectional) **often affects their experience online, and not the other way around** (as in Castells' real virtuality). One's gender identity is often embodied in her choices and interest area of editing, and sometimes attracts unwanted attention or discrimination
- The **line is blurred between online and offline interaction** in the Indian Wikimedian, it is most likely difficult for one to stay completely anonymous or purely online when engaging with such local-based, close-knit editor communities
- **Female Wikimedians' involvement in reconstructing the community online and offline space** have been ongoing and a crucial step towards better community environment
- Some of our informants showed **pride in their gender identity** and perform **reverse-psychology** on the matter of gender gap to encourage themselves

5.4 (S1) Resource and Opportunity Endowment

While Sen does not put extensive focus on resource endowment, his critique on the overemphasis of superficial “fairness” without the consideration of one's (prospective) capability should be examined in our setting. In other words, we must ensure that women's rights and participation are not tokenized, and their capability to contribute should be respected and valued just as other members'. The concerns about resources and opportunities are not simply on its availability, but its means of equitable distribution.

The difficulty in assessing this is that female Wikimedians (or Wikimedians in general) may not always be fully aware of the resource and opportunity distribution patterns. It is also less possible for the volunteer communities to attribute resources or opportunities systematically without partiality; for example, they may provide more support to those who are more experienced or active. However, from the informants' narrative, we can still understand

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how female editors *perceive* such distribution – it might not be the usual case or an objective judgement, but it is how women were made to feel and how they have observed the power relations in decision-making.

Some informants did make comments on their positive experience of being supported and given chances to explore one's full capability within the Wikimedians communities.

"I have been close to the Wikipedian community. I feel it is good; people are getting chances to edit, and people are encouraged. I attend Wikipedia events and meet Wikipedians and I got more interested. I think it is good to utilize time to gain and use knowledge"

"When there's meeting they (the seniors in the community) always call me, and have we meet with new people or meet other communities... just like when you (the researcher) came to [an event], they also let us meet you. Recently we had a seminar for the main government officer, it was promoting software and they (the seniors) asked [another female Wikipedian in the community] to come and guide them so they can encourage ladies in the government also."

When asked about the gender asymmetry's influence on their experience with the Wikimedians communities and projects, some expressed that they do not find discriminatory treatment within the communities. These informants are generally content with their experience working alongside the communities and do not see a differential treatment based on gender.

"In our community, there is no such thing as gender gap, everyone is equal here. Gender gap is not happening but here maybe maximum 3 to 4 girls we have."

"You know, frankly for me personally, I've never feel this discrimination of being a woman. I worked with men, I was one of the two women... but never had I ever felt that because I was female, the others were kind of like (discriminating)... so... it's hard to think about it."

"There is no editing gender gap here, see, there's no marginalized feeling for us. And also, two of our very best members are also female. We get usually many support when starting and learning to edit."

However, when concerning the distribution and power over resources and opportunities, some were more aware of the practice of tokenism or subordination on female members' chances to access the resources equitably. These perceptions are, of course, subjective by nature and could very well also be based on one-time incidents. Nonetheless, these are women's actual experiences and could impact how they see the community environments and their own perceived power.

"When you are in a competition with male (community members) for example, if only one person can go to the conference through this competition, then I feel like... I know that till they can't have a person to go, I could get my chance."

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Statements like 'We are talking about general women, not you. You are different' are meant to be taken as compliments... (such statement) are used to justify the point... rather than appreciating their (women's) effort, any sort of recognition of their work is entitled as a reward of being a woman... I don't know if it's a genuine concern for growth of all women or envy, but when a woman from a group is recognized, the focus of the groups drifts to another woman and the recognized woman is told to let other women Wikimedians take initiative in future events... The environment is healthy, supportive and very motivating for the new editors, but *conflicts usually arise in senior editors when it comes to assessment of contribution, either for Wikimania (international conference) or for some other resource supply. When women are selected they are very casually told that it's not because they are deserving, but due to reserved seat criteria.* (Emphasis added)

In the two cases, women are treated either as the secondary candidates to enjoy certain benefits, or their existence was magnified and scrutinized in a tokenizing manner. The increase endowment of resources and opportunities based on one's gender is not wrong as it takes into consideration how women typically are deprived from equal chances offline and online; however, the devaluation of women's efforts in the projects by labeling them as "special cases" simply based on their gender identity also signifies that women's capability was not fully taken into account or appreciated within the communities.

On a higher level, many recognized that the Wikimedia projects themselves might not be a perfect instrument of equality in participation, resource endowment, and opportunities. As what we had discussed in the earlier chapters, the projects' rigid rule in "verifiability, notability and the neutral point of view" could perpetuate the existing power structures in knowledge creation. Some female editors had in fact reflected that their participation in the projects and communities made them realize that intrinsic discrepancy of resources and opportunities endowment between male and female lies behind the systemic inequality in knowledge creation.

"In the end I think it is the fact that finding the information online that fulfills the criteria of Wikipedia is very hard. Some articles will be marked for deletion because of this... And of course, some deletion may not always be fair and the resources of women-related knowledge have already been limited, but you should always bring up this issue when telling them how to edit. This makes offline events a really good place because lots of discussion can happen. People will realize how Wikipedia can be just repeating the bias in the real world... Participants would have to ask themselves, 'How is Wikipedia different from the real-world hegemony?' It's an important question to ask."

"I do see challenges when articles on Indian women are marked for deletion and though per my understanding they meet the notability guidelines, I do not get support from the existing

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Wikipedians to help contest the deletion... When we run edit-a-thons, there seems to be a gap in the intent of an event and then how other challenge the intent and mark articles for deletion.”

“I am a more aware individual now in terms of content that I have written (and) edited on Wikipedia. I also see that for most people (being written about) on Wikipedia... being successful and having a big family names gives you the space (to be written about) online. For example, there was a transgender actor. Her movie wasn't released to a page; it was deleted but a new comer with an upcoming movie get a Wiki page. If that new comer is a famous personalities' son, daughter, the chances are higher.”

Hence, it is shown that not all resources and opportunities within the communities were distributed according to Sen's ideal of equity in capability approach. Even when resources are seemingly shared more equitably, some women were made to feel tokenized by the “benign” favoritism. And perhaps more importantly, many had realized that the Wikimedia projects and knowledge system maintain unfair thresholds for women and the historically marginalized to achieve full capability and to gain power in pursuing knowledge democracy.



This section in a nutshell:

- Many informants **do not find discrimination** in their experience working with the Indian Wikimedians communities
- Still some informants express their **lack of power to mandate equal resource and opportunity endowment**; some expressed unpleasant when reckoning **community's support as tokenism** to female members when their achievement and hard work were not recognized equally
- Many realized that the distribution of **resources as well as opportunities for women's knowledge creation are intrinsically limited in the structural level** and that the Wikimedia projects and communities do not necessarily provide support on combating such epistemic inequality

5.5 (S2) Debates on Freedom

Does editing and participating in the Wikimedians communities increase one's freedom to pursue her being and doing as described in Sen's capability approach? While the projects are already a “free” and voluntary space for all, a more substantial freedom lies not within “entitled freedoms to certain functionality” (e.g. being free to edit) but in “agency freedom” (e.g. free to criticize and challenge existing structure), including the freedom “from” inequality. Unfortunately, we did not find enough statements from the data that deliberately talks about the later kind of freedom, while more was mentioned on the functionality level.

“Editing gives me a sense of freedom, freedom of expression, freedom of sharing knowledge, working in your area of interest, taking charge of the task you are interested in, freedom to experiment and learn, freedom of association and belief, freedom to decide your area of interest and type of contribution, et cetera.”

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In the alternative hypothesis (S2H1), we tested to see if women are fully aware of their (agency) freedom in taking up greater roles in the communities, or if they may be timid to claim such freedom. The research found that informants usually associate this type of inconfidence with the gender (access) gap, rather than the post-access hidden gap.

“I think it’s everywhere in the society. Because of all this constant pressure some women never dare to try anything or know that they can do it. They always think it’s for men or they don’t think they have that much knowledge to do the work.”

“I found that women are tend to be less confident. So when you did not tell them clearly they may feel they are not competent to the job. I will make sure that I explained clearly about the work that they can do and provide say, a list of women’s pages that they can work on. And when they need sources I will also help to provide.”

A different type of freedom, however, was briefly mentioned by other participants. By commenting on that joining Wikimedia projects and the communities makes one “independent.” An informant implied the difference between functioning as a family-dependent woman and being an editor by choice to learn knowledge and interact with the communities. Another informant also stressed on the fact that she felt her participation was a demonstration of her freedom to choose what was meaningful to her.

“Now very less women contribute, but women increase in Wikipedia and other fields... because it gives you knowledge and opportunity to contribute and learn. *You become independent.* In most regions, they (women) prefer their families over their interest and work.” (*Emphasis added*)

“If I am interested I could have chosen software profession, but I didn’t. So (now) let me take the decision myself (to participate in Wikimedia projects).”

This idea of choice/independence parallels with Sen’s two categorization of freedom effective power versus procedural control. Effective power is the freedom that grants individuals “power to achieve a chosen result,” that is, the freedom and entitlement to be in a certain situation where a desired result could be met. Whilst procedural control refers to one’s right in the actual choice and execution – the freedom to choose whether to execute certain actions or to fulfill certain desires. That is, regardless of the rationale behind her decision, she should be able to do what she has chosen (Sen, 1985).

This freedom of procedural control, however, does not stop at the enrolment phase (e.g. to join or not to join). In other words, while it is good that women felt free when they were able to *choose* to participate, we must question if they could choose *how* to participate – the ways they engage with the community, the way they edit, the topics they want to edit on, etc. And we find

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that some had commented on the lack of procedural control over “how” (not “whether”) to participate within the community environment.

“You know some people always try to say that ‘you are a woman, you should be in kitchen only,’ ‘you should be saying gossips or fashion only. And women should not talk (and edit) about things like... the economy or politics.’”

“... female members have lesser involvement in decision making. *Men usually define the growth chart for women. For instance, if women ask questions, they are clearly told to check their pace and are told that you are going at a much faster pace and need to relax.*” (*Emphasis added*)

“It’s not about gender here, some experience is that somebody will change things on your sandbox or they completely erase what you wrote because things like ‘oh, this should not be written like this,’ ‘this is not spelt like that.’ They might delete your userpage also. Sometimes they might give you a warning but sometimes they just don’t. You know, so much hours of work just gone like that! If this is your work, and you worked so much on it, how would you feel? We are still learning, and it’s on my own sandbox. I’ve got this complaint from others too, both male and female.”

However, not all pressure exerted on a newcomer’s/woman’s way of participation are maleficent, many seniors were simply providing guidance in a benign manner. The suggestions and encouragement from the seniors could be very beneficial when both sides agree on a common, although women should be able to decide their own ways of engaging (or perhaps *not* engaging) in the gender-gap-bridging role.



This section in a nutshell:

- When talking about “freedom,” informants were usually **more aware and quick to confirm on the freedom of certain functionality** (e.g. free to edit), not as much was revealed about one’s agency freedom
- When mentioning the “**lack of confidence in claiming freedom,**” informants **mostly implied** the its effect on **the “access-gap”** (as women were timid to join), but not as much in the hidden gap (after women already joined)
- While the freedom to exercise certain functions (e.g. free to edit) were confirmed, Indian female Wikimedians **may not always possess “procedural control” over how to engage.** Some had mentioned **patronizing behaviors from other more experienced members**

5.6 (S3) Capacity and Self-Realization

In Sen’s capability approach, freedom and achievements are the dual accounting for one’s well-being (1985). Since self-realization is hard to measure simply by one’s contribution Wikimedian projects, during the research analysis process the researcher looked at women’s

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narratives on their confidence level and skills (capability) through participating in the projects. We found that women who had taken up organizer or tutorship roles within the communities more often express that they gained confidence in communicating and teaching more effectively.

“In the beginning I am just an editor but after I start conducting workshops and presentation now we have the confidence. I found that now I can train others too, not just listening to others.... we went to local ministry and held workshops there for some officers. Previously I would think... they are some 'big people' and they... their personalities are different from us. But in a workshop, we trained them. And this makes me realized that now you know something that they don't, and they will think that 'these girls... they have some things, some knowledge that we don't have' and we feel this is something that gives us a lot of confidence in doing what we do.”

“in the past we just do housework, schoolwork, and other things, and now we can say 'we are doing Wikipedia editing, we are Wikipedians!' There is this confidence we have now.”

“Major thing [I learned] is communication skills, you have to be very precise, I also find management skills and presentation skills being very important too. There has been phases of course, initially it's kind of hard but now I have gone through all these experiences and working with the students, now I can do it in front of 2000 people and I would be fine. I am not afraid.”

However, as our alternative hypothesis (S3H1) derived from Nussbaum (2000) and Kabeer's (1999) idea of combined capability suggests, in one's pursuit of self-realization, external circumstances must be taken into account for calculated risk. This rhetoric was not so obvious in the mentioning of one's accomplishment “outside” of Wikipedia editing; in other words, informants had barely commented on any calculated risks they must pay attention to when exercising the capability (say, effective communication skills) they gained in non-Wiki settings. However, when elaborating on one's achievement and self-realization “inside” Wikimedian communities, some stated that women editors still take precautions in what they say and do.

“We were lucky, we weren't writing anything like that (controversial, feminism-related). I write about religion, there is no specific scientific answer to this subject. Women's studies is my interest also but I wouldn't edit on it as for now... they are debatable.”

“You have to try new things and take calculated risk. I told everyone, if you are facing something, share it, say something or else people will not understand.”

“Now there are many internal issues on the gender gap. Even if they think of something, they (women) are more conscious in what they can say or do.”

“There are remarks like 'too ambitious' or 'feminist type' for the ones who are trying to change the scenario.”

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This demonstrates that while participating in Wikimedia projects do generate capability that could enrich female editors' skill sets to apply online and beyond, the community environment as well as the self-censoring culture in Wikipedia editing may actually restrict women's self-realization *within* the project itself. Some also expressed that for their accomplishment within the community, they had faced skepticism and belittlement as high-achieving female contributors. Although this may not be the common case as most women find their accomplishment mostly celebrated by the community, these cases warn us of the possibility for women to find less willingness to pursue accomplishment in a male-dominant setting.

“What happens when a woman is editing, it's more likely she got asked again and again about her choices. It's more aggressive and that pushed these voluntary women away. It's a combination of both gender discrimination and edit count problems, when a content is edited by a woman... interestingly for many women... because they chose gender neutral topic, their edits are untouched.”

“That was actually my first Wikimedian event. I was still new at that time but I already made quite some edits. So then at this event, one men, he is a [local language] Wikipedian but I don't want to call names, and he... he came to me and he asked me 'so who is writing on your behalf?' I was shocked. Because I was new, but I already made [many] edits in a few months. And he thought I asked someone to edit for me or it's impossible, you know? He told me that 'it's not a girly stuff that women do this.' And what was that supposed to mean? I was very irritated. And you know because [a male relative of mine] is also a Wikipedian... so he thinks that [my relative] used my username to edit and that's how I got the number (edit counts). But it is not. I did all the edits.”

In sum, there are surely achievements and some level of self-realization that women have made within and outside of the communities. However, the “freedom” to reach this achievement is discounted by the occasional hostile and belittling attitudes towards women who are more outspoken (especially on gender issues) and women who have achieved more than expected. As Sen mentioned that one's freedom is not on an individually profitable level, but with a compound effect for those in similar positions. Women's involvement and contribution on Wikimedia projects have led them to become not only editors, but also knowledge creator, and often times tutors and efficient communicators that will continue to benefit the society at large. The Wikimedian communities, however, must first admit women's value and contribution, in order to create a healthier space for not only self-realization, but appreciation.

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This section in a nutshell:

- Female Indian Wikimedians who had **taken up roles** within the communities **find more accomplishment, self-realization, and skills gained from their participation in the projects**
- Some informants reported the “**calculated risks**” they must be aware of to not be **too out-spoken** within the communities, especially **on gender subject matters**
- **Women’s achievement and capability sometimes face belittlement** within the communities, showing that it could be easier to enhance one’s capability than to have these achievements recognized and appreciated within the community

Chapter 6: Discussions and Conclusion

In examining Castells and Sen's conceptual frameworks, the study found that the two only partially explained our informants' experience in their respective Wikimedians communities. More specifically, our data shows the frameworks have not fully addressed certain nuances of female Wikimedians' struggles especially in three dimensions: (a) bargaining a space where one's offline identity and online participation are accepted, (b) acquiring untokenized support and agency freedom, and (c) gaining recognition and appreciation for one's capability, achievements, as well as inputs.

As a disclaimer, these findings may not be the usual experience of female Indian Wikimedians, as we have seen, some expressed they have not experienced unequal or discriminatory treatments working with the communities. It is also not this study's intent to generalize community practices and environments, as those are very different across all Indian Wikimedians communities.

The findings, instead, aims to provide more insights on the results and existence of these "hidden gaps" which some (but not all) women have had to face throughout their journey becoming a Wikimedian. The above mentioned three dimensions are both the results and evidence of a (gender) power asymmetry inside Indian Wikimedians communities. These gaps ought to be bridged within the communities for female editors who have already crossed the gender gap on "access" (e.g. getting online, register an account, acquiring sufficient technical skills to contribute). In short, this study reveals that, in various degrees of commitment, female Indian Wikimedians have been practicing power negotiation within (and sometimes outside of) the male-dominant Indian Wikimedians communities to assert their identity and agency as knowledge creators through the Open Source projects.

This section ties the findings back to our two research objectives:

- To assess and understand the interaction and gender power dynamics in Indian Wikimedians communities
- Using the women's narratives on their power negotiation process to critically examine the limitation of current ICT4D/gender empowerment discourse and the relevant theories

6.1 Interaction and gender power dynamics in Indian Wikimedians communities

This study focuses on the two elements of power negotiation – social identity and

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individual agency. As a recap, the former is how individuals pinpoint their positionality based on their assumed social categories and through interactions with social groups, while the latter describes the way individuals take action rationally and intentionally to achieve certain goals, with consideration of their power relations with the rest of the society. This research argues that both types of power negotiations are necessary in the context of the Indian Wikimedians communities. On one hand, women are facing barriers in reconciling their dual identities as a woman and as an active online editor. On the other hand, women have shown their willingness and intention to exercise agency through different practices to achieve their respective goals – be it greater gender balance in the knowledge system, harmony in the community or individual achievements.

In terms of identity negotiation, the study finds that some female Wikimedians had to negotiate their Wikimedians roles within their household where a traditional female role was expected. This is especially the case when it is a “free,” “non-profitable” project like the Wikimedia projects. Although it is a negotiation that happens outside of the project sphere and online community environment, it signifies the systemic barriers and dilemma behind the Open Source and Open Access movements where one’s identity offline creates additional thresholds and opportunity costs when joining these projects. Additionally, some women struggle to find approval and recognition not only in their households but within the communities where tokenizing attitudes towards women’s participation were present.

Additionally, female Wikimedians found their gender identity highly relevant to their experience and interests in their editing. Instead of decontextualizing the space as a neutral and even playing field, many female Wikimedians had tried to reshape the space (both online and offline) and to advocate for epistemic equality within the projects. With successful negotiation, their two identities as editors and women need not conflict with one another, as some have expressed that they have been able to celebrate and benefit from their roles as a female Wikimedian in the communities.

The research found that female Indian Wikimedians negotiate their power and agency by creating a stronger relationship with the existing communities. They might not have deliberately established a long-lasting project identity that is designated to advocate for women’s equal participation, but they have put emphasis on the bonding and partnership between male-dominant communities and female editors in order to better increase their influence on the community culture. This agency negotiation is especially different from what Castells had envisioned that independent project identity would be able to mobilize communal resistance

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against the larger power structures. Instead, Indian female Wikimedians tend to stick to the existing local communities and demand changes from within. The researcher hypothesizes that this is because Wikimedian communities are created as a collective movement for Open Knowledge rather than a networking space for advocacy. In other words, anything other than “creating free knowledge” is considered peripheral focus, and those who advocate for these focus (say, bridging the gender gap) must still abide by the common practices of the communities, making it less reasonable to establish a project identity outside of the existing structure and practices (i.e. creating free knowledge).

Some female members have taken actions to reconstruct the community space for women to feel more welcome; many have also taken up roles to pursue self-realization and advocate for epistemic equality through campaigns and event organization. However, there is also a different, and perhaps more common, kind of agency exercising when female members simply acknowledge the power asymmetry and/or willingly choose inactions to achieve what they most desire. This resonates with Kabeer's definition of agency exercising as being aware of one's power relations to the bigger structure, and mindfully making decisions on one's choice of (in)action. For example, some informants have expressed that in order to stay more comfortable, they chose avoidance of offline situation where their minority status is more vivid. Others also mentioned that they have chosen to avoid certain controversial topics to edit as taking “calculated risk” in maintaining one's relationship with the majority community members.

On an even more subtle level, many of our informants simply acknowledged the power asymmetry – such as reckoning the subtle tokenism, women's subordinate status in competition of resources, patronizing behavior of the seniors, or subtle or blatant belittlement of their achievements and capability. It was not exactly clear if they have taken actions against these practices or voiced their demand for alternative treatment but such internal acknowledge is just as valid and important as one exercising agency through external actions.

6.2 Limitation of current ICT4D/gender empowerment discourse and theories

While our data does not fully align with either Castells and Sen's envisioned “empowerment” processes, it is not to conclude that the scholars' conceptual frameworks are wrong, but to acknowledge other variables omitted in these frameworks and discourse.

For Castells' idea of a network society, the female Indian Wikimedians' narratives mainly contest the idea of a decontextualized, binary state of empowerment – online versus offline, included versus excluded, empowered versus disempowered. The research argues that there is

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in fact no clear line dividing the two and the power relations in real life is more likely to be sustained than challenged in an online context. Additionally, Castells' idea of a formally established project identity towards power transition is not fully applicable in the Open Source community context. Not only because the communities are built upon certain vision and practices (such as editing and providing free knowledge) rather than supporting niche communities of resistance and advocacy, but also that most gender-gap-bridging initiatives in Indian Wikimedian communities have emphasized the importance of advocating from within and building ally among editors of different genders.

Using Sen's capability approach to evaluate women's journey of capability building within the Indian Wikimedian communities, we have observed that the resource and opportunity endowment were not always equitably distributed among members. Women have perceived themselves as subordinate candidates when it comes to competition for limited opportunities. When a woman did receive certain opportunity and resource endowment, they were subtly reminded of the tokenizing nature of this distribution. In terms of "freedom," the informants reflected that the freedom usually stays in the functionality rather than on procedural level. Some informants also expressed concerns that resonates with Klein's (2011) question on freedom and power: *"who made what kind of choices available on a platform, under whose ideology and interest."*

Last but not least, the research findings did suggest that female Indian Wikimedians have achieved certain degree of self-realization through acquiring skills from the community activities. Nonetheless, some informants also suggested that their willingness to achieve certain goals (such as promoting feminist knowledge) was curtailed by their internal censorship derived from their observed treatment of other female members who were "outspoken;" and hence, they took calculated risks in what they would like to achieve and advocate. Some also implied that even when one's achievement and inputs are not considered controversial or challenging the patriarchal structure, they still find subtle or blatant belittlement of their achievements. All of these suggest that while participating in the online projects do open doors for women to learn, contribute, and engage, their freedom of being and doing at one's own will may not have increased, since their "being" (what they can become) may not be recognized or taken as seriously, and their "doing" (inputs and contribution of feminist knowledge) may not be appreciated.

To sum up, three key dimensions that were not taken into account by the two conceptual frameworks by Castells and Sen are: (a) conflicts between one's offline identity and online

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participation, (b) genuineness of community supports and scope of freedom permitted, and (c) recognition and appreciation of one's capability, achievements, as well as inputs.

6.3 Summary and limitations

From the data analysis and discussion, the study concludes that the two frameworks of Castells and Sen, along with the current ICT4D (digital divide) ideology, only partially explain Indian female Wikimedians' identity and agency negotiation process, as they omit the structural complexity of an inseparable online-offline gender power relations, as well as the potential hostility women may face when pursuing their self-realization as knowledge creators.

The research is devoted to showing women in the Global South as proactive negotiators and players rather than mere beneficiaries of technologies. It thus serves as a reminder that the "real gap" against technological-driven empowerment today is not solely in the number or ratio of participation, but also in one's everyday interaction and constant power negotiations between the dominant and underrepresented groups online and offline.

To sum up, our data shows that the hidden gap does exist and is more complex than what the current ICT for development / empowerment discourse had implied. The researcher suggested three key dimensions to improve how we address women's empowerment through participation online:

- A. Reconstructing space and online participation mechanism that takes offline identities, equity and power into consideration
- B. Ensuring untokenized support and agency freedom
- C. Providing adequate and nondiscriminatory recognition and appreciation of one's capability, achievements, as well as inputs

These three points should be considered not only by the Wikimedian communities but also by future ICT4D programs involving minority or marginalized population's engagement with online projects. It is through the reconstruction of space and practice mechanism that we could encourage more participation from those who would be typically left out from the Open Source projects. While it is of course controversial to endow certain "benefits" (especially monetary ones) as incentives to participation, the communities could be actively looking for alternative ways of participation that minimize marginalized groups' opportunity cost in Open Source/ Open Knowledge participation. In terms of untokenized support, the researcher argues that although the communities and seniors' intention are rarely malicious, there must be certain procedural freedom for these newcomers to decide the ways in which they would like to engage,

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even if it means they could choose not to engage as actively as encouraged. At the same time, one's capability to contribute to epistemic equality should not be tokenized or belittled. Women editors and other marginalized groups should be supported for the importance of their participation in improving knowledge pluralism. Providing tokenized support and not fully appreciating this effort could be off-putting for many and may backfire as frustration arises

While facing these adversities, female Indian Wikimedians have been mitigating and addressing these hidden gaps through their own negotiation processes. The research found that their negotiation in identity and agency varies in degree and fashion, but could generally be categorized as below. In identity negotiation, women usually negotiate on three levels:

1. **Offline role vs. online participation** (such as conflicts between one's editing hobby and family duties)
2. **Offline identity vs. online inputs** (conflicts between one's interest derived from her offline identity and the response she receives for her gendered inputs online)
3. **Empowerment through combining both identity** (celebration and utilization of one's female identity to encourage and motivate self and others)

For agency negotiation, the informants have shown four levels of negotiating or exercising agency:

1. **Agency negotiated** (through strengthening bonds with the existing community)
2. **Agency exercised** (through actions challenging the existing environment and power structures)
3. **Agency exercised in passive terms** (inaction/avoidance to maintain one's relationship and harmony within the communities)
4. **Acknowledgement of power asymmetry** (playing observatory roles)

The limitations of this study, besides the positionality bias of researcher, include not having the male perspectives of the story incorporated within our analysis. That is, our understanding of the dynamics could be highly subjective based on a few women's experience and perceptions. It would be fruitful for future researchers to investigate male members' partake in the gender gap issues. Secondly, the conclusions on the hidden gaps are derived from individual incidents that may be outliers compared to female Wikimedians' general experience within the communities. While these incidences should not be ignored or downplayed, it would have been helpful if more informants were recruited in this study. Thirdly, the study did not include the stories and voices of women who had already dropped out of the projects due to various reasons. In other words, our analysis may be more optimistic about

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women's negotiation process and results than the actual situation, since those who were recruited as interviewees were still involved in the communities.

This paper should serve as a preliminary understanding of the power asymmetry that women face within male-dominant online communities and Open Source projects in the Global South. The researcher hopes that through this study, there will be more critical dialogue regarding the inadequacy within an access-centric of ICT for development and empowerment discourse.

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