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Smashing patriarchy with cell phones? – Critique of dominant technofeminist perspectives on mobile phone-enabled women’s empowerment programmes in Bangladesh

Abstract

This study problematizes the relationship between ICTs, gender and development, informed by the gap between high ambitions, and disappointing outcomes of ICT-enabled development programmes aiming for women’s empowerment. Using a critical discourse analysis approach, this study scrutinizes the underlying assumptions and interpretations of ‘women’s empowerment’ in the context of two Bangladeshi mobile phone programmes targeting women: the Grameen Village Phone Programme (VPP), and Maya Apa. This study is juxtaposed against Western-centric technofeminist scholarship, which scrutinizes the interplay of gender relations and ICTs, extending technofeminist insights beyond its Western scope. Informed by our analysis, we firstly identify a gap in ICT4D scholarship regarding women’s roles as ICT designers and active users, and therefore recommend more attention to women’s active engagement with ICTs. Second, we advocate for an expansion of technofeminist theory to go beyond the Western lens and recognize this is not normative across cultures and contexts. Last, we highlight the usefulness of low-cost, participatory forms of new digital ICTs to forward women’s empowerment in developing countries. Overall, we argue women’s empowerment is best realized by ICT projects that are local, grassroots, contextualized, and made by and for women.

Key words: ICT, Women’s empowerment, Development, Technofeminism, Bangladesh

1. Introduction

Since the rise of social media technologies, a strong focus on the potential of Information and Communication Technologies (ICTs) as a tool to promote empowerment of women has grown within the international development field (Beena & Mathur, 2012; Sreekumar, 2007). However, ICT-based development projects that focus on women are critiqued for setting ambitious goals and being technocentric, whilst lacking attention to broader gender inequalities, resulting in limited, non-existing or even negative outcomes on women's lives (Hossain & Beresford, 2012; Sreekumar, 2007). Nonetheless, the international development community largely continues to celebrate and assume the positive and equalizing effects of ICT initiatives, disregarding or ignoring critique (see for instance Avgerou, 2010).

This disjuncture between ICT4D (ICT for Development) projects for women's empowerment and feminist critique has inspired our study, which problematizes the relationship between ICTs, development and gender, particularly focusing on the 'women's empowerment' construct in the context of two ICT empowerment projects targeting women in Bangladesh.

'Women's empowerment' is an often-heard term within development, used by different actors with different goals and purposes, who attribute different meanings to it (Cornwall & Rivas, 2015). Building on critical discourse theory, we underline the power of language (in this case the term 'women's empowerment') to reconstitute development projects and gender relations (Wodak & Meyer, 2001; Eyben & Napier-Moore, 2009). Therefore, the first aim of this study is to uncover the underlying assumptions and interpretations of 'empowerment' within the context of two women-focused ICT projects.

In the past decades, feminist studies have paid ample attention to gender relations and ICTs in the West, underlining the ways in which new technologies can both contribute to as well as obstruct the emancipation of women (see for instance Daniels, 2009). However, this field of 'technofeminism' has been criticized for its 'Western-centric' vision (Sreekumar, 2007), paying little attention to gender relations and ICTs in other parts of the world. Therefore, the second aim of this study is to test the suitability of technofeminist theory in a

non-Western context, thereby expanding the current body of knowledge and suggesting new avenues for study. Due to the growing importance of ICTs in all spheres of life, the critical examination of gendered access and use of new technologies, particularly in marginalized contexts characterized by high gender inequality, requires more attention.

To do so, we focus on two mobile phone-enabled women's empowerment projects in Bangladesh, a context that is of particular interest to this study due to its longstanding engagement with women's empowerment initiatives in the field of microfinance and mobile phone-enabled development (Karim, 2011b).

2. Theoretical framework

2.1. Women's empowerment: two words, one site of struggle

'It [Women's empowerment] is an intrinsic rather than an instrumental goal, explicitly valued as an end in itself rather than as an instrument for achieving other goals.' (Kabeer, 2005, p. 13)

'Women's empowerment' within the field of international development is an ambiguous term, whose contested meaning has received ample attention from feminist scholars and activists alike (Cornwall & Rivas, 2015). The impact of these two words goes beyond discourse, as 'words are construct visions of development' (Eyben & Napier-Moore, 2009, p. 286) and resulting policies thus have real effects on the lives of many women (Eyben & Napier-Moore, 2009).

Building on critical discourse analysis, this study positions the term 'women's empowerment' in international development discourse, in which the meaning of women's empowerment is continually negotiated and contested by many different actors. Language and power in this sense are intertwined in the struggle over meaning, in which power is expressed through language, but language can also be 'used to challenge power, to subvert it, to alter distributions of power in the short and long term.' (Wodak & Meyer, 2001, p. 11).

Feminist activists have indeed challenged the meaning of 'women's empowerment' in development, calling for initiatives motivated by 'gender justice' in its own right (Eyben & Napier-Moore, 2009). However, in order to appeal to the neoliberal community that prioritizes economic growth (Kumi, Arhin & Yeboah, 2014), advocacy groups have largely adopted pragmatic strategies to incorporate women's empowerment in development goals:

feminist justice-based arguments have been replaced by approaches that present women's empowerment as instrumental to other goals such as children's education and economic progress (Cornwall, Harrison & Whitehead, 2007; Eyben & Napier-Moore, 2009).

For these reasons, we argue for close scrutiny of the underlying assumptions and power relations behind two ICT empowerment projects targeting women in Bangladesh. Even though we acknowledge that there are different interpretations of 'women's empowerment', we align with feminist scholarship that advocates for the empowerment of women as a goal in its own right, and involves 'the processes by which those [women] who have been denied the ability to make choices acquire such an ability.' (Kabeer, 2005, p. 13).

2.2. 'Women's empowerment' in the field of 'neoliberal' international development

2.2.1. Neoliberal development: empower the individual, neglect the social?

The currently widespread trend of 'neoliberal development' (Kumi et al., 2014) has been largely translated into women's empowerment initiatives that strongly focus on individual women's *economic* empowerment through access to 'resources' such as education and employment, and a resulting increased participation in the labour and financial markets (Kabeer, 2005). This builds on the assumption that investment in women simultaneously fosters economic growth and gender equality, a claim that has been largely refuted by feminist scholars (Chant & Sweetman, 2012). First, scholars have widely critiqued the 'stripping down' of the term empowerment to largely refer to narrow economic development goals (Eyben & Napier-Moore, 2009), at the cost of a broad range of sociocultural aspects of women's lives, such as 'women's unpaid work, sexual and reproductive rights and violence against women.' (Cornwall & Rivas, 2015, p. 398).

Second, scholars have critiqued the focus on *individual* access to resources and the accompanying lack of attention to *structural* and *relational* forms of gender inequality that marginalize women in many parts of the world (Chant & Sweetman, 2012). ICT empowerment projects in particular focus on providing individual women with education and information through technology, building on the assumption that women's disadvantaged positions in developing contexts are due to unequal access to resources, information and skills (Beena & Mathur, 2012). However, concerned scholars argue that 'throwing technology' at women does not empower them, as this does not address the structural and relational nature of gender inequality, manifested for instance in strict gender norms that inhibit women's movement and decision-making (Hossain & Beresford, 2012). The danger of

assuming individual access to ICTs effectively empowers women is that this leads to the idea that if women do not lift themselves out of poverty and inequality when they have the ‘right tools’ at hand, they have themselves to blame (Chant & Sweetman, 2012; Leye, 2007).

To summarize, these two themes discussed above constitute the foundation of this study’s problematization:

(1) *Narrow economic conceptions of women’s empowerment versus broader sociocultural definitions of empowerment* and

(2) *Women’s empowerment based on individual ICT access versus women’s empowerment in a relational/structural context.*

2.2.2. Making women work for development: The field of microfinance

The neoliberal focus of women’s empowerment in development has been caught in the term ‘smart economics’, which posits that investing in women is ‘smart’, as it is expected to result in higher economic pay-offs (Chant, 2012). Smart economics is criticized for depicting women as ‘instruments’ for development, stressing the economic benefits and enhanced well-being of others (notably children), as the outcome of and rationale behind investing in women (Chant, 2012; Eyben & Napier-Moore, 2009). In other words, instrumentality arguments for women’s empowerment make ‘women work for development, rather than making development work for their equality and empowerment’ (Cornwall & Rivas, 2015, p. 398).

This instrumentality is often combined with essentializing poor women. Firstly, references to inherent ‘female altruism’ support the rationale behind smart economics, as well as the currently widespread women-targeted microfinance movement, as women are assumed to use resources (e.g. microloans) in service of others, as well as broader development goals (Chant, 2012). Second, poor women are portrayed as ‘natural entrepreneurs’, who simply ‘lack not enterprise and initiative but opportunity’ (Dolan & Roll, 2013, p. 136). Dolan and Roll (2013) argue how private companies and NGOs alike make use of this imagery, again in order to capitalize on women’s entrepreneurial labour for development purposes, as well as corporate profits. Another oft-used stereotype is the conception of women as both ‘heroines and victims’: heroic in relation to their struggle for equality, and victims in the context of their enduring oppression (Cornwall, Harrison & Whitehead, 2007).

Chant (2012) argues that the use of these stereotypes not only burdens women with a high workload, but it also perpetuates unrealistic expectations of women’s abilities and self-sacrifice. Therefore, we scrutinize instances of (3) *instrumentality of women for development*,

as well as (4) *stereotypical representations of women in development* in the context of mobile phone projects in the field of microfinance.

2.2.3. 'Look who's talking' – Paternalistic discourse and Western benchmarks in the international development sector

Captured in the term 'modernization', 'development' today is commonly understood as the replication of conditions and features of 'developed' (Western) societies in underdeveloped areas, in which Western (economic) standards serve as benchmarks for development (Escobar, 2012). This modernization approach is widely criticized for its superior and paternalistic attitude, as well as its neglect of cultural and social difference (Escobar, 2012; Shade, 2003).

Within ICT4D, we find what Shade (2003) calls 'Modernization 2.0', a conception that modern (Western) technologies need to be adopted in non-Western areas of the world for the purpose of development, led by a profit-driven ICT field that is 'often steeped in western cultural values and business practices' (Thompson, 2008, p. 824). When looking at women in development, Mohanty (1988) claims how feminist development studies measure the status of women in developing countries along the lines of Western standards. As we argue that unquestioned adoption of Western norms in development leaves no room for expressing women's needs and desires in the non-West, we problematize these (5) *Western standards and benchmarks of women's development through ICTs*.

Development organizations are in a position to shape knowledge about developing populations according to their own interests (see for instance Escobar, 2012). Scholars for instance argue the effectiveness of ICT for women's empowerment is simply assumed, often without or with little empirical evidence to back up these claims, leaving the (lack of) empowerment effects understudied and ignoring evidence of ICT projects that fail to reach these aims (see for instance Avgerou, 2010; Sreekumar, 2007). This shows how international development actors have the power to establish certain assumptions and select snippets of evidence that conveniently back up their claims. We argue it is important to deconstruct these (6) *'empty' claims of empowerment effects*, and thereby include this into our framework for analysis.

2.3. Technofeminism: Is gender equality only a mouse click away?

From the nineties onwards, technofeminist scholarship has focused on the relationship between gender and ICTs, paying attention to both positive and negative aspects of technology to women's empowerment (Wajcman, 2007). Wajcman (2004), defines technofeminism as the 'mutually shaping relationship between gender and technology, in which technology is both a source and consequence of gender relations' (p. 107). To date, technofeminism has mainly focused on the relationship between women and ICTs in a Western context (Sreekumar, 2007), and has been accused of assuming an 'educated, white, upper-middle-class, English-speaking, culturally sophisticated readership' (Fernandez & Wilding, 2003, as cited in Daniels, 2009, p. 104). As developing countries are typically characterized by less ICT availability (International Telecommunications Union, 2014), as well as more unequal gender relations (United Nations Development Programme, 2014) compared to the West, it is questionable how applicable the current body of theory is to these marginalized contexts. Wajcman (2004) notes that mainly Western middle-class women in highly industrialized countries are currently able to benefit from ICTs, but stresses that 'the internet and the mobile phone might ultimately have even greater significance for women in low-income households and communities in the global South.' (p. 119).

Technofeminism addresses the gender divide between the production and consumption of ICTs. Poster (2013) argues how IT workplaces can be 'hostile or even toxic environments for women', characterized by 'male technical prowess' (p. 39). This male domination of ICT design, along with the growing amount of women working in lower non-managerial, programming and ICT-producing positions (Truss et al., 2012) creates a gendered dichotomy with men on the design side of technology, and women on the receiving, executing and consuming side of ICTs (Wajcman, 2010), leaving the power to shape and design technology mainly in the hands of men.

Similarly, Lee (2004) argues that women's empowerment through ICTs in developing countries is mostly envisioned as women's consumption and use of existing (Western) technologies, and not through active mastering, designing, or taking ownership of technologies. Clearly, women's roles in active use and design of ICTs have been understudied in the developing context, which compels us to devote attention to *(7) the gender relations within and between the designer/creator 'subject' and the consumer 'object'*.

Cyberfeminists specifically focus on gender relations in the context of the internet (Wajcman, 2004). On the one hand, cyberfeminists underline the empowerment potential of the internet,

looking at (Western) women's engagement with the internet in all domains of their lives, such as formal and domestic work, education, leisure and political activism (Daniels, 2009). For instance, the internet can be a 'safe space' for women to oppose gender inequalities, as well as other forms of oppression (Daniels, 2009; Stephan, 2013). At the same time, however, cyberfeminists acknowledge that existing gender and racial inequalities are reproduced online (Daniels, 2009).

Thus, it is important to refrain from viewing new technologies as inherently empowering or as radically different from older technologies, as they are produced and used in the context of existing social relations and inequalities (Wajcman, 2004). That being said, we need to pay equal attention to the potential empowerment opportunities that new technologies could offer women in developing countries, which is why we devote attention to the understudied (8) *empowerment potential of 'new' versus 'old' technologies* in the context of Bangladesh.

3. Methodology

3.1. Context: Bangladesh, the Village Phone Programme and Maya Apa

This study focuses on two mobile phone-enabled empowerment programmes in Bangladesh for various reasons. First, it is a country where gender inequality is both severe and prevalent, resulting in a stark digital divide as women are often inhibited from accessing ICTs (Hossain & Beresford, 2012). Second, Bangladesh is experiencing strong growth of mobile phone use (Hossain & Beresford, 2012). Aside from these two rather general reasons, Bangladesh is also the birthplace of the currently widespread women-centered microfinance movement (Karim, 2011b). It also has a relatively long history of mobile-enabled empowerment projects for women in the form of the Grameen Bank Village Phone Programme (VPP) (World Bank, 2003), which serves as our focus of analysis.

The VPP was founded in 1997, and combines microfinance with mobile technology in an effort to empower primarily Bangladeshi women. Women who are part of the programme acquire basic mobile phones with simple calling functionalities via a microloan from the Grameen bank, a pioneer in the field- of microfinance that brought together aims of poverty eradication, women's empowerment and entrepreneurship in one model of small loans to poor women (Karim, 2011b). By providing basic phone services to other villagers, the aim is for women to earn money to create their own income and pay back their loan (World Bank, 2003). Phone service is provided by Grameen Telecom, a non-profit organization that buys

airtime from GrameenPhone Ltd, which is a for-profit part of the Grameen family (Canadian International Development Agency, 2000).

The second initiative we focus on is Maya Apa, a smartphone application that was launched in the beginning of 2015, and is a product of a collaboration between the Bangladeshi-based website Maya.com.bd and developmental organization BRAC (The Daily Star, 2015, 5 April). It targets women in both urban and rural areas, and aims to overcome the widespread social stigma regarding women's health, psychosocial and legal issues (Hossain, 2015), by offering women anonymous access to free counseling on a wide range of issues including for instance contraception, domestic abuse and emotional well-being (The Daily Star, 2015, 8 March), as well an online platform for discussion and support. The app was developed as an extension of the widely popular 'Maya Apa Ki Bole', a free online Q&A widget on the Maya website. Maya Apa is designed to operate on basic internet-enabled smartphones, hereby aiming to reach more women in both urban and rural areas (BRAC, 2015; Maya, n.d.-b).

Both initiatives are founded by Bangladeshi organizations and have a for-profit orientation, regardless of their developmental aims.

3.2. Data collection and analysis

This study does not aim to provide a representative sample of discourse around the Village Phone Programme or Maya Apa, but rather provides an in-depth analysis of discourse from different perspectives on both programmes. First, documents published by Grameen and Maya themselves have been included, giving an insight into these organizations' perception of their own programmes, goals and outcomes.

Second, a subset of documents published by other (sometimes partnering) development organizations has been included in the dataset, to provide an understanding of the development community's view on both programmes. Last, a collection of academic, media, and blog content has been used, giving room for both praise and critical scrutiny from voices outside of international development.

The dataset was collected in April to May 2015: ten documents on Maya Apa, and eleven documents on the VPP. This data corpus is large enough to provide an overview of discourse from various sources, but is small enough to allow for deep analysis. As mentioned earlier, the Grameen Village Phone Programme is a well-established and long-standing project, whilst Maya Apa is a brand new mobile initiative. The consequence of this difference however, is that the Village Phone Programme has received much more and lengthy coverage,

and the large majority of the data used in this study was published between 2000 and 2007. Data on Maya however is limited, and mostly consists of short press releases and articles published from the beginning of 2015 onwards.

This study uses a coding system drawn from previous ICT4D and technofeminist scholarship, however leaving room for new emerging codes. As presented in the literature review, the core themes that constitute this study's approach to the data are the following:

- (1) *Narrow economic conceptions of women's empowerment versus broader sociocultural definitions of empowerment;*
- (2) *Women's empowerment based on individual ICT access versus women's empowerment in a relational/structural context;*
- (3) *Instrumentality of women for development;*
- (4) *Stereotypical representations of women in development;*
- (5) *Western standards and benchmarks of women's development through ICTs;*
- (6) *'Empty' claims of empowerment effects;*
- (7) *Gender relations within and between the designer/creator 'subject' and the consumer 'object'*
- (8) *Empowerment potential of 'new' versus 'old' technologies.*

Through close reading of the data in two rounds of coding (one exploratory round of coding, and one secondary round of recoding into coherent themes), this study has organized the findings into five distinct perspectives on women's empowerment, as shared in the section below.

4. Findings and Discussion

'Revolutions in technology do not create new societies, but they do change the terms in which the social, political and economic relations are played out.' (Wajcman, 2004, p. 8)

In this discussion, we cast light on the construction of 'women's empowerment' in discourse around Maya Apa and the VPP, organized in five different perspectives informed by ICT4D critique and technofeminist studies. First, we will examine if, how and to what extent 'women's empowerment' in both programmes is shaped by underlying (1) neoliberal development goals, as well as a (2) Western-centric, 'modernization' paradigm. Second, we

will focus on women's empowerment in light of gendered power dynamics regarding (3) ICT design/management and (4) ICT use/consumption. Last, we will discuss the empowerment potential of (5) new online spaces in comparison to older technologies used in the context of rural Bangladesh.

4.1. Profit under the banner of 'empowerment' – Neoliberalism, development and the private telecommunications industry

First, we touch upon the predominant neoliberal trend in development, which we find is strongly present in the Grameen VPP. Although the VPP is widely recognized for its positive effect on women's empowerment (Hossain & Beresford, 2012), its main focus lies on economic development. Among the four core goals of Grameen Telecom (CIDA, 2000), gender (in)equality or women are not mentioned, but the focus rather lies on poverty reduction and income generation for unspecific 'villagers', which obscures the fact that the large majority of Village Phone operators are women (Grameen Foundation USA, 2005). Additionally, the term 'villagers' implicitly assumes equal effects of the VPP on men and women, which we problematize due to the high gender inequality and the gendered digital divide in Bangladesh (Hossain & Beresford, 2012).

The VPP rests on a neoliberal approach to development, aspiring '*to change the character of capitalism radically, and solve many of the unresolved social and economic problems within the scope of the free market*' (Yunus, 2006, as cited by The Daily Star, 2006, para. 17). We argue this combined focus on profitability and (economic) development leads to the portrayal of two female 'types' within discourse: women as markets/consumers, and women as entrepreneurs.

First, women are presented as 'markets' for phone operators. Enhancing gender equality with regards to phone access is for instance presented as instrumental to telecommunications' market expansion: '*From the standpoint of revenue generation and profitability, it is important to ensure that the Village Phone is fully accessible to the entire village population: if 50 percent of the user base faces obstacles to phone use, then a significant revenue stream is lost.*' (CIDA, 2000, p.3). We argue that 'empowering' female consumers to use phones is hereby not presented as a goal in itself, but rather functions to enhance profitability of the VPP.

Second, the VPP shapes women into 'entrepreneurs', as in the case of Begum, a female Village Phone operator: '*Begum's success has become legendary, embraced by the media and the world of economic development as an example of how microcredit and*

technology can help those born in poverty escape it, largely through own entrepreneurship' (Shaffer, 2007, para. 7). The World Bank (2003) similarly notes how female VP operators are 'empowered' by their newly gained economic independence and elevated status as 'business owner', in line with previous work that points towards the prevalent use of stereotypical portrayals of women as 'natural entrepreneurs who lack not enterprise and initiative but opportunity' (Dolan & Roll, 2013, p. 136).

However, we attest that this notion of the 'autonomous female entrepreneur' is an idealized notion in the context of patriarchal, rural Bangladesh. First, even though the vast majority of the VP owners are women, most of the phones are said to be operated by men (Hossain and Beresford, 2012), which we argue provides little support for claims of women's empowerment. Additionally, the income of female Village Phone operators is often presented as a means to elevate the welfare of the whole family, tying in with stereotypical assumptions of women's- inherent altruism (Chant, 2012). For instance, founder Yunus states: *'If a poor woman gets hold of one mobile phone in the village, then this is a sure bet that her entire family can move out of poverty in two or three years.'* (as cited in Shaffer, 2007, para. 34). Last, critics have argued that the spread of mobile phone ownership in Bangladesh has made the village phone obsolete and unprofitable for its operators (Karim, 2011b). Still, Grameen continues to promote the VPP as a *'new business opportunity for the poor'* (Grameen, 2012, para. 1), recruiting new operators as this remains profitable for GrameenPhone (Shaffer, 2007). We argue this would reduce women to instruments for corporate profit, whilst shaping them into entrepreneurs based on false business opportunities. Thus, we claim this is counterproductive to women's empowerment, in contrast to Grameen's claims.

This example of the VPP shows how underlying profit-driven motivations of development organizations can shape women's empowerment programmes in ways that can be counterproductive for the women they are assumed to benefit. As women in marginalized contexts have little access to ICTs compared to Western women (Intel Corporation, 2012), and are more likely to depend on developmental organizations to access technologies such as mobile phones, these organizations play an important role in changing gender relations in the context of ICT use. Extending technofeminist theory to marginalized contexts therefore must also encompass critical scrutiny of neoliberal ICT-focused development and its effect on women in developing countries.

Maya Apa presents an interesting contrast to this neoliberal trend, as discourse around Maya Apa emphasizes its core aim of empowering women through mobile technology: *'With the "Maya Apa" mobile app and website, empowerment in Bangladesh is now not only*

downloadable, but something that women and girls can literally carry with them.' (Hossain, 2015, para. 23). By targeting gendered social stigma and focusing on women's health, as well as psychosocial and legal issues, Maya Apa's empowerment aim has a broad sociocultural character (The Daily Star, 2015, 8 March). No reference to 'women's empowerment' in relation to financial aims was found in discourse around Maya, as its owners merely '*want Maya to be profitable so as to be self-sustainable*' (Maya, n.d.-b).

4.2. Empowerment through ICTs: Paving one's own way or following the road to 'Western' development?

Within ICT4D, efforts have been made to adjust (Western) ICTs to the so-called 'bottom of the pyramid' (BOP) market, referring to the 'four billion people who live on less than \$2/day' (Pralhad, 2012, p. 6). Still, scholars argue for more attention to the needs of ICT users in marginalized contexts, in order to design truly relevant and empowering technologies (Nilsson et al., 2014). Overall, we argue it cannot be assumed that ICTs predominantly designed in a private, external and Western context (Thompson, 2008) are directly transferable or automatically empower for women in developing countries. In the following paragraph, we show how technofeminist thought can benefit from a more non Western-centric approach to women's ICT-based empowerment.

Western modernization thought is clearly present in discourse around the VPP, as it emphasizes differences between the technology-rich, developed West and the overall lack of technology (infrastructure) in other parts of the world:

'Few things are as central to life today, as the ability to make a phone call. It is something most of us take for granted – but something that millions of poor people in the villages of the developing world can rarely do.' (Grameen Foundation USA, 2005, p. 3)

The explicit contrast between 'people in developed countries' (also referred to as 'us') and 'people in developing countries' (the implied 'them'), sets Western standards as the benchmark of development (Escobar, 2012). The VPP is also portrayed as 'transferring' modern technology to poor women, as exemplified by the following excerpts:

'Placing modern cell phones in the hands of the woman from poorest households in remote villages, something that no telecom operator had dared to do in the past' (Grameen, 2012, para.1).

'Once they [female VP operators] assumed that they would have to sell eggs, puffed rice or cow milk throughout their lives in order to eke out a living. They could hardly have dreamt that they would now own a modern communication technology such as cellular mobile phone.' (Bayes, 2001, p. 270)

By contrasting 'traditional' ways of making a living ('selling eggs, puffed rice and cow milk') with 'modern communication technology', local culture and tradition are directly opposed to 'Western' progress and development (see also Appadurai, 2013), implicitly portraying development as the progression towards a (Western) modern society (Escobar, 2012). Furthermore, by literally 'placing phones in women's hands, the VPP arguably 'bestows empowerment' (Cornwall & Rivas, 2015) on women through technology, hereby immediately placing them in a position of dependency. We argue this approach to women's empowerment through ICTs upholds the predominant position of women as passive users of technologies (Wajcman, 2010).

As opposed to perceiving mobile technology as a 'Western' tool for development, (Leye, 2007) discourse around Maya emphasizes that the Maya app has been fully made in Bangladesh, by Bangladeshi female engineers:

'The founder is proud to add that the app is built by two female engineers from BUET and it's made 100 percent in Bangladesh.' (Daily Star, 2015, 8 March, para. 4)

By taking active ownership over mobile technology, the Maya staff has created an app that is tailored to Bangladeshi women's needs (BRAC, 2015). Maya's local ownership and design of technology is not just a symbolic countermove to top-down Western-based ICT development. Instead, it actively integrates local women's needs into technology design, providing a space where women can voice their personal concerns, and seek out information that is tailored to their needs through the Q&A platform (Mahmud, 2015), in contrast to top-down, unidirectional information provision. For this reason, we see Maya Apa as an example of what Shade (2003) calls 'Participatory design measures, where ICT development and design is driven by specific developing country demand, where youth and women become integral in digital opportunities, and where content creation is left in the hands of the creators themselves' (p. 117). Overall, Maya Apa does not follow development narratives that aim to model poor women to fit Western standards, but embeds mobile technology within Bangladeshi culture in order to empower its users.

We find that in marginalized contexts such as these, a critical analysis of solely gender relations in the context of ICTs is not enough, as these examples have shown that power dynamics between Western-centric development organizations and marginalized populations shape the empowerment potential of ICTs for women in important ways. In line with Escobar (2012), we specifically emphasize the potential of grassroots mobilization and local women's participation in ICT development, and its ability to challenge Western development standards and empower women to aim for development on their own terms.

4.3. Shaping the world 'bit by bit' - 'Gender matters' in management and technology design

The core concern of this section is the male domination and female exclusion in technology design and management, a topic that has received ample attention from feminists in a Western setting (see for instance Wajcman, 2010), but has been understudied in marginalized contexts (Poster, 2013). We extend this concern to our analysis of the VPP and Maya Apa, addressing gender dynamics in ICT design and management in a marginalized setting.

The VPP was founded by 'Muhammad Yunus, the grand patriarch of modern microfinance' (Toyama, 2015, p. 58) and was led by an all-male management in the year 2000 (CIDA, 2000). This gender imbalance in the VPP's management has led to a programme design that arguably overlooks instances of gender inequality and gendered barriers to access. CIDA (2000) notes how the all-male management fails to understand women's limited phone access when a Village Phone is placed in the hands of a male operator: *'Interestingly, when asked about this particular instance, Grameen Telecom field staff and Grameen Bank managers did not seem to share our understanding that women's access to the phone would be limited'* (CIDA, 2000, p. 32),

Additionally, the Grameen management also showed bias towards choosing male Village Phone operators over female operators:

'Of the 43 Village Phone sites surveyed for this report, 10 site operators were male: roughly 25% of Village Phone operators. Given that 95% of Grameen Bank members are reported to be women, this weighting of Village Phone operators towards men seems difficult to explain... This leads us to hypothesize that there may be a relationship between Grameen Bank and/or Grameen Telecom approaches to management in these areas, and the selection of male Village Phone operators.' (CIDA, 2000, p. 33).

These examples show that gender relations within the Village Phone Programme's management and its neglect of structural gender inequality negatively affect its potential to empower women.

Whereas Grameen makes use of existing mobile phone technologies, Maya is actively involved in technology design, and proudly reports that its team consists of *female* engineers, doctors and entrepreneurs (Zafar, 2015). Maya's all-female technical staff is an exception in the Bangladeshi, male-dominated technology scene: *'While building technology to empower women, the women behind Maya have opened the doors to countless other women in the country to enter the science and technology sector, a challenge that remains large even in America.'* (Hossain, 2015, para. 14).

Thus, by breaking into the male-dominated technology scene, the Maya staff challenges existing power relations, simultaneously carving out a space for more women to enter the highly important design side of ICTs (Wajcman, 2010). Arun, Heeks and Morgan (2004) similarly note how the presence of women in the ICT sector can break down 'some of the social, political and even institutional bases of gender inequality' (p. 18). Still, Maya's staff continues to face barriers due to their position as women working in the Bangladeshi field of technology and development:

'Despite the positive progress, Russel [Ivy Huq Russel, founder of Maya] says there is a lot of room for improvement to support women who work in Bangladesh' tech sector. She points to security as a key concern, especially for her female staff members travelling alone late at night after work.' (Hossain, 2015, para. 16)

' "Outside of the organizations like our partner BRAC, our staff are typically in meetings with other organizations where 9 out of 10 participants are men who do not always take their female colleagues seriously." Russel explains. "So it is more of a structural problem that extends way beyond the tech space." ' (Hossain, 2015, para. 20)

Thus, simply 'inserting' women into the field of technology does not lead to an immediate shift in gender relations. Truss and others (2012) note how women working in ICT often occupy low-skill positions with little security or opportunity to develop themselves, earning less than male colleagues. We see the highly educated female engineers behind the

Maya app as a positive step towards changing this predominant gender dynamic in the field of ICT.

This comparison between Maya Apa and the VPP shows how gender relations within ICT design and management of development programmes can largely affect the extent to which resulting technologies and programmes empower women. Thus, we argue a strong need exists to extend the technofeminist lens to ICT design in the sphere of development, to involve women in the creation of relevant technologies and to refrain from addressing them only as passive end-consumers of technological products (see also Lee, 2004). We see Maya Apa as a positive example that challenges gender barriers in the ICT design field, whilst simultaneously creating gender-sensitive technologies. The design of Maya Apa is aimed to expand women's choices and challenge gendered stigma in Bangladeshi society, as will be further discussed in sections 4.4 and 4.5. Therefore, we argue that the presence of women in the ICT field is not only a symbolic challenge to unequal gender relations within technology design, but can be said to also result in more gender sensitive technologies.

4.4. 'Women as ICT users' – User agency or passive dependency?

This section devotes attention to women's autonomy and empowerment within the scope of mobile phone use. Building on the examples of Maya Apa and the VPP, we argue it is important to extend scrutiny beyond mere phone access and use, and to tap into the ways in which phones allow women to be active agents and challenge gender relations.

The Maya website has been founded to improve Bangladeshi women's access to information, by connecting '*women to the knowledge they are looking for through technology*' (Ivy Huq Russel, as cited in BRAC, 2015, para. 5), an aim which has been extended to the Maya Apa mobile phone application. Maya's focus lies on (however is not limited to) women's health and social issues (The Daily Star, 2015, 8 March). However, Maya's online question and discussion format allows (female) users to be active agents who shape their own information resources along the lines of their personal concerns. For this reason, Maya Apa is largely used by young people (both women and men), to ask questions about a wide range of topics, such as '*emotional well-being, sex education, contraception and family planning, intimate partner abuse, divorce, or even forced early marriage*' (The Daily Star, 2015, 8 March, para. 2).

In the earlier stages of the Internet, Gajjala and Mamidipudi (1999) stressed the importance of women's freedom to decide how and under what conditions new technologies benefit and empower them. We argue this need has not become any less pressing, and

perceive Maya Apa as a step in the right direction.

Women using the Maya platform (including the website) are encouraged to create User Generated Content, and *'blog about topics that are important to them, whether light-hearted discussions around movies, beauty and fashion or more serious issues such as domestic violence'* (Maya, n.d.-b). As women are free to define their own topics of concern, interest and online discussion, they are perceived as more than solely 'utilitarian' beings, and attention is paid not only to their 'needs' but also their 'wants' (Arora and Rangaswamy, 2013). We argue these leisure-oriented ICT practices are empowering in a sense that they give women the freedom to express themselves and to define their own interests, hereby shifting power from the technology producers to its users.

Whereas Maya Apa explicitly focuses on women's ICT use, the VPP describes the benefits of phone use for 'villagers', without differentiating between men and women (CIDA, 2000, p. 28). Village Phones are said to be used for mainly financial and social purposes, with special significance attributed to facilitating social contact with, and remittance transfers from (predominantly male) family members working abroad (World Bank, 2003).

Overall, and in line with its neoliberal focus, the VPP is largely celebrated for its role in poverty reduction, especially through facilitating remittances: *'Given our data on Grameen Bank members' use of the Village Phone for financial discussions with family members, their clear view of the importance of the service for contact with overseas workers, and the significance of remittance transfers for family welfare, we conclude that the Village Phone plays a very important role in poverty reduction.'* (CIDA, 2000, p. 28). As family members working away from the village are said to be predominantly men, we infer that the 'villagers' mentioned in the discourse are mainly women, and that it is therefore women who mainly use phones to maintain social contact and ask for remittances.

We agree with Toyama (2015), when he argues that 'a mobile phone allows people to perform desired communication tasks...but whom one can communicate with and what one can expect of them depends on one's social capacity.' (p. 29). In this line of thought, we argue that women's usage patterns of the Village Phone (calling the male relative) are shaped by their 'social capacities', in this context referring to a pre-existing, strictly gendered division of labour and income generation, and hereby merely extend women's dependency on men through mobile telecommunications. However, these arguments remain inferential and as data on phone use does not differentiate between men and women, it remains unclear if, and how

women are empowered by using Village Phones.

Based on our analysis, we firstly point towards the need for more attention to the gendered use of technologies in marginalized contexts, as we argue it is questionable at best to assume that men and women use phones in similar ways and benefit equally from phone use, particularly in a society in which gender relations significantly affect women's ICT access (Hossain & Beresford, 2012). Additionally, technofeminist scholarship could devote more attention to the ways in which technologies give room for active and subversive practices in marginalized contexts, providing women with ways to resist existing gender relations with the help of ICTs.

4.5. The public, the private and the digital – How mobility and spaces affect women's empowerment

Online spaces offer women distinct opportunities and constraints to resist (gender) inequality, and have therefore been closely scrutinized by Western-focused cyberfeminist scholarship (see for instance Daniels, 2009). In this paragraph, we approach the relationship between ICTs and women's empowerment in the context of *spaces*, distinguishing between women's opportunities and constraints in physical spaces and new digital spaces within Bangladeshi society, hereby applying cyberfeminist thought to a non-Western context.

Historically, men across the globe have dominated public spaces such as the economic market, civil society and the political sphere, whereas women were perceived to belong exclusively in the private sphere of the family and the household (Simon-Kumar, 2004). Discourse around the VPP exemplifies how existing unequal gendered access to public versus private spaces shapes men's and women's access to mobile phones, and the VPP reaffirms these existing dynamics.

In rural Bangladesh, women's access to phones is often restricted by gender norms that constrain women to their private households, and inhibit them to visit phones located in public spaces, as well as the homes and businesses of unrelated male villagers (CIDA, 2000). The VPP places phones in the homes of female phone operators, which provides a specific context of mobile phone use that allows women to access phones in private settings (CIDA, 2000), thus complying to existing gender norms regarding women's mobility and leaving these unequal gender relations relatively untouched.

We argue that the VPP hereby reinforces the public as an exclusively male domain, through facilitating women's restriction to the private sphere by placing mobile phones in these spaces. The VPP thus acknowledges gender norms that constrain women's movement, but fails to challenge them. It also silences the role of men in restricting women's access to the public sphere, for instance by presenting women's reluctance or inability to use phones operated by men as a matter of *personal comfort*:

'Because the phone operators are typically female and the phones are in their places of business, women who might otherwise have very limited access to a phone feel comfortable using Village Phones.' (Grameen Foundation USA, 2005, p. 7).

'Female Village Phone clients are more likely to feel comfortable doing business with another woman, particularly if they do not have to travel to a public place to gain access to a phone.' (CIDA, 2000, p. 35).

Why women would feel uncomfortable, or who would make them feel uncomfortable are unaddressed, obscuring restraining gender norms and the role of men in enforcing these feelings. Following Cornwall and Rivas (2015), we argue for 'making men in those [public] spaces the object of attention, making their exclusionary practices visible and unacceptable' (p. 409).

The digital environment has moved beyond the traditional public-private divide, as the Internet for instance allows people to engage in online 'public' political activism, from the comfort of a computer in their private homes (Stephan, 2013). Women's movement into new digital spaces however is constrained by gender norms and inequalities, particularly in developing countries (GSMA Development Fund, 2010; Intel Corporation, 2012). The Maya team too is *'well aware of the vast majority of women in Bangladesh who remain at the periphery of online spaces'* (Maya, n.d.-a).

For the Bangladeshi women who do have access to Maya Apa, online anonymity creates a 'safe space' (The Daily Star, 2015, 8 March), in which they can collectively resist oppressive gender regimes and solve problems, without risking direct violence or stigmatization (see Daniels, 2009; Stephan, 2013): *'An online community is built. By reading others' situation, many people come forward, finding the strength to share similar*

stories/experiences, becoming a part of the solution.' (The Daily Star, 2015, 8 March, para. 3).

Even though user anonymity is perceived to be of key importance to this aim (Maya, n.d.-a), we warn that this also comes at a price. Namely, anonymity in online groups can 'increase conflict and negatively toned discussion, social loafing, bystander apathy and group polarization' (Christopherson 2007, as cited in Yoon & Rolland, 2012, p. 1135), thereby reducing the potential for community building and collaboration.

Hence, we should prevent falling into the trap of 'fetishizing' new ICTs, perceiving them as radically different from previous forms of technology, as new technologies are produced, designed and shaped in the context of perpetuated gender inequalities just like their predecessors (Wajcman, 2010). Similarly, 'offline' inequalities, such as sexism and racism, are perpetuated online- (Daniels, 2009). Keeping this in mind, Maya Apa shows that new ICTs can be harnessed to help women provide mutual support, circumvent and subvert gendered stigma. However, trade-offs need to be made, for instance in the case of anonymity versus online trust and community-building. These trade-offs falls outside of the scope of this paper, which is why we call for critical scrutiny of the benefits and drawbacks of online anonymity as an instrument for women's empowerment.

5. Conclusion

We have identified a gap in the current literature, regarding gender relations and ICTs in marginalized contexts of the global south. Even though this gap is a large one to fill, we have started by applying technofeminist scholarship in a Bangladeshi setting, critically comparing women's empowerment in the context of the VPP and Maya Apa. We acknowledge the time gap between the founding of the VPP and Maya Apa (1997 and 2015, resp.), but argue our findings remain relevant today, especially as the VPP to date has not adapted its programme to technological advances (Karim, 2011b). In this conclusion, we explain how a technofeminist perspective applied to ICT4D initiatives could inform a more critical, transformative agenda for women's empowerment, by paying closer attention to gender relations in ICT design and use.

As it stands, we identify a gap in ICT4D scholarship regarding women's roles as ICT producers and designers, as well as ICT use that goes beyond passive consumption. We problematize this limited focus, and agree with Lee's (2004) claim that 'empowering women through training them to use technologies, or rather, consuming them, is very limiting to women's advancement because social structure does not change radically through more

consumption from women.’ (p. 548). In our analysis we have shown how in the case of Maya Apa, women’s entry into a male-dominated tech scene comes with many barriers, but does lead to a smartphone app that is truly focused on women’s empowerment through active user engagement with technology, and simultaneously carves out a space for more women’s participation in ICT design (Hossain, 2015). Truly empowering women, we argue, requires expanding their range of choice (Kabeer, 2005), and this can only be done through *active* involvement regarding ICT design and use. We hope to spark a wider interest in this direction of study, paying closer attention to gender relations within ICT design, as well as ICT user agency in the context of development, as opposed to perceiving ICT consumption as a ‘magic bullet’ to development problems and inequalities (Lee, 2004; Toyama, 2015).

Because technofeminist scholarship has a strong Western focus (Daniels, 2009), we find it lacks some intellectual weight regarding the power dynamics between Western countries and the developing world. Informed by scholars such as Lykke (2010) and Mohanty (1988), we argue that the Western-centric approach of technofeminism overlooks how intersectional inequality based on for instance geopolitical position, race and ethnicity produces large differences between women in different areas of the world, shaping their opportunities for, and barriers to ICT-enabled empowerment.

Informed by our analysis, we advocate for the expansion of technofeminist concerns to include intersectional inequalities, ‘not only within the framework of single nations, but also against the backdrop of transnational relations: economic-political-cultural hegemonies and power differentials among nations’ (Lykke, 2010, p. 55). First, we call for closer scrutiny of ways in which dominant Western norms and discourses, such as neoliberalism (Kumi et al., 2014) shape conceptions of ‘women’s empowerment’ through ICT under the banner of development or profit generation, as our analysis of the VPP has exemplified. Second, we call for more attention to how ICTs can be harnessed in culturally sensitive, local grassroots approaches to women’s empowerment, resisting dominant Western development standards and helping women negotiate their position in various intertwined structures of inequality, such as the case of Maya Apa.

Finally, we touch upon the novel opportunities provided by new digital technologies for grassroots, bottom-up women’s empowerment in developing countries. Without forgetting that ‘the Internet, like other technologies, is flexible and contains contradictory possibilities’ (Wajcman, 2004, p. 120), we maintain that digital technologies have unique features compared to previous ICTs. Our analysis of Maya Apa has shown that digital technologies allow for active user engagement and participation, and can provide women with a ‘safe

space' in which they can challenge and subvert structures of inequality (see also Daniels, 2009; Stephan, 2013). Additionally, producing new ICT tools such as mobile apps is relatively low-cost, expanding the opportunity to design culturally relevant, gender-sensitive technologies to less resource-rich, grassroots organizations, hereby subverting the Western domination of technology design.

To conclude, we restate our conviction that ICT-enabled women's empowerment needs to expand women's ability to make meaningful choices (Kabeer, 2005), and this is best realized by ICT projects that are local, grassroots, contextualized, made by and for women, rather than from a top-down, Western-centric neoliberal economic policy machine run by men.

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Appendix A: Data overview Grameen

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