Purdah, Amanah, and Gheebat: Understanding Privacy in Bangladeshi "pious" Muslim Communities

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ABSTRACT

HCI has a dearth of knowledge in understanding how religiosity, spirituality, and ideological values and practices shape the notion of privacy and guide information practices worldwide. In this paper, we fill this gap by reporting our findings from an eight-month-long ethnographically informed study in Bangladeshi Islamic communities. We report how the Islamic spirit of *purdah*, *amanah*, *gheebat*, *riya*, and *buhtan* represent the notion of privacy and guide privacy practices among "pious" Bangladeshi Muslims. We further discuss how sacred values generate norms and customs associated with privacy and surveillance. Finally, we recommend how a nuanced understanding of divine interests, identity performance, family surveillance, and spatial privacy norms help designing for inclusive privacy in the Global South. This paper makes a novel contribution to HCI by providing a new analytical perspective to understand privacy and design privacy-preserving technologies and tools for regions where religiosity, spirituality, and sacred values play a dominant role.

CCS CONCEPTS

• **Security and privacy → Social aspects of security and privacy**.

KEYWORDS

privacy, religion, Islam, surveillance

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1 INTRODUCTION

The discourses around many core areas of HCI technology – including communication, collaboration, and information sharing – are entangled with privacy arguments. Privacy research in HCI and related fields has a long tradition of conceptualizing privacy through theories and concepts involving contexts [76], norms [67], boundaries [80], or values [70], spanning from very broad and abstract definitions in philosophy [74], sociology [35], and anthropology [64] to narrower, pragmatic definitions such as in legal studies [82]. Large scale communication technologies (e.g., Facebook[1], Twitter[2]), surveillance technologies [108], public digital services [43], and data-driven decision making approaches [83] have spurred discussion in contesting modernist values of autonomy [49], freedom [112], rights [17], and boundaries between public and private spheres [76] – all of which contribute to a more nuanced understanding of privacy. The increasing importance of information technology in everyday life further complicates the perceptions of privacy and the research community has focused to reconceptualize privacy and formulate design policies accordingly. Some regions have adopted centralized policies and laws to address privacy-related issues (e.g., GDPR in Europe [95]). However, privacy research has been broadly criticized as Western-centric [8, 44], where privacy is analyzed within a doctrine of pragmatism [26, 31, 55]. This market-driven notion of individualistic privacy results from an increased attachment to "dataism", where social values and personal life are frequently quantified [15, 106].

In their influential work, Palen and Dourish build on Altman's privacy regulation theory and suggest that privacy is a dialectic and dynamic process [80]. They assert that privacy management is not merely a matter of personal withdrawal, rather a continuous negotiation between the boundaries of privacy and publicity, self and others, and the past, present, and future [80]. This and several other works have brought to the fore the increasing importance of norms in privacy management. The consideration of contextual nuances and norms has moved the focus of privacy from an "individual" to a "collective" perspective. In a recent work [67], McDonald and Forte problematize the notion of privacy through a critical reflection on the widely followed HCI theories and concepts, where they present an additional set of challenges with "norms". They argue that norms are set by privileged people in an asymmetric setting

[1] www.facebook.com
[2] www.twitter.com

of relationship, space, and contexts. As a result, norms provide a specific group of users with greater power than others [67]. This calls for a detailed attention to the characteristics and dynamics of politics, power, and values while exploring the culture, norms, and boundary regulations.

Prior work has extended its domain by incorporating the issues of morality, ethics, and religiosity in privacy discourse. For example, a series of studies in the Arabian Gulf region has explored how the notion of privacy is related to religiously motivated modesty, national and regional norms, trust, and social criteria of personal identities [1–3]. This body of research has given insights on privacy management beyond Western-centered, pragmatic, and capitalist values. The strand of research indicates that privacy has stronger moral and ethical dimensions embedded into cultures where religion plays an influential role in people's everyday life. As privacy perception and management are highly dynamic and contextual [18, 80], religion offers an important orientation in understanding contextual norms and people's information management practices [3].

Bangladesh has a rich colonial history where the dominant religion Islam has gone through many reforms at the confluence of secularism and spirituality [78, 90]. In contrast to many Arabian Gulf countries, gender roles, autonomy, freedom, and other modern values have shaped distinctively in Bangladesh due to its mixture of religious forces [53], secular state values [53], and various occult practices [101]. Consequently, religious practices have evolved more progressively among many Muslims in this part of the world (see, for example, [88]). Such progress has resulted in a spectrum of the degree of religious affiliation and practices among Bangladeshi Muslims. On the one hand, a group of Muslims holds onto the traditional Islamic value systems, while at the same time continuously demands socio-political reform of many Islamic jurisdictions through a method of modern pedagogical inquiry (see, for example, the activism of Bangladeshi Islamic Chatri Sangstha [52]). On the other hand, the authoritative Islamic religious figures and groups have shown less interest in the modernistic reforms. Within this spectrum, Islamic clerics and their strong Muslim followers, as well as madrasah students (we will call the groups of Muslims as "pious"[3] Muslims, used henceforth), form a visibly distinctive group co-residing with other religious and non-religious groups. The pious Muslims share similar national, linguistic, and geographical norms with comparatively progressive Muslims and non-religious groups, while also radically differ in practicing Islam. As a result, the notion of the "norm" comes up with various complexities within and beyond the groups and complicates their privacy issues. In this paper, we set out to explore the complexity of privacy expectation of the pious Muslims in Bangladesh with a broader goal for strengthening the HCI's empirical understanding of privacy in South Asian religious culture.

McDonald and Forte's discussion of the politics of "norms" and privacy issues in group co-presence [67] brings additional unique challenges by posing the following questions for designing for privacy for the pious Bangladeshi Muslims: (a) What are the privacy expectations of the pious Muslims that they may or may not share with the "norms" of the community they belong to? (b) How their Muslim identities put them into power (or powerlessness) or make them vulnerable in managing privacy norms? (c) How the pious Muslims manage their privacy concerns in their group co-presence of various kinds (religious, geographic, cultural, normative, etc.)? (d) What privacy issues lead the pious Muslims to use, no-use, or partial use of technologies? These questions are strongly relevant to HCI not only for designing for privacy for the pious Muslims that we studied, but broadly for all Bangladeshi Muslims for their affiliation to Islamic value systems with various degrees.

We conducted an eight-month long ethnographic study in Dhaka, Bangladesh that (a) examines the notion of privacy (digital, social, and interactional) among Bangladeshi pious Muslims, (b) identifies the tensions and negotiation mechanisms between religious and pragmatic values in their privacy acts, and (c) analyzes the associated ethical dynamics related to privacy and surveillance. We find that the pious Muslims in Bangladesh refer to texts from the Quran and Hadith[4] to interpret different privacy-related values in the context of their everyday life. More specifically, they perceive privacy through a few core religious values, namely *purdah, amanah, and gheebat*. The divine reward is an important perspective in their conceptualization of privacy, which is often not compatible with pragmatic Western values and designs [26, 31]. Based on our analysis, we discuss how existing privacy literature in HCI marginalizes the pious Islamic communities in Bangladesh. Finally, based on our findings, we discuss how the nuance understanding of pious Islamic communities' spatial privacy practices, family surveillance, parental controls over children, and identity performance can lead to inclusive and sustainable technology and policy design to address privacy concerns. We believe, our study will guide the HCI communities to design for privacy with and for the pious Islamic religious communities in the Global South.

2 LITERATURE REVIEW

2.1 Conceptual Complexities of Privacy

Conceptualizing privacy has long been a topic of interest in various disciplines, and hence, the approaches have evolved over time. In particular, the scholarship in law has characterized privacy from time to time, which has often influenced other disciplines for designing policies and technologies to preserve individual and group privacy. Daniel J. Solove adopts a pragmatic framework to explain approaches to understand situated privacy rather than defining it. This approach focuses away from the universality of a definition and concentrates on specific situations [100]. In this approach, Solove emphasizes social practices that include activities, norms, customs, and traditions. He suggests analyzing privacy as a part of the practice rather than as an abstract construct [100]. According to this framework, privacy violation is a disruption in a particular practice, where the disruption can come in various forms, including interference, control, surveillance, loss, and breach. Ruth Gavison suggests a value-neutral conceptualization of the loss of privacy of a person in relation to anonymity, secrecy, and solitude [39]. According to Gavison, people lose their privacy when someone else gets any information about them, someone else gives attention to them to get information, or someone else has physical access to

[3]The demography of our participants consists of Islamic scholars, clerics, mosque employees, madrasah students, and Muslims that strictly set out to abide by Islamic rules. We collectively call them pious Muslims throughout this paper.

[4]We have listed the meanings for religious/foreign words in Table 1.

them [39]. Adam Moore similarly describes privacy as an individual having a certain level of control over the inner spheres of personal information and access to one's body, capacity, and power [74]. Moore highlights privacy as a right over the use of bodies, space, and personal information. Other disciplines, such as philosophy and sociology, discuss privacy as a social and a behavioral construct [35, 74]. Overall, the concept of privacy comes in a spectrum from very abstract to concrete in diverse disciplines. Irrespective of their focus, there is a consensus among researchers that privacy is highly sensitive concerning social and communal values, where any practical engagement with issues of privacy needs careful consideration of situated practices among individuals and social groups in question. The need for a nuance understanding of the concept of privacy has led to different conceptual frameworks in HCI that we discuss below.

2.1.1 Privacy and Context. Helen Nissenbaum provides a fresh normative construct – contextual integrity – to deal with privacy issues related to information technology [76]. The framework is based on contextual norms that include culture, history, law, and convention. The framework is guided by two information norms: appropriateness and flow of distribution. Norms of appropriateness guide what type of information is appropriate or fitting to be disclosed in a particular context. The information flow should follow the contextual norms in question. Privacy preservation is a function of both appropriateness and flow of distribution within contextual norms. For example, Cornejo et al. study older adults with dementia who generates and share contents online [27]. They inform how privacy is a negotiated value between older adults and art therapists. Frik et al. study privacy perception and preferences among older adults [38] and propose privacy and security threat models to provide insights on how older adults perceive and process privacy threats and mitigate the risks. Wisniewski et al. study users' boundary regulations on social networking sites [115], where they report a set of coping mechanisms such as ignorance, avoidance, blockade, withdrawal, etc., that are used to fulfill privacy needs.

The recent development in wearable technologies has been reconfiguring our contextual understanding of the world [24, 59]. A line of research is addressing the new challenges there by exploring the issues of privacy breach and proposing countermeasures. For example, Raji et al. study users' privacy understanding and concerns involving wearable technologies [85]. They find that users are concerned with sharing their behavioral features and physical and psychological states through wearable technologies. Lowens et al. study privacy perception of users in using wearable technologies [63]. Their study shows that even when users are concerned with their privacy in using wearable technologies, they often cannot assess the level of privacy risks. Other works focus on designing technologies to enhance privacy while at the same time preserving natural elements of digital contents (see, for example, negating distortion of an image by artistic transformations [46, 47]). By studying diverse domains [4, 48, 61, 65, 75, 85, 111], demographics [10, 37, 51, 114, 116], and technologies [41, 60, 66, 84, 97, 103, 109], this strand of scholarship contributes to the better design of privacy-preserving technologies by unpacking social, cultural, and normative contexts.

A series of recent works in HCI4D has strengthened our insights of privacy outside Western contexts. Vashihstha et al. provide a comprehensive review of privacy and security research in the Global South and summarize unique challenges related to privacy for users in developing regions [107]. They explicate five key issues of privacy preferences in developing regions: culture, knowledge gaps, unintended technology use, context and usability, and cost considerations. Haque et al. report many vernacular techniques to exchange confidential and sensitive information among various community members in Bangladesh [44]. They discuss their findings of culturally embedded hiding techniques to highlight the tradition of social ciphering in the Global South. Ahmed et al. present a design concept, namely "tiered" privacy model to address privacy issues in a shared environment [9]. Through an exploratory study of their tool – *Nirapad* – they show that their design is capable to resolve issues such as plausible deniability and gendered privacy. Karusala et al. study the technology use of Indian women and discuss their unique privacy challenges in a patriarchal environment [57]. Jack et al. study privacy perceptions and practices in Cambodia and suggest that localization of transnational technology should be a focus of privacy exploration to understand the contextual nature of the issue [54]. This emerging line of privacy scholarship involving developing regions strengthens our understanding of unique privacy challenges in shared technology use [7, 93], informal repair practices [6, 56], biometric sim registration [8], social media use [3], installation of new apps [11], and mobile money transaction [22], among others. We join this emerging tradition of HCI4D and contribute by presenting our insights from studying Bangladeshi pious Islamic religious communities.

Our study builds on McDonalds and Forte's notion of vulnerability, where they argue that normative privacy theories do not take into account the power differentials of a community who are assumed to *equally* share the norms in the community [67]. Bangladeshi pious Muslims live in a hybrid culture where the state promotes secular values and Muslims at large practice Islamic jurisdictions with various degrees [71]. As a result, pious Muslims don't only share a uniform set of norms; rather they are often expected to perform normative behaviors outside of their Islamic preferences. For example, if a neighborhood marketplace does not require women to put on Islamic veils, a pious women may prefer not to visit the marketplace at all to avoid discomfort even though they themselves can put on veils. Such avoidance may occur online, too, where some of our participants don't have a social media profile as they are not appreciative of the culture that does not promote Islamic rules of segregation. As such, Bangladeshi pious Muslims are often marginalized both online and offline due to their lack of power, control, and agency. Our study explicate their values and discuss their vulnerabilities of privacy issues in HCI.

2.2 Islamic Values, Privacy, Culture, Norms

A strand of research involving Islamic religious values and privacy informs aspects of privacy of the human body [96] and space organization of home [79]. The privacy of the human body is associated with Islamic guidelines of body coverings as well as connected issues of purdah, safety, trust, and modesty [3]. Research works involving architecture of Islamic houses design spaces inside the houses in a way that reflects Islamic guidelines of segregation and spatial secrecy for both men and women [13, 33].

A handful of studies relevant to HCI inform the nature of privacy problems and their particular socio-cultural context in the

Arab world. The concept and preservation of privacy in Islamic countries are expressed directly through Quranic texts and Hadith proofs [1]. The holy texts often present privacy as a function of a set of values, including modesty, morality, closeness, and conservation, among other peripheral values. Abokhodair el al. study Twitter posts among Arab Gulf social media users and show that privacy is a communal concept among Arabian Muslim citizens, where the concept of privacy is shaped not only by behaviors of an individual but also through Islamic social dynamics and people's collective behavior [2]. In some Islamic countries (Saudi Arabia, for example), the texts from the Quran and Hadith are translated directly to Government laws to protect people's privacy [1]. Overall, the studies present the concept of privacy among Arabian Gulf Islamic communities as an issue that is related and intertwined with issues of surveillance, freedom of expression within Islamic boundaries, moralities informed by Islamic texts, communal norms and cultures, and gendered roles, among other values.

We join this literature and strengthen our understanding of privacy by complementing the above studies with our findings from pious religious communities in Bangladesh. While the studies in the Arab world depart from the individualistic Western conceptualization of privacy and brings culture in the forefront, it still suffers from the limitations of normative tradition of privacy [67] as described in the previous section. Further, the studies in the Arab world are centered around social media use and micro-blogging practices of Arab citizens. The focus on social media and digital technologies does not provide a rich holistic insight of Islamic values along with their Islamic roots of everyday lived experiences that might or might not involve digital technologies. For example, while the studies in Arab Gulf report findings related to government and macro-level surveillance, they do not provide much insights on micro-level surveillance such as family surveillance or surveillance inside of a madrasah. Moreover, the studies give more weighted stress on the national attachment. It is intuitive that in a region with established Shariah law in the national justice system will form a normative culture heavily influenced by religious traditions; however, the national norm also builds on their economy, technology, geography, and demographics [50]. In that sense, the privacy research in the Arabian Gulf region is more reflective of their civil religion [19] rather than the traditional Islamic religion. There is still a dearth in existing literature to understand how pious Muslims around the world relate to and reference the Quranic or Hadith lessons in their privacy practices in everyday life. We fill this gap by exploring privacy practices among pious Bangladeshi Muslims and explicating various tensions among cultural, normative, and religious values.

3 ISLAM IN BANGLADESH

In this section, we provide a cultural and historical background of Islam in Bangladesh and the Indian subcontinent. Islam is one of the oldest religions that has diverse traditions under its umbrella. This Islamic diversity is also common in South Asian Islamic culture [5]. Edward Said hence correctly recognizes the diversity by calling Islam in its plural form, Islams [92]. The multifaceted Islamic traditions across the world have created different cultural values and identities. Studies in South Asian religion, history, and cultural anthropology have reported a rich history of Islam, its diversity, and its reform with the passage of time [69, 77, 89].

British historian Francis Robinson provides a snapshot of Islamic reform and cultural revisions of Islamic tradition in South Asia [90]. The British colonial history of the Indian subcontinent has an impact on the reform of Islamic values and theological questions. The discontinuation of British institutional support to Muslim *ulemas* put them in a precarious position where they had to adjust themselves into the social fabric of the Indian subcontinent for sustenance. A fraction of *ulemas* – the Deobandi reformers, with the help of Tablig-Jamaat – rejected previous Islamic scholarships based on medieval literature and established a new image of the characteristics of a Muslim that was based on the Quran and Hadith [90]. The most widely published book after Quran in the Indian subcontinent is "*Beheshti Zewar*", which progressed an Islamic tradition, where it is the responsibility of each individual to take knowledge from the central message of Islam, and use their conscience to adopt the rightly guided behaviors. So, in a sense, "reformed Islam was a willed faith, a 'protestant' faith, a faith of conscience and conviction [90]." The new Islamic reformed era hosted a range of Islamic groups with their own interpretations of Islamic guidelines.

For example, Deoband, Jamaʿat-i Islami, and Mujahid had different guidelines for women's rights. In Deoband's tradition, women are permitted to teach in female madrasahs, but under strict purdah; Jamaʿat-i Islami women can learn and teach modern subjects in addition to traditional subjects so that they can become their own religious authority; in the most progressive Mujahidin tradition, women are not only permitted to teach but they can also teach even male students [90]. While a group of sociologists argues that the increased rationalization and secularization have marginalized Muslims, another strand of research maintains that religion is still a powerful force in the subcontinent. This unique characteristic of Islamic (i.e., religious) tradition in this region has brought unusual features that are distinct from the Arab culture. For example, Rizzo et al. study gender equality, democratic governance, and religious identities in Arab and non-Arab Muslim societies and inform that many non-Arab Muslim countries have achieved the status of "over-achiever" in regard to democracy, whereas many Arab Muslim countries are still underachiever and authoritarian [88]. These progresses in Indian subcontinent further create significant cultural differences in women's rights, equality, autonomy, and freedom.

Besides being a part of the historical reformed era in the Indian subcontinent, Bangladesh has also built some distinctive religious-cultural characteristics that are different from its neighbors. Although the idea of religious nationalism was discarded after the separation from Pakistan and the birth of Bangladesh in 1971, various agents and forces in the society of Bangladesh reinforced the Islamic tradition [53]. Unlike Arab Islamic countries, Bangladesh legal systems do not adopt Islamic texts as Shariah law [45]. Like other liberal democratic countries, religion is recognized as a private sphere in Bangladesh [53]. However, the religious influence in social, political, and national spheres are often inevitable [53]. Because of this predominance of Islamic religious culture, neo-liberal efforts often fail to achieve their intended goals [68]. On the other hand, there have been rising communities within Bangladeshi Islamic society that often question the validity of religious apparatuses, and

propose scientific values as a substitution of, or alongside religious ones as means of joining the so-called modernistic trend. Alongside the dominance of scientific and religious values, there also exist occult practices such as witchcraft [101] and para-religious activities [102]. Within this spectrum of value systems in Bangladeshi culture, religious and other values do not always necessarily collide with each other; rather, they often coexist and work together to achieve similar goals (see, for example, [86]). Broadly, such coexistence of scientific and religious values in many social practices are not necessarily anti-modernistic [105], although it could be anti-Western or anti-consumerist on ethical grounds [105], which might have practical social implications for the Global South. As a result of cultural differences, the Global South often comes up with contextual and culturally appropriate privacy breach mitigation techniques [6, 9, 44].

We seek to study issues of privacy of Bangladeshi pious Muslims and inform our findings within this backdrop of Bangladeshi society and culture. Particularly, within a qualitative rubric of Islamic morality, virtues, shared use of technology, and gendered role in domestic and social surveillance, we contribute to understanding how Bangladeshi pious Muslims understand and preserve their privacy issues, which oftentimes are in contrast to the broader Bangladeshi social norms.

4 METHODS

We conducted an eight-month-long (July 2019 - February 2020) ethnographically informed study in Dhaka, Bangladesh, to understand information management strategies, privacy preferences, and ways of mitigating the privacy risks of a pious Islamic religious community. Within this timeframe, we visited mosques, madrasahs, and a university, all located in Dhaka, Bangladesh. The madrasahs include both *Qawmi* and *Alia* madrasah. *Qawmi* madrasah is known for its comparatively strict and conservative Islamic tradition, whereas *Alia* madrasas have a progressive culture of teaching both religious and modern scientific subjects. Besides the mosques and madrasahs, we recruited participants from the Islamic studies department in a renowned university to project our findings from conservative Islamic traditions with those from a more progressive Islamic culture. The methods included semi-structured interviews, focus group discussions (FGD), and contextual inquiries involving technology use by participants.

Recruitment and Procedure. All of the authors of this paper are born and raised in Bangladesh. The authors are Bangladeshi Muslims and familiar with Bangladeshi culture and norms. Two authors of this paper had contacts with several mosques and madrasahs in Bangladesh, where they either conducted ethnography before or had a personal connection. We started recruiting participants from this pool of our known contacts. After this, we followed a snowball sampling technique for recruiting additional participants [40]. People in mosques and madrasahs in Dhaka maintain a close relationship with other religious institutions. We requested our known contacts if they would be willing to introduce us to their connections who might be eligible and interested to take part in our study. As they agreed to help, we provided them with a copy of study information sheet (printed, translated to Bengali) to distribute across their networks and ask if their contacts would be interested to participate in our study. Upon interests of the additional contacts, we visited the mosques, madrasahs, and schools. We introduced ourselves to each potential participant and read them the study information sheet. Then we explained their roles in the study and took their consent for participation. We followed a similar recruitment method for the focus-group discussion sessions.

Participation was voluntary, and there was no compensation to take part in the study. We took written consents from our participants who are fluent in reading and writing; this set of participants received a study information sheet prior to the consent process. For others, we explained the research goal, communicated the risks of participating in this study, and explained their research rights, and lastly, took their verbal consent to participate in this study. As per the culture and tradition, it is common that people participate in such study in Bangladesh without any compensation (see, for example [6, 9, 86]). Most of our participants were spontaneously interested in the study with the hope that their voices would be heard, and their values would be recognized. There are regulations for meeting opposite sex in Islam; meeting a male person other than permitted ones is prohibited (*haram*) for a female. *Qawmi* madrasahs follow this strictly, while *Alia* madrasahs are less strict about this. Following the requests from madrasahs, a female member of the research team (also a co-author of this paper) visited female institutions and interviewed the female participants; the male participants were recruited and interviewed by a male researcher (also a co-author of this paper). Following their religious norms, we did not take any pictures of the participants and any of their activities.

We conducted semi-structured interviews with 23 participants (M=13, F=10), and arranged two focus group discussions (FGD) sessions, one with four male and another with four female participants. On average, each interview took 35 minutes to complete and the focus-group discussion sessions lasted between 50 minutes and one hour. In total, we had more than 14 hours of interview data and almost two hours of focus group discussion. We conducted the interviews and FGDs in Bengali, which is the native language of our participants.

One note of caution: Islam has a diverse set of ideological and cultural identities [92]. Bangladesh also represents the diversity within Islam [78]. Our study demonstrate views of Sunni Muslims, who are Islamic scholars trained in *Qawmi*, *Alia*, and mainstream Islamic scholarship traditions. Findings from this demography may not generalize to other demographics who are not Sunni Islamic scholars. Nevertheless, our participants' demography consists of a large number of population in Bangladesh and elsewhere, who also possesses social capital to influence Muslims through mosque programs, Islamic public lectures (*waz*), and social activities.

Analysis. Both our interviewers are bilingual with proficiency in Bengali and English and they completed certified training on human subject research before conducting the study. The first author's institutional review board approved the research proposal. Both the interviews and the FGD sessions were audio-recorded and then transcribed and translated into English. Sometimes, our participants used Arabic or Persian words. We cross-checked the foreign words and phrases in our translation for linguistic nuances by an *ulema*, who is a proficient Arabic speaker and an Islamic scholar. We analyzed the data using a grounded theory approach [23]. We

Meaning of Islamic Words / Terms	
Islamic Word / Term	**Meaning**
Amanah	Fulfilling responsibilities and trusts
Burqah	An Islamic attire for women
Daoah	Invitation
Fatwa	A ruling on a point of Islamic law given by a recognized authority
Ghair Mahram	The group of people whom a person is allowed to marry, but not allowed to meet and talk without proper veiling
Hadith	Record of the words, actions, and the silent approval of the Islamic prophet Muhammad (sm)
Hafiz	Guardian and protector
Hakkul ibad	Caring for human
Haram	Forbidden by Islamic law
Hujur	A common salutation for Islamic clergy in Bangladesh
Imam	The person who leads the prayer in a mosque
Iman	Faith or belief
Insan	Human
Kafir	Infidel
khatib	A mosque Imam who also leads the Jumma prayers on Fridays
Maulana	Muslim religious leader
Madrasah	Islamic religious school
Muazzin	Mosque employee who calls for prayers
Munafiq	False muslims
Qiyas	Analogical inference or deduction
Rahim	Merciful
Rahman	Gracious
Sahabi	Companions of prophet Muhammad (sm)
Tauba	Repentance
Ulema	Muslim scholars

Table 1: Meaning of Foreign/Islamic words used in the paper.

started the analysis with open coding, and then continued with focus and axial coding [23]. We then organized the codes into themes. All members of the research team regularly met to discuss the codes and themes, and addressed any analytical issues. Data from interviews and FGDs were analyzed separately, and then we aggregated the analysis. The aggregation of interview and FGD data was done in the thematic level. Two authors separately compared and contrasted the themes and aggregated them. In the next section, we present the themes that emerged from our study.

5 FINDINGS

We report our findings below by highlighting the key themes. Our participants frequently referred to the themes when talking about their privacy issues. The themes illuminate some core religious values in Islam: purdah, *amanah, gheebat, riya, and buhtan.* These values guide our participants' everyday experiences as to how they perceive and manage privacy in their information practices and how they adopt or abandon technologies that violate their privacy norms. Some of our findings may not be directly related to information technology, but nevertheless, have the potential to guide technology design to address the privacy issues.

5.1 Purdah

Purdah means curtain [81]. This is a means for women seclusion in Islamic (and also the Hindu) culture. The purdah system limits interaction of men and women according to religious rules. Muslim women's purdah requirement starts from their puberty age. Besides the religious significance, the purdah is also a representation of women's modesty in South Asian culture [81].

Purdah has invoked widespread scholarly discourses, heated political conversations, and diverse social rhetoric to date [14, 32, 73]. The norm is often shown as a religious patriarchal instrument of constraining women's voice and freedom [21]. On the contrary to this view, purdah has been argued as an empowering means for rural Bangladeshi women that increases their social participation, mobility, and visibility [36].

Along this dual role – one that invokes the history of socio-religious restraints and another that speaks about the story of empowerment – purdah has become a dominant lens through which our participants envision the notion of privacy in everyday life (n = 21). This notion of personal and social curtailing prevalent in Muslim societies [21, 36] has shown a promising connection to the understanding of, and remedy for privacy concerns in our study. Our participants ($n = 21$) describe the limit of bodily exposure, different visual constraints on spatial arrangements, and controlled

social participation as adherence to Islamic rules, as well as intrinsic means for protecting themselves from various concerns involving privacy breaches.

5.1.1 Purdah as both a Farz and a Lifestyle. Our participants (n = 21) show their literacy and varied interpretations regarding purdah as well as its religious and social implications. Participants (n = 17) observe purdah as a religious duty commended in Quran (known as *farz* activity). Islam has weighted rules and regulations according to their importance in this and the afterlife, some of which are more important to follow than the others, where *farz* is on the top of this weighted list. The *farz* presents an Islamic regulation that is instructed directly from Allah and a Muslim must adhere to that instruction. Although, there has been debates and varied interpretations for whether or not purdah is a *farz* and what is the proper rule for veiling (both for men and women), purdah has been observed historically with references to the Quran in Islamic societies as a symbol of Islamic modesty and social prosperity [113]. We acknowledge the theological disagreements; however, we don't engage with theological debates for whether or not purdah is a *farz*. Rather, we analyze the findings of our study as presented by our participants following by the tradition of the sociology of religion [25].

Our participants follow the guidelines of purdah as part of their faith (*iman*). A 27-years-old female *Qawmi* madrasah teacher highlighted the significance of purdah:

> "We have to abide by this rule [purdah] simply because this is the prerequisite for our faith (*iman*). This a regulation from Allah – you don't have a choice here. You also cannot improvise this guideline, it's there in the Quran and Hadith[5]. If you don't follow this, there are punishments from Allah. Follow this and there will be rewards from Allah."

Besides a *farz* activity, our participants (n = 14) present purdah as an essential aspect of their everyday life, with or without referring to privacy. Purdah in our studied communities is not only seen as an aspect of women's attire but also as a regulatory mechanism for communicating in family and social circles. In our study, participants cite concepts from the Quran, Hadith, and Islamic histories that define permission for both men and women in regard to whom and what are allowed for Muslims to see, communicate, and make relationships with. Such Islamic regulations further guide the boundary for public and private spheres for our participants, as individuals and groups. A female madrasah teacher in her thirties explained the extent of the purdah concept to us:

> "Purdah also means creating a curtain between the two genders. It is applicable to both men and women. Only dressing up is not a purdah, it is much more than that. It is a modest lifestyle that matters and includes a lot of things – could be your gesture, your speaking style, your comments on the social media, or on the phone. Creating a barrier of modesty, a curtain – a distance between what is allowed to see and communicate and what is not."

A female graduate student – who previously studied in a *Qawmi* madrasah and currently have been continuing her study in a mainstream school as a graduate student – explained purdah as a sign of humbleness and respect. She started her purdah while she was a madrasah student. When she graduated from the madrasah and moved to the mainstream education, she continued the practice. This purdah brings her a sense of security as other people around her respect her for this humble lifestyle. In her opinion, this lifestyle brings a heightened "status" for her in the society. She described her experience in the following way:

> "I have a personal observation. I have maintained purdah since I was in the seventh grade. So, whenever some men came to talk to me, they did it in a respectful way. They know that I have a heightened sense of modesty and they cannot treat me in a disrespectful way. It [*purdah*] is a safety mechanism for me. On the other hand, this is not enough to put on just the veiling, you also have to have humbleness. If you are putting on a *burqah*[6] and leading a life as you wish without giving attention to Allah's regulation, it does not make any sense."

The above understanding of purdah among our participants presents it as a concept related to Islamic segregation, security, modesty, humbleness, and a lifestyle that guides them to refrain from seeing and communicating whatever is prohibited.

5.1.2 Purdah and Digital Presence. The interpretations (often without consensus) of how Islamic purdah rules could be applied to digital spheres are diverse due to the fact that most of the direct Islamic regulations came before digital innovations. For example, 16 of our participants (both from interviews and focus group sessions) explained to us about an Islamic tradition called *qiyas* (analogical inference or deduction), where there is a provision of resolving conflicts regarding any Islamic regulations through scholarly analysis and consensus over a solution. The participants (n = 16) asserted that translating everyday Islamic rules regarding purdah to digital spheres could be a great way of preserving privacy in Islamic communities. However, 11 of these participants also acknowledged that it is difficult to maintain the spirit of purdah on social media, and often they find it difficult to come up with an effective Islamic law for using social media. A female madrasah student in her twenties presented her interpretation of maintaining purdah and its challenges on digital media:

> "When uploading pictures to social media, we should follow the similar rules of purdah as we do in our real life. We should be aware of who are *ghair mahrams* (knowing who are allowed and who are not to meet and talk). You should know that just uploading a picture does not violate an Islamic rule. It depends on how careful you are, and how strictly you are following the rules of purdah."

This response suggests that just uploading a picture on social media does not violate the purdah rules. She indicates to categorize contacts on social media based on purdah rules that guide whom women can communicate with. However, eight female participants

[5] Quran and Hadith are the two most trusted holy books in Islamic religion.

[6] An attire common in Islamic culture.

could not give a concrete idea of how they should categorize the "allowed'' and "non-allowed'' contacts on social media since face-to-face communication takes place there. When asked about this, they suggested consulting Islamic scholars who provides Islamic legal pronouncement (*fatwa*). Five other participants have the opinion that men and women can communicate on social media. This communication does not break the purdah rule since they are not meeting in person. Three participants disagreed with this giving an interpretation that the essence of purdah is to save people from being "attracted" to the people who are *haram* (prohibited) for them. The last group of participants suggested that people should abstain from anything that might attract a stranger on social media. In that essence, any attractive writing, a picture (even with proper purdah), chatting, etc., that may attract a stranger should be avoided. One participant suggested that a woman can still chat with a stranger when necessary, but she should be careful that the stranger does not get attracted. One mosque Imam explained it in the following way:

> "If someone is using an Android phone or Messenger, or WhatsApp, we should not say anything or spread any information that can potentially attract the person to whom we are talking. A woman should be aware of the rules when communicating with these men. [...] If she is being nice to the extent that the man gets attracted to her, you know, she is committing sin. Similar rules apply for men, too. We should teach these rules to our children, too."

For further clarification of this aspect of attraction, a mufti student gives an example of possibly seeing a doctor. In his opinion, if he has to choose between a robot and a female doctor, he would go for the robot:

> "I would rather see the robot doctor [than the female one]. See, a robot is a machine. It does not have a heart. So there is no possibility that I will get attracted to a robot and vice verse. But if I see a female doctor, I might get attracted to her or she might get attracted to me. This is not to say that you have to avoid female doctors at all. Islam is not that extreme. If there is no other option, feel free to see a female doctor, but both should maintain purdah as much as possible."

The quote above shows how the aspect of attraction and purdah draws a boundary and creates spaces of private and public spheres.

However, our participants ($n = 14$) expressed their concern that even if they follow purdah rules in uploading a picture, that alone does not eliminate their privacy risks. They fear that there are people with bad wills, who are often more technology savvy than them. The participants recalled their experiences of misusing pictures on social media for various purposes. Seven participants mentioned various memes on Facebook that contain pictures of women with even *burqah*, which is consider the most proper attire for Muslims. The participants fear that they cannot control such privacy issues in using technology. They are aware that there are many software, which can make anything editing their pictures. Some participants emphasized more of their technology literacy, while most of the others partially avoid and abandon many technologies because of their religiosity and privacy issues.

There are other concerned participants ($n = 8$) who said that they cannot maintain purdah on digital media because they don't go with the contemporary norms of other social media users. The issues include the misuse of digital pictures and facing ridicule for not showing the face like "others" online. Three participants reported that they have seen pictures of women being used in memes and ridiculed especially because they were maintaining purdah, which was taken as not conforming to their contemporary social media "friend group" norms. A female madrasah teacher in her thirties does not have a Facebook account and she describes why:

> "You know I a not modern enough to open a Facebook profile yet. How many women have you seen on social media with a *niqab* (a popular Islamic veil for women)? [takes a pause for my answer]. I guess none! That is the case. Do you think if I go on social media with my *niqab* on, people are gonna be happy with that. Facebook is for showing off; we do exactly the opposite in Islam!"

The diverse responses on how the purdah rules should be applied to digital media show increased difficulties and confusion among our participants. Besides whatever opinion they have, they suggest ($n = 16$) consulting Islamic scholars for concrete suggestions and guidelines.

Participants ($n = 15$) present their interpretation for male purdah rules on social media, too. One essence of the purdah for men is to control their eyesight from anything that is prohibited in Islam, which speaks about the significance of strict guidance for Islamic communities to control themselves from anything that they are not allowed to see. When talking about privacy issues, our participants allude to this internal control of vision and minds. An *imam* suggests to enforce this education of controlling eyesight in the society:

> "One of the primary rules in Islam is to control your eyesight; you cannot look at prohibited things. This is true not only for the male, but also for the female. My parents taught me this very clearly during my childhood, so I grew up with these values."

These and many other comments and stories from our participants demonstrate how purdah shapes the notion of privacy among their communities, for both men and women. The prior research on privacy in CSCW and related areas have presented diverse interpretations of what constitutes the distinction between public and private sphere across varied contexts and communities, both in the Global South and the Global North [28, 93]. In those studies, the contexts, communities, and cultures have been characterized by spatial proximity, professional affiliations, or personal relations. In our study, we find how religious ideologies shape the personal and communal notion of privacy facilitated through purdah – both in its literal and interpreted forms.

5.2 *Amanah*

5.2.1 Amanah, Privacy, and Islam. The central meaning of *amanah* is accountability to Allah for any action. The origin of *amanah* is *amn*, which means security, safety, protection, peace, and tranquility, among various other related meanings. In Arabic culture, *al-amanah* means honesty. *Amanah* has been collectively defined

in Islam as the fulfillment of trust through material and immaterial means [104]. The religious and social values of *amanah* are multifaceted. Samsudin and Islam discuss ten values of *amanah* [94] in their work. Some social values of *amanah* include fulfillment of rights of Allah and humans, establishing justice, psychological comfort and reassurance, and reliability and respect in a society [94]. Referencing Quran, authors explain that *amanah* denotes trustworthiness in the moral sense.

Our participants recognize *amanah* as a part of their faith (*iman*). This faith comes in terms of responsibilities to Allah (*hakkullah*) and responsibilities to human (*hakkul ibad*). The responsibility to human includes obtaining other people's trust as it represents caring for Allah. The participants emphasize the moral responsibility that comes up with the guidelines of *amanah*. Observing the value of *amanah* serves to perform this responsibility to both Allah and humans. An Islamic scholar (*mufti*) explained the significance of *amanah* while talking about an individual's responsibility to others in keeping trust and honesty:

> "There is a *hadith* from *Rasul* (sm)[7] that says, one who does not have *amanah*, does not have religion. Not only the wealth, but also our words are *amanah*. When we trust someone and tell them something out of our belief that they will not reveal that...but if they do this later, they are breaking their *amanah*. By doing such misdeed, they alienate themselves from their religion."

Our study shows various examples of our participants (n = 18) connecting this value of *amanah* to privacy management, both for themselves and for others. Almost all participants mentioned that if someone shares particular information with a group of people, and do not want anybody outside that group to know about this, that piece of information is *amanah*. Even when someone does not say anything regarding the privacy of the information, it is the responsibility of the one who is listening to that information to keep it secret. Even when a person does not explicitly asks to keep their shared information secret, it is the responsibility of the recipient to figure out the sensitivity of the information. The person who is sharing the information would leave gestures, such as speaking in a low voice, or looking around while speaking, which are the indicators for the listener to keep the information secret. However, if someone shares information that potentially causes harm to others, it is permissible to share that for the greater good of the society. A mosque cleric (*mufti*) and madrasah teacher explained such cues to us:

> "A *hadith* from *Tirmizi Sharif* [8] says, if someone has told you anything and then has looked around to see if someone else is there, then it means that he does not want others to know about it. Whatever he said to you is *amanah* now. Don't tell it to someone else. However, if there is something you know about someone else that is threatening to others or may harm others if you keep it secret, you must reveal that."

According to this and other participants, the shared piece of information automatically becomes an *amanah*, which could be broken in special circumstances only. When the shared information is a potential risk to other people, then it becomes a responsibility to reveal this information. This is the responsibility of the recipient to assess the risk of the information and then deciding to keep it a secret or reveal it.

Our participants provided an interpretation of *amanah* in digital spheres. While the essence of *purdah* guides whom to communicate or not, *amanah* guides what information to keep secret and what to reveal. Our participants described examples of leaking chat history, stealing digital contents from other people, demeaning others online as activities that are prohibited according to the values and teachings of *amanah*.

Eleven participants mentioned that they are concerned of the privacy risk of their online interaction and they mentioned the value of *amanah* to manage their information exchange online. Some participants (n = 7) informed abandoning social media altogether due to various privacy risks. However, other progressive participants are positive about the potential of using social media. This group of participants suggest to bring fore the value of *amanah* and teach that to other pious Muslims. A madrasah teacher mentioned the practices he follows and teaches in the digital realm:

> "Look, you cannot avoid YouTube, social media, and other digital platforms. You have to use them often for the sake of Islam, say for sending your invitation (*daoah*) to others. I have to chat with my friends. We talk about many things, personal and professional. Our conversations are *amanah* to me. I never give my phone to even my kids [who are less than ten years old]; even if they won't be able to open the chat box or leak the conversation. I cannot break *amanah* of my friends. If I do, I am violating my responsibilities to people (*hakkul ibad*)."

Some madrasah teachers described that they start privacy education in their institutions from the first grade; however, they don't come in the literal terms of privacy, rather through the value of *amanah* and the responsibility to human (*hakkul ibad*). Upon our ask to elaborate on this, a madrasah teacher explained,

> "Now, in the age of technology, it is very hard to maintain the responsibilities to people (*hakkul ibad*). Say someone might have exchanged a text or made a video to blackmail someone else. They are publishing it on Internet. These contents might become vital and the consequences might be damaging. That's why you will see many madrasahs are strictly prohibiting mobile phones on the campus. There are reasons why they do it."

Our participants describe another aspect of *amanah* as forgiveness (n = 12). They refer to this aspect of *amanah* while talking about online defamation and leaking private information for revenge purposes. Participants mention that people often make mistakes that are unacceptable to Allah, and also, to our society. In such a situation, our participants described the significance of perseverance and forgiveness to save the person from public shaming by keeping the news secret. A mosque Imam gave us such an example, which he also described in one of the recent Friday preaching during midday prayer (*Jummah*):

[7] Prophet Muhammad goes by Rasul in Islamic culture.
[8] One of the six reliable *hadith* volumes in Islam

> "I can tell you a story now. Once a woman came to Rasul (sm) to inform that she had committed non-permitted sex in Islam (*jena*). Rasul (sm) did not give any attention even though the women came multiple times until she gave birth to the child. Rasul (sm) was actually trying to hide this information. If it got leaked, it would have been dishonoring for that woman in the society. You know, Allah does not only forgive, He is also gracious (*Rahman*) and merciful (*Rahim*), no matter how many sins humans do, how big the sin is, He will forgive and keep your secret in Him. People should do the same."

Some participants (n = 13) brought the concept of *amanah* to address privacy issues among spouses. One participant describes spouses as confidant and *amanah* to each other. In times of suspicion and distrust, Islam suggests being generous to each other. They described that even if one spouse finds something disturbing about their peers, they need to address it first before letting others know about this. They mentioned that if spouses took each other as their *amanah*, the need for family surveillance would have been less. A participant in his thirties said:

> "Say, the husband is working on the laptop, and the wife is constantly in suspicion of what her husband is doing. You will find enough example around you where spouses are checking each other's phone. For such a situation, Allah said in the *Surah Hujurat*, protect yourself from unnecessary distrust, meaning stay away from this [distrust]. Don't look for someone's fault constantly. Our social unrest is mainly due to this. If people can handle this, spouses don't distrust their peers unnecessarily, then the situation might change."

Our participants showed their concerns of people's unawareness of the true value of *amanah*. They stressed that spreading this value can awaken Muslims who care for Allah and humans. Caring for Allah will also help them to take social measures related to *amanah*.

Our participants (n = 17) expressed their anxiety that many Muslims find it difficult to keep up with the guidelines of *amanah* in the recent time. With people's access to a lot of technologies, anyone has the option to commit unethical activities anytime if they want to do so. Although there are options for access control and customizing online profiles, our participants reported that they cannot properly understand the privacy and security features because of their lack of digital literacy. Our participants thus warn Muslims to be more careful than ever. A mosque cleric (*khatib*) in his forties mentioned:

> "Now is the most challenging time than any other time in the past. We have a lot of things in our hands now. We can do anything, good or bad. This increased opportunity has come with a cost, too. You have to be alert, always; otherwise, you might lose your faith (*iman*) so quickly if you break *amanah* of someone else."

Some other participants talked about the punishments (n = 15) if someone breaks any *amanah*. They also reminded us the divine rewards of keeping *amanah*. This reward-punishment system in Islam further motivates Muslims to adhere to the guidelines related to *amanah*. A mosque employee who calls for prayers in the mosque (*muazzin*) was explaining:

> "Keeping secret is like keeping *amanah*. Whoever breaks *amanah* is showing a sign of a false Muslim (*munafiq*). We should always be careful to keep *amanah*. [...] I believe that breaking *amanah* is prohibitted (*haram*). I believe it because whatever Allah has prohibitted, there is a reason for that. He knows this is not good for humanity, that's why He has prohibited them (*haram*). I have a firm belief in this."

In summary, our study reveals Islamic values of *amanah* in relation to privacy. The set of values include trustworthiness, honesty, forgiveness, secrecy, commitments, and empathy. Imams, Islamic clerics, students, and attendees of mosques and madrasas showed their literacy of the values of *amanah*, social implications of practicing them, and challenges of conforming to the values in the time of various technological and social challenges.

5.2.2 Amanah, Privacy, Surveillance, and Freedom. Our participants (n = 11) mention that Islam has guidelines regarding subordination in family and social levels. They also talked about Islamic cultures around the world that reinforce these guidelines with varying levels of strictness. The sub-ordinations commonly translate into gendered and family surveillance. This culture of subordination and surveillance often are connected to *amanah*. For example, wives are often regarded as dependent on their husbands when it comes to personal and social security. Husbands are responsible for taking good care of their wives and the children in the family, and protecting them from wrongdoings and external harms. This is because wives (women in general) and children are *amanah* to the husbands and fathers. One madrasah teacher explained this to us:

> "Your wife and children are *amanah* to you. You have to take care of them, both inside and outside of your home. When I give a mobile phone to my kids, you know, it is unavoidable that there will be prohibited pictures coming into his sight. So, I take the time to tell them, hey, don't look at it. This is bad; Allah does not like it. My duty is to create his mindset so that he loves Allah, loves Muhammad (sm), loves what they instructed us to do."

However, most participants (n = 17) recognize the boundary between privacy, personal freedom, and surveillance. Many of the participants expressed their concerns that Islamic regulations regarding surveillance are often misrepresented, even by Islamic clerics, which leads to misinterpretation. This, in turn, makes the rules of surveillance as tools for improper control in Muslim families. A Quran memorizer (*hafiz*) discussed this at length with us with a story from Rasul (sm). In his opinion, surveillance is not absolutely unnecessary. Kids must be kept under surveillance but the extent of surveillance also needs to be reasonable; otherwise, it would not be sustainable and would break down at some point. Talking about the sustainability of surveillance, he also reminded that in Islam, nothing extreme is permissible. He said:

> "Many times Ayesha (ra)'s [Prophet's (sm) wife] friends used to visit her. When it happened, Rasul (sm) went outside of the house, leaving them [Ayesha (ra) and

> her friends] alone so that they could talk alone. Now the point is, if you keep someone in extreme surveillance, someday it will explode. I agree that our parents, they can observe us up to certain stages in our life. They might have some personal information. There is nothing wrong with this. Now say, a kid is watching a drama. If their parents are visiting them frequently, and keeping them in observation, the situation will be suffocating for the kid."

Overall, our participants showed a dynamic relation between privacy, surveillance, and public participation, especially for women in Bangladeshi religious communities. In this complex relationship, the cultural norms and clerical rhetoric play as much role as does Islamic regulations coming from the holy books. Amidst these cultural and societal norms, technology is opening up new opportunities as well as challenges to renegotiate the boundary between privacy and freedom.

5.3 *Gheebat, Riya,* and *Buhtan*

In Islam, *gheebat* means backbiting [62]. It is considered as one of the major sins in Islam [62]. When someone talks about someone else at their back in a way that they would not like it, it is considered as *gheebat*. Our participants indicated it as one of the dominant ways through which private information is leaked in social life. Our participants (n = 13) recommend educating people about this deadly sin and suggest that controlling this sin could help mitigate situations in which private information is exposed to unwanted entities.

Two other concepts that our participants referred to are *riya* and *buhtan*. *Riya* means falsely presenting oneself as having virtues and good natures [12]. In doing so, people often give examples of other people for a comparative analysis to heighten their worth. In our study, participants were particularly familiar with this act as they saw a rise of Islamic preachers who were trying to make themselves famous online by making false and vulgar comments to increase their popularity. *Buhtan* is closely related to *gheebat*, which is similar to slandering, and spreading false statements about others' acts and characteristics to damage their reputation. Throughout our study, participants referred to these three Islamic values, which, if people are aware of, and careful about, could help mitigate the privacy issues in Islamic communities.

There has been a recent surge of religious preaching in Bangladesh. Many preachers with the ill intention of gaining temporary social media attraction back talk about other preachers and even spread rumours about others. Since this was being done by some Muslim preachers, our participants could relate to this practice strongly and expressed their concerns. A mosque cleric (*khatib*) explained his own experiences of rumors being spread about him:

> "Ten years ago when I was not a mufti, I went to Cox's Bazar and took a picture. The picture was of such nature that people wouldn't expect a mufti to take. I am a mufti now. If someone pulls up that picture now and defames me out of jealousy, saying ... hey, see, *hujur* has taken this picture, this is one kind of blackmailing. This has happened to me. They spread this picture on social media."

This participant is a well-known and influential cleric (*khatib*) in the community. He often provides progressive ideas of reform in the social systems within the community. For his wisdom and literacy, he has achieved respect and popularity inside his clergy circle. But the group who wanted to defame the cleric (*khatib*) was sharing his old picture claiming that he does not conform to Islamic norms. This cleric (*khatib*) then went on explaining the severity of sins committed through *gheebat*,

> "*Gheebat* is prohibited (*haram*) in Islam. The Quran strictly prohibits this. This practice is so gross that it has been compared to eating flesh from your dead brother. *Ai yuhibbu ahadikum ai yahdu lahma akihi* [9], meaning 'Would any of you like to eat the flesh from your dead brother'? See? Any self-respecting person cannot commit any kind of gheebat."

Our participants (n = 14) explain both religious and social consequences of *gheebat*, *riya*, and *buhtan*. They mentioned that such practices not only impact the personal images of Muslims through social defamation; but also harm Islam itself by setting examples of Muslims committing such actions. A madrasah student mentioned that such back-talking do harm to the religion of Islam overall:

> "You don't have to look far, look at our Imam (*hujurs*) who are delivering public speech (*waz*) every day [a lot of Islamic public speaking happens during the winter, he has referred to those]. They are spreading rumours about each other, judging each other, belittling every now and then out of jealousy, to keep up their popularity. They are not only demeaning each other, but they are also demeaning Islam overall."

The way our participants see it, such incidents happen due to the absence of faith in Allah. To help people become aware of the sins of *gheebat*, *riya*, and *buhtan*, our participants suggest looking into Islamic history during Rasul (sm) and his companions (*sahabis*). One mosque cleric was explaining this to us:

> "Don't they [people who commit *gheebat*] know Omar (ra)? Don't they know that during Omar (ra)'s time, Kharijis did a lot of [awkward] incidents, spread rumours, even killed people? They [*kharijis*] did a lot of things. Omar (ra) never levelled them as infidel *kafir*. He thought that they [*Kharijis*] are currently misguided but they might return to the right path soon. And what are we doing? We are not pulling people closer. We are pushing them far away from us through *riya*. Quran mentioned several times to stay away from *riya*. Rasul (sm) told many times to stay away from *riya*. Generally, I was thinking about this today. *Riya* is the worst thing in this world, it will never let you be happy."

In summary, referring to *gheebat*, *riya*, and *buhtan*, our participants presented us the multifaceted ways people back-talk, spread rumours, and lie about other people. Our participants showed their awareness of these sinful activities and suggest people to be mindful about the punishments if they engage in those activities.

[9] It is an Arabic sentence quoted from the participant. Islamic clerics often quote holy texts in foreign languages to emphasize their significance.

6 DISCUSSION AND CONCLUSION

In the sections above, we have presented the perceptions of privacy among Bangladeshi pious Muslim communities. We have discussed some key Islamic values for privacy preservation, including *purdah*, *amanah*, *gheebat*, *riya*, and *buhtan*. Our participants either extrinsically refer to or intrinsically imply these values while discussing privacy-preserving behaviours. We further discuss how these values are contextually integrated into Bangladeshi pious Muslim communities to construct privacy-preserving habits among the community members and members outside of the groups, where they not only refer to these values to attain social obligations but also to fulfill the divine interest of pleasing God. In this section, we discuss the implications of our findings and highlight some key takeaways for the HCI community.

6.1 Limitations

We start by acknowledging that our findings may not generalize to other Islamic religious cultures. As we have discussed above, Islam has multiple ideological groups with their own interpretations and socio-cultural traditions. The Indian subcontinent has this pluralism in Islamic traditions [5]. We study Bangladeshi Sunni Muslims, including Islamic scholars, madrasah students, and pious Muslims in urban settings. Our findings may extend to Bangladeshi rural Islamic communities as well, as the Muslims in both rural and urban regions demonstrate similar Islamic practices. However, we acknowledge that additional research is required to understand how the aspects of privacy are perceived and practiced among Muslims with their variable affiliation to Islam in different geographical locations with their distinctive spiritual orientation and cultural norms.

The above being said, the force of organized religion is prevalent throughout the world with varying degrees of societal impact [25, 42]. This force is not uncommon even in the West [42], where modernistic and pragmatic values are stronger compared to other parts of the world. Many studies within HCI recognize the significance of religion and provide suggestions for design [20, 117, 118]. We join this literature to understand the connection of the religious values of pious Bangladeshi Muslims to their privacy management. We encourage future studies to explore this connection in other religious traditions around the world.

A related issue is whether or not we should have checked the theological root for our findings. For example, one might expect proofs from the Quran or the Hadith where our participants refer to the *purdah* or *amanah* in addressing their privacy concerns. Although one of the authors of this paper is knowledgeable about Islamic literacy, we did not cross-check the findings for theological accuracy primarily because of the reason we describe below. Following the ethnographic tradition, we have immersed ourselves in the field and reported our findings through a systematic qualitative analysis. Our findings demonstrate how pious Islamic communities interpret religious texts and justify their social actions based on that. Varied interpretations–and likewise the social actions–lead to different Islamic traditions. Such different traditions eventually strengthen our original questions that norms as the primary design focus marginalizes religious communities, whose norms are shaped by Islamic holy texts with various interpretations. In summary, our findings do not directly come from Islamic scriptures, rather from our participants who interpret the texts in the scripture to describe their privacy and information sharing practices.

Having acknowledged the limitations above, we now discuss the key takeaways of our findings for the HCI community.

6.2 Surveillance, Family Norms, and Privacy

Our study explicates a unique case of peer surveillance and privacy issues in shared space and technology use among pious Muslims. Some scholarships of privacy in the Global South have informed shared use of technology as an expected culture [93], while others have highlighted the vulnerabilities of the shared use of a device [6]. While the works are good resources for understanding privacy norms in many South Asian regions, they make blanket assumptions about the notion of the norm and offer insights into the shared use of technology in an over-generalized way sidelining many intersecting community values. We specifically discuss two points below.

6.2.1 *Spatial Privacy Norms.*

With the increased adoption of technologies and social media, many traditional privacy practices in the Global South are breaking down. For example, the traditional understanding of spatial privacy–who sees or accesses what spaces in a shared environment–is changing [72]. Now, people are sharing images of their private spaces on social media, which are often not accessible even to their family members and relatives [72]. The privacy control is shifting from collectives to individuals [8]. On the contrary, our study shows that this shift is not happening entirely and at once. We have shown that pious Muslim families intentionally share the same technological devices so that each family member knows what other members (especially children) are doing using the device. This tradition is different from other sharing cultures of technologies, where people share the same devices due to resource constraints [6, 8]. Our participants put shared technologies on a spatial spot that is visible and accessible to everyone in the family. Through this spatial arrangement, they ensure accountability for everyone's actions. Even for individual private spaces (e.g., females rooms), there is an implicit sense of privacy norm for what a family member is allowed or not allowed to do in the private spaces. For example, our study shows that a woman will not share a picture of her private space on social media because of Islamic regulations. Such a structure of traditional and digital privacy management demonstrates that pious Muslim communities in Bangladesh adhere more to the divine controls, which is in contrast with the normative culture where the patriarchal and gender-based controls are prevalent [6, 93].

Such differences in spatial privacy management demonstrate that a grand culture is less likely to exist even in a small geographical region. As a result, we argue that a culture-based design (such as the one suggested by Abokhodair and her colleagues [3]), while helpful in overcoming limitations of Western design, is inadequate for addressing privacy issues of Bangladeshi pious Islamic communities. Instead, we argue that an approach to designing for plural values might be more effective in Bangladeshi Islamic culture.

In designing for sustainability for Muslim communities, Rifat et al. [87] draws on Arturo Escobar [34] to suggest ontological changes

for epistemological orientation in designing for different values and ideologies. We argue that this suggestion applies in designing for privacy as well. Beyond the Islamic identity, the identity of South Asian Muslims is complex and inter-sectional [98]. Designers need to recognize the identity and value complexities in designing for addressing privacy-related issues among pious Bangladeshi Muslims.

6.2.2 Peer Surveillance and Adolescent Online Privacy. Our work joins the emerging HCI literature of adolescent privacy, safety, and the parent-child relationship in managing adolescent privacy needs. Most discussions to address adolescent safety and privacy problems are overly focused on technology (see, for example [16, 91]). Although the works marginally mention societal aspects of adolescent safety and privacy, they barely mention how different social forms, values, and structures recognize and manage privacy issues among adolescents. We expand this literature by explicating adolescent privacy and family surveillance in pious Muslim communities.

Our findings show that the shared use of technology in pious Muslim families is a form of peer surveillance. Parents in a family keep an eye on their children's technology use, often intervening to protect their children from prohibited (*haram*) contents. As a justification, our participants pointed out that children are *amanah* for parents according to Islamic guidelines. Parents' responsibility in a family thus is to raise children with Islamic values. It is the parents' responsibility to protect their children from being exposed to prohibited (haram) contents on the Internet. Although surveillance is intended to be maintained strictly in our studied communities, our interviewees show careful consideration so that extreme boundary regulations do not upset the family members. The regulatory culture is formed through inter-relational trust and respect. As information technologies open up various ways for children to engage in prohibited activities, parents often do not allow children to use technology at all.

Many existing HCI studies deepen our knowledge of mutual understanding of privacy issues among children and their parents, the negotiation of privacy boundaries, communication gaps, and finding technology and policy solutions for parental mentoring [29]. In this literature, children's privacy is recognized primarily as a liberal right. On the contrary, pious Bangladeshi Muslim children's privacy issues are recognized primarily as a religious and ethical problem, where parents are responsible for safeguarding their children (*amanah*). As a result, there is a need to shifting the focus of the adolescent privacy problem and their parental mentoring from rights to ethics and designing technology and policy solutions accordingly. One implication of this shift is to providing tools and manuals to parents in pious Islamic communities to help them easily categorize prohibited (*haram*) and permissible (*halal*) contents online so that they have the proper knowledge to guide their children to avoid non-permitted contents.

6.3 Divine Regulations, Marginalization of Pious Muslims, and Inclusive Privacy

Our findings show that pious Muslims in Bangladeshi religious communities have a strong divine interest in the way they understand and manage privacy. The findings demonstrate that the divine dimensions are mediated through a set of values: *purdah*, *amanah*, *gheebat*, *riya*, and *buhtan*. Purdah guides what or whom our participants are allowed to show, see, communicate, and accept in the digital realm. This Islamic regulation ultimately guides the communities to categorize prohibited (*haram*) or permissible (*halal*) online contents. The value of *amanah* does not only instruct how a Muslim should manage their own privacy but also how they should help others manage their privacy. The values of *gheebat*, *riya*, and *buhtan* gives the pious Islamic communities additional analytical tools to categorize private and public information. Altogether, the values constitute the moral umbrella for our studied communities to address their privacy issues.

The recognition of the divine dimension of privacy practices strengthens HCI knowledge in several different ways. This study reveals how privacy practices among pious Muslim communities are a part of their identity performance [58] within and outside of their communities. As a community itself, pious Muslims do not only refer to the texts from holy books concerning their lifestyle, but also perform the lifestyle through *purdah*, *amanah*, *gheebat*, *riya*, and *buhtan*. Such performances reinforce their identity as Muslims. The community members have a shared and collective understanding of what to do regarding inter-personal boundary regulation, online and offline visibility, and responsibilities to safeguard others' secrets. Such a consolidating function of in-group activities (such as keeping secret of each other (*amanah*)) and artifacts (such as purdah) [58] form their social and online "norms", which may or may not go with the other intersecting norms that they share, like geographical or national norms. Building on McDonald and Forte [67], we argue that a lack of nuance attention to such privacy rhetoric focused on the divine motivations and esoteric languages may marginalize the pious Muslim communities from privacy-preserving technologies.

Beyond the in-group norms and identity performance, pious Muslims also make their norms visible to their other intersecting normative groups. For example, our findings show how a participant makes her purdah visible to a group of university students not only because of the divine motivation but also to make her Muslim identity visible to others. Such an identity performance also communicates her privacy preferences to her peers. In a similar act, the veil on a Facebook profile picture communicates our participants' online privacy preferences.

The observation above further advances the literature of inclusive privacy [30, 99, 110] that argues for designing privacy mechanisms that are inclusive of people with different characteristics, needs, abilities, and values [110]. In section 2, we discussed how privacy recommendations for Arab Muslim culture, while doing a laudable job to get rid of various limitations of individual-centred design coming from the West, fall short of addressing the privacy needs of pious Bangladeshi Muslims. On the other hand, privacy studies in the Global South also [6, 8, 93]) do not deeply engage with the divine values among pious Bangladeshi Muslims. As a result of no recognition of pious Bangladeshi Muslims' privacy issues, our findings demonstrate that many Muslims partially use technologies or abandon technologies altogether despite their increasingly changing attitude towards technology. The recognition of pious Muslims' values is important for effective and sustainable technology design in the Global South as the community constitutes sizable demography in the region.

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