

Torqued by an Identity Recategorization

The twisting consequences of rewriting identity categories in information infrastructure

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Abstract

From delays in healthcare provision to suspicion at border crossings, changes to identity categories can have material effects on the lives of people. Despite the significance of these issues, there remains a concerning gap within information systems literature about the consequences of recategorizing identities. This is particularly concerning now, as the contestation of identity categories plays such a central role in debates in public and private sector organizations, where the consequences of identity categories and their recategorization can adversely shape so many aspects of a person's daily life.

To address this gap in knowledge, this study seeks to understand the consequences of identity recategorization in government information infrastructure, building a body of empirical knowledge exploring how these changes to identity categories in digital and paper-based information systems shape the lives of people whose identities are recategorized. Taking lived experience as its unit of analysis, and developing a theoretical and analytical framework using torque, borderlands theory, and intersectionality, the study ethnographically explores the consequences of India's gender recategorization in 2014, when the gender category was expanded from the binary {male, female} to the ternary {male, female, transgender}.

The study finds that the relocation of a border makes life easier for some people, while exposing others to greater risk of interpersonal and structural violence enacted through the information infrastructure. It also finds that an individual's ability to realign with a category and ameliorate torque is contingent on social identities such as socio-economic status, class location, and gender. The study discusses these findings by exploring the relocation of borders, the burden of torque, and the temporality and power relations inherent in identity recategorization.

The study makes theoretical and methodological contributions to the information systems discipline. It takes lived experience as a unit of analysis to understand the consequences of information systems and develops the torque theoretical construct to understand paths through which the information systems can mitigate against these unintended negative consequences. The study also makes practical contributions for organizations in the public and private sectors where information systems engage with identity categories and recategorization.

Keywords: Identity Recategorization, Information Infrastructures, Torque, Intersectionality, Transgender, India.

Introduction

In 2015, Sharmus Outlaw died of complications from a highly aggressive form of lymphoma. Outlaw was a transgender woman of color and sex workers' rights activist in the US, and her application for a biopsy had been delayed for weeks because of an administrative error where the medical insurance provider had been 'confused' by the gender marker on the application (Anderson-Minshall & Mendus, 2016; Mac & Smith, 2020; NSWP, 2016). Sharmus' story is, in many ways, one of information infrastructure breakdown (Star & Ruhleder, 1996). Her digital identity had been passed between information systems, and the confusion had been caused by assumptions about the accuracy of the information displayed. While exploring her case can be understood by exploring, for example, interoperability, this focus on the administrative and technical faults can too quickly move the researcher's gaze away from the suffering, from the narratives that tell of the consequences felt by Sharmus Outlaw and her friends and loved ones. The error caused untold suffering in the final months of her life.

People's identities are categorized and recategorized for administration in public and private organizations, and this is only becoming more prevalent (Costanza-Chock, 2020). With the growing use of AI systems to automatically classify human subjects based on identity, it becomes increasingly important to understand how information systems can be designed and used without reinforcing and amplifying existing inequities. While the increasing use of clustering algorithms garners much research attention, what remains understudied is the real-life consequences of these identity recategorizations. As Bowker and Star's (1999) seminal text *Sorting Things Out* shows us (see also Stelmaszak et al., 2024), these recategorizations have very real consequences for human subjects, and can cause intense suffering, a concern that should be central to the social-technical study of information systems.

This study seeks to address this gap in understanding within IS literature. It is guided by the question 'how does identity recategorization in a government information infrastructure shape the lives of the people whose identities are recategorized?'. The study is empirically grounded, taking lived experience as its unit of analysis and drawing on an ethnographic study of India's gender recategorization and its consequences for transgender and gender diverse (TGD) people. Theoretically, the study develops the torque construct to understand how recategorization in an infrastructure relates to the twisting of narratives and biographies of a human subject (Bowker & Star, 1999). This theoretical framework encourages the researcher to foreground the narratives of human subjects, inspired in part by Donna Haraway's (2016) contention that we should stay longer with the troubles to hear and understand how information systems cause suffering to those who do not quite fit into a category, or who find themselves at the borders of a category.

The study finds violence near the borders of the identity category. In this study, violence is understood as any form of avoidable limitation on human potential. While violence is often associated exclusively with forms of direct violence, such as physical assault, violence enacted by and through an information infrastructure is here understood as a form of structural violence (Dewoolkar et al., 2024; see also Farmer, 2004; Galtung, 1969), where the source of the violence is difficult or impossible to trace to a single event, and where the violence as a reduction in potential, can itself be invisible even to the subject upon whom it is enacted. This definition draws on the work of Johan Galtung, who wrote that 'if people are starving when this is objectively avoidable, then violence is committed, regardless of whether there is a clear subject-action-object relation' (Galtung, 1969, p. 171). This definition is relevant for IS, as it considers the structural, systemic issues that lead to the limitations of a person's potential and considers it an act of violence even if the source of the violence cannot be traced to one specific event. In this sense, violence manifests when information systems and information

infrastructures propagate the limiting of potential, and when the limiting of potential could have been avoided (Wyers, 2024).

The findings show evidence of the interpersonal and structural violence that people experience if they are perceived to be close to the borders of an identity category. The study also finds how a recategorization relocates the dividing lines between categories, moving some people away from the border and moving others towards it. For those who have been moved near to the border, many now expend resources and twist their narrative to reduce the risk of violence. Relocating the borders of an identity category causes acute difficulties for individuals, some of whom are moved into the categorical borderlands. They make efforts to move out of these borderlands, because those in the borderlands experience discrimination and various forms of violence. The findings show that the amount of stress experienced in the twisting, and the way which a person can carry out this twisting, is contingent on the interlocking of a person's social identities. The study discusses how the recategorization of identity in the information infrastructure places the burden of change on the shoulders of an already marginalized community. This burden is most acutely felt by individuals who experience disadvantage at the intersection between various disadvantaged social identities.

With this study, I make three contributions to the IS discipline. First, the study empirically builds an understanding of the ways that identity recategorization shapes people's lives. Secondly, it develops a theoretical and analytical framework, using torque and intersectionality, for the IS discipline to understand the long-term consequences of information systems on the lives of human subjects. Thirdly, it makes methodological contributions to the study of information infrastructures by ethnographically studying lived experience as a unit of analysis. In this way, the study responds to the call by Aanestad (2021) for empirically grounded research that explores the implications of digital technologies and information systems in society, and responds to the call by Joshi et al (2022) to develop analytical tools for the IS community when studying marginalized contexts.

Relevant Literature

To address the research question, the study first explores relevant literature from IS research and related disciplines, discussing (1) identity categories as information infrastructure, (2) the consequences of information infrastructures on the individual, and (3) the consequences of identity categorization on the individual.

Identity Categories as Information Infrastructure

This study understands identity categories as information infrastructure. When viewed merely from a technical perspective, an information infrastructure is composed of a list of various numbers, technical specifications and hidden mechanisms. These are generally seen as standards, categories, or settings (Mongili & Pellegrino, 2014). However, this technical perspective hides the fundamental essence of these artifacts. Information infrastructures are fundamentally relational (Star & Ruhleder, 1996). Viewing the world through an ecological lens, we see that these classifications, categories, and standards are far more than mere technical artifacts. They are, in fact, engines of ontological change. These infrastructures stand between people, the technologies around us, and nature, and so doing they shape and reconfigure each simultaneously (Karasti et al., 2018).

These infrastructures grow and evolve, building on an installed base from which they inherit strengths and limitations (Star & Ruhleder, 1996). Categories do not emerge from nothing; They build on existing categorization, on existing systems of classification, irrespective of whether these have been formal articulated or specified. Infrastructures can also seem to be invisible, disappearing into the woodwork and only becoming visible upon breakdown (ibid; see also Star, 1999). Pipek and Wulf (2009) proposed

the term 'infrastructuring' to highlight the temporal aspect of infrastructures, the work that takes place over time to settle and sustain the infrastructure. By viewing categories as information infrastructures in this study, it provides a strong lens for discussing how the categories emerge and how they can become invisible without losing any of their power. Exploring this infrastructuring process foregrounds the work involved in maintaining categories and standards as they become part of information infrastructure.

Categories and standards have long been topics of debate within the information systems (IS) and information infrastructures (II) literature. In this study, categorization is seen as a process, whereby the establishment of categories involves ongoing work and maintenance. Categorization is 'a primal social activity on the basis of which singular, *non-identical* objects or events... are treated as largely *equivalent* and, accordingly, sorted out into similar groups' (Alaimo & Kallinikos, 2021, p. 1937 original emphasis). It is 'a process of constructing uniformities across time and space, through the generation of agreed-upon rules' (Timmermans & Epstein, 2010, p. 69). Categorization as a process of 'sorting out' is a process of including and excluding, with more inclusive categories operating at a higher level of abstraction and with fewer attributes of the object used to derive the category. While abstract categories enable selectivity and precision, this often comes at the expense of 'reality purchase' (Alaimo & Kallinikos, 2021, p. 1387). This tension between abstraction and specificity is explored in many ways.

Consequences of information infrastructures on individuals

The manner through which a government governs within high modernity relies on the compartmentalizing of citizens and concerns into clearly defined sets (Scott, 1998). This is enacted by governments through the instantiation of various forms of infrastructure to support and facilitate compartmentalizing. However, as Dean Spade (2011) shows, these compartmentalizing infrastructures can enact violence on people, subtly shaping their lives. While these forms of violence are 'less visible than those moments when people are fired or killed or excluded explicitly because of their race or body type or gender... they sometimes produce more significant harm because they structure the entire context of life' (Spade, 2011, p. 5). Dewoolkar et al (2024) describe this as infrastructural violence, 'the ways in which inadequate infrastructure and services... can harm individuals and communities, particularly those who are already marginalised... reinforcing and perpetuating social inequality' (ibid p4). Infrastructural violence, they say, is a form of structural violence that is entrenched in everyday interactions between stakeholders.

Classifications, categories, and standards are not merely neutral representations of an objective reality. Categorization is 'a fundamental device by which all members of any society constitute their social order' (Suchman, 1993, p. 181). So doing, they shape reality, and 'moral questions arise when the categories of the powerful become the taken for granted; when policy decisions are layered into inaccessible technological structures; when one group's invisibility comes at the expense of another's suffering' (Bowker & Star, 1999, pp. 320–321). In this sense, categories are 'frozen policies' (Timmermans, 2015, p. 7), where political statements have become naturalized, a policy inscribed into a classification that 'feeds relentlessly into further political developments'.

While the process of abstracting enables selectivity and precision, as mentioned earlier, this can also be seen as a process of making some attributes central and rendering others insignificant. 'Classifying is a memory practice to both hold on to certain characteristics and send other elements into oblivion' (Timmermans, 2015, p. 6; see also Bowker, 2008). '[I]n the process of making records and producing knowledge, organizations use classification systems to selectively forget the past', making classification

systems powerful technologies for ontological change, rendering some people visible and others invisible, and shaping the lives of the people who are categorized.

Consequences of identity categorization

Identity categories are not neutral artifacts. They are sites of political struggle. Identity categories acting as information infrastructure as not neutral conduits for the apolitical grouping of human subjects. These artifacts are sites of struggle, and they shape the provision of or access to rights, resources and recognition. They are frozen policies, and the categorization and recategorization of an identity has real-world consequences for people. Identity categories, (race, nationality, gender identity, refugee status, ethnicity etc.) inscribed into information systems have material effects (Beaudevin & Schramm, 2019). The recategorization of identities can shape how policies are implemented, and how decisions are taken, adversely impacting on the lives of people. Race and ethnicity categories shape candidacy (Yanow, 2003), and categories of sex, sexuality and gender shape how policies are developed (Guyan, 2022).

The consequences of identity categories have been explored in IS and related disciplines. The categorization of identities involve the grouping of human subjects into social identities such as race (Diniz et al., 2024), ethnicity (Plájás, 2023), and gender (Keyes, 2018; Linander et al., 2019; Spiel, 2021; Stelmaszak et al., 2024). Other studies of identity categories have explored the consequences of categories of criminal status (Currie & Hsu, 2019), the erasure of the professional identity of asylum seekers through miscategorization (Pelizza, 2020; Pelizza & Van Rossem, 2024), and refugee national identity (Madon & Schoemaker, 2021), where tensions arise between refugee communities owing to categorization and recategorization of national identity. Pelizza explores how status as an asylum seeker intersects with professional status, with power dynamics in relation to asylum seekers eroding the status of one's professional career history. This is a process of exclusion that Timmermans (2015) has referred to as the casting of characteristics into oblivion. The mobility of identity categorization has been explored by Linander et al (2019) when exploring how TGD people twist their narratives to fit within a gender category that enables them to access healthcare.

Knowledge Gap

Timmermans and Epstein (2010, p. 69) have called for 'careful empirical analysis of the specific and unintended consequences of different sorts of standards operating in distinct social disciplines'. They argue that what is needed in the study of standardization is 'a differentiated and symmetrical approach that investigates the full spectrum of positive and negative consequences of standardization. [They] emphasize the variety of ways in which standards and standardization undergird diverse social, cultural, political, and economic endeavors, as well as the equally varied implications for the well-being and suffering of individuals and social groups' (ibid p84). In a later publication, Timmermans (2015, p. 7) states that researchers 'need to consistently explore what is left dark by our current classification ("other" categories) and design classification systems that do not foreclose on rearrangements suggested by new forms of social and natural knowledge'.

Given the centrality that contestation of identity categories has taken in public and private sector organizations in recent years, there is an urgent need for a body of systematic knowledge to understand the relationship between identity recategorization in information systems and the consequences on lived experiences. It is particularly important to build this knowledge about consequences on communities who are potentially at risk of various forms of violence as a result of their situatedness in connection with the recategorized identity. While the study of unintended negative consequences on lived experiences has been explored in several studies of identity categorization in IS and related disciplines, notably Pelizza's border work (Pelizza, 2020; Pelizza & Van

Rossem, 2024), and Madon and Schoemaker's study of refugee identity categories (2021), there is a strong need for more research that explores the lived experiences of people whose identities are recategorized within an information infrastructure. Furthermore, what is missing throughout many of the studies is research that discusses the long-term suffering that emerge from these negative consequences of identity categorization. In this study, I seek to address these gaps in understanding by developing a research framework and applying it to an empirical case of identity recategorization, foregrounding the experiences of those who were negatively affected by the recategorization.

Torque Theoretical Construct

This study builds on the torque theoretical concept which was first introduced by Leigh Star in several papers and books between 1994 and 2009 (Bowker & Star, 1999; Star, 2015a, 2015b), with the construct notably developed by Geoffrey Bowker and Leigh Star in their seminal text *Sorting Things Out* (Bowker & Star, 1999). In this section, I present a research framework expanding on torque and later apply it to an empirical case.

Borderlands, Multiplicity, and the communities of practice within us all

Torque is inspired by ideas from borderlands theory, particularly the work of Gloria Anzaldúa (1987). Borderland are 'vague and undetermined place[s] created by the emotional residue of an unnatural boundary' (Anzaldúa, 1987, p. 25). They are inhabited by the prohibited and the forbidden, inhabited by 'those who cross over, pass over, or go through the confines the "normal"'. They contain those with multiple memberships, and are viewed with deviance. 'Borderlands are full of motion and emotion' (Star 2002 cited by Clarke, 2010, p. 590), where inhabitants are pressured to conform by fitting into one camp or the other, with people responding to this pressure either by conforming to the dominant group, forming resistance movements, or hiding one world from another.

Turning attention to categories, and the borderlands close to the dividing lines between categories, '[a] borderland occurs when two communities of practice coexist in one person' (Bowker & Star, 1999, p. 304). These categorical borderlands are home to those who are 'persistent resisters of transparency-naturalization within some community of practice'. Where the process of categorization is a process by which identities are grouped together and naturalized, those on the borderlands resist this naturalization. As Leclercq-Vandelanotte (2014, p. 54) has said, the categories inscribed into information systems can ascribe an identity that becomes an 'externally imposed normalizing classification... with the power to include or exclude people from socially constructed categories'.

Violence near the border of an identity category

By studying these categorical borderlands, we explore 'the spaces between'. Here we see 'the violence and the pain in the lives of the forgotten, the silenced, the erased, the invisible worker and her "deleted" work, all residual categories like the "none of the above" or not elsewhere classified; the anomalies and all the singular experiences destroyed by bureaucratic mechanistic arrangements that privilege the norm... [We see the] interruptions in overconnected networks that reveal fissures in technoscientific cultures' (De La Bellacasa, 2015, pp. 48–49). However, these spaces between are not only about pain and violence. They are also spaces for creative possibility, for joy, and by attending to these 'spaces between', we also foster the possibilities that these borderlands make possible (ibid). Attending to categorical borderlands is, then, an exploration of the 'rejection of simplistic purity and of essential categories [while simultaneously acknowledging] the physical suffering involved in these borderlands... It is, in fact, a politics of ambiguity and multiplicity' (Bowker & Star, 1999, p. 305). It tries to understand 'the impossibilities of re-representing multiplicity, marginality, and suffering, but at the same time, the absolute necessity of making them if not visible, then sensible' (Wakeford, 2015, p. 76). It involves 'honoring ... the work involved in borderlands' (Star, 2015a, p. 159).

Violence manifests in the need to conform and to fit within a category, to twist one's narrative so that they become intelligible within a set of categories. This twisting pressure to conform is known as *torque*.

Torque Construct

The torque construct, as Leigh Star and Geoffrey Bowker used it, is most elaborately defined and articulated in the study of race classifications in South African apartheid, and the study of temporality in tuberculosis patient, both of which appear in Bowker and Star's (1999) text *Sorting Things Out*.

As Bowker and Star define it, torque is 'a twisting of timelines that pull at each other, and bend or twist both patient biography and the process of metrication. When all are aligned, there is no sense of torque or stress; when they pull against each other over a long period, a nightmare texture emerges' (Bowker & Star, 1999, p. 27). Central here to the concept of torque is temporality, the long-term sustained pressure. They develop this concept of temporality further, arguing that the twisting of a biography in relation to a classification system occurs when the temporality of a classification system is not aligned with the temporality of the biography, or vice versa. Negative consequences occur when the biography of an individual does not align with the temporality of a powerful classification system (ibid). The misalignment between the temporalities of the biographical, bodily, and classificatory trajectories causes torque. Developing this lens in their analysis of race classification in apartheid South Africa, they find thousands of 'ironic and tragic cases where classification and reclassification separated families, disrupted biographies, and damaged individuals beyond repair' (ibid p218).

Several researchers have applied and expanded the torque concept. Helmreich (2003, p. 435) discusses how people's lives are wrenched out of alignment by categorization. He compares it to Pickering's (1995) mangle of practice, and calls for a broader use of the torque term, pointing out that the term has positive connotations in the performing arts. However, I argue that it is the negative meaning used by Bowker and Star that give torque its central analytical strength. Singh and Jackson (2017) explore torquing in the 'seamful spaces', studying India's Aadhaar digital identity infrastructure and highlighting torque as 'an analytical resource to describe the lived experiences of excluded users of an infrastructure-in-use' (Singh & Jackson, 2017, p. 4778). Its engagement with temporality is central to its value for IS and II studies, highlighting how these artifacts change over time and how this change shapes the lives of people. They point out how researchers must seek out the voices of those living on the seamful spaces. Amelung (2023) uses the concept to study the Eurodac immigration border database, and the struggles of people whose immigration applications are being processed, and 'how forms of suspicion get closely tied to the data subject assembled under a data category' (Amelung, 2023, p. 109). While the classification was originally introduced to sort and manage migrant populations, the classification has negative consequences whereby migrants are 'confronted with constant skeptical suspicion' (Amelung, 2023, p. 109). Avlona and Shklovski (2024) use torque to study health data and how it shapes patients' lives. They show how each person must negotiate their identities when engaging with a data infrastructure, making 'choices about how to present ourselves and [must] try to fit into the classification mechanisms that data infrastructures offer, stripping some aspects of the self while elevating others' (Avlona & Shklovski, 2024, p. 741).

While torque has been applied here is a variety of different contexts to understand how categories and classifications have consequences, there is more analytical strength to be gained from the concept and the concept has thus far not been used to its full potential. Its central analytical strength is as a construct to describe the pressure to conform. This strength is rooted in the original use of the torque term to describe an external twisting force. I will now describe how it opens up important lines of

enquiry into questions of social justice in the IS discipline, particularly around power differentials, accountability, and responsibility in the alleviation of suffering.

Torque as Metaphor

Torque is concerned not with the instrumental navigation of an infrastructure but rather with the struggles involved in doing so. It is particularly concerned with the experiences of those people who find that their multiple communities of practice pose impossible contradictions arising from being unable to navigate the system. It highlights temporality, the long-term stress and pressure exerted by an external source. While Helmreich (2003) pointed out that the torque term has positive connotations in other disciplines, the spirit of torque as a construct articulated by Bowker and Star is most closely aligned with its use in engineering, a discipline that also offers a useful metaphor for understanding the central analytical strength of the concept.

In engineering, torque refers to the twisting rotational force applied, for example, by a wrench onto a nut or driving a screw with a screwdriver. A torque wrench is a tool that measures the force of torque. When a user-defined maximum torque is applied, the tool notifies its user to prevent overtightening of the nut. Several aspects of Bowker and Star's articulation of torque are intuitively present in this metaphor. First, the measure of torque is a measure of sustained pressure exerted onto the object from an external source, with an appreciation that there is a limit to the pressure that an object can be expected to handle. Second, it highlights how the amount of pressure can change over time. As Heraclitus has said, there is nothing constant except change, and Bowker and Star show that the slow-changing powerful classification systems are, themselves, always in a process of change and flux. Third, the metaphor points to the need for a mechanism of accountability inscribed into the system exerting the force, rather than in the object experiencing the pressure. It is the torque wrench, rather than the nut, that notifies its user of the excessive force. Fourth, the metaphor opens a broader line of ethical inquiry to ask how the tool shapes power relations. Should the torque limit be set based on what the user demands or what the nut can reasonably be expected to handle? And who should decide this torque limit?

Information systems exert torque on human subjects, for example through the use of 'ascribed identities' (Leclercq-Vandelannoite, 2014; also Foucault, 1984). This force is sustained over an extended period of time, and it is only by giving way to the contorting and twisting force that the subject can align themselves with the force, temporarily ameliorating the pressure until the slow-changing classification system introduces a new change and the cycle repeats. As an analytical lens, torque draws the focus on the long-term sustained mounting pressure and stress exerted from an external force onto an individual. It encourages the researcher to stay a little longer with the troubles (Haraway, 2016) to better understand the consequences before seeking to find a solution. As a construct for IS, torque encourages a discussion of how systemic issues (for example: ableism, sexism, racism) are performed by or through an infrastructure as structural violence or slow violence, the slow wearing-down of an individual. It is in building an understanding of the structural violence emanating from an information infrastructure where torque is a valuable construct for understanding the consequences of infrastructural violence, and to build an understanding of its causes and sources. It gives a language to describe the systemic issues and whether, how, and why information systems exert and reinforce pressure and stress. Torque is a construct that is relevant in studies of classification systems, bureaucracies, and where individuals navigate and are shaped by institutional structures. The construct encourages us to focus longer on the lived experiences, letting us discuss them in relation to the temporalities of information infrastructure. Using torque as an analytical construct in IS draws the focus towards the long-term negative consequences that information systems can have for those who fall outside, who occupy the spaces between, who live on the categorical borderlands, and who have

been placed on those borderlands against their wishes or without their knowledge. The torque construct focuses on the suffering, retaining the focus, and refusing to let us hide the pressures and stresses that the information system enacts on the individual.

Studying the Violent Consequences of Categorization

In the introduction, we heard of the tragic death of Sharmus Outlaw, a transgender activist, sex workers' rights activist, and woman-of-color in the USA whose biopsy was delayed because of a clerical error in the processing and transmission of her gender category. Viewing this case through the analytical lens of torque, we are forced to stay longer with the troubles (Haraway, 2016) by exploring how Outlaw's narrative was twisted and contorted in the final months of her life, experiencing the sustained agony of a medical emergency whilst caught in a Kafkaesque nightmare.

In the months leading to her biopsy and diagnosis, as her health was declining rapidly, Sharmus Outlaw and her colleagues had desperately tried to find ways to 'overcome the barriers of enrolment' so she could access healthcare. It was Outlaw herself who discovered that there had been confusion about her gender marker on the application, and that the checks and balances were not in place to ensure that these forms of administrative violence could lead to her being excluded from life-saving care. In those final months, Outlaw suffered at the interlocking of her social identities between transgender discrimination, sex worker discrimination, homelessness, and racism. Viewing the case through the torque construct, together with intersectionality, we see how Sharmus suffered because of the temporality of the gender classification system, which torqued her body and her biography (Anderson-Minshall & Mendus, 2016; Mac & Smith, 2020; NSWP, 2016). While it is indeed a failure in the information system, interoperability, bureaucratic process, and the interorganizational communication, the consequences were felt as a twisting of the biography of Sharmus Outlaw, who found herself caught between the interlocking of oppressions. To fully understand how information systems shape the lives of people, we must understand the consequences of recategorization. For the remainder of this paper, I will explore a case of identity recategorization concerning members of the transgender and gender diverse communities in India, exploring how recategorization twists and torques the lives of the people whose identities have been recategorized.

Context

This study explores the case of India's gender recategorization within its government information infrastructure, and the consequences of this on the lived experiences of India's transgender and gender diverse communities. India has a long history of indigenous gender diversity, communities who have historically performed social roles within the Hindu religion (Hinchy, 2019). Two prominent indigenous gender diverse communities in north India are the Hijra and Kinnar communities. These are communities who are understood to have been excluded from mainstream society and exposed to discrimination and violence, particularly through colonial-era legislation that remained after India gained independence in 1947. Following a 2014 ruling by the Indian Supreme Court (Dutta, 2014; *NALSA*, 2014; Semmalar, 2014) and subsequent enactment of the Transgender Protection of the Persons Act (Parliament of India, 2019), a series of social and legal projects were introduced to provide for India's historically marginalized transgender and gender diverse (TGD) communities. To administer these changes, the gender category in India's government information infrastructure was expanded from male/female to male/female/transgender, and this recategorization was gradually introduced across all government information systems, including hospital information systems, the State's welfare application forms, the PAN financial services card, the Aadhaar India's national digital identity, and myriad other government information systems. The transgender category has been widely adopted by a diverse range of stakeholder groups. However, while gender diversity has been part of Indian society

for thousands of years, the transgender category itself is relatively new, first appearing in the 1980s in the USA (Valentine, 2007) and in India in 2009 during a UNDP conference titled 'Transgender and Hijra Issues' (Dutta, 2014, p. 228).

Methods

Critical Interpretivism

This study adopts the critical interpretivist paradigm (Doolin, 2016; Doolin & McLeod, 2005; Pozzebon, 2004) combining the social constructive underpinnings of interpretivism with the exploration and interrogation of power relations from critical research. The study seeks to explain the status quo by privileging the worldviews of different participants (Walsham, 2006) to understand the subjective meaning and experiences of various participants. However, it is further motivated by a desire for social change, seeking to explore the systems that cause inequality, with the aim of transforming the systems that alienate and restrict social conditions, a quality of critical research. The work seeks to consider how structures of inequality shape people's lives, and how these can potentially be ameliorated with and through the artifact under study. It adopts a Foucauldian perspective, applied by Leclercq-Vandelanoitte (2014) to offer a rich view of the identity concept and deepen the understanding of the relationships between IT and people in organizations. The study also draws on Butler's (1990) work on the social construction of gender, which is itself deeply inspired by the work of Foucault.

Intersectionality as Research Design

Intersectionality is an analytical tool that posits that human experiences are jointly shaped by multiple, intersecting social positions and cannot be adequately understood by considering these positions independently (Bauer et al., 2021). It recognizes that social identities interact with each other and can interlock to give relative disadvantage. Distinct lived experiences are produced by the interlocking of these social identities, and they cannot be understood simply as the sum of the individual categories (Bastia & Piper, 2023; Crenshaw, 1991, 2017). Intersectionality has transformed how social identities such as gender, race, ethnicity, nationality, geography, age, sexual orientation, disability and socio-economic status are conceptualized in research (Joshi, 2022). Within IS research, intersectionality has been applied in various different ways, as a sensitizing tool (Zheng & Walsham, 2021) or as a central framework for analysis (McGee, 2018). This study uses intersectionality as a central approach throughout the research design. It informs both the data collection and data analysis.

Ethnographic Study of Information Infrastructure

This research is a study of identity categorization as information infrastructure. The ethnographic study of infrastructure allows the researcher to 'theorize how broad and abstract social orderings such as state, citizenship, criminality, ethnicity, and class play out concretely at the level of everyday practice, revealing how such relationships of power and hierarchy translate into palpable forms of physical and emotional harm' (Rodgers & O'Neill, 2012, p. 402). The study of infrastructure can not only reveal the potential harm at the level of everyday practices, but can also be a potential place for imagining positive change, and can be a 'key means through which social improvement and progress is distributed throughout society' (Rodgers & O'Neill, 2012, p. 402). An ethnographic study of lived experiences brings out the consequences of II in a way that cannot be seen using other approaches (Star, 1999). As Katta Spiel (2021) has shown, the use of ethnographic data and narratives of lived experience draws out the real-world consequences and challenges of navigating an information infrastructure that do not consider certain individuals.

Data Collection

Given the study's interest in developing explanation from in-depth inquiry of the consequences of identity recategorization, a field-study approach was adopted. The study explored a collection of narratives of the lived experiences of transgender and gender diverse (TGD) people. Data collection is based on 28 semi-structured interviews and one focus group discussion, together with fieldnotes from three months of ethnographic fieldwork (Crang & Cook, 2007). Ethnography involves immersion in the research context over an extended period and is an established IS research methodology (e.g. Myers, 1997). The data was gathered in 2023-24 in the north Indian state of Himachal Pradesh and the urban center Delhi. Participants were institutional stakeholders (doctors, welfare officers), members of the TGD communities, and members of civil society. Interviews and repeat interviews were conducted by the author in either English or Hindi. Ethnographic data was derived from direct experience of the research context, observation and informal conversations recorded in field notes following the guidance in Myers (1997) and Crang and Cook (2007). All interviews were audio recorded unless the participant requested not be recorded. The interviews ranged from 1 hour to 2.5 hours. Where the interview was conducted in Hindi, an interpreter facilitated the interview and produced a verbatim translation to English. As participants were anonymized. Participants' names referred to in this study are all pseudonyms.

Data Analysis

The analysis here focused on the lived experiences of people whose identities were being recategorized. To understand this, the study foregrounded the voices of the TGD people, heard directly from them or through accounts given by civil society members who have direct contact with the community. This shaped the analysis of the data, as it focused the analysis on certain aspects of the ethnographic data set. A critical interpretive approach to analysis was adopted that privileges the worldview of participants (Walsham, 2006) while also engaging with power relations and the production of identities through discourse. Interviews were transcribed verbatim and coded using thematic analysis (Braun & Clarke, 2006) in the NVivo qualitative analysis software package. Data coding was carried out by the author, who coded the data into themes. The emergent themes were triangulated using fieldnotes from the ethnographic fieldnotes. The analysis for this paper involved re-reading the transcripts and field notes focusing on the descriptions of the transgender category across the participants, with a particular focus on the narratives of TGD and civil society members.

Working Productively with Positionality

Positionality shapes how the research field is constructed by the researcher, and how the researcher themselves are constructed by those in the research field (Bourke, 2014). In this study, positionality influenced not only how the research field was constructed, but also which members of the potential participants could come forward and engage with the research as participants. This was considered during the development of a data collection strategy. Accounts from TGD people were gathered either directly from TGD people or via accounts given by members of civil society who work directly with TGD people. This decision to work through a representative was used in the sampling strategy as a response to the researcher's positionality and how my positionality shaped the research field through my perceived status as a white, western woman with personal experience as a transgender woman. This enabled me to explore some aspects of the research field, while potentially creating risk for some people within the research field through exposure to violence or misrepresentation. One approach used to ameliorate this situation was to work through several members of civil society when gathering the narratives of vulnerable communities. This ensured that the voices of these vulnerable communities could be heard and represented in the study whilst retaining the secure level of distance that was needed.

Findings

The findings presented here show evidence of the side effects of the recategorization in India's government information infrastructure, drawing on torque and its foundations in borderlands theory. They show the forms of violence experienced by people who are perceived to be close to the borders of an identity category. They show how the recategorization has moved the location of the category border (see Fig 1), taking some people out of the categorical borderlands, while moving others into this borderlands space. The findings then turn to torque, and the ways that people are twisting their narratives to move out of the violence of the borderlands, and how an individual's ability to make these moves is contingent not only on their willingness to twist, but also on the interlocking of their various social identities.

Joy and Violence near the Identity Borders

Living with multiple communities of practice co-existing within oneself can be intensely fulfilling. There are participants who enjoy the experience of queering the categories, challenging what it means to have a gender. Some people enjoy to live close to the borders of a category. The borderlands are a space of exploration, personal actualization, and joy: *'If you don't just explore you will never gonna know you that things will keep in rotating in your mind and you might just gonna blow up one day. So it's better just explore time by time then you will be in a more better situation (Kadal, nonbinary person).*

Despite the potential for joy at these identity borders, those who are seen to occupy this space are exposed to various forms of physical and structural violence, the avoidable limiting of human potential (Dewoolkar et al., 2024; see also Farmer, 2004; Galtung, 1969). Violence is enacted because a person is believed to have multiple communities of practice co-existing within themselves. Note that violence enacted on the people on the borderlands is not caused by their unwillingness or inability to twist their narratives to fit the category. Transphobic discrimination is not caused by transgender and gender diverse people. Rather, the violence here is in the discrimination caused by the expectation exerted on people to conform to the gender categories, and the increased burden that this pressure to conform places on those people. This is felt by them as either interpersonal violence (for example, as physical or sexual assault), or through structural violence (for example, as the burden of navigating a system not designed with your needs in mind).

People are exposed to physical violence when they are close to the borders of the gender category. This pressure to conform is enforced by institutional stakeholders. People are arrested and strip searched by medical officers and police because the institutional stakeholders want to know if the person has an intersex variation. *' [Police officers] bring medical officers also along, and then [the transgender people] have to show their physical... Physically they are checked over there. So, then only you can disclose it whether she's actually transgender or somebody else' (Durga interview, welfare officer).* The pressure to conform with a category is also enacted by some people within the TGD communities.

Individuals whose identities are perceived to be close to the borders of an identity category also face forms of structural violence, where the structures around them are not designed with them in mind. This places excessive burden on their shoulders when navigating the world around. In the physical infrastructure of a hospital, there is a gradual introduction of hospital wards for transgender people. However, the infrastructure is rigid and this change to infrastructure has not yet been widely implemented. Charanjeet, a member of civil society, recounts how a transgender woman whose identity documents show a transgender identity would need to travel 500km because there was no hospital nearer where they had a transgender ward and would accept a transgender person. *'So initially at least recently during COVID one of the hospitals, government hospital in [a large city] has*

just introduced two COVID beds for trans people... but is it just two people in the entire state... someone is COVID positive around 500km away from [the large city], do they have to travel all the way to [the city] to get themselves admitted' (Charanjeet, civil society).

Recategorized out of the borderlands

By recategorizing gender identity in the information infrastructure, this has moved the identity border away from some people, moving them out of the borderlands space. There is evidence that this has made their lives easier, where they do not need to expend as much energy and time to twist and contort their narratives to fit within the valorized categories. The recategorization of gender, and the relocation of the border of the gender category, has made it possible for some participants to more easily access legal recognition of their gender identity. For those people who the transgender category fits well, it is seen as an empowering change. *'It's empowering because finally they have a card, a legal document which shows their identity and not the pseudo identity they have to show to the world'* (Gopi, Civil society).

For those participants who fit within the newly defined category, it has become easier to navigate the administrative process when applying for benefits and protections. In the cases where a person fits within the transgender category, they can foreground their identity. *'You will then also be able to intelligently take advantage of the schemes that are put there. Intelligently. So you have a subtle shift that is happening in how people announce their identities'* (Patel, Civil society).

For the people who specifically identify as transgender, as distinct from male or female, the recategorization enables them to move more freely through institutional interactions. Members of the Kinner community reported that their experience of visiting doctors was made easier because their legal transgender identity is recognized on their identity documents. *'Doctors don't ask such things [inappropriate questions]. They do the same treatment as they do to [non-transgender people]'* (Priya, member of Kinner community).

Recategorized into the borderlands

The recategorization of some people has moved the borders of the category closer to some people. By being moved closer to an identity border, this exposes them to the potential violence of being perceived as having multiple communities of practice co-existing in one person.

The rigidity of the information infrastructure causes some people to be seen as being close to the identity borders. Bivadi is a transgender man who lives full time as a man, has a beard, and is perceived as being firmly inside the male category. However, because of a delay in his application for the transgender identity card, and the rigidity of the information system at his place of work, his gender identity within the information system at his place of work remains as 'female' and his documents refer to his (female) name prior to his transition. Without the processing of the transgender identity card, he cannot change his identity at work, nor on his Aadhaar national digital identity card. Whenever he uses his identity cards, the information systems 'out' him as a person who is perceived to be close to the borders of identity, despite that he lives his life as a man. *'I feel embarrassed that actually ... when the company portal is showing my different name and it is reflecting to all over the persons in the company and when they are watching me face-to-face I am a different person.... This is a hitch. I don't want this'* (Bivadi, Transgender man).

People who recategorize themselves as transgender are also exposed to increased violence. While the recategorization is introduced in the infrastructure, the recategorization is not firmly entrenched in society, and there is still a great deal of interpersonal and structural violence enacted on people who are identified as transgender. Sarika, a transgender woman and civil society member, discusses how

association with the transgender category has negative consequences. *'I have it on good authority from a lot of friends who have tried to do stuff like house hunting and applying for jobs and all that, where just having that sort of "other" stamp or the "transgender" stamp, it usually tends to bring a lot more discrimination, a lot more stigma... Again, it sounds good on paper... But it's, like, it's not true'* (Sarika, transgender woman). Other members of civil society have also shown concern that association with the transgender category can lead to transphobic violence. *'Giving that TG card, transgender card, is a very good move, but at the same time we also have to make sure that people are sensitized... Otherwise, it's sort of outing them... You are specifically tagging them that these are trans people'* (Gopi, civil society). Arjun, a transgender man, tells how his friend, also a transgender man, was exposed to workplace harassment when his transgender status was exposed. *'When a trans man says in front of anybody that "I am a trans man" in workplace, that time he can face problem. Without saying [this], they can't [experience the harassment]. Any person can't recognize us as a transgender. They can think that we are a man. Because our appearance, gesture, everything like a man'* (Arjun, transgender man). Arjun tells of another friend who endures workplace harassment having been outed as transgender. *'One of brothers in my organization, he is a trans man. He has all the process done [having acquired transgender status] and he works in a [trader] company and their colleagues know about him. He is trans man. He transitioned and identify as a male. So they are doing discriminating, try to discriminate with him.... So, in toilet, he is not comfortable with using the gent's toilet because every gent colleague know about him [being trans] and they are all the time tried to make, tried to harass him'. (Arjun, transgender man).*

People are twisting their narratives so they become intelligible and acceptable within the recategorized identity

For those people who find themselves within the borderlands, and under the torquing pressure to conform with categories, there is a large amount of work taking place where such people twist their narratives to fit within the acceptable categories and to become intelligible within the infrastructure. One step in becoming intelligible is to gain access to documentation that reflects an identity that is validated. The categorical borderlands create challenges for people, and there are many people who intentionally work to move themselves out of these spaces. They twist their narratives to fit within the categories.

While there is an awareness among members of the TGD communities that association with the transgender category exposes people to the risk of transphobia violence, there is also a sense that transgender people need to take on the category to access what they need. Bivadi, who we heard from previously, is aware that he needs the transgender identity card so that he can update his name and gender marker. However, he does not want to associate with the category because he is concerned of the risk of violence. *'This [transgender category] is kind of a tagline on your head. So I don't want that'* (Bivadi, transgender man). However, he still pursues this because it is necessary for him to twist his male identity into a transgender identity to access the recognition he needs.

This awareness of the violence of being associated with the transgender category is one that is evident across many participants, and many TGD people are going to great lengths to avoid spending extended time in the transgender category. While a person can self-identify into a legal transgender identity by registering through an online government portal (DoSJE, 2022), a recategorization as 'female' for transgender women requires access to expensive surgical interventions. Some transgender people save for many years to access surgical interventions so they can be recategorized as 'male' or 'female'. *'It is very expensive, especially for transgender men'* (Gajendra, civil society). Note here that a transgender person's decision to engage with surgical interventions is not simply to be recategorized.

However, while these are mandatory for the recategorization, it is a factor in the decision to engage with surgical interventions.

The amount of work involved in twisting is contingent of social identities

The level of torque experienced by individuals, and the ease with which a person can realign their narratives to ameliorate it, is contingent on the interlocking of their social identities. Within this study, caste and class location, socio-economic status, and gender were all observed as factors shaping how readily an individual could twist their narratives in response to the recategorization.

Caste and class location, two pervasive modes of social organization in India, play a role in navigating the recategorization, and can enable or disable a person's ability to torque their narrative to fit the category. One transgender woman, a self-described member of the privileged Brahmin caste, describes how her caste location and class location enabled her to have her legal identity changed by leveraging on family connections. *'Having my [family relative], who is somebody who served in [a respected public office position], and know [their] way around that sort of bureaucratic system was just able to [say]... "this is what we're doing for her. It's going to be F [for female]". So my passport, my [identity cards], everything just F' (transgender woman, member of privileged caste).* Furthermore, the perception of a requirement to access expensive surgeries to transition to male or female creates a barrier based on economic status. *'It's definitely an equity problem.... As I said, most of the people, they can't afford surgeries.... We need to understand that we are talking about people who don't even have jobs... There is a major chunk of such individuals... because unless you have those resources, you won't be given that particular card, either male or female, which you always wanted to have' (Gopi, civil society).*

While I attended a pride parade, there were calls for justice for a teenager who had committed suicide after encountering bullying and harassment at a school because of their transgender identity. I later interviewed a parent of a transgender teenager, a member of the privileged caste. He told how, in the school that his child attended, it had been a simple administrative process to change their name. The ease with which the administrative process had taken place was noticeably different, moving one teenager out of the borderlands of the category while burdening the other with the unbearable pressure to conform with the category assigned to them at birth.

Employment status factors into whether a person is able to navigate the recategorization. *'I don't face any that kind of [workplace harassment] situation because I'm lucky. I think many can face that situation but I can't. I am a freelancer and a [healthcare professional]. I am practicing on my own. So I am free from many things. I practice myself, and I am the boss in my workplace. So I can't face [workplace harassment]'* (transgender man, business owner).

Gender roles also play a significant role in the experiences of people's navigation of their transgender identities. Within families, there is evidence that transgender men who come out are welcomed as men in the family because of a belief that sons are preferred over daughters.

The interlocking of social identities also factors into which gender identities are valorized, and which are sidelined or subsumed. For those people who have gender identities that are not recognized within the infrastructure, it becomes more difficult for them to twist their narratives to align with the valorized categories. This is particularly evident among the participants who identify as nonbinary, a category which is not referred to in the legal framework and an identity which is not available on the digital identity systems. Kadal, a nonbinary person, does not identify with the transgender category, believing that it only relates to people who are *'not comfortable with their body'* (Kadal, nonbinary person). Therefore, they choose to not update their documents with transgender, and their documents remain as their gender assigned at birth. This places them in a liminal space where *'non-binary gender*

identity... is definitely not anywhere on the legal documents... I am stuck. So, whenever I have to introduce myself legally, I'm compelled to say my gender identity is male.... [It is] suffocating' (Kadal, nonbinary person). They have experienced workplace harassment because of this. *'I used to apply [nail polish]. Then people used to bully [at work]. And my team manager used to come to me and he used to bully me'* (Kadal, nonbinary person). By disidentifying with the transgender category, they felt that the protections of the transgender anti-discrimination laws did not apply. They believed that if they demanded protection under transgender rights, people would say *'why are you saying that you have a trans right that doesn't [apply] because it's not in your Aadhaar card... So how can you identify as trans?'*

Summary of Findings

The findings of this study have shown cases where the lived experiences of TGD people have been shaped by the recategorization of gender in India's information infrastructure. There is evidence that violence is enacted on people who are perceived to be close to the borders of a category, and evidence that people are twisting their narratives to realign themselves with the recategorized identity to ameliorate the torquing force exerted by category. Finally, the findings show evidence that torque, and the ability for individuals to realign with a recategorization, is not evenly distributed across society. The potential to align and twist is contingent on the interlocking of social identities such as caste location, class location, socio-economic status, and gender, which makes it more difficult (or impossible) for some people to realign with the new category borders.

Discussion

The findings of this study tell of the movement, of the violence of being perceived as being close to the borders of an identity category. This study shows that these categorical borderlands exist, that the recategorization of an identity moves the borders rather than the people, and that the relocation of the borders also moves the borderlands and redistributes the torquing, twisting force exerted by categories. It asks questions about power relations in the decisions involved in recategorization, challenging whose identities are valorized, and, as Timmermans (2015) has asked, whose identities are sent into oblivion. In this section, I will discuss these findings, bringing them into dialogue with the existing literature. I discuss the consequences of moving category borders, and how this shapes the burden of torque. I then explore issues of temporality and power relations in the recategorization of identity, before discussing the theoretical, methodological, and practical contributions made by this study.

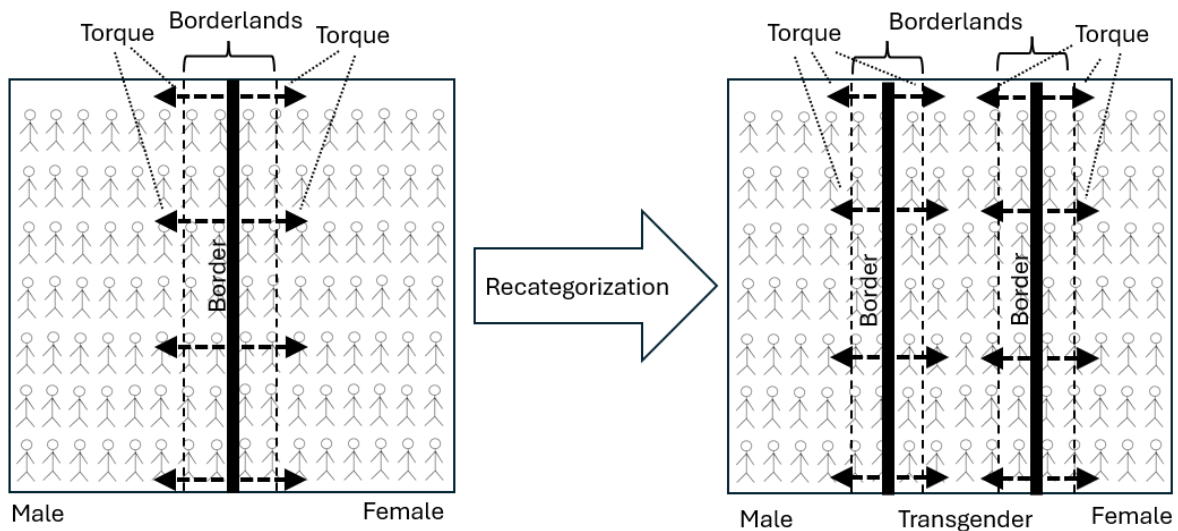


Fig 1: Moving category borders also moves the torque

Recategorization Moves the Torque

By recategorizing identity in the information infrastructure, the borderlands are moved. While the people themselves are not changing or recategorizing themselves, the infrastructure around them is gradually changing, with the borders of the category moving towards some people and away from others. While it becomes easier for some people to align themselves with the newly valorized categories, others who in the past had fitted within a category now experience the stress of needing to realign with the existing newly drawn categories. See Fig 1, where the people themselves have not moved, but the location of the borders, and the borderlands, have moved around them.

In the findings, we see that the people whose identities were considered during the recategorization (the Kinner and Hijra communities) are now recognized by the infrastructure. The recategorization has moved them out of the categorical borderlands, and they can realign their documents with the category with relative ease. However, there are people with other identities who find it more difficult to realign themselves. In the findings, we have seen that the nonbinary identity is not recognized. For a person who has a nonbinary identity but does not adopt the transgender identity that does not apply to them, they are perceived as being close to the borders of a category and exposed to the harassment that comes from this. If the recategorization had been conducted to include a space for nonbinary identities, the nonbinary person could have updated their identity documents and would fit firmly within a category, rather than being perceived to be on the border between multiple categories.

Burden of Torque

Any recategorization repositions the border location, moving some people into borderlands and others out. This creates a mobility, a need to move, to torque oneself in an effort to remain outside the borderlands. It is in the daily lives of the individual that we see the torquing of the recategorization. Torque, felt as the pressure to conform to a category and the burden of needing to change to meet the inclusion criteria for the category, is felt at the individual level. The burden of change is on the shoulders of the people who experience the violence, rather than on the infrastructure and the people who enacted the recategorization. It manifests as the pressure to adjust one's life and realign one's narrative and/or one's physical body to fit the recategorized identity. Bivadi twisted his male identity into a transgender identity for administrative purposes to update his name and gender marker, even though he knew that this could expose him to greater risk of transphobic violence. Responding to

Linander (2019), these findings concur that people twist their narratives to fit within a category so that they can access the services that are available.

The burden of torque is felt at the individual level and is not evenly distributed across communities. The degree of torque experienced by individuals is not evenly distributed and is contingent on the interlocking of social identities. The recategorization disadvantages some people more than others. As Joshi (2022), McGee (2018), and Zheng & Walsham (2021) have all pointed out, intersectionality is a powerful lens within the IS discipline for unpacking the interlocking of social identities and how it can lead to the reinforcement of inequities and disadvantage. This study finds that the recategorization of identity, through its relocation of the borders and the pressure exerted as torque, disadvantages some people who do not have the resources to move out of the borderlands.

Temporality

Earlier, we heard about the torquing force of a wrench being exerted on a nut. The nut gives way to the torquing force, twisting itself to realign with the demands of the wrench. However, this is not the final realignment. The user of the wrench turns the wrench again, exerting a new torque force, demanding that the nut once again twists to the new requirements. This perspective on torque highlights the slow, gradual change to a classification system, the expectation that a person may realign themselves with the current demands of a classification, and later potentially need to realign themselves again. The torquing force existed before India's gender recategorization. People who were perceived to be near the borders of the category experienced the torquing force exerted on them to conform with the gender binary. This is evidenced by the violent consequences of the criminalization of gender diverse identities during British colonial rule referred to in the context section of this paper. With the recent recategorization, the twisting force exerted on people has changed. The infrastructural wrench of classification has exerted a new twisting force, and there is no reason to believe that those who realign with the current torque will not in the future feel a new twisting force from a further recategorization. This study shows, empirically, the lived experiences of people whose identities undergo this process of recategorization. While the consequences of recategorization are related to those of categorization, in the study of recategorization we see clearly the temporality of the issues, the long-term suffering that takes place as a consequence of this gradual change.

Power Relations

The study of recategorization also draws attention to questions about the power relations involved in moving the borders of an established category, who enacts the recategorization, which identities are valorized, where the borders of the category land, and who is most affected by the recategorization. The power relations involved in the gradual shaping and reshaping of the location of borders between identities. As Timmermans (2015) has pointed out, categories are frozen policies. They are sites of political struggle, powerful tools for constituting social order (Suchman, 1993), with moral questions arising when the categories of the powerful become taken for granted (Bowker & Star, 1999). In the findings, we see a recategorization where the frozen policy of *gender as binary* has been thawed and refrozen as a frozen policy of *gender as ternary*. This thawing and refreezing of a new policy underpinning the identity categorization has consequences for the individual, exerting stress to conform, whether or not it is feasible, possible, or desirable to do so. By recategorizing an identity, the people whose lives are administered by and through these categories are subjected to torque. Spade (2011) refers to this as 'subjection' to 'indicate that power relations impact how we know ourselves as subjects through these systems of meaning and control – the ways we understand our own bodies, the things we believe about ourselves and our relationships with other people and with institutions, and the ways we imagine change and transformation' (Spade, 2011, p. 6). The burden of torque is felt most acutely by the people who are most disadvantaged in relation to the interlocking of their social

identities. These power relations were evidenced in January 2025, when the incoming president of the USA declared that the US government recognized gender as immutable. Within five weeks a transgender woman who applied for a renewal of her passport discovered that her passport's gender marker had been reverted to 'M' without warning or notification (Looker, 2025), placing her in the categorical borderlands where she presents as female but her identity documents state otherwise. As she herself pointed out, her vulnerability to the consequences of being within the borderlands are contingent on her social identities, particularly in relation to her race and socio-economic status.

Theoretical contribution

This study has extended the torque construct by revisiting its foundations in borderlands theory and applying it to an empirical case to understand questions of social equity in IS. By revisiting the foundations of the construct, the paper shows the potential for torque as a useful theoretical construct that can elegantly foreground the lived experiences of people whose lives are shaped by information infrastructures and information systems. Torque tells about the stress that is exerted on an individual when they are perceived to be close to the borders of a category, and the intense pressure they feel to twist their narrative, their body, and/or their presentation to conform with the category. However, torque also suggests a way for IS and II studies to imagine a future that mitigates against this stress. The torque measurement feature, inscribed into the torque wrench, tells us that the measurement of stress can be understood not only from the lived experiences of the individual, but also from the inscription of a measurement tool within the infrastructure itself.

Methodological contribution

The study makes methodological contributions to the ethnographic study of information infrastructures. By applying lived experience as the unit of analysis for seeing consequences of information infrastructures, and building a research design based on intersectionality, the study draws out the narratives that show the consequences. The ethnographic study of lived experience brings insight that could not be otherwise understood. As Alaimo and Kallinikos (2021) have pointed out, the use of categories is a balance between abstraction and specificity. This paper explores how to use lived experience as a unit of analysis to study the consequences of this balance between abstraction and specificity.

Practical implications

This study makes practical contributions for government policies and organizations engaged in projects with identity categories. The study shows how the changes that can seem trivial, such as the addition of an identity category checkbox on an application form, can have significant consequences regarding how a person is perceived whether they are intelligible within the information system, and how they are treated. With this study, policy makers, IS practitioners, and organizational managers can better understand the potential consequences of identity recategorization and proactively mitigate against the harm that this can cause.

Further Research Needed

Given the central role that identity category contestation plays in many organizations in the public and private sector, there is an urgent need within the IS discipline to understand the consequences of identity recategorization. There is a need to understand how to predict the unintended consequences of an identity recategorization, recognizing who it will most acutely affect, and how to mitigate against the risk of unintended negative consequences of recategorization, particularly for those people who are most at risk of disadvantage. Drawing on the metaphor of the torque wrench, the torque construct asks how the stress of torque can be measured at the individual level for the development of systems of accountability that ensure that torque is limited. Torque is a systemic issue, and this perspective

explores the foregrounding of the potential for harm-reduction by inscribing systems of accountability within the information systems. The concerns here are in the distribution of torque and its relationship with the interlocking of social identity. Finally, the study of recategorization introduces the consequences of gradual change within an information infrastructure. These areas of research have consequences for AI and the automatic clustering and grouping of identities, which in practice is a process of automatic recategorization and reclassification. While categorization is a process of including and excluding, there is a need to understand the consequences of a redistributing of the borders of a category, particularly from an ecological perspective, to understand how the rules of inclusion and exclusion manifest in the lived experiences of people whose identities are sorted out.

Conclusion

This study has empirically investigated the consequences of gender identity recategorization on India's transgender and gender diverse communities. Using ethnographic methodology, and developing a theoretical and analytical framework using torque, borderlands theory, and intersectionality, the study explores how lived experiences are shaped by the relocation of the borders of an identity category.

The study finds that the relocation of a border makes life easier for some people, while exposing others to greater risk of interpersonal and structural violence enacted through the information infrastructure. It also finds that an individual's ability to realign with a category and ameliorate torque is contingent on social identities such as socio-economic status, class location, and gender. The study discusses these findings by exploring the relocation of borders, the burden of torque, and the temporality and power relations inherent in identity recategorization.

The study makes theoretical and methodological contributions to the information systems discipline. It takes lived experience as a unit of analysis to understand the consequences of information systems and develops the torque theoretical construct to understand paths through which the information systems can mitigate against these unintended negative consequences. The study also makes practical contributions for organizations in the public and private sectors where information systems engage with identity categories and recategorization.

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