

TWO

Responsibility Frames and Digital Responsibilities Framework

The fact we have responsibilities is an axiomatic function of human society. It is unsurprising, then, that responsibility is embedded across different academic literature. Responsibility is considered from perspectives such as political responsibility, climate responsibility, civic responsibility, economic responsibility and organisational responsibility. Moreover, forms of legal and moral responsibility are generally accepted as an ascribable component of everyday life. As a member of a society, we have moral responsibilities as part of our daily functioning that responsible individuals who abide by the multitude of different legal and regulatory obligations are expected to follow. It is not surprising then, from an academic perspective, that responsibility ‘admits of a variety of uses’ (Fischer and Ravizza, 1998, p 2) and ‘all societies are systems of responsibilities’ (Barnes, 2000, p 8).

Yet despite its deeply embedded and diverse nature, theorising about responsibility is often grounded in an older model of what responsibility is and how it works. That model, akin to the outcome framework, outlined later in this chapter, understands responsibility as the imposition of external obligation on individuals that gives rise to rational and internal reflection about the consequences of actions. The most influential modern-day exponent of such theorising is the legal philosopher HLA Hart and his understanding of how legal responsibility emanates and permeates other

disciplinary outlooks – to the extent that responsibility derived through backward-looking forms of ascription (a core building block of Hart's theories) is considered the norm about how to understand responsibility, whether it be in legal or digital circumstances.

We contend in this book that understanding responsibility solely through processes such as blameworthiness does not fully account for the relational context that responsibilities emerge from. Traditional notions of what individuals are responsible for do not fully capture the plurality of environments and volume of relationships inherent to how responsibilities are formed. Responsibility formulation then is not a simple relationship of societal to individual outcome based on realised needs, established legal consequences and rational individual actions. Instead, responsibility formulation is constituted as a negotiated outcome involving consensus building across multiple parties who recognise the need for collaboration for the benefit of all parties.

Understanding responsibility is consequently not just about individual actions and whether actions are morally or legally sanctionable.

A focus on actions only limits responsibility analyses to the individual and the cognitive abilities necessary to determine consequential outcomes. That framing is no longer sufficient because it does not entail considerations about how responsibilities are realised and established, which we contend are necessary preconditions to thinking about how responsibility is actioned. Digital technologies enable relationships between stakeholders such as between the citizen and government, between employer and employee, between service provider and service user to be negotiated and re-negotiated over time and space, thus attenuating the connections between realising and establishing responsibilities and actioning responsibilities.

Focusing solely on the end point of responsibility misses the importance of situating actions as part of a broader process of responsibility formulation which is linked to how responsibilities

are realised and established. These considerations are more so in the digital environment where automation processes continue to disrupt and displace core relationships.

Building on these considerations, our work takes a cross-cutting exploration that examines how digital technology re-shapes our understanding of responsibility across different societal dimensions. We produce a framework that can be used to scaffold conversations about how digital technologies re-shape our understanding of responsibilities and to identify where responsibilities have either not been realised or established or where actions do not meet expectations. We believe such conversations are necessary for more effective awareness of responsibility formulations, especially for digital policy purposes.

The first half of [Chapter 2](#) explores academic understandings of responsibility across three frames: digital technology, law and the individual. The framings are important because they provide the type of holistic coverage necessary to fully understand the complexity of realising, establishing and actioning responsibility. A core theme emerges across each frame entailing the tension between traditional theorising about responsibility with more contemporary notions. Disagreements about whether digital responsibilities are individually focused, or are collectively shared, are resonant in different approaches, such as digital civics or responsible research and innovation (RRI). Similar disagreements arise about whether there is or can ever be a responsibility gap, especially relating to autonomous machines, or whether a human will always need to be responsible. These assertions do, of course, have a deeply legal flavour which emanates in the distinctions between outcome and constitutive frameworks and the different understandings about how legal responsibility is established, either by ascription or by consensus. Both the digital and legal literature also have a position about the role of individuals. We therefore briefly cover individual responsibility to show the different framings of responsibilisation and

response-ability, to further outline our understandings of traditional and contemporary approaches.

The second half of the chapter then overviews our digital responsibility framework with its focus on realising, establishing and actioning responsibility. We draw on constitutive approaches to show that responsibility should be considered a collaborative exercise that operates in plural and dynamic environments. Achieving consensus about the formulation and allocation of responsibilities is thus challenging, especially in the digital environment. For us, responsibility is socially constructed and involves how people, groups and societies work and interact with each other to contribute towards the fulfilment of a shared goal. Responsibility formulation then is relational. As Peter Cane rightly notes, responsibilities are as much about who we are responsible to as what we are responsible for. We also provide some brief snapshots of how the book's case studies apply to our framework to foreground the deeper application of case study analysis taken in later chapters.

Responsibility frames

To better understand how digital technologies shape responsibilities, we explore responsibility through different frames relevant to the digital realm. We consider three core responsibility framings involving digital technology, law and individuals. We start with how responsibility is considered in the digital realm, including how responsibility is treated by different frameworks, including RRI. The focus on digital technology shows that responsibility is considered with constrained notions of the relationships involving digital technologies. We then draw on legal scholarship to extend the initial framing of digital realm responsibilities and situate them into the normative realm of obligation generation through law making. Our focus on law shows that there are foundationally separate ways that responsibility is treated in the legal realm. Finally, we consider how digital and legal framings impact

upon the responsibilities expected of individuals, as users of digital technologies and as citizens of nation states governed by law. The description and application of the three frames therefore provide different responsibility perspectives and what it entails. We use these perspectives as a way of thinking about what different ideas of responsibility do, and what they do not do, as a basis for our framework formation, highlighted further later in this chapter.

Responsibility and digital technology

The idea of responsibilities related to digital technology is an expanding area of interest. In some literature, the use of responsibility as a guiding frame is contested and responsibility is often used interchangeably with other conceptual concerns, such as accountability, trustworthiness and privacy/security. Nevertheless, the different literature highlights an increased focus related to ethical concerns arising from the ubiquitous use of digital technologies. The focus on responsibility is quite often polar and tends to explore the ethical obligations that should be placed on ‘responsible’ designers of technology, at one end, and the responsibilities of technology users at the other. The latter are often treated as the referents, arbiters and/or victims of digital (ir)responsibility (Liyanaarachchi et al, 2021; Lobschat et al, 2021). Moreover, the literature tend to consider responsibility and digital technology through a panoply of specific issues rather than a holistic concept that deserves systematic investigation. Such issues include an extensive focus on responsible artificial intelligence (AI) (Lima and Cha, 2020), responsible design and innovation in digital technology (van de Poel and Sand, 2018) and corporate responsibility (Markus and Mentzer, 2014) of digital technology, often referred to as ‘corporate digital responsibility’ (Dorr, 2021).

Underpinning the focus on corporate responsibility are some core ideas that also permeate through other disciplinary considerations, most notably the tensions emanating from legal

versus moral culpability (Lobschat et al, 2021), the assignment of blame and what should constitute blameworthiness (Lima and Cha, 2020). The need to think creatively about how new ethical frameworks could enhance responsible digital technology innovations is also a common feature (Elliott et al, 2021). We note later that the foci on culpability and blameworthiness is a strong element of the legal literature, especially those authors that espouse more traditional notions of responsibility in law. There are limitations to these notions, as we highlight. Some further limitations pertinent to the digital technology literature are also worth noting.

First, considerations of corporate responsibility for digital technology are dominant, which leads to a certain perspective of where responsibility should lie. In other words, the designers of digital technology are solely responsible for their products. We raise this, not to argue for the protection of already over powerful corporations, but rather as a means of highlighting that responsibility considerations are dynamic and plural and thus require the unpacking of complementary concepts, such as obligations, duties and accountabilities which exist across a range of user and provider relationships and networks. For example, state-based digital services are now provided in partnership with corporate partners and other service providers, to the extent that an approach which only focuses on the responsibilities of the latter, especially through the limited focus of accountability based on service level agreements, does not fully capture the complexity of the multi-partner environment. A focus solely on private sector providers does not fully emphasise or encapsulate the civic aspects inherent in the provision of state-based digital services.

Digital civics explores how digital systems and technologies can better support community-centred forms of digital service provision and organisation (Vlachokyriakos et al, 2016). It consequently has a broader focus on responsibility that goes beyond corporate service delivery to consider broader societal values, such as democratic engagement through digital

participation (Jensen et al, 2020a). Under a digital civics lens, citizen participation – facilitated by digital technology – enhances the possibility of creating new forms of service model (Le Dantec, 2016a). These new models seek to move service delivery from the purely transactional to consider more deeply the intrinsic relations that are both built through public service delivery (Le Dantec, 2016b; Fan and Fox, 2022) and upon which successful public service delivery is founded. For example, the implantation of public sector values in private sector service provision changes the focus of service users as a citizen-conceptualised activity rather than a consumer-conceptualised activity.

An example of this change in perspective can be seen in work relating to co-creation of services between citizens and service providers (Glick and Crivellaro, 2023). Doing so disrupts the set relationships of ‘citizen-as-consumer’, ‘government-as-data provider’ and private sector technology providers as an unquestioned efficiency benefit (Vlachokyriakos et al, 2016, p 1097). The digital civics literature views users primarily as citizens, who should be empowered to act as co-creators and active stakeholder participants in the design and delivery of digital public services (Boehner and DiSalvo, 2016). Digital civics approaches therefore aim to create more participatory platforms, to foster advocacy and move stakeholders towards dialogue and negotiated outcomes generated through consensus (Le Dantec, 2016a). Responsibility, in the digital civics model, thus needs to be considered broadly, as a foundationally relational model of digital service delivery that explicitly encompasses many, and at times conflicting, actor interests.

Digital civics, and its focus on relational services, highlights that responsibility does not exist solely on the part of developers of digital technology. Responsibilities for what happens in the digital realm should also be equally shouldered by service users and those assisting them (Coles-Kemp et al, 2022). The idea of ‘shouldering’ highlights the considerations of culpability and

blameworthiness pertinent to corporate responsibility. Quite often the complexity of digital responsibility environments is often framed as familiar concerns involving security breaches, mishandling of data and other blameworthy trope-like failures. Responsibility in digital technology realms focuses on concerns relating to worst-case errors and catastrophes, thus emphasising the culpability and blameworthy characteristics of understanding responsibility as an issue solely of accountability. Highlighting digital responsibility from a civic viewpoint underscores the possibility of alternative practices and approaches to responsibility construction, including a more positive perspective of responsibility. Another alternative approach that has gained traction is RRI which has been defined as:

a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society). ([Commission: Directorate-General for Research and Innovation and Schomberg, 2011](#), p 9)

RRI frames responsibility as a social or collective endeavour ([Stilgoe et al, 2013](#)). The RRI approach acknowledges, and brings together, the plethora of stakeholders involved in digital technology design. These include researchers, designers, businesses, policy makers and citizens, and RRI seeks to align the potentially disparate values, goals and outcomes of different stakeholders involved in technology innovation. RRI also presents a futures dimension to the idea of collective responsibility for technology innovation based on the collective stewardship of digital technology design ([Stilgoe et al, 2013](#)). RRI thus emphasises consensus through networks of value negotiation as an explicit form of collaborative activity.

The collective basis of RRI has heightened the important shift of responsibility focus from the designers of technology towards the actual use of the technology, thus recognising that responsibilities rarely fall on a single person or group. Instead, they are collectively shared. Nevertheless, RRI still has limits as it essentially defines responsibility through stakeholder roles and the expectations that those roles are fulfilled in broader relational contexts (Bellini, 2020) including within the life cycle of technology maintenance. We partly agree with these critiques. The aims of RRI are limited because the approach is focused on responsible actions related to a specific technology or technological innovation, whereas we see responsibility formation in a much broader sense, not simply grounded in a specific technology or technological innovation.

Another popular approach to responsibility and digital technology development is proposed by van de Poel. He highlights how responsibility is used in both a descriptive and normative fashion and unpacks five normative meanings of responsibility (van de Poel and Sand, 2018). A fundamental distinction is drawn between backward-looking and forward-looking forms of responsibility. Backward-looking responsibilities, like the focus on culpability and blameworthiness, typically refers to past actions and the potential attribution of blame or praise to ensure forms of remediation (van de Poel, 2011). Forward-looking responsibilities focus on the proactive steps that may be taken to ensure that certain outcomes, such as the avoidance of harm, occur to others. Again, we discuss similar features of responsibility in our discussion of legal responsibilities later. In a digital context, however, van de Poel is outlining that the increased feasibility for monitoring individual actions means that backward-looking forms of responsibility, based on culpability, are potentially easier to ascribe (van de Poel, 2011, p 47).

Lima and Cha (2020) have extended van de Poel's capability categorisations of responsibility to include notions of authority. Set in the context of AI-assisted bail decision-making, Lima

and Cha consider the issues of authority and power with six other varying notions of responsibility that can be ascribed to AI machines. They are: obligation, task, answerability, cause, blame/praise and liability. As we will see, the different categorisations relate strongly to the outcome framework of legal responsibility and its focus on backward-looking ascription. Similarly, [Bellini \(2020\)](#) consolidates the notion of responsibility into three distinct constructs that again relate heavily to the type of backward-looking ascription promoted by van de Poel: duty (being responsible for x); blame (being responsible to y for x) and acting independently (processing responsibilities for oneself, in relation to z).

These different approaches to digital responsibility highlight diverse locus for responsibility analyses. Responsibilities can be considered through responsible design, such as RRI, or through ‘responsible user behaviour by outlining the agency, capacity and duties of a user towards others’ ([Bellini et al, 2020](#), p 564). Similar themes emerge in the legal literature with the distinction of being responsible for oneself and being responsible to others ([Cane, 2002](#)). These differences in approach highlight the shift in responsibility focus away from the designer to the use and the users of technology. Such considerations highlight that understanding responsibility in digital contexts means thinking beyond individual roles to consider the broader relational contexts that govern those roles and the digital technologies that operate within them.

The environments in which digital technology operates have become increasingly complex with the rapid expansion of AI and automation. These advancements have impacted upon debates about responsibility, especially regarding agency and accountability of potentially autonomous systems ([Coeckelbergh, 2023](#); [Dignum, 2019](#)). A key concern has been the normative question of responsibility attribution for an autonomous system that causes harm ([Coeckelbergh, 2020](#)). Such situations significantly challenge responsibility analyses that seek to ascribe blameworthiness for causal actions.

Responsibility has traditionally been ascribed to the operator or manufacturer of a machine. One way of viewing the dissonance between the scoping of responsibilities and the actioning of responsibilities is the ‘responsibility gap’, as outlined by [Matthias \(2004\)](#). Responsibility gaps could lead to no human being held responsible for an autonomous system causing harm which could threaten both the moral and legal fabric of modern society. Critics of Matthias’ thesis have questioned whether a responsibility gap will emanate and have further argued that even if it does, it will still be able to be reconciled, either legally or morally. Critiques contend that responsibility allocation is a dynamic and flexible process that can ‘effectively encompass emerging technological entities’ ([Tigard, 2021](#), p 591), including those of a purported autonomous nature.

Questions regarding responsibility and AI have triggered a wave of cross-disciplinary debate in areas of the sciences, philosophy and ethics that has produced further ways of thinking about responsibility. [Dignum \(2020\)](#) alludes to the responsibilities placed on all stakeholders involved in the creation, design, procurement, adoption and use of AI systems. She puts forward a triadic framework for the application of ethical AI-by-design. Other commentators take a different perspective. [Lima and Cha \(2020\)](#) contend that responsible AI fails to accommodate the possibility of holding AI responsible itself. [Coeckelbergh \(2020, p 2052\)](#) also argues that AI technologies do not meet the traditional criteria for full moral agency and thus cannot be held responsible. By contrast, Gunkel suggests a potential framework of ‘hybrid responsibility’ which distributes responsibility ‘across a network of interacting human and machine components’ ([2020, p 317](#)). Given the multiplicity of positions that have recently developed, it is safe to conclude that the issue of responsibility allocation, especially in the AI context, will be in debate for some time to come.

The recent work into responsible AI highlights responsibility’s contested nature and demonstrates the need to consider responsibility holistically and from different disciplinary

perspectives. One of our motivations in developing a digital responsibility framework is to identify the elements of responsibility in and through digital technology, not only as an object, but also as an action. Responsibility gaps, should they materialise, can then be identified and actions can be clearly articulated. We now ground this disputed digital technology literature in an older and equally contested literature, that of responsibility and law, which has similar themes to those already discussed regarding the role of normative rule-making and the obligatory expectations placed on individuals and society more broadly. Like its digital forebearer, the ideas of backward-looking blame and forward-looking norm generation are at the centre of key legal differences.

Responsibility and law

Traditionally, law ascribes responsibilities which we are bound to follow or risk sanctioning for non-compliance. Legal responsibility is thus engrained in everything we do. However, for something so axiomatic, understanding responsibility as a component concept of legal application is contested and falls largely into two broad camps: outcome-based responsibility frameworks and constitutively based frameworks. Both frameworks understand legal responsibilities in separate ways: outcome-based frameworks through consequences and constitutively based frameworks through relations. Understanding the differing frameworks are important because, as noted frequently earlier, the literature on responsibility and digital technology consider components of these frameworks tacitly. Before we get that far, we outline the traditional outcome-based understanding and the contemporary constitutively based frameworks of legal responsibility.

The outcome-based framework is highly individualised and focuses on the consequences of outcomes for individuals, and how individuals should think about responsibility in the form

of consequences (Hart, 1949; Honore, 1999). Like some of the digital technology authors mentioned earlier, the framework is backward-looking by nature and seeks to historicise responsibility by allocating sanctions for blameworthy actions. The framework is largely retributive and seeks to establish responsibilities with reference to consequential threats (Hart, 2000). Scanlon (2000), for example, outlines two forms of moral and legal consequences that can arise. In the first form, responsibility is attributable in situations where a person can be morally assessed for the blameworthiness of their actions. Attributably, in this regard, can mean imposing moral blame based on previous actions. The second form, substantive responsibility, can lead to the imposition of legal sanctions based on the historical consequences of actions. Both forms apply consequences for past outcomes and the difference lies in the consequence to be implemented, either moral blame or legal sanction.

The historical notion of backward-looking blameworthiness is best captured by Hart's (1949) seminal construction of the four different ways legal responsibility is ascribed. Role-responsibility regards the potential imposition of moral blame or legal sanction for a failure to perform duties relevant to a 'distinctive place or office in a social organization' that are 'attached to provide for the welfare of others, or to advance in some specific way the aims and purposes of the organization' (Hart, 1968, p 212). Hart thus signifies the important relationship between roles and the duties that arise from roles to other role holders and society at large. To behave responsibly, therefore, is to behave as a man (person) 'would who took his (their) duties in this serious way' (Hart, 1968, p 213). Causal-responsibility is attributed to any 'causally efficacious' factor that gives rise to harmful outcome from which liability-responsibility can be imposed through legal sanction (for example, imprisonment for criminal offences or civil penalty fines). Running through all three ways of legal responsibility ascription is capacity-responsibility which refers

to the minimum capacity a person must have to be held legally or morally responsible for their actions.

Hart's framework was significantly influential and shaped future discussion about legal responsibility particularly in the context of roles. His work also highlights the importance of individual free will as a key component of the outcome-based framework. How individuals respond to the given circumstances of their lives (luck), the choices they make and whether they have the intellectual capacity to make informed choices are all important determinants for responsibility allocation. [Gardner \(2003\)](#) argued that to assume 'basic responsibility is to assert oneself as a rational being' and to provide justifications and plausible excuses for previous conduct. Responsibility, for Gardner, in its basic sense, is therefore 'exactly what it sounds like: response-ability, an ability to respond' (2003, p 161). It is the ability to use reasons in determining actions, thoughts, choices and wants that defines individuals as rational beings, by being able to give an account of actions in relation to the consequences of outcomes ([Gardner, 2003](#), p 164).

The outcome-based framework deems that individuals of free will and capacity are capable of, and therefore must, under law, take responsibility for their actions and the consequences thereof. Individuals have a responsibility to society to do so as ascribed by the societal application of legal rules. If the ascribed rules are not followed, then individuals must responsibly expect sanction for blameworthy acts. [Honore \(1999, pp 1–2\)](#), in one of the leading works on this framework, argued that 'outcome responsibility means being responsible for the good and harm we bring about by what we do'. As such, 'we live under a system by which a community allocates responsibility according to outcomes, and we are consequently forced to make bets on those outcomes' ([Honore, 1999](#), p 26). Responsibility ascription therefore takes place without the direct collaboration of individuals. Responsibility is ascribed to individuals by being part of society, and if they have capacity, they are responsible

for sanction and blame that could arise from the consequences of previous acts.

The contemporary constitutively based model highlights that responsibility is constituted by individuals and groups collectively as part of the fulfilment of social practices. In that sense, it is critical of the core components of outcome-based legal responsibility. For example, [Cane \(2001\)](#) argues that outcome responsibility subsumes the richness of different forms of legal and moral responsibility into a sole assessment of outcomes that is not warranted given the breadth and depth of legal intent. As such, not all forms of legal and moral responsibility are concerned with the ownership of outcomes or the allocation of blame ([Cane, 2002](#)). Similarly, [Dancohen \(1992, p 961\)](#) criticises the free will paradigm of traditional models of legal responsibility because it ‘treats responsibility as a matter of what we choose to do’ rather than ‘as a matter of what and who we are.’

Not surprisingly then, the constitutively-based framework is less individualised and focuses on intrinsic social relationships as the basis for understanding legal responsibilities. Rather than focusing on consequences and outcomes, the framework sees responsibility establishment as a process of constant negotiation with other parties involved in social practices ([Cane, 2002](#)). The framework can be forward looking in nature and seeks to establish prospective realisations and actions of responsibility through legal norms that guide and promote positive acts. Unlike outcome-based considerations, ‘historic responsibility is not an end in itself.’ Instead, it ‘enforces, reinforces and underwrites prospective responsibility’ ([Cane, 2002, p 35](#)). Cane’s notion of prospective responsibility highlights the intrinsic relationship between backward-looking forms of legal accountability involving historic assessment of outcomes with the forward-looking prospects of law as a positive guide of future individual action. Legal responsibilities thus work historically and prospectively ([Cane, 2002, pp 34–5](#)).

The prospective nature of constitutively based frameworks means that responsibility realisation is not solely based on assessments of previous actions. Under these ideas, legal responsibility regards how individuals relate to other individuals and groups involved in social practices involving resources and the core objects of life (Kutz, 2004). The framework considers real-life situations in which responsibilities are formed through negotiations and focuses on the capabilities required to form responsibility consensus. Responsibility is inherently relational and attributions consider social, legal and moral relations between multiple parties involved in specific social contexts (Kutz, 2004, p 587; Cane, 2016). Legal responsibility is always relational, therefore, because at its core it revolves around a three-way relationship between agents, victims and the wider community (Cane, 2002, p 94). It is also functional because different responsibility practices, of which outcome-responsibility is but one, perform ‘different, though related, functions’ (Cane, 2002, p 103).

The relational and functional components of legal responsibility are inherently pluralistic which means that responsibility arises from negotiation instead of ascription (Dancohen, 1992). As such, rather than being detached from an ascribed responsibility process, the constitutively based framework outlines the active role that individuals play in responsibility establishment through constant negotiations in social practice fulfilment. Responsibility then is based on consensus-driven dialogue and thus the broader responsibility individuals have is also contextually different. It requires an understanding of what responsibilities are needed within specific social practice networks rather than a generalised sense of a responsibility to society. Fundamentally, then, ‘responsibility is a social practice and not the neutral registration of independent moral facts’ (Kutz, 2004, p 551). Legal responsibility is ‘mediated by the existence of widely shared social conventions’ (Dancohen, 1992, p 970) which means that ‘responsibility must be understood in terms of the ideals of

agency and community that they reflect and effect regarding the attribution of responsibility' (Kutz, 2004, p 551).

The importance of understanding the similarities and differences between the two frameworks becomes apparent when considering how the legal responsibility literature links to the digital technology literature. It helps to demonstrate the obligations and expectations placed on individuals and other parties involved in digital technology environments. There are diverging viewpoints on how responsibility is conceptualised in relation to digital systems and technologies. Equally, there are diverging viewpoints in law about the role and allocation of responsibility. There are also some explicit links. For example, Hart's work has been particularly instrumental in contemporary interpretations and taxonomies of responsibility found in non-legal literature to help better understand the different aspects of responsibility in a digital context (Bellini et al, 2020; van de Poel and Sand, 2018). Unpacking responsibility in this way highlights the ways in which digitalisation fragments both our understanding and operationalisation of legal responsibility and offers further nuance about how responsibility is generated and operated in a digital context.

We conclude this brief overview of different literature with how the diverse notions of responsibility that arise from digital and legal contexts impact upon individual users of digital services and technology.

Responsibility and individuals

Let's recap before moving on to our final responsibility consideration. We have considered responsibilities that arise in relation to digital technologies. Different responsibility approaches have recently developed which seek to establish responsibilities that are mediated through technology and technological infrastructure, with a particular focus on design. Responsibility construction, in this sense, is inherently relational and relationships are constructed through digital

means. Attempts to understand responsibility intertwine with similar concepts found in the legal discipline, namely, ascription of obligation especially regarding backward-looking considerations of blameworthiness and the establishment of forward-looking norm setting, where responsibilities are negotiated through social practices. Responsibilities in the digital realm focus on relations governed through technology and responsibilities in the legal realm govern through rules and norms that ascribe and guide.

The individual is the centre point of both considerations, whether they be constructed as ‘user’, ‘consumer’, ‘citizen’, ‘litigant’ or ‘accused’. As we argue later in the book, the infrastructural context of the digital realm is such that responsibility actioning is a shared activity that encompasses multiple parties. Consequently, it is no longer sufficient to think about responsibility from a purely individual sense, and the implication that individuals bear the primary focus of responsibility. Instead, it is more fitting to examine questions of responsibility collectively because they impact everyone (Ognjenovic, 2010, p 2).

The individual, as a construct and an entity, remains an intrinsic component of understanding responsibility. However, an overt focus on responsibility individualism, and the forms that it takes, does not provide a sufficient lens to consider the full richness of responsibilities in the digital realm. With that starting point, we go back to consider the roots of responsibility and explore what expectations there are on individuals to make moral choices for themselves and the societies surrounding them.

Like what we have already seen, there are contentions about the varieties of moral responsibility. It is clear, from the previous discussion, that even though responsibility in the digital and legal context is different, they both nevertheless draw on and have been foregrounded by notions of moral responsibility. For example, to use Cane’s differentiation of responsible for and responsible to, the historical focus of moral responsibility, with its emphasis on ‘moral agents’, has concentrated on

the former. In other words, when should individuals be responsible for certain actions, especially involving culpability and blameworthy assessments? The basis of moral responsibility, much like the backward-looking approaches of the digital context and the outcome-based approach in law, seeks to ascribe responsibility for historic actions that are determined by the cognitive capabilities of a given individual. Responsibility for individual actions is thus a capacity assessment in which individuals can be held to moral account for their actions. Accountability is a concept that resonates across moral and legal plains with the difference between the two hinging on law's structured institutional capacities to render individual account through enforceable legal rules. Moral sanctions, while carrying with them the prospect of similar societal turpitudes, do not have the same institutional characteristics or mechanisms of retribution and punishment (Cane, 2002).

Our fleeting interest in moral responsibility is used to show a nature of responsibility theory that pervades both the legal and digital which privileges personal account. Personal account regards the question of *'what should I be responsible for?'* rather than *'who should I be responsible to?'* It refers to how individuals are ascribed responsibilities for what they should be accountable for. We argue that responsibility in the digital realm is more complicated and there is a distinction between being held accountable and bearing responsibilities. We contend the latter involves negotiated possibilities and consensus formulation that is beyond the traditional processes of being held to account, either legally or morally. Both give rise to complex considerations and even more complex conversations.

For now, we show that being held to account as part of responsibility ascription highlights the degree to which personal responsibility is built within the relational contexts of other forms of responsibility. The degrees that other forms of responsibility are built on, and deem individuals responsible by being accountable, highlight the singular base from which responsibility is ascribed and why it is ascribed.

A question persists at the heart of discussions about ascription, accountability and responsibility that regards who has the power to allocate responsibility and who benefits from the ascription of responsibility to hold account. These degrees and distinctions are explored through two different contemporary responsibility approaches: responsibilisation and response-ability.

Responsibilisation refers to the tectonic movements relating to the transition from the post-war liberal order to the neoliberal state. A key movement is the shift from government to governance (Rose, 2000) with its increased focus on decentralised authority resulting from privatisation of public services (Shamir, 2008). Decentralisation also seeps down to individuals with changing expectations about the capabilities of individuals to determine their own best interests and pursue them through rationalised goals and actions (Peeters, 2013). A core aim of the neoliberal state is to provide greater freedoms of choice for individuals as a core justification for privatised services. The monolithic delivery of essential government services is replaced by competitive private sector innovations, which means that citizens will be able to better match service delivery outcomes to their own needs. However, as a number of authors have highlighted, greater freedoms of choice paradoxically lead to new forms of control by making individuals responsible for choice management (Bogard, 2005; Castells, 2009; Davies, 2018; Deleuze, 1992). The benefit of increased freedom of choice thus comes with the overburdening of self-actualisation and self-management (Trnka and Trundle, 2014).

We see then a different form of personal responsibility from that of the moral actor to the governed individual. The latter is no longer ascribed responsibility by being held to account for blameworthy actions. Instead, they are overdivested with responsibilities for choice that require insuperable capabilities to fully realise those choices, including the incalculable risks that could arise from choice selection. A final point is also worth noting regarding the shift from singular service delivery through the state to multiple forms of service delivery via

privatisation. Responsibilisation strategies that divest state responsibilities means that individuals become the target group for responsibility allocation, and if not, then new collectivities need to emerge (Trnka and Trundle, 2014). The dynamic nature of shifting responsibilities and new organisational emergences means that relational contexts increase in importance. However, responsibilisation has a bald view of this relational context as it stratifies responsibility to designated parties, most notably the individual. Response-ability approaches, on the other hand, have a different perspective about the complexity and importance of relationships, understood broadly and collectively.

At a surface level, it is possible to draw parallels between the individualised focus on moral responsibility and the collectivist orientations of individual outlooks considered by response-ability scholars, as they both, to a degree, regard the capabilities of individuals. Any surface level similarities are quickly countered because response-ability notions reject 'the metaphysics of individualism' and instead focus 'collective knowing, being and doing' (Bozalek and Zembylas, 2023). Understanding the collective capabilities of individual entities requires responding with care because each component of life, including humans, cohabits and is intimate with each other. Being response-able regards responsive awareness to environs. Unlike the culpability assessments of backward-looking forms of ascription or the drowning of cognitive choice under responsibilisation, response-ability approaches focus on ontological entanglements with 'the other' rather than focusing on individual conscious intent (Bozalek and Zembylas, 2023). Emergences of responsibility are generated through the multi-directional relationships of social practices which requires a cultivation of attentiveness to noticing 'the specificity of details in everyday practices' (Bozalek and Zembylas, 2023, p 65). Being responsible entails a range of different adjectival actions beyond rationality and cognitive capacity. They include: care, attention, openness,

acceptance and responsiveness. Response-ability approaches then ‘emphasises how crucial cultivating the ability to respond and to allow the other to respond is for collective flourishing’ (Bozalek and Zemblylas, 2023, p 78).

In conclusion, the ideas presented in our brief tour of responsibility theories highlight diverse ways of thinking about responsibility. All aspects of responsibility analysis have at their core a construct of the individual, but as we have seen, that construct can be responsible in different ways and for different purposes. We have shown the transition of responsibility considerations based on individuals from self-management to self-capable to response-able which intersects with digital and legal literature. We now build on these ideas to present a new digital responsibilities framework that outlines the complexity of responsibility formation in digital realms.

Digital responsibilities framework

Building on the previous discussion, we now present our framework for better understanding the process of responsibility formation in the digital realm. The framework acknowledges that digital responsibilities are different to the non-digital world. The mediation impact of digital technology is such that it disrupts the relational contexts in which responsibilities emanate. In that regard, our framework is based on the forward-looking nature of responsibilities and draws more inspiration from the collective role of responsibility generation than backward-looking ascription. As you will see, for us, constructing digital responsibilities is a consensus building activity that involves the alignments of different actors, values and activities to provide successful digital implementation strategies. The idea of alignments and responsibilities is not new, as outlined in our coverage of RRI. However, rather than focus on responsibility as a component of specific technology design and use, we seek to scaffold conversations of responsibility in contexts where technologies are combined

and re-combined by different and emerging parties to create many and varied digital capabilities.

Our framework is broader because it considers the capacities, capabilities and spaces where digital responsibilities form and as a result also captures the infrastructural consequences of digital implementation. The infrastructure, and the technology it enlivens, both connects and distances individuals concurrently (Acker, 2025). Understanding connection and distance therefore requires an understanding of governing spaces and the activities that take place within those spaces to better understand the relational context of responsibility formation. As alluded to already, our framework is distinctly relational, and we agree with the authors noted earlier that to understand responsibility formation is to understand relationships. How responsibilities are realised and actioned, principally through digital infrastructures and technologies, gives insight into how different actors – users, designers, regulators – relate to each other and could form consensus around responsibilities.

Our framework outlines a process of enabling collaboration and constructing consensus among the multiple and continuous parties involved in the realisation, establishment and actioning of digital responsibilities. The framework represents the dynamic nature of digital responsibility formation that involves multiple parties, with differing requirements and different capabilities. The framework thus recognises that the process of digital responsibility formation is conducted in a genuinely pluralistic environment that features groups and individuals with diverse needs, resources and values.

The digital environment is pluralistic because it straddles separate sites of responsibility realisation (for example, the market, the state and the individual) and across different realms of technology use relevant to the establishment of digital responsibilities. In turn, these different sites and realms are governed through multiple plural perspectives – legal, regulatory, infrastructural, computational, etc. – to the extent that not one perspective is sufficient to understand the true

complexity of digital responsibility formation. A pluralistic kaleidoscope is required to view sufficiently the complex enmeshing of distinct perspective requirements, values and norms that are an intrinsic part of the parties/individuals involved in responsibility formation.

The process of realising, establishing and actioning responsibility for the digital realm thus needs to enable collaboration across separate groups to ensure a genuine consensus about the need and actioning of responsibilities. [Figure 2.1](#) outlines the high-level operation of the framework.

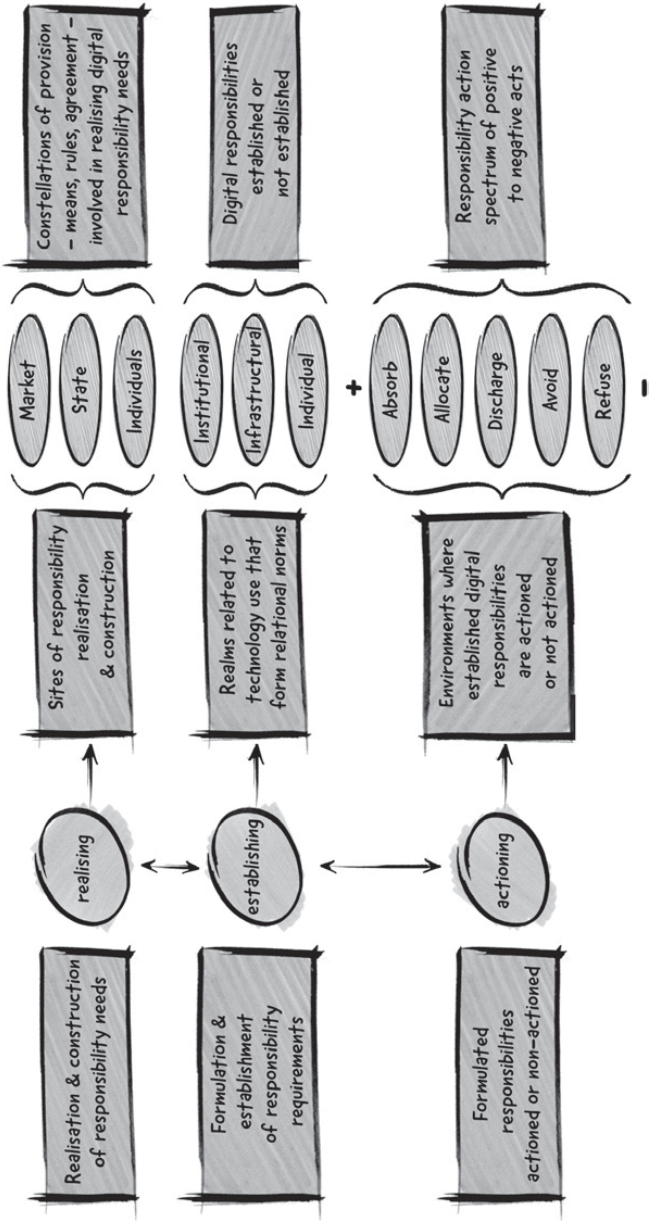
The framework identifies three process points involved in digital responsibility formation:

- *Realising* entails the realisation and construction of responsibility needs across the different parties involved.
- *Establishing* regards the formulation and establishment of digital responsibility requirements.
- *Actioning* entails how established responsibilities are actioned or non-actioned.

Each process represents different requirements of responsibility formation and each one is governed by the aims of enabling collaboration and constructing consensus. As such, while each process is distinct from each other, they are nevertheless built upon values of collaboration and consensus construction that recognise the pluralistic nature of the digital environment. The framework thus seeks to sufficiently capture plural dynamism rather than present a linear flow process that results in a simple ‘input to output’ decision-making mechanism. As already noted, backward-looking forms of ascription simply do not match the conceptual complexity that we are calling for.

In our framework, some responsibility realisations may never come to full fruition, and some that are, may not become established or actioned. The framework therefore seeks to recognise the essential contests involved in digital responsibility

Figure 2.1: Our digital responsibility framework



formation that can impact upon each process, in diverse ways and at contrasting times. Again, we do this to highlight the multiplicities entailed in digital responsibilities and to acknowledge the genuine need for consensus building processes as part of the overall understanding of responsibility formation.

Each process component – realising, establishing and actioning – is now briefly outlined.

Realising responsibilities

As we set out at the start of [Chapter 1](#), our work is grounded in the digital responsibility research programme sponsored by the UK's Research Institute for Sociotechnical Cyber Security (RISCS). The programme's initial review of the UK online harms debate surfaced two important dimensions of the digital responsibility debate: sites and realms. The term *site* refers to a constellation of institutions that share a similar set of digital responsibility considerations and concerns. Our initial analysis showed that responsibilities take the form of duties and obligations and are primarily implemented in one or more sites of responsibility. Our analysis further showed that in the digital setting, no one site of responsibility can ascribe and discharge digital responsibilities without the collaboration of the other sites of responsibility. At the same time, our review of the debates indicated that responsibility is discharged in two distinct areas of activity: (i) use of digital technology to create and curate digital content and (ii) design and development of technology. These areas of activity we term *realms* of digital responsibility. In each of these realms, we observed that security technologies are included within the digital design to ensure that the user of the technology discharges digital responsibilities.

The realisation of digital responsibility is conducted across different sites. Drawing inspiration from [Dunn Cavelty and Egloff's \(2019\)](#) analytical framework used to identify the interplay between main areas of tension in cybersecurity policy, the initial review of the online harms debate set out the three

key sites that shape responsibilities: the *market*, the *state* and the *individual*. These sites and the tensions between them have shaped the design of our digital responsibility framework.

Each site provides varied reasons, wants and capabilities involved in realising the need for new or updated digital responsibilities. Each site also provides different foci necessary to the responsibility realisation and construction process:

- *The market* represents the infrastructural and computational requirements of digital responsibility engagement which is now significantly in private and commercial hands, both in terms of operation and future development. It provides the *means* for realising the need for digital responsibility formation.
- *The state* represents the governance requirements of infrastructural existence and operation. The state, its body of regulators and law makers, establishes the governance framework in which digital responsibilities are realised and established. It provides the *rules and guidance* for realising the formation of digital responsibilities.
- *The individual* represents the consensus requirement necessary for realising and constructing digital responsibilities. The incorporation of the representative individual as part of the responsibility realisation process ensures that the means of the market and the rules of the state are designed for the needs of populace consensus. The individual provides the *agreement* for realising the construction of digital responsibilities.

The framework identifies that outcomes of realisation and construction will always be different and it is therefore representative of the differing plural interests at play across all sites. These different outcomes are called the ‘*constellations of provision*’. In some realisations, and constructions of those realisations, the interests of one site (for example, the state) may outweigh the others (for example, the market) and vice versa. Responsibility realisation thus involves consensus generation

across all sites with the negotiated capacity to recognise and acquiesce to different interests for distinct reasons. However, there must be agreement to assist the effective establishment and actioning of digital responsibilities.

Establishing responsibilities

Once digital responsibilities are realised, we contend that the next process regards establishment of responsibility. It is here where digital responsibilities are formulated and established in realms related to technological and infrastructural use. Relational norms shape different dimensions of digital responsibility activation by different parties, in diverse ways. It is in these realms where institutional, infrastructural and individual responsibilities become established or not established. As such, even if the realisation of responsibility is identified and constructed, it does not automatically mean that it will be established. It will only be established through the processes of collaboration enablement and consensus construction identified in our framework.

The three case studies that make up the middle body of the book all demonstrate the importance of the establishment process but in separate ways. [Chapter 3](#)'s exploration of the debates that preceded the Online Safety Act shows that establishing responsibilities forcefully through ascription of legal rules resulted in a defined legislative outcome which did not receive the full support of all parties, most notably online service providers. Forceful establishment thus has its limitations, even when it is the ultimate force of state-based legislative development. [Chapter 4](#)'s coverage of asylum seeker digital needs shows the opposite. An international legal obligation was established upon state governments to provide digital access with broad consensus about its need and benefit for vulnerable persons seeking to live in a distant country. That consensus changed over time, however, to the extent that even though a responsibility was established and recognised by all,

it was still not actioned. Finally, [Chapter 5](#)'s coverage of how Kurdish communities in London responded to the census, again shows an established responsibility through law that met differing levels of support from different actors. All three case studies highlight the significant role of legal and regulatory rule formation as part of establishing responsibility.

It is therefore important to understand the role that responsibility plays in legal application because it is crucial in how law establishes individual and collective understanding of responsibility actions through different frameworks, namely, the outcome-based and constitutively based frameworks. Each framework has processes that signify different responsibility outlooks for responsibilities that are established, understood and actioned involving law. Each framework also aims to produce different identity type individuals that will lead to several types of responsibility perceptions and actions. The outcome-based framework seeks to produce the rational individual, a person of free will who is able to make legal and moral choices based on ascribed obligations. Hence the framework's focus is individualised and involves elements that regard individual and internal considerations regarding consequences of outcomes.

We consequently believe that identity formation is at the heart of establishing legal responsibilities. Understanding the role of legal responsibilities better identifies the role of law in the establishment of individual and collective identities. Establishing responsibilities thus has a bifocal effect akin to Cane's differentiation of responsible for and responsible to. Legal rules establish responsibilities through ascriptive means. Legislation provides the framing for which blameworthiness can be identified, articulated and actioned. That track, as noted earlier, is well worn. Equally, however, legal rules also provide the frame for establishing governable identities; for example, a citizen or corporation that is compliant or non-compliant with the law. To do so requires individuals to understand who they are and how they interpret their

role individually and in collectives. Individuals thus subsume external legal obligation internally to make rational choices about consequence. Identity formation is established internally within individuals (for example, consciousness) and externally in the context of broader societal expectations and governance. There is a relationship, then, between responsibilities, the expected fulfilment of responsibilities and the understanding of individual and collective identity formation in the realisation, establishment and actioning of responsibilities.

However, as outlined earlier, each framework has a different mode about how legal responsibility is established, especially from the perspective of internal identity construction. Under the outcome-based framework, individuals of free will and capacity take responsibility for their actions. Individuals have a responsibility to society to do so as ascribed by legal rules. That is why the outcome-based framework seeks to establish the rational individual – a person of free will who is able to follow legal responsibilities based on an understanding of established consequences, including the sanctions and blame that could flow. On the other hand, the constitutively based model highlights that responsibility is assembled by individuals and groups collectively as part of the fulfilment of social practices. The framework seeks to produce the intersubjective individual (Dancohen, 1992) – a person who accepts responsibility by understanding their relation to others during the fulfilment of social practices, and their role in the ongoing consensus-focused negotiations that take place across networks. The framework's focus is on understanding responsibility formation as an ostensibly external process involving active interaction with social practices that generates the need for negotiated responsibility outputs.

A foundational difference thus exists between both frameworks. In the outcome-based framework, responsibility is established through law and the locus of analysis shifts to whether the ascribed legal rule has been complied with. Establishment, as seen through some of the case studies, can be forced but may not automatically lead to successful

implementation. In the constitutively based framework, establishment is constructed with the individual being an active participant in their understanding of the responsibilities that emerge from active participation involving social practices, including law.

Both processes have similar characteristics that relate to internally generated understandings of responsibility and externalised responsibility actions. However, the ordering of internal and external processes is different across both frameworks. The outcome's framework is unidirectional and that sees responsibility formation by individuals through law as a linear and set process of external and internal components. External law ascribes legal obligations and individuals subject to those obligations internalise them rationally. A consequential assessment is then made internally to ascribe with the obligations and to take responsibility for actions that then flow. Responsibility establishment is thus formed externally and understood internally.

The constitutive framework's consideration of external and internal components is multi-directional and dynamic. An established legal obligation can still exist but instead of directly ascribing individual responsibility through an internal process, an individual's understanding of responsibility is determined through their interaction with others in given social practices. Rather than a clearly delineated process of external to internal responsibility generation, the process of constitutively understanding responsibility combines both external and internal components together, at the same time. Responsibilities are therefore understood through active interaction with others, and understandings of external environments, rather than a purely internal process of rational free will. In that sense, establishing responsibilities is a relational act based on how individuals relate to each other across networks and infrastructures.

Identifying how responsibilities are established is therefore important because doing so shows that, like the process of

realisation, responsibilities can be established in different ways, even when the process of responsibility establishment through law looks facially similar, as the three case studies identify. As noted earlier, each case study has a different type of established legal obligation that provides a range of responsibilities for different parties. However, how those responsibilities were understood were markedly different across the parties. Understanding responsibility establishment thus bridges responsibility realisations and foregrounds responsibility actions. We contend that understanding establishment as the realisation of responsibility consensus helps to better identify and understand the concomitant actioning of responsibility by individual actors in collaborative settings.

Actioning responsibilities

Unsurprisingly, the final process regards digital responsibilities that have been realised and established and now need to be actioned. The process represents different approaches to responsibility enactment which gives rise to different types of responsibility act which are conducted in the physical and virtual environments relevant to the actioning of established digital responsibilities.

We contend that responsibility acts work across a spectrum of positive and negative actions. Accordingly, our framework recognises that parties and individuals undertake some responsibility acts positively, some are begrudgingly undertaken and others are avoided or refused. As such, even if a digital responsibility has been realised and established, its enactment cannot be taken for granted as automatically flowing from realisation and establishment. There is still the continual requirement for collaboration and consensus that is necessary to enable positive responsibility actions. Equally, because digital responsibility formation is conducted in a pluralistic environment, there also must be collaboration and consensus

across sites, realms and norms, and aided through legal, regulatory infrastructural and computational requirements.

Again, the case studies demonstrate the dynamic nature of these considerations. In each case study, there are established responsibilities through different forms of legal requirement, namely national legislation, international treaty obligations and domestic regulatory requirement. Nevertheless, how parties involved in each case study actioned their responsibilities differed markedly. Some parties, most notably the Kurdish civil sector groups in [Chapter 5](#), were willing to take on extra responsibilities to ensure that potentially helpful legal obligations arising from the census's implementation were better received and actioned across the Kurdish community in London. The same could also be said for civil society groups working with refugees and asylum seeker communities in [Chapter 4](#). Equally, however, the opposite forms of action occurred, involving private sector online service providers in [Chapter 3](#) and a host of national and local government organisations in [Chapters 4 and 5](#). The case studies then demonstrate that the actioning of responsibility should never be taken for granted as either realised or established by all parties. One process can influence the other and that also regards the actioning of responsibility, especially in digital implementation strategies, when existing relationships can be displaced or disrupted through the advent of innovative technologies.

Our framework considers five types of non-exhaustive act that are identified on the positive to negative spectrum through the case studies. The individual or party responsibility actions are as follows:

1. *Absorb* – in this situation, parties willingly take on responsibilities designated to them and potentially designated to others who may not have the will or capabilities to act sufficiently upon their established responsibilities. Absorption is the highest positive act as it seeks to fulfil

the agreed consensus of the environment at potentially the expense of the individual party's own benefit. A key act of absorption arising from the case studies is the actions of the various Kurdish civil society groups who absorbed extra education and training responsibilities to ensure new census requirements were better met.

2. *Allocate* – in this situation, parties take on responsibilities designated to them, and to others, to identify and share those responsibilities across environments. The act of allocation recognises that a party is willing to take on responsibility, but rather than absorb it, and enact the responsibility itself, it designates to, or negotiates with, another party for actioning. Allocation is still a significantly positive act because to allocate is based on (a) ensuring the furthering of a responsibility act and (b) that furthering is based on collaboration and consensus. Again, the co-ordination of community response, and the sharing of resources in relation to positive responses, was a key similarity in the Kurdish and civil society actions outlined in [Chapters 4 and 5](#).
3. *Discharge* – refers to the baseline act of fulfilling or discharging a responsibility. The act of discharge sits in the middle of the spectrum because it can represent both positive and negative actions. A discharge can be positive because, as a base requirement, there is agreement to take on responsibility. It can also be a negative act in situations where some parties could clearly do more to undertake a responsibility; for example, it has the capabilities to absorb or to allocate, but it chooses not to and thus merely discharges, rather than extends, its minimum responsibility. A discharge is thus contextual and representative of the pluralistic environments of digital responsibility formation. An example of discharging behaviours arising from the case studies involves minimum level implementation strategies for asylum seeker digital services provided by local authorities. The same could be said of the local authority actions relating to the Kurdish community and the census.

4. *Avoid* – refers to the negative act of avoiding a responsibility that has been realised and established as relevant to a party. Avoidance is a negative act because it is likely to result in a non-action which has been identified by parties in the responsibility environment as important for the party to undertake. As such, acts of avoidance start to impinge upon the collaboration and consensus requirements inherent to digital responsibility formation. The nature of avoidance is such that there is not a direct refusal to collaborate and negotiate with other parties. Rather, there is a singular focus to act in the best interest of the individual party over the needs and values of environmental collaboration and consensus. As [Chapter 3](#) highlights, many of the contentions arising from the OSA's fractious debates regarded online service provider attempts to avoid responsibility for the broader protection of digital environments.
5. *Refuse* – a definitively negative act of refusing to take on a responsibility that has been realised, established and actioned by other parties flowing from collaboration and consensus. Refusal is an act that conflicts with the expectations of parties involved in environmental responsibility formation. It results in a negative effect across the environment, the sites and the realms of digital responsibility formation, because it directly goes against established norms, requirements and consensus. It also results in a defiantly negative outcome of dis-establishing responsibilities that have been willingly accepted by others in the responsibility environment. The case studies show that the impact of avoidance and refusal acts means that realised and established responsibilities eventually emanate on individuals through responsibilisation strategies. As such, even though none of the case studies specifically involved a refusal action, the extent that different parties tried to avoid responsibility had the same sort of impact upon individual citizens, namely, to try to make them responsible for someone else's actions.

Conclusion

Our digital responsibility framework outlined previously represents a new way of conceptualising the development and actioning of responsibilities in the digital realm. It outlines the importance of understanding the relations between:

- Realising, establishing and actioning digital responsibilities.
- The sites, realms and environments in which digital responsibilities are formed.
- The norms, requirements and values that underpin digital responsibility formation.
- Enabling collaboration and constructing consensus throughout the processes of digital responsibility formation.

We contend that it is the alignment of these responsibilities that increases the likelihood of successful responsibility adoption. At the heart of our framework is the notion that responsibility is an essentially collaborative exercise that operates in plural and dynamic environments. In that sense, it draws strongly from the forward-looking basis of law's constitutively based framework and sees the role of responsibility as ultimately a means to foster consensus. Being responsible then is not simply about being responsible for something, whether that arises from a moral or legal standpoint based on ascriptive means. Responsibilities, in that sense, do not simply arise through roles, causal effects or liabilities. Instead, the formation of responsibilities should be shared beginning with the acknowledgement that collaborations are essential to the better implementation of legal, regulatory, infrastructural and computational requirements for digital environments.

We now move to the book's case studies which outline three different implementation strategies relating to digital capabilities and the uncertain flow of responsibilities that then ensues from implementation. As noted in [Chapter 1](#), each chapter has illustrations to highlight key points.