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# Dynamics of control on digital platforms

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**Abstract**

Digital platforms are supraorganizational entities that use digital technology to facilitate interactions between diverse actors, leading to novel forms of organisation and accompanying forms of control. The current Information Systems (IS) literature, however, struggles to describe control on digital platforms in a way that does justice to the dynamic character of the phenomenon. Taking this as an opportunity, we follow the enactment of control over time and across parties in a hybrid ethnographic study of the social commerce platform Poshmark. Specifically, we conceptualise the dynamics of control as changes in the means of control—formal or informal—and the sources of control—operator or participants—over time. Tracking these conceptual dimensions, we identify the distinct ways control has changed on Poshmark. Synthesising these findings into four dynamics of control, we show that control on digital platforms is rarely static due to aggregate effects arising from the operator and from participant interactions with each other through the digital features deployed on the platform. Based on these insights, our study contributes to the IS literature on control by broadening the conception of control on digital platforms. The theoretical and practical insights generated in this paper thereby lay the foundation for the systematic study of the dynamics of control that are unique to platform environments.

**KEYWORDS**

digital platforms, dynamics, means of control, platform work, sources of control

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## 1 | INTRODUCTION

Platforms use digital technologies to facilitate interactions between participants who would be difficult or impossible to connect otherwise (Gawer, 2014; Helmond, 2015), representing new modes of digital organising (Baptista et al., 2020). To enable interactions and ensure the appropriate behaviour of participants while also providing opportunities for new interactions to emerge, platforms require some form of control (Adam et al., 2022; Ghazawneh & Henfridsson, 2013; Thies et al., 2018; Wareham et al., 2014). In this sense, control on platforms (hereafter *platform control*) can be understood as the microlevel mechanisms through which the behaviour of a controlled party is aligned with the controlling party's objectives and intentions (Saunders et al., 2020).

The platform literature often portrays control as a static phenomenon, that is, control is exercised by one party through specific means to achieve predefined objectives. For instance, studies on platforms as multisided marketplaces present control as occurring through formal incentive schemes that align participant behaviour with operator objectives whenever needed (Parker et al., 2017). Another prevalent theme in the platform literature is algorithmic control, in which platform operators exert automated monitoring and steering of participant behaviour to align it with organisational objectives (Möhlmann et al., 2021; Möhlmann & Zalmanson, 2017). Control can also be informal, with operators pursuing subtle behavioural nudges to encourage desired norms (Rosenblat, 2018) or participants controlling one another through reputation-based mechanisms that allow them to rate others (Gandini, 2018; Veen et al., 2020). In each of these examples, control originates from one source, such as a focal actor or groups of actors who exercise control by means that are either formal or informal to achieve clearly defined objectives. In contrast, evidence from practice, as well as emerging scholarship suggests that platform control is inherently dynamic, that is, it changes in means and sources over time. However, such work is still nascent and lacks a systematic lens to describe how platform control might change over time. As a consequence, the portrayal of control as a subject of study in the platform literature does not match the dynamic character of control as a phenomenon.

This mismatch is problematic precisely because digital platforms invite control to be reshaped over time as a result of rendering social interactions through digital technology. By design, digital platforms are multiactor, supraorganizational environments that use digital technology to facilitate the interaction of unrelated and constantly changing participants who act in their own interests (Möhlmann et al., 2021). For example, platform participants flexibly use technical components that allow them to create derivative products and services in alignment with their own objectives (e.g., Ghazawneh & Henfridsson, 2013). Such behaviour can give rise to changes in control that the operator does not anticipate (Eaton et al., 2015). In a similar vein, guided by automatically rendered decisions or algorithmically computed metrics, participants can organise a social activity to their advantage (Alaimo & Kallinikos, 2021), thereby exercising control over resources and other participants (Levina & Arriaga, 2014). This suggests that platform control changes over time as a function of participant interaction with each other and with the operator through digital technology.

Therefore, an understanding of platform control originating from fixed sources using clearly defined means may be misleading. As a result, platform researchers struggle to account for formal control that originates from participant engagement with one another, as well as informal control that is exercised by the platform operator (see, e.g., Robert, 2019; Pregonzer et al., 2020). A systematic understanding of the changes in platform control over time can shed light on the dynamics of control that emerge on platforms for contractual work, and entrepreneurial activity when interacting participants pursue goals that can range from convergent to tangential with other parties on the platform. Herein lies an opportunity for the Information Systems (IS) literature on digital platforms to develop its conception of control. Taking this opportunity as a point of departure, we investigate the dynamics of control on digital platforms to *understand how control on digital platforms unfolds and how its means and sources change over time*.

We approach this research goal through a hybrid ethnographic study conducted over a three-year period (Hine, 2015; Przybylski, 2020). The study focuses on platform participants who use the social shopping platform Poshmark to sell used clothing and accessories. Data collection involved participant observation offline at company events as well as online on various platforms that sellers use, including Poshmark, Facebook and Reddit

(community spaces), Instagram (a marketing platform), and YouTube (a site for vlogging and audience building). By following control activities across Poshmark's platform ecosystem, we approach the phenomenon holistically, studying platform control when exercised by diverse actors in various spaces over time.

Through our study, we generate findings that frame the dynamics of control on platforms in terms of changes in the means and sources of control. These dynamics are the result of aggregate effects arising from the interaction of participants with the operator as well as with each other via the digital technology features deployed on the platform. Our research thus provides a lens for the systematic study of *how* control changes on digital platforms.

## 2 | CONTROL ON DIGITAL PLATFORMS

Positioned as a central managerial activity, control is a common concern of organisation and IS studies (e.g., Wiener et al., 2016). Here, control is typically described as the microlevel mechanisms by which the behaviour of a controlled party is aligned with the objectives of a controlling party, usually those of an organisation (Saunders et al., 2020). In the following subsections, we develop a conception of platform control that is grounded in this literature and that allows for framing its dynamics in a systematic way.

### 2.1 | Means and sources of platform control

One broad way to understand control in an organisational context is to separate the means through which it happens: formal control, which is '*characterized by explicit controller prescriptions*', and informal control, which is typically associated with '*implicit determinants of contolee behaviours*' (Wiener et al., 2016: p. 743). Formal means of control include policies and procedures that target members' concrete behaviours, such as rules about hours of work, standard operating procedures, and measurements of output such as performance reviews based on specific targets (Ouchi & Maguire, 1975). On the other hand, informal controls are more diffuse. Common concepts include clan or normative control, where control is executed through a group of like-minded people who are motivated by commonly held values and norms (Alvesson & Willmott, 2002; Barley & Kunda, 1992; Ouchi, 1980). In informal control, colleagues and teammates are collaborators who discipline themselves and others (Coombs & Willmott, 1992), so appropriate hiring and robust socialisation processes are necessary to ensure group cohesion and discipline (Lave & Wenger, 1991; Rennstam, 2017). While informal controls generally assume a central attempt to cultivate culture, when these processes are executed diffusely, they can also unfold from the bottom up, where norms and values develop through team members (Tompkins & Cheney, 1985). As a result, even the most implicit forms of informal control can develop into formal guidelines over time by distributing the control among organisational members (Barker, 1993).

While these are essential insights to understanding control in an organisational context, the means and sources of control are likely to differ in the context of digital platforms. We know from the existing literature that digital platforms are not conventional organisations (Gawer, 2014) but rather multiactor, supraorganizational environments that facilitate the interaction of unrelated and constantly changing sets of participants who act in their own interests (e.g., Möhlmann et al., 2021). This environment invites the dynamic reshaping of control as a result of digital technology-enabled social interactions on platforms (Kellogg et al., 2020). For example, the distinctions between formal and informal means of control can be blurred when platform participants engage through digital media and when the formal controls that platform operators inscribe in the technology are reformulated, interpreted, and re-enforced by informal means on the platform (Alaimo & Kallinikos, 2021; Orlikowski & Scott, 2014; Plantin et al., 2018). Similarly, when users act in their interest, the unifying goals, norms, and values of the authorised central platform operator may become unclear, leaving ample room for participants to enact control through the use of digital technologies (Levina & Arriaga, 2014; Möhlmann et al., 2021). Thus, control on digital platforms can also shift in its source,

corresponding to whether control originates from the platform operator or from other participants. Hence, we can distinguish conceptually between the *means* and *sources of control* on digital platforms:

1. **Means of control** refer to the extent to which behaviour is controlled via *formal*, explicit prescription, or *informally* through shared norms and values.
2. **Sources of control** refer to the extent to which control on platforms emerges from the intentions of a *central* platform operator or *distributed* platform participants.

Both the *means of control* and the *sources of control* are central to studying control on digital platforms, as it allows us to describe how control on platforms can change over time. However, the platform literature in the past has tended to depict control on platforms as originating from one source—be that the platform operator or a group of participants—to implement control through clearly discernible means (e.g., formal or informal). This has led to an imbalance between the actual widespread, dynamic practices of control on platforms and the depiction of this control in the literature. As a result, whether digital platforms are studied from an economic, managerial or technical perspective, views in the literature that account for platform control as a dynamic phenomenon are still nascent, and a systematic study of the dynamics of control is lacking.

## 2.2 | Static and dynamic views on platform control

In line with the dominant conception of control in an organisational context, a host of platform studies depict control as a formal means enacted as part of an overall strategy. Such literature treats platform control as punctuated interventions to achieve clearly defined objectives set out by a platform operator. For instance, research on platforms as multisided marketplaces presents control as the alignment of participant behaviour with the platform operator's objectives through formal incentive schemes. From this economic perspective (Gawer, 2014), control is used to maintain the network of actors on the platform by balancing demand and supply. The actor who exercises control is the platform operator who orchestrates the market centrally to foster the quantity and quality of transactions that the platform facilitates (Boudreau 2012; Boudreau & Hagiu, 2009; Parker et al., 2016; Thies et al., 2018).

To that end, platform operators devise formal controls to govern platform access and activity. Access to platforms is controlled predominantly through pricing, referring to differentiation in the cost of participation (Parker & Van Alstyne, 2005). Prices are often set in line with the platform operator's strategy and reflect the expected behaviour of participants, whether professional or amateur, who engage with a platform for economic gain (e.g., Boudreau & Lakhani, 2009). Prices can, of course, be changed, but this happens in discrete steps and under the auspices of the operator. For example, should the operator wish to enrol members of a specific group of participants, access for that group might be set at a discounted price, thus lowering the threshold for them to join (Parker & Van Alstyne, 2005). Controlling activity on the platform similarly manifests by rewarding participants for their behaviour, which regularly takes the form of reactive interventions by the operator, such as the promotion and certification of participants (e.g., Rietveld et al., 2019). Irrespective of the specific form, control in this vein is exercised by the operator who sets economic incentives to align participant behaviour (e.g., Parker et al., 2017).

Studies of platforms as markets have also begun to highlight the dynamic nature of control. For example, research on algorithmic control (Möhlmann et al., 2021; Möhlmann & Zalmanson, 2017) describes the deployment of algorithms to monitor participant behaviour and automate decisions to align their behaviour with organisational objectives. For instance, Deliveroo suggests in its online forum, Roo Community, that the most reliable service providers will be favoured for jobs, although to what extent is unclear (Veen et al., 2020). As such, algorithmic control uses varying means to achieve market-oriented outcomes: it can reinforce traditional regimes of formal control (Deng et al., 2016) or be informal, such as when it takes the form of behavioural nudging to encourage certain behaviours (Möhlmann et al., 2021; Pregonzer et al., 2020; Rosenblat, 2018).

Such studies of algorithmic control highlight the dynamic character of platform control along two dimensions. On the one hand, since algorithmic controls originate from the operator to optimise resource allocation in line with their strategy (Möhlmann et al., 2021), they are themselves a means of control, as they encode participant data in forms that can be used to shape participant behaviours in line with the interests of management (Alaimo & Kallinikos, 2017; Curchod et al., 2019; Plantin et al., 2018). This control can be formalised by explicating the metrics that participants are expected to achieve. They can also be informal when operators aim to incorporate codified participant behaviours into the future design of their proprietary algorithm (Wiener et al., 2021). Using participant data to iteratively develop an underlying algorithm implies that algorithmic control can be implemented through both formal and informal means, highlighting its dynamic character.

On the other hand, platform control managed through algorithms can result in different sources of control. For instance, algorithmic control on platforms is often gamed, circumvented, or even openly resisted by participants. This is exemplified by influencers on Instagram, who have formed grassroots communities to circumvent the algorithmic deprioritization of their content, thus letting control originate from their co-developed work practices rather than the platform operator (O'Meara, 2019). Similarly, riders on courier platforms have formed bonds and collective action movements in response to the eroded working conditions they have experienced (Tassinari & Maccarrone, 2019). The flexible participant relationship and relatively high levels of autonomy associated with platform participation enable, in part, the development of such community-specific normative structures (Roberts & Zietsma, 2018; Wood et al., 2019), which in turn function to control behaviour on the platform.

Furthermore, other work streams forefront dynamic control vis-a-vis the social and technical complexity of platforms, representing the values, norms, and practices of the actors involved in their design (Helmond, 2015). Because platform participants are individuals who vie for income, status, and visibility on the platform to advance their objectives, they do not act solely as agents for the platform operator (Duffy et al., 2021). For example, when participants organise social activity on the platform by using technical components (algorithms, visual design, computed metrics, etc.), they gain social influence and acquire a position that allows them to exercise control over resources and even other participants (Levina & Arriaga, 2014). As such, control on platforms is not limited to the operator's exercise of it and is dynamic as these power games play out over time.

Another example of dynamic control is seen with reputation mechanisms, exercised predominantly by the participants on the demand side of the platform, whose reviews of suppliers encourage behaviours that align with a certain quality of work (Robert, 2019). Such mechanisms function through obfuscation, that is, the constant yet abstract threat of consequences if one falls below a particular rating (Robert, 2019; Rosenblat & Stark, 2016; Veen et al., 2020). Gandini (2018) dubs this form of control 'techno-normative', which arises from a combination of management by customers and gamification to achieve one's personal best. When such activities become sufficiently pervasive and coordinated, they inevitably influence the platform operator's control strategies, including the means of control as a response to participant behaviours—including indications of desirable or undesirable behaviour (Cotter, 2019; Ens & Márton, 2021).

Another shift in views on platform control is visible in studies of control as a technical component design. In this workstream, the platform operator controls the interactions between the platform and its participants by focusing on structural arrangements in the platform's technical architecture (Eaton et al., 2015; Ghazawneh & Henfridsson, 2013; Wareham et al., 2014). Initially, studies of this approach depicted control as inscribed in the rules and procedures of deployed interfaces, licences or framework agreements to control the information flows across a platform's boundaries (Karhu et al., 2018), emphasising control as an intended function of a centrally controlled architectural design (Tiwana, 2014).

However, research increasingly suggests that control is far more dynamic than a one-off implementation by one party. For instance, studies of boundary resources highlight platform control as a series of decisions about which resources are available for interaction between participants and how they are made available (Eaton et al., 2015; Ghazawneh & Henfridsson, 2013; Karhu et al., 2018). This research acknowledges that participants seek flexibility to create derivative products and services that are aligned with their own objectives when they interact through

technical components (e.g., Ghazawneh & Henfridsson, 2013), giving rise to forms of control that the operator may not have anticipated (Eaton et al., 2015). Such work describes platform control as a ‘tuning process’ whereby shared digital artefacts are shaped by ‘cascading actions of accommodations and rejections of a network of heterogeneous actors and artefacts’ (Eaton et al., 2015: p. 217).

In summary, we argue that the current picture of control offers incomplete views of the dynamics of control and the role that digital technology plays in these dynamics. Recent work, as well as empirical observations, points to situations in which control on platforms involves changes in the means by which it is enacted, the sources from which it originates, or both. This suggests that an initial informal means of control can become formal over time, and the sources of control can evolve from residing with a central operator to incorporating the objectives of distributed participants (cf. Pregenzer et al., 2020). The IS literature on platform control, however, has thus far not systematically attended to such dynamics. We take this as an opportunity to identify the multiple ways in which means of control—formal or informal—and sources of control—operator or participants—are shaped through interactions among actors engaging on a platform through the use of digital technologies over time.

### 3 | METHODOLOGY

The findings reported here are part of a larger project including a hybrid ethnographic study that the first author Nicola conducted over a three-year period to explore the world of sellers on the social commerce platform Poshmark (Van Maanen, 2011). Poshmark operates primarily in the US and Canada and has more than 4 million sellers, most of whom are micro entrepreneurs (SEC, 2020).<sup>1</sup> While sellers use the Poshmark platform as their primary selling site, they also rely heavily on other spaces such as Facebook, Reddit, Instagram, and YouTube. Therefore, Poshmark is an ideal setting for studying the dynamics of control over time and across parties, approaching platform control through an immersive longitudinal study.

The hybrid ethnographic approach draws on digital and traditional ethnographic methods, collecting data primarily through participant observation and supplementing it with interviews and documents (Ens et al., 2021; Hine, 2015; Przybylski, 2020). Because of the experiential and immersive nature of hybrid ethnography (O'Reilly, 2012), no specific period or section of data from which the control themes exclusively develop can be identified. Instead, we report on the entirety of the collection and describe how the interrelated process of data collection and thematic development progressed for this paper (O'Reilly, 2012).

#### 3.1 | Data collection

Hybrid ethnography involves ‘*charting out and living through the ethnographic place of the field site, which is a sensorily embodied, rather than “virtual” experience*’ (Postill & Pink, 2012: p. 128). In practice, this approach means that Nicola becomes a participant observer across the wide range of platforms that sellers use while monitoring media, company developments, and the Poshmark app from autumn 2018 through winter 2021 (Seaver, 2017).

The first site for participant observation was Instagram, where Nicola set up a dedicated account using a biography that included research interests and a university email address to ensure that she had made her presence as a researcher known as she began following sellers, ‘liking’ and commenting on posts, and engaging through the direct messaging function (Ess & Jones, 2004). Facebook groups were added to the research sites, and whenever Nicola joined a group, she posted an outline of her research interests to ensure transparency (Ess & Jones, 2004; Sugiura et al., 2017). Across these sites, Nicola engaged as a participant observer with explicit awareness of her insider/outsider role and kept detailed accounts of her experiences (Spradley, 2016). During this early phase of the

<sup>1</sup>Poshmark has since entered the Australian and Indian markets as well. However, they are not included in the data corpus.

engagement, sellers were approached with broad questions that focused on the experience of being a Poshmark seller. Initial conversations included themes such as the strong community orientation that sellers felt and how they used each other to navigate business operations and develop work practices. It was at this point that themes around control and normative aspects of policing behaviour were first seen and recorded in fieldnotes. For example, fieldnote 32 stated:

I have observed, on many occasions, trends of policing behavior. I find this interesting because there are a lot of norms (e.g., Poshmark says 'you're not supposed to'), but the sellers often do it anyway, and the response is this type of social policing and finger-wagging. Again, it is about forming norms in this community and forming basic organizational policy on how to operate. I observed this in many places, including in this Reddit thread:

*Comment: 'I see other resellers adding incorrect brand keywords to make their item more searched. This is keyword-spamming, which we are not supposed to do. I did, however, do a test for some items by adding relevant keywords and will see how it does'.*

*Reply: 'Ohhhhh, no. That's bad. Never mislead the buyers! People like you who do that should be kicked off posh asap!'*

Indicating a strong element of socialisation, many sellers mentioned taking similar paths to selling, having seen either Instagram posts or YouTube videos and learning from more experienced sellers. As a result, watching popular YouTube videos became part of the participant observation, which allowed Nicola to experience prominent messaging as a seller on Poshmark ordinarily would (cf. Rogers, 2013). At the same time, to experience issues that sellers discussed, she set up a Poshmark account and began buying items and using popular features, including those described in the study's findings.

Nicola continuously used messaging functions on Facebook and Instagram to reach out to sellers and follow up on incidents or ask questions about posts. For instance, while conversing in a thread on the endless button-clicking that Poshmark demands, one seller tagged another seller as someone who had struggled to manage the demanding nature of the application, which led to a conversation over Messenger about the second seller's practices:

Nicola: Hello! I wanted to reach out to you re: your comment and ask a little about getting overwhelmed with sharing pre-virtual assistant (VA).

Participant: Hi! Pre-VA I was on my phone all the time, morning until late at night, and I was so distracted with my family. If you calculate the amount of time spent against my profits, it was a joke. My husband kept saying this is not a job, this is a hobby that is sucking the life out of you, and you feel obligated to be on your phone all the time. It was an addiction, but I thought it was business.

Nicola: Thanks for sharing. That echoes a lot of what I have both experienced myself and heard. Can you elaborate on how you handled this conflict?

In October 2019, Nicola attended PoshFest, the company's annual event for sellers. During the two-day conference, she conducted informal interviews with sellers, attended presentations, and spoke with Poshmark employees, including lead developers and the founders. Because the company's employees facilitated the event, Nicola was able to ask in-depth questions about the company's current control practices and ask, for instance, about practices that are widespread in the community but not necessarily officially condoned. The event also provided opportunities to establish new connections with sellers and to speak to sellers who had previously been interviewed only through

online chat. Meeting them face-to-face helped in establishing relationships for future conversations. Thus, some conversations with sellers span virtual and face-to-face channels over long periods of time.

During the entire research period, Nicola spent a minimum of 4 h per day in the field, 2 days per week, using routinised online practices of updating, exploring, tagging, and archiving (Postill & Pink, 2012). While participant observation can take several forms that vary in the degree of involvement, these observations helped create an experiential understanding of the dynamics of control on Poshmark and its changes over time (Coleman, 2010). Regardless of its nature, participant observation is recorded through ethnographic fieldnotes using thick descriptions (Emerson et al., 2011).

Engagement with the field site involved interactions with 266 seller accounts on Instagram, participation in 16 Facebook discussion groups, regular visits to two Reddit threads, observations of video content updates across 10 YouTube channels, active management of a Poshmark account with 4000 followers, and the collection of relevant artefacts from such news media, such as press releases. This work led to 518 fieldnotes with thick experiential descriptions of Poshmark compiled in more than 1700 pages of text, as well as 37 textual interviews conducted with messaging functions on social media.

This research was not overseen by an internal review board, and thus, we relied on well-established social science practices to guide our ethics (BSA, 2016; 2017). Given the nature of this type of data collection, with hundreds of people observed on social media, Nicola asked for informed consent in various forms while consistently and continually seeking to make her presence as an independent academic researcher known (Ess & Jones, 2004). For example, when conducting interviews or sending direct messages, she obtained consent directly from participants. In other instances, passive consent techniques were relied on, often a necessary practice in online research (BSA, 2016, 2017). For instance, when commenting on threads, Nicola would always begin with a disclosure of her status as a researcher. Similarly, when joining Facebook groups, a disclaimer post was made, while Instagram involved the use of a dedicated profile that stated her intent. The public nature of online data, where searching for strings of text could possibly lead to participant identification, raises an ethical dilemma related to the anonymization of data. Therefore, reported quotes are altered slightly in wording (not meaning) to deidentify participants (BSA, 2016; Marabelli & Markus, 2017). To further protect participants, we also relied on anonymization—changing first names and excluding identifying details such as career, family details, and location (Sugiura et al., 2017). It is worth noting that this anonymization happens at the point of data collection when constructing fieldnotes, both to meet ethical standards and also in line with the General Data Protection Regulation (GDPR), which governed this work, as all authors are affiliated with a university in the EU. This means that individual direct consent cannot be obtained post hoc for quotes collected in public forums, such as Facebook or Instagram, as identifying details have already been omitted at the point of data collection. Finally, there are ethical concerns related to the manipulation of research participants. Here, the approach taken was pragmatic, involving clear communication with participants about the role of a researcher and neither purposefully nor systematically influencing participant behaviour.

Table 1 provides an overview of the data collection methods and sources. In our findings section, references are made to the specific fieldnotes from which data are drawn.

### 3.2 | Data analysis

In ethnographic work, data analysis is part of data collection, with the researcher practising an iterative-inductive approach ‘in which data collection, analysis, and writing are not discrete phases but inextricably linked’ (O’Reilly, 2012: p. 5). This approach evolves iteratively in response to changes in the field and reflections on theory while writing about the experience.

Control was an early theme in the fieldnotes that developed from participation on the field site. An increasing number of fieldnotes were constructed that reflected the more informal nature of control on the platform through participant interaction with one another. Given that much of the platform literature places a heavy focus on the



**TABLE 1** Overview of data collection

Data sources (No.)	Nature of collection
<p><b>Participant observation (518 fieldnotes)</b></p> <ul style="list-style-type: none"> <li>Online participant observation (14/10/2018–22/12/2021)</li> <li>Offline participant observation (04/10/2019–07/10/2019)</li> </ul>	<ul style="list-style-type: none"> <li>Observing thousands of participants in social media forums and discussing, for example, their use of technology, their views of the platform including the operator and one another, best practices, challenges, and decision-making processes.</li> <li>Watching ‘how-to’ videos created by sellers.</li> <li>Making transactions on the platform and receiving reviews and feedback.</li> <li>Tracing the development of practices longitudinally through historical data.</li> <li>Speaking to the platform operator about design intentions.</li> <li>Observing presentations by the platform operator regarding their intentions and objectives.</li> </ul>
<p><b>Interviews (37)</b> (03/10/2019–11/12/2020)</p> <ul style="list-style-type: none"> <li>Snapshot interviews (text-based online) (31)</li> <li>Longitudinal interviews (blend of online/offline) (6)</li> </ul>	<ul style="list-style-type: none"> <li>Interviewing participants on their experience of control practices and perceived changes in control over time.</li> <li>Acquiring an in-depth understanding of why certain decisions are taken (e.g., how to take an image or market an item).</li> <li>Understanding historical development of control (e.g., practices around sharing and image development).</li> </ul>

operator, we explored the ways in which participants were also part of control on the platform. Initially, we pursued this effort under a frame of informal control, combing the data for examples of the ‘*implicit determinants of controllee behaviours*’ (Wiener et al., 2016: p. 743). However, the *means* of control did not remain static, as we found that formal policies implemented by the operator shifted in terms of formality over time. For example, a formal prescription to share as much as possible over time became informal, influenced by the networked behaviour of participants. We also found that *sources* of control changed over time. For example, sharing became aligned with the objectives of the participants themselves as they developed tactics antithetical to the operator’s objective. Subsequently, the core of our work refocused on the description of dynamic control that changes over time.

We combed through the data and found examples of when and how control had changed over time, which we refer to as the dynamics of control on digital platforms. The purpose of this exercise was not to identify an exhaustive list of changes in control but to draw on rich ethnographic data to reveal illustrative patterns of changes in control over time (Van Maanen, 2011). In doing so, we followed the development of several central control practices—sharing, images, and norms around being a seller—tracing the means through which these practices occurred and the sources from which they originated. In an ethnographic fashion, we report our findings in two steps. First, we present control activities through narratives (Section 4), followed by a synthesis of the findings into four distinct dynamics expressed in terms of changes in means and/or sources of control (Section 5). Notably, these dynamics are not exhaustive categories but rather a stylized presentation of the unique ways control on Poshmark changed over time.

## 4 | FINDINGS

The findings generated from the hybrid ethnographic study illustrate changes in both the means and sources of platform control over time. This is shown through the central aspects of being a Poshmark seller—sharing content as well as the development of platform aesthetics and behaviours related to being an exemplary seller.

## 4.1 | You must share, share, share!

As a platform operator, Poshmark plays a central role in establishing formal control on the platform, for example, explicit prescriptions of how users should behave. For instance, the application is designed with a social backbone, incorporating interactions between buyers and sellers as part of a social shopping mindset. This design translates into features such as being able to follow other users, determining whose content populates your newsfeed, and promoting one another's listings through 'sharing', which algorithmically boosts the listing. Sellers can share their own items (click a button to promote a listing from their 'closet'), which pushes them to their followers' newsfeeds and boosts their items in the platform's search results. The display of the most recently shared items on top is the key to maintaining visibility on the platform, as most buyers find items by searching on brand or style and then comb through the results. Sellers can also share one another's items (clicking a button to promote a single listing from another's closet), called sharing Posh Love, or community shares, where sharing is done reciprocally. In both cases, sellers help each other expose listings to new audiences. Sharing a single item, whether a seller's own or another's, requires a manual series of clicks.

Thus, sharing is the core way for sellers to promote and boost their listings on Poshmark, which is an alternative to the paid features seen on other platforms such as eBay. As described on Poshmark's blog:

*Shares are a powerful tool for keeping your closet top of mind for buyers and increasing exposure. Shares show in your followers' feed, and often your followers will share your listing to their followers too. It lets others know that your closet is active, and a closet with a lot of shares can attract buyers—more sales? Yes, please! (Poshmark, 2016).*

The platform operator has always formally explicated that to be a seller on Poshmark means to share items. As Poshmark's co-founder Tracey Sun explains, 'Sharing is a huge part of many of our algorithms [...] This is a really important underpinning of how to be a successful seller on Poshmark' (Lee, 2019). In a similar vein, at PoshFest 2019, one of Poshmark's other co-founders, Manish Chandra, jokingly asked the 1500 attendees, 'Who has shared in the last hour?' In response, half of the room raised their hands. Laughing, Chandra continued, 'We didn't invent sharing to tire out your fingers but to create a fair chance of exposure' (FN\_300). The company also frequently espouses ideas such as 'there is no algorithm; just share' (FN\_310).

The operator's explicit statements represent a way to control sellers' behaviour by requiring them to generally check the app and share multiple times a day. Over time, participation on the platform has been rendered a 'numbers/ratio game', where sellers follow the formal rule to share their own and one another's items constantly, based on the operator's principles of control (FN\_83). Jessie practices a widespread way of sharing, explaining that she shares in the morning before work, during her workday, in the evenings after work, and 'even sometimes at a red light', which she followed up by stating, 'I'm not worried about oversharing. I don't think there is such a thing' (PM\_26). Of course, beyond making sales, which serves both sellers and Poshmark alike, sharing is also a central part of the user-engagement activity the platform encourages, as it invariably links to funding opportunities for the company (SEC, 2020).

## 4.2 | Adapting sharing to meet individual needs

The formalised control of sharing cited above, has adapted in different ways over time. For instance, with hundreds of items, sharing each item several times a day becomes hugely time-consuming. Because of the integral function that sharing plays in making sales, sellers must still, however, create time for shares. As Tiffany explains, 'I have to fit in sharing 3000 items with [caring for] three kids all day and stay up most nights until one-o'clock sharing' (FN\_381).

To balance this work with other tasks, some sellers divert from the formalised, central control of sharing as much and as frequently as they can, instead following norms developed in the community as the determinants of their behaviour, in this case, *how* they share items. For example, one group of sellers, brought together in a Facebook group related to business-savvy selling on Poshmark, has run mass-scale beta tests on sharing (FN\_340). Led by the group's founder, Leanna, this group has worked hard to determine a sharing method that promises '*dependable income for part-time Poshmark sellers*' while still '*freeing up their fingers*' for most of the day (FN\_218). The result of these collaborative tests was various combinations of sharing and listing items in short bursts one or two times a day while paying attention to engaging with new users. Thus, the way sellers share (e.g., the determinant of their behaviour) transitioned from a formal, central control into a more informal, decentralised practice from the need to scale back sharing to make it more efficient and aligned with the intentions of participants rather than those of the platform operator.

While initially, this method of sharing was informally spread on Facebook groups, over time, it has become a formalised determinant of behaviours. This is primarily due to its crystallisation into a specific process, the '*speedy sales method*', which is outlined in a widely spread infographic dictating a number of steps to be followed (FN\_58). This method determines the behaviour of many in Leanna's Facebook group but also among those more widely across Poshmark. For instance, as Billy explained, '*I keep the speedy sales infographic in my work binder. I know it now, so I don't really reference it, but it helped to have it printed out for me at first to reference so I didn't miss steps*' (FN\_517). Anna describes it as '*doing the speedy sales method because it forces me to be accountable to my own listing activity*' (FN\_388).

This infographic has, with time, spread widely across social media and has become a formal guide of correct activity for many Poshers, who reference it as an established and formal 'recipe' to be followed. In fact, the method has been used so frequently by others without giving credit to its creator that it has sparked a backlash from members of the developing group. As one of its members, Katherine, expressed:

*We realize the graphic is everywhere, and it's difficult to contain, but the bottom line is that's Leanna's blood, sweat, and tears [...]. Now there are people who are creating apps and plug-ins using the practices of the speedy sales method, uploading YouTube videos, posting on Instagram, blogging, and making money from her methods [...]* (FN\_239).

How behaviour is determined on Poshmark, in this case, when and how users share, develops along multiple paths simultaneously. The platform's formal prescription to share both their own and others' items as frequently as possible has become a stressor for many, leading to the speedy sales method. Other sellers have opted for a light-handed approach to sharing, circumventing Poshmark's intended control by no longer engaging in community sharing but focusing instead solely on self-sharing their own closet. In most cases, this has been the result of trying out different combinations of deviant behaviour, as Jessie elaborates, '*I seem to notice that the more I share, the more activity I see. Only self-shares though. It doesn't seem to matter if I share others' closets*' (PM\_26). As increasing numbers of users spread this type of time-saving gospel in online forums, alternative norms are established that determine various sellers' behaviour on the platform.

### 4.3 | Getting virtual tools to do the hard work

Highlighting the dynamic nature of control, changes in how sharing behaviours are determined have developed beyond the speedy sales method or opting out of community sharing, as described above. These developments include virtual assistants and bots that perform the shares on behalf of the sellers, often approximately 5000 times a day (FN\_164). Poshmark has not typically condoned the use of bots, although it informally acknowledges the use of human virtual assistants (FN\_310).

The use of bots in promoting creative workaround and solutions is not surprising given the role of the sharing function in making sales and a tendency to want to scale this up without spending too much time on the task. As Julie explains, *'I used to use a sharing service that I'm certain used bots. They claimed they didn't, but no human (even overseas) would do 4.000 shares a day for \$99 a month. My sales skyrocketed'* (FN\_288). Of course, as increasing numbers of people use bots, others are forced to join in, as sharing is vital to keeping items in the search results. Andy expands on the challenges of competing with a bot: *'It's not fair to have to compete with sellers who use bots. It's like athletes who only practice and exercise competing with athletes who use doping'* (FN\_288).

However unfair the use of bots might be, they have invariably shifted the determination of sellers' behaviour from Poshmark's formal prescription, to share frequently, to an implicit need instead, as sellers respond to the pressure driven by networked activity. This shift was set in motion prior to the use of bots, driven by the sellers' need to share in greater numbers than their networked counterparts. Bots exacerbated the pattern by increasing shares to a nonhuman level. For example, Jessie notes how quickly her position in the search results can be eroded: *'I frequently check the brands [...] to see how far down the page I have to go to see them, and it's shocking how I can share and then a few minutes later, they're buried'* (PM\_26).

By 2019, the use of some form of paid sharing service was becoming commonplace. At PoshFest that year, half of a group of six users had outsourced sharing, while the remaining three were *'seriously considering'* hiring their own service (FN\_310). This shift has not been without pushback, however. Around the same period, 2019–2020, Poshmark doubled down on its control efforts, 'shadow-banning'—that is, limiting—the behaviour of sellers who behave 'unnaturally' for a period of time (FN\_310). When a seller shares or follows in the range of 5.000 to 10.000 times per day or has suspicious logins from multiple IP addresses and geographic locations, the seller can land in *'Posh purgatory'*, or *'share jail'*, unable to share or follow for at least 24 h (FN\_232).

This escalation—shadow banning as a response to bots—highlights a change in control of Poshmark. The operator's formal prescription to share frequently directly birthed the need for outsourcing (e.g., virtual assistants and bots). However, the company did not account for the dynamics that would result. In this case, sellers responded to the pressure caused by other participants sharing behaviours, working in ways that temporarily benefitted their interests, while over time creating a status quo that is undesirable to both the sellers and Poshmark—who never encouraged this bot behaviour and sought to constrain it. Sellers, too, began speaking out against this use of bots, as popular blogger *Seller Susan* wrote: *'Poshmark has started cracking down hard on anyone using bots. Accounts are getting suspended, and they're flagged as bot users'* (FN\_146). Despite this, sellers cannot escape the need to share in accordance with the prevalent behaviours on the platform if they want to stay relevant in the search results. Thus, participant sharing in unprecedented numbers has, over time, shifted the sharing requirement from a formal and central control to informal control that stems from networked behaviour, achievable only by outsourcing help or spending hours clicking.

Over time, the use of bots and virtual assistants has continued, becoming increasingly accepted by Poshmark and users alike as part of the status quo by 2021. For instance, sellers no longer express the same stigma around their use of bots that they once did. As Maddy highlights when discussing sharing, *'It put a strain on my relationship with my husband until I invested in a virtual assistant. We are sharing when we could be listing'* (FN\_485). Another seller, Lauren, explained that she thought Poshmark had given up policing to the same extent as before, stating *'They've sort of turned a blind eye to the bots, like bot-sharing your closet and that sort of thing'* (I\_01).

Finally, the operator acknowledged its inability to determine users' sharing behaviour, deviating from their formalised, centralised intention to have users manually share as frequently as possible. Notably, as highlighted above, sharing was initially a strategic choice, the backbone of social curation on the platform through user engagement. Instead, over 10 years of existence, this social shopping component has slowly been eroded, accentuating users' ability to determine behaviour *en masse*. In late 2021, the company even launched a bulk sharing feature, which it swore was unthinkable in previous years, perhaps the last frontier of their original intention to regulate users' sharing behaviour.

## 4.4 | My requirement for aesthetics becomes your requirement

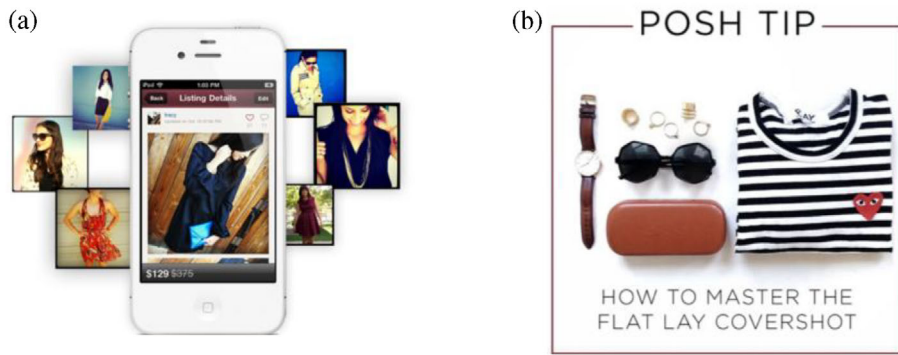
While sharing originated as a formal practice with explicit prescriptions to share frequently, the platform's distinct style of images has informal roots, developed in a circular fashion through operator and participant sources. When creating Poshmark, the founders were inspired by digital social business models such as Pinterest and the photosharing application Instagram, with its aesthetic of square images and photo filters (Meltzer, 2014). The name 'Poshmark' is a portmanteau of 'posh' and 'market', suggesting a focus on high-end fashion (FN\_310). From its early days, the operator has encouraged clear, bright photography while empowering its sellers (called 'stylists' in Poshmark's terms) to use their images to create styling suggestions. This combination of informal norms set Poshmark on the path to an aesthetic controlled by sellers' interpretations of what styled images could and should look like.

Much of how this styling happens is found in the plethora of social media sites outside of the Poshmark platform. For instance, sellers use Facebook to conduct 'closet critiques', where sellers include links to their closets so others can offer constructive ideas for how it could be improved. For example, 'I might suggest picking a signature item to include in all your flat lays to give them a little more personality. In my closet, all of mine have the same bundle of flowers peeking in from a side' (FN\_220). Critiques can also be offered on the clothing itself, such as 'I notice quite a few with stains. Have you tried a soak in oxy-clean and treatment with a stain remover?' (FN\_220). Participants are grateful for the feedback and often implement the suggested changes. Facebook is also a site that offers unsolicited critique, where users may complain about images they see on the platform, making judgements such as, 'is it just me, or did she pick the worst possible backdrop for this?' (FN\_102). Discussing this type of public shaming on Facebook prompted one seller to remark that her 'biggest fear is reading one about me' (PM\_05). In these examples, individual ideas about aesthetic images become widely shared norms and eventually even explicit participant prescriptions, determining the aesthetic behaviour of all the sellers who view them.

However, because Poshmark has from the beginning drawn on their sellers' distinct style, these community-established image norms have become incorporated into the company's way of doing things, blurring the lines between the sources of control. For instance, Poshmark heavily features seller content, how sellers style images, and the brands they choose in their marketing material (Figure 1a). The Poshmark blog, a central source of company information, periodically features sellers in *community features* and Q&As, actively promoting them as sources of inspiration with text such as 'Looking for a bit of inspiration? Peep these pretty photos that caught our eye lately' (Poshmark, 2014). Spread across official sources such as the Poshmark blog and official Instagram account but also upheld by presenters at PoshFest, image-related ideals not only become explicit but also implement operator control over users' aesthetic behaviour (rather than sourcing ideas from one another on Facebook). While certainly not every photo on Poshmark adheres to the same standard, what has developed is a clear understanding of what an ideal image is of a styled 'flat lay', where an item is styled with accessories (Figure 1b). Leanna describes such distinctly Poshmark images as 'Instagram color palettes and flat lays with succulents' (FN\_485). This standard regarding an ideal type of Poshmark image constitutes an explicit determinant of behaviour—with sellers modifying their actions to adhere to it.

## 4.5 | Collaboratively defining Poshmark

Images are but one area that shows this dynamic of control, which starts by being a participant-based implicit norm before being shared widely across social media, becoming more explicit, and finally, even incorporated into the operator's official communications. Other areas that have similar tendencies include the control of which brands to source, where and when to source merchandise, how to list it efficiently, and how to manage inventory. In part, such a dynamic is due to influential sellers, who amass followers of their own, becoming Poshmark celebrities. For instance, *The Nifty Reseller* has a series of YouTube how-to videos that have been watched hundreds of thousands of



**FIGURE 1** (a) Use of seller content in marketing material (Poshmark website); (b) The classic Poshmark flat lay (Poshmark blog)

times. If a new seller asks for advice, the answer is often *'Have you seen The Nifty Reseller's YouTube channel? She has a video about this topic'* (FN\_15). Similarly, casual mentions are made of her channel as an official source: *'I'm updating my inventory Nifty Reseller-style and was wondering if someone could show me an example of where you see the private detail once you sell the item'* (FN\_514). These videos have become a gold standard, and Poshmark, as a platform operator, encourages sellers to watch them; thus, norms created by the participants, over time, become endorsed by the platform operator as determinants of behaviour.

Evident in the above example is the role participants play in teaching one another how to successfully sell on the platform through the development of norms, which are widely shared and adopted as determinants of behaviour. Poshmark capitalised on this pattern early on through informal controls created by their Suggested User Program, where users who had been on the app for a minimum of 3 months, who had aesthetically pleasing and compliant closets and who behaved sufficiently 'socially' on the app were recommended to new users joining the platform (FN\_343). Poshmark rotated through their Suggested Users, creating mutually beneficial relationships, for example, new sellers were welcomed via a personal message from an experienced user, giving them a contact point to learn from, while experienced users received exposure to potential new buyers. Such a practice established norms around what good sellers and corresponding good behaviours are from a platform operator perspective.

Against the backdrop of a growing user base, Poshmark changed its Suggested User Program in 2017, instead formalising it as the Ambassador Program. While Suggested Users were handpicked at the beginning of the program or later applied by sending an email, the Ambassador Program is visible to all sellers when joining the app, acting as a checklist of to-dos that socialises them into the system of selling (FN\_496). For instance, to become an Ambassador, a seller must complete 5050 community shares, 5000 self-shares, have 50 active closet listings, as well as 15 sales with an average of 4.5 out of 5.0 stars, ship times in less than 3 days, and finally, have made one purchase through the app. In addition to being suggested to new users who join the app, the rewards for being an Ambassador include occasional opportunities such as hosting an event or speaking at the annual conference. The requirements are, notably, explicit prescriptions of the behaviours that the platform operator wants, from interacting with other closets to being a successful and responsive seller to buying on the platform as part of a one-stop shop. Accordingly, Poshmark refers to its Ambassadors as being helpers in *'setting the tone in the community'* (FN\_496).

By codifying desired behaviour into the app design, Poshmark determines vast amounts of user behaviour, initially as a checklist to be completed and later as a standard of good behaviour. For instance, participants strive to reach Ambassador status when they join the platform by monitoring their own behaviour and working hard to fulfil the criteria. As Linda reflects, *'I became an Ambassador within a month of selling because I just had to reach that goal!'* (FN\_170). After achieving Ambassador status, she slowed her sharing activity but quickly felt renewed pressure and continued to share in line with the operator's intentions: *'This week I have kind of slacked off [and] didn't do a lot of*

*sharing and haven't had a lot of sales. You must share, share, share to keep your items in view. All the things required to become an Ambassador I believe are part of the algorithm to get your items seen'* (FN\_170).

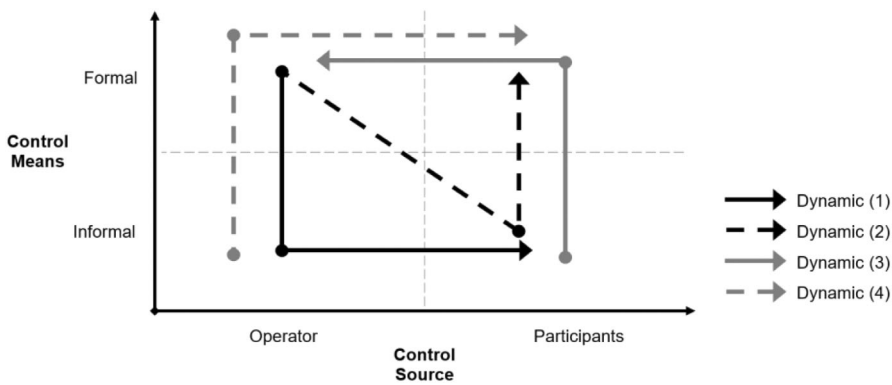
However, the Ambassador Program can depart from the platform operator's intention and lead to participant-sourced control when participants feel it grants them a different status, leading them to offer advice, often unsolicited, to others. For instance, one Ambassador commented on Philippa's listing to tell her that she incorrectly listed the brand of her item, qualifying her critique by stating, '*as a posh Ambassador, one of the things we do is monitor posts!*' Noticeably offended by this correction, Philippa expressed that being spoken to in this manner was condescending, implying she was an inferior seller, which she did not appreciate (FN\_204). Such behaviour invokes a popular meme that circulates on social media, depicting 'Poshmark Patty', an overzealous Poshmark Ambassador who terrorises the platform by policing others' behaviours, suggesting incidents such as these are not isolated (FN\_213).

This need to police one another stems from the platformed nature of selling. Participants see the platform aesthetic as collaborative, with added or decreased value created by others' contributions. Such a collaborative environment creates a perceived need to reinforce standards in various ways, as Abby outlines: '*It's like a neighborhood.... What happens to the value of your home when the ones around it start doing things that go against community standards? [...] If people just keep minding their own business, the same will happen; Posh will become nothing more than a trashy garage sale*' (FN\_124). Similarly, Michela expresses frustration with Poshmark's increased use of television ads to recruit sellers '*who just clog my feed by throwing their old goods up with unattractive pictures*' (FN\_312). Certainly, not all sellers would take to Facebook to shame others or use their Ambassador status to police others' behaviour. However, the tendency of some users to adopt these roles, in effect controlling the behaviour of other sellers, illustrates how formal participant-sourced control can develop in parallel with the platform-sourced control cited above.

## 5 | DYNAMICS OF CONTROL ON DIGITAL PLATFORMS

In this section, we synthesise our findings into four dynamics of control, which we express in terms of changes in means of control and sources of control. All four dynamics are the result of aggregate effects arising from the operator and from participants interacting with each other through the digital technology features deployed on the platform, which can be used in intended or unexpected ways. Figure 2 below visualises the different dynamics of control we observed in this study, simplified for the ease of illustration and benefit for the reader. These identified dynamics are not an exhaustive list of control dynamics but rather a stylized presentation of the unique ways control on digital platforms can change in terms of both its means and sources. We explain each dynamic in turn below, exemplified by the case study of Poshmark.

The first change in the means and sources of platform control we observed is from formal control initiated by the operator into informal norms before developing beyond the intentions of the operator altogether (Dynamic (1) in Figure 2). This dynamic is illustrated by the findings around controlling user behaviour through the sharing feature. Here, users initially adhered to platform control and followed the operator's explicit prescription to share their own and others' items as frequently as possible (*means*: formal/*source*: operator). As participants shared in increasing amounts, the aggregate effect of their behaviour, in turn, incentivised others to share even more. This suited Poshmark's intention in the short term as the participants internalised the operator's rule, thus making it a norm that drove this specific type of behaviour among sellers (*means*: informal/*source*: operator). However, over time, the pressure to keep one's listings visible in the content feed by sharing led to many sellers deploying bots and virtual assistants to keep up sharing at rates human fingers could not. This change in behaviour was no longer aligned with the operator's intentions, who tried to prevent such nonorganic activity. At that point, however, sellers controlled themselves and others driven by the need to share as much and as frequently as possible to keep up with others in the participant community—often by using techniques condemned by the operator. This illustrates the emergence of a deviant norm participants used to control behaviour among themselves (*means*: informal/*source*: participants).



**FIGURE 2** Observed dynamics of platform control: changes in means and sources of control

The second change in platform control that we observed also began with an explicit rule initiated by the operator but then turned into a participant-driven norm that became codified into a rule formulated by participants (Dynamic (2) in Figure 2). This dynamic is best illustrated by the speedy sales method. Similar to the first dynamic, control of the sharing behaviour originated with a formal rule by the operator to share as much and as frequently as possible (*means*: formal/*source*: operator). However, rather than adhering to this, some participants developed a collective set of norms that centered on scaling back sharing and making it more efficient and aligned with their own intentions (*means*: informal/*source*: participants). When one participant (Leanna, see Section 4.4.) formulated this as the speedy sales method and presented it in an infographic, the determination of sharing behaviour once again became formalised into a rule-like prescription. This prescription follows a norm that deviates from the one initially formulated by the operator but that appeared to be official and formal in the widely shared infographic (*means*: formal/*source*: participants).

Yet, another dynamic of control we identified originates from the participants themselves. Here, we observed changes in control whereby collective norms that emerged in the participant community are, over time, explicated as formal rules, first by an increasing number of participants and with time by the operator (Dynamic (3) in Figure 2). This dynamic is illustrated in the control of participant behaviour around what images are used on the platform. Here, sellers initially controlled what 'good' and 'bad' images looked like by engaging with one another on social media (*means*: informal/*source*: participants). Over time, this activity formalised into 'closet critiques' and explicit declarations among participants of what is acceptable and unacceptable content (*means*: formal/*source*: participants). When operators of Poshmark started featuring such seller content in company marketing materials (e.g., on its blog and through events such as PoshFest), the aesthetic ideals formed in the community became an endorsement of activity that is aligned with the platform operator's objectives and hence took on the formal expression of a desired behaviour (*means*: formal/*source*: operator).

Lastly, we document a dynamic of control that started as informal and initiated by the operator, then became formalised before finally being adapted by participants into explicit means of control (Dynamic (4) in Figure 2). A striking example of this dynamic is found in the development of how to be a proper seller. Here, emerging from the inclination of sellers to help one another, operators of Poshmark developed a Suggested User Program that encouraged sellers to welcome one another on the platform and presented ways to be an exemplary seller. This was initially informal, as norms and practices were encouraged instead of codified as enforceable rules (*means*: informal/*source*: operator). Over time, realising the immense control over new participant behaviour that these norms had, Poshmark formalised the process, creating the Ambassador Program (*means*: formal/*source*: operator). However, in some instances (see Section 4.5), participants with Ambassador status used this position and the appeal of official authority to control others' behaviours in line with their own ideas (*means*: formal/*source*: participants).



## 6 | DISCUSSION

We set out to understand how control on digital platforms unfolds and changes over time. Using the language of *means of control—formal or informal—and sources of control—operator or participants*—our research provides a lens for the systematic study of *how* control changes on digital platforms. Drawing from the rich longitudinal data generated by our hybrid ethnographic study, we traced control over time and wherever it was exercised. This revealed dynamics of control on digital platforms that are shaped over time through digital technology-mediated interactions among diverse parties.

### 6.1 | Implications for research

Our research on Poshmark has important implications for our understanding of control on platforms more broadly because all digital platforms are supraorganizational entities that are characterised by their multisided nature, network effects, and deployment of digital technology (Gawer, 2014). These characteristics give rise to dynamics of control that are unique to digital platforms.

First, control on digital platforms is uniquely dynamic because operating multisided marketplaces online requires deploying digital technology to enable social interaction. The dynamics we observed reveal that participants often use a platform's technical features to pursue goals not intended by the operator. This suggests that control is not necessarily the result of one-off implementations (e.g., Boudreau & Haigu, 2009; Parker & Van Alstyne, 2017; Thies et al., 2018); instead, platform control is linked to social interaction between heterogeneous and distributed participants who engage with each other using a range of technical artefacts. Control on platforms is, therefore, often malleable and subject to change as a result of participants who reappropriate the functionality of technical components to achieve their own goals. In the case of Poshmark, deploying components such as user-facing features results in participants shaping behaviours in unexpected ways. For instance, participants appropriated platform features to develop entirely different functionalities, such as creating new meanings for what sharing is and how it should be performed. Thus, while our study is consistent with research that suggests platform control is implemented through component design, which can evolve in an unanticipated way beyond the control of the platform operator (Eaton et al., 2015), our results offer an important qualification: This form of control does not require the platform operator to condone or accept participant requests (Ghazawneh & Henfridsson, 2013) but unfolds largely outside of the control that is typically assumed to reside with platform operators.

In addition to the change in control that results from digital artefacts deployed on platforms, notable dynamics of control in our study stem from the feedback loops and network effects that are characteristic of many digital platforms that facilitate transactions among parties. The common view of control on platforms envisions the operator as an omniscient regulator (e.g., Boudreau & Hagiu, 2009) who condones or refuses change (e.g., Eaton et al., 2015; Ghazawneh & Henfridsson, 2013) and devises controls in support of organisational or market-centric logics (e.g., Möhlmann et al., 2021). Our research highlights that platform control also changes due to the aggregate effects of interactions between participants and the operator. This echoes the role of social control (e.g., Gandini, 2018; Levina & Arriaga, 2014) and is above and beyond the platform operator as the central actor who controls how the platform functions. An illustration of this process can be found in our description of participant-developed imagery on Poshmark articulating desirable behaviour, which was ultimately endorsed by the operator. Such insights into the aggregate effects on platform control add to the current literature in this domain. For instance, we extend studies that focus on nudging as an operator-driven mechanism (Veen et al., 2020), instead highlighting the unexpected effects when coming from participants who act in aggregate.

Furthermore, as part of their strategic mission, platforms purposefully cultivate a commitment to their participants' individualised pursuits rather than an organisational mission (Veen et al., 2020). At the same time, this tactic of individualization fosters participant ability to derive counterpractices (Tassinari & Maccarrone, 2019). We also

identified dynamics of control that stem from participants acting in grey areas of acceptable behaviour in our study. For instance, participants on Poshmark developed bots, thus acting on the edge of what is permitted, eventually normalising their use across enough participants that the operator accepted them as a part of the platform. Therefore, our study suggests that platform participants leverage algorithmic-control capabilities provided by the platform to exercise control over themselves and others (Pregenzer et al., 2020). Of course, participants are sometimes only partially aware of their involvement in platform control. They perform certain behaviours because it suits them, although such behaviour is exacerbated because of the network of interactions of digital platforms. In particular, when promoting certain behaviours, individuals who have considerable social capital can affect control on platforms in ways that are disproportionate to their role as participants (Levina & Arriaga, 2014). We observed this effect on Poshmark with the creators of YouTube videos that are seen by millions of participants and influence behaviour on the platform. Such insights are useful to researchers who are interested in the active role platform participants play in influencing the control dynamics on platforms.

## 6.2 | Future work

The aim of our research has been to suggest a lens that can systematically study the dynamics of control on platforms. Such aspiration can serve as inspiration for future work in this space. For instance, while we identify control originating in three of the four quadrants in our conceptualization, we find no evidence of control departing from formal means and originating in the participant community. Intuitively, this makes good sense because for control by participants to be accepted and capable of determining other participant behaviour, it must first be justified to a sufficiently broad audience. Thus, control by participants formalises across several informal interactions over time but does not start out as formal control in our study. In a similar vein, the informal control we identify originating from the operator occurred largely in the nascent stage of the platform's development. This, again, follows quite intuitively as, in the initial stages of development, there would be more room for trying out informal instances of control and formalising those that eventually met the operator's needs. This also suggests that the elements we reported here may develop differently as a function of a platform's maturity; hence, we encourage future research on the dynamics of platform control. Furthermore, our analysis highlights how dynamics of control can involve different trajectories of changes in means and sources simultaneously. For instance, the determination of sharing behaviour developed in two separate ways simultaneously (e.g., by using bots and with the speedy sales method). Confirming and contrasting these points are exciting avenues for future work.

In addition, our study underlines that control unfolds across multiple sites of participant activity instead of being bound to a single platform. Therefore, future investigations of control should consider transcending platform boundaries to include all spaces that participants use. In our study, platform participants use online forums away from the focal platform to enact formal and informal controls in various ways. These sites are generally not considered part of the platform, but they serve vital roles in shaping control by and of participants. Some studies, particularly those on digital labour platforms, such as Uber, include online forums as part of the platform (Roberts & Zietsma, 2018; Rosenblat & Stark, 2016). However, much research remains focused on a single platform, excluding the additional spaces where participants interact, such as social media sites where participants meet daily or engage with complementary content offerings. Research designs that are limited to one focal platform risk misunderstanding how to control these environments across the many spaces in which participants engage.

## 6.3 | Implications for practice

Our findings also have implications for practitioners. Failing to acknowledge the dynamics of control and continuing the status quo by managing platforms from a central and static control perspective could have detrimental effects if

platform operators have only limited insights into the dynamics they seek to manage. Operators who fail to embrace the dynamics of control might find themselves in positions where their instruments of control are ineffective to the point where control dynamics among participants threaten their platforms' sustainability. For instance, aggregate effects are key to understanding the multiple spaces in which participants engage when they perform activities through a platform. Most of Poshmark's participants are socialised via the same Facebook groups and YouTube videos that collectively define acceptable behaviour on the platform. This example urges platform operators to consider the diverse spaces in which participants interact and the implications these additional interactions have for control on the platform. Our findings do not provide a single right way for platform operators to configure these spaces but suggest that they must consider them as part of platform control.

Moving away from centralised command and control, as well as harsh punitive actions (Cotter, 2019; Ens & Márton, 2021), presents opportunities for platform operators. For instance, embracing the dynamics of control could give platform participants space to fuel the overall platform's growth and development. We identified informal control originating from the operator embracing participant practices of welcoming one another to the platform and creating a normative structure through their Suggested User Program. This occurred during the critical early stages of the platform and thus suggests an ability to co-op user input in a coevolutionary manner, echoing advice to platform operators to 'devolve control' (Boudreau, 2010) and allow for 'desirable variation' (Wareham et al., 2014) across the platform if such variations align with the operator's intentions.

## 7 | CONCLUDING REMARKS

Our study makes vital inroads into the study of the dynamics of control on digital platforms. Platform control does not remain static when a heterogeneous group of participants, distributed in time and space, engages with each other through digital technology. By highlighting the diverse ways in which control changes between formal and informal means and may be sourced from either the platform operator or the participants, our study contributes to the IS platform literature's understanding of control and lays the foundation for future studies to investigate the dynamic changes in control over time.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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