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Introduction

Varieties of Corporate Knowledge Commons

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Knowledge commons, as the homepage of the Workshop on Governing Knowledge Commons website informs us,¹ involve the governance of shared knowledge, information, and data resources in some community or collective setting. This idea extends quite naturally to the corporation – arguably one of the most ubiquitous collective settings for human interactions. Corporations are found everywhere, in all nooks and crannies of the economy and at all levels of society. Most of us spend much of our lives working for and interacting with corporations, including profit-seeking firms, cooperatives, nonprofits, charities, universities, hospitals, trade unions, churches and other religious institutions, political parties, government agencies, international organizations, and so on. Whatever their legal and organizational form, and whatever their purpose, corporations are examples of institutions for collective action, to borrow Elinor Ostrom's (1990) expression, that rest on some form of collaborative knowledge production and exchange.

Thriving corporations address, in one way or another, the collective action problems that inevitably arise in this process. They are organized, managed, or governed in ways that build on and expand the shared knowledge that feeds into and supports their success. Their ultimate success will depend on other things, including conditions in the external environment that are beyond their control, but a corporation that lacks mechanisms enabling its members to produce, pool, and share knowledge effectively, that is unable to ensure that the right decision-maker has access to the right information at the right time, is unlikely to succeed, even under favorable external conditions (Nonaka 1991; Grant 1996; Nonaka and Teece 2001; Amin and Cohendet 2004; Foss and Michailova 2009; Nooteboom 2009). Knowledge management is a strategic issue for any private or public corporation (Myers 1996; Choo and Bontis 2002; McNabb 2006; Bratianu 2022), and indeed for industries, regions, and nations (OECD 2000; Viale and Etzkowitz 2010; Lundvall et al. 2016).

¹ <https://knowledge-commons.net>.

Studies of corporate knowledge commons reveal in some detail what this entails by focusing attention on the rules and practices underpinning the community or collective governance of pooled knowledge, information, and data resources within the corporation, broadly understood as “distinguishable and bounded collectively managed enterprise” (Madison et al. 2010, 371). But they are not limited to those found within individual corporations, and in fact also focus on the knowledge commons different types of corporations contribute to, draw on, participate in, and govern alongside other sorts of private and public actors. In such instances where the collectively managed enterprise transcends corporate boundaries, attention shifts to epistemic communities and communities of practice in broader polycentric settings, examined at different levels of analysis. There is a wide array of corporate knowledge commons to study.

The inspiration for the volume is Simon Deakin’s (2012) proposal to think of the corporation as a shared resource that is collectively held and managed for the benefit of multiple interests. A small but fascinating literature extended this insight to mutuals, cooperatives, and benefit corporations (Adams and Deakin 2017; Healy 2018; Hiller and Shackelford 2018; Tortia 2018), while an independent literature applied a similar line of Ostromian thinking to inter alia cities, land trusts, civil society organizations, and certain kinds of platforms (Forster and Iaione 2016; Bezdek 2021; DeMattee and Sziney 2021; Ridley-Duff and Bull 2021). All these studies note the importance of shared knowledge, but none deploy the Governing Knowledge Commons (GKC) framework (Ostrom and Hess 2007; Frischmann et al. 2014; Sanfilippo et al. 2018; Madison et al. 2019).² As it happens, one of the earliest contributions to the genre discussed the university (Madison et al. 2009) – historically one of the oldest types of corporation. There is thus a sense in which this volume comes back in full circle.

What this volume attempts to do is to steer the discussion toward a unifying framework. Like the Institutional Analysis and Development (IAD) framework (Ostrom 2005, 2011), the GKC framework is an organizing device that helps researchers from multiple disciplines identify the analytically important structural features that are found across diverse action situations where knowledge governance takes place. It asks that researchers characterize the knowledge resources of interest and identify the actors who create, access, or use them in specific interaction situations, given the set of formal and informal rules defining their roles and resources in the relevant communities. Attention is drawn to the social dilemmas stemming from the nature of the resources, the rules governing access to them, the actors’ potentially conflicting objectives, and the tensions between individual and collective aims, among other things. The availability of dispute-resolution mechanisms is accordingly important for the sustainability of knowledge commons.

² This is also the case in other applications of Ostromian institutionalism to corporations (Gindis and Micheler 2024) or corporate business networks (Megyesi and Mike 2016).

The chapters that follow engage with some or all of these topics. Several chapters apply the GKC framework directly to their object of analysis, while others highlight alternative ways of thinking about knowledge commons, or combine the framework with other approaches from institutional economics or organizational sociology. Some chapters describe past examples of successful knowledge management in traditional corporations, while others analyze commons-style arrangements in new blockchain-based organizations, or call for such arrangements in the governance of various classes of data. Some are purely conceptual, while others are based on interviews or engage in action research. Whatever the chosen stance, what unites all the chapters is that they engage with the idea that corporations and ecosystems comprising corporate actors cohere around shared knowledge, values, and other kinds of intellectual or cognitive resources, the sustainable production and reproduction of which depends on specific practices and rule configurations.

In Chapter 2 (“Toward a Knowledge Commons Perspective on the Corporate Form”), David Gindis and Daniel H. Cole argue that if we want to take the corporation-as-commons idea forward, we must specify what we mean by “corporation” in this context. We also need to determine who shares the corporation and identify the rules and practices that enable its provision, production, and reproduction. Drawing on insights from the theory of the firm, Gindis and Cole focus on the firm’s “corporate mask,” a special kind of institutional resource provided by the legal system that enables the firm’s members to operate as a singular actor in the legal and commercial spheres. They show how this helps address collective action problems, reduces transaction costs, and unlocks an important source of economies of scale and scope. But the corporate mask, they argue, is not merely a legal construct – the social recognition of the firm as a corporate actor, a reliable business partner, a reputable producer of goods or services, and so on, matter a great deal as well. The corporate mask, they conclude, is a legal and epistemic focal point shared by insiders and third parties with whom the firm contracts and more generally interacts in a network of adjacent action situations.

Corporations act as entities addressing the world with a single face and voice, with the law resorting to metaphors such as “person” and “body” to present the group as an entity distinct from its members, Joshua Getzler observes in Chapter 3 (“What Do Corporations Do?”). Four historic models of group action, which hybridize across time, provide an added functional analysis: the “cathedral” built by self-regulating guilds and societies, the “factory” resting on division of labor and hierarchical organization, the “bazaar” of adjoining enterprises providing some level of market integration between traders, and the “commune” resting on personalized bonds and common purposes. All four types are affected by coordination problems. While a group can be said to attain corporate status when it functions as a univocal entity owning its actions, Getzler argues, in order to act effectively, the corporation must develop techniques to gather and process information attained by its agents, much of which will be predictions of the conduct of other agents. The corporation effectively

exists to cultivate and embody common knowledge. Preceding the conceptual analysis is a case study of the historically important and now-troubled aircraft manufacturer, Boeing.

A complementary study of how processes of knowledge production, transmission, and utilization give rise to various collective action problems and how firms address these problems is proposed by Marek Hudik and Martin Komrska in Chapter 4 (“Managing Knowledge in Baťa Enterprises”). Drawing on stakeholder theory in management studies, Hudik and Komrska distinguish three governance models – the hub-and-spoke model, the lead role governance model, and the shared governance model – each offering different solutions to these challenges. A case study of the famous Czech footwear firm Baťa Enterprises in the early twentieth century demonstrates the practical application of the lead role governance model, which grants employees high autonomy while maintaining management’s central role in strategic decisions. Through profit-sharing schemes, decentralized workshops, and internal education, Baťa effectively aligned individual incentives with the firm’s goals, mitigating collective action problems and fostering innovation. By analyzing Baťa’s success, Hudik and Komrska advance our understanding of knowledge governance in firms and underscore the connections with Ostrom’s design principles for the sustainable governance of knowledge resources.

The mechanisms that erode the sustainable governance of intrafirm knowledge are studied by Erkan Gürpınar in Chapter 5 (“Institutional Complementarities in the Governance of Corporate Knowledge Commons”). The chapter investigates the microlevel interdependence between technological advancements and intellectual property rights (IPR), integrating research on institutional complementarities into the GKC framework. The latter recognizes the importance of informal rules and community characteristics in knowledge governance, while the former reveals inefficiencies arising from the interdependent nature of knowledge ownership and creation. The combined framework reveals the interplay between the characteristics of knowledge as a shared resource and the formal and informal rules governing its production. Gürpınar shows how, in a world where IPRs are increasingly used to govern knowledge assets, the interdependence dynamics between IPR and technology can exclude knowledge workers from accessing and using the knowledge they produce, leading to the gradual deterioration of their skills and expertise. This vicious cycle further erodes the institutional diversity of corporate knowledge governance in favor of IPR-based governance mechanisms.

Part of the reason why IPRs are increasingly used to govern knowledge assets is because shareholders and investors demand it. Managers comply with these demands because they share the prevailing belief that shareholders own corporations. Tanweer Ali considers the misalignment between this attribute of the broader societal environment and academic legal opinion in Chapter 6 (“Who Owns a Corporation? Common-Sense Commons and Corporate Governance”). Though

legally incorrect, the widespread representation of shareholders as corporate owners is rooted in common sense, and as such is used to close down discussions about the position of other stakeholders. Ali discusses the power and persuasiveness of the commonsensical position through the lens of discourse analysis, aided by concepts drawn from pragma-linguistics and sociology. He shows how common sense can be shaped by primary definers in strategic action fields to promote ideological ends, and suggests that to understand how the field of corporate control is structured and how it has evolved, what is needed is a deeper investigation into how common sense is produced, shaped, and curated over time.

Though framed in different terms, this question is addressed by Jeroen Veldman in Chapter 7 (“Corporate Governance and Knowledge Commons”). The GKC framework, Veldman points out, draws attention to the content, quality, and consequences of the production, the institutionalized (community) governance, and the sharing of knowledge. In the domain of corporate governance, the key knowledge in question concerns the rules, mechanisms, and infrastructures that enable corporations to be governed. But how do actors understand what is going on and what is at stake in the field of corporate governance? Like Ali, Veldman draws on the sociological theory of strategic action fields to provide an account of how different imaginaries of corporate status, architecture, governance, and purpose are actively created and promoted by different kinds of disciplinary specialists, standard setters, and practitioners. The chapter shows how the knowledge claims made by these epistemic communities up the 1960s and from the 1970s onward underpin two competing social norms of corporate governance, expressed in different configurations of position, boundary, choice, aggregation, information, payoff, and scope rules.

Bright line rules favoring the interests of capital holders over those of producers and communities dominate the orthodox legal account of venture capital (VC), which stresses the importance of US-style transactional flexibility in managing investment risks. At first sight, as Simon Deakin and Hanna Sitchenko observe in Chapter 8 (“Venture Capital as a Commons”), VC seems far removed from any notion of a commons, if that is taken to mean a shared resource constituted by emergent rules of conduct based on interactions between multiple stakeholders. However, Deakin and Sitchenko argue that VC ecosystems have many commons-like aspects, involving risk-sharing, information pooling, and the braiding of formal and informal rules. The public benefits of VC depend on the positive externalities generated by knowledge spillovers, which cannot be fully captured by private ordering. Looking at these features through Masahiko Aoki’s theory of the firm as embedded cognition, and drawing on interviews with mostly Europe-based VC funds, entrepreneurs, and legal advisers, Deakin and Sitchenko show that the governance of VC should be concerned with maximizing the net social return from innovation, taking into account the multiple interests involved in knowledge creation and preservation.

Amelia Miazad indicates why investor alliances formed to manage decision-useful financially material climate risk data can also be likened to knowledge commons in Chapter 9 (“Investor Alliances as Knowledge Commons”). Given that climate-related information is fragmented and complex, Investor Climate Alliances (ICAs) have emerged as institutional responses, providing the infrastructure to produce, share, and interpret climate risk data across heterogeneous communities. Miazad examines ICAs as collective governance systems, that is, as institutions that coordinate knowledge production through formal rules, informal norms, and shared practices. ICAs, she argues, demonstrate that complex knowledge resources can be generated collaboratively. This underscores the frictions, Miazad concludes, between collaborative knowledge governance and corporate law’s traditional paradigms, which constrain investor collaboration.

The challenges involved in the management of complex financial data are further explored by Alberto R. Salazar and Andi Rezda Rezal in Chapter 10 (“Data Commons, Data Oligopolies, and Consumer Financial Data Trusts”), the premise of which is that financial companies are increasingly leveraging financial technology to monopolize financial data, ostensibly to maximize profit for their clients and enhance their power in society. Salazar and Rezal worry that this trend exposes the serious limitations of individual consent models of data protection and undermines the nature of financial data as a shared resource by excluding data contributors from its governance. They posit that consumer associations, acting as data trusts, can play a crucial role in overseeing financial data-polies while fostering the development of the community governance of data. Beyond addressing privacy harms, these associations can promote the attainment of important social goods, including the prevention of predatory and discriminatory lending and the expansion of access to financial capital. By leveraging and shaping formal and informal rules-in-use that may facilitate these efforts, consumer data trusts can ultimately enhance the legitimacy of financial data commons. A discussion of BlackRock’s Aladdin platform and a European consumer association’s lawsuit against Meta illustrates the argument.

The focus on new technologies continues in Chapter 11 (“Decentralised Autonomous Organisations as Commons”), in which Sinclair Davidson examines Decentralised Autonomous Organizations (DAOs) as emergent forms of software or knowledge commons. Davidson argues that DAOs, characterized by their reliance on blockchain-enabled smart contracts and elimination of hierarchical management, represent a novel form of collective decision-making and governance. Davidson distinguishes on-chain from off-chain governance models and in both cases considers the place of the DAO within the GKC framework. The analysis evaluates the effectiveness of the two governance models in ensuring decentralization and addressing internal conflicts, with a particular emphasis placed on the unique conflict resolution mechanisms available to DAOs (such as “forking” and “rage-quitting”). For Davidson, an important insight is that the rules-in-use in

on-chain governance and off-chain governance are likely to be very different. The chapter also examines the robustness of DAOs in light of Ostrom's design principles.

DAOs, which rely primarily on socio-technical infrastructures supplied by blockchain technology and consist substantially of combinations of shared computer code and shared data, are also the focus of Michael J. Madison and Ilia Murtazashvili's Chapter 12 ("The Decentralized Autonomous Corporation as Knowledge Commons"). Madison and Murtazashvili characterize the basic model of the DAO using the tools provided by the GKC framework, contrasting the GKC perspective with long-standing views of the corporate form as a nexus of contracts, as an instance of hierarchy and decision theory, and as a complex system. The exercise reveals that the GKC framework focuses attention on elements of governance that often are not salient in conventional accounts. This is especially true, Madison and Murtazashvili argue, of the important question of how governance responds to and generates social dilemmas associated specifically with practices of sharing knowledge, information, and data.

In Chapter 13 ("The Human Genome as Knowledge Commons: Governance through Mutual-Benefit Participatory Democracy"), Benjamin Gregg points out that the non-rivalrous and non-excludable characteristics of human genetic information make it well suited to commons-based governance as a complement to state- and market-led models. Using the case of deCODE Genetics in Iceland, he shows the practical viability of such an approach, underscoring the importance of public cooperation, ethical safeguards, and consent. Yet the model faces a central dilemma: the need for broad data sharing to advance research versus the individual participant's right to privacy. Gregg reframes this tension by conceptualizing privacy not as the negation of sharing but as one of its dimensions. He then resolves the dilemma by proposing a participatory, procedurally legitimate system in which stakeholders (including data contributors, researchers, and clinicians) collectively determine rules of access, use, and privacy through democratic deliberation. By establishing a self-governing genomic commons based on democratic principles and community values, Gregg concludes, this framework offers a promising path to realize the genome's potential for public health while safeguarding individual rights.

Community values are central in Deike Schulz's case study of the video game influencer industry in Chapter 14 ("Commoning through Interactions: Governing Offline and Online Communities in the German Video Game Influencer Industry"). The study of INSTINCT₃, a Germany-based video game influencer management agency, investigates how its employees (influencers) and external stakeholders (followers) operate as polycentric communities in two interconnected action arenas: an offline arena of intraorganizational interactions between employees, and an online arena in which influencer channels mediate interactions between influencers and followers. Schulz examines the transfer of organizational values between offline and online communities, relying on in-depth interviews to identify

the resources, community attributes, and rules-in-use that are essential in developing a value-driven and responsible employee communityship. She also investigates how organizationally relevant rules-in-use are transferred by influencers through communicative practices in their online communities to their followers, and looks at how INSTINCT₃ governs the two action arenas as part of a dynamic and multilayered process.

The need for participants to communicate and understand others' valuations in order to coordinate collective action and create common value is a central theme developed by Stephen Healy, Amy J. Cohen, and Abby Mellick Lopes in Chapter 15 ("Supply Chain Commons: Organic Waste, Climate Change, and Regenerative Farming in Peri-Urban Sydney"), which concludes the volume. Healy, Cohen, and Mellick Lopes recast the supply chain as a commons via an extended description of the shared social, intellectual, and regulatory resources currently producing an experiment in a circular economy for organic waste in Sydney. Organic waste, once composted, finds its way into high value-added crops like heirloom garlic, which are then sold back to consumers in Sydney. By foregrounding the practices of social learning and information sharing that is making this "circularity" possible, Healy, Cohen, and Mellick Lopes show how creating a material commons often depends on creating a knowledge commons to make it cohere. It also crucially depends on creating commoner-subjects who will do the work of caring for both.

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