

Platform Organising and Platform Organisations

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Abstract

There is a growing consensus that the digital age comes along with the distinguishing organisational form of the platform. Discussions of this organisational form, however, tend to lack a coherent theoretical framing. In this paper, I argue that the distinction between platform organising and platform organisation helps to reduce some of the equivocality in the discussion. So far, the literature has focused on the novelty of the ‘organisational form’ without reflecting the inherent ambiguity of the meaning of this term: whereas some scholars use it to describe a new kind of ‘social ordering’, others associate it with ‘formal organisation’. I show that both understandings are relevant, but that they should be kept separate for analytical reasons. Platform organisations are formal organisations which are dependent on the technological infrastructure of a digital platform. Platform organising, however, is a new kind of social ordering, which combines organising outside and organising inside of formal organisations. Platform organising entails four processes: providing (organising technology), regulating (organising markets), integrating (organising networks), and orchestrating (organising the emerging meta-organisation). In shedding light on these processes in their interplay with platform organisations, this paper proposes a theoretical framework providing a basis for both further conceptual considerations and empirical research.

1. Towards a theory of platform organising

“It is easy to find a City Hall and the mayor’s office. It is more difficult to assume that city management consists of a complex action net in which the mayor’s actions are taken among those of many others” (Czarniawska, 2013: 14).

Social practices increasingly are dependent on platforms where products are exchanged, services such as ride-hailing and hotel reservation are accessed, private communications are processed, or even protests are prepared. Platforms are, moreover, used increasingly all over the world to evaluate terabytes of machine and geodata and manage much of today’s enterprise software. To demonstrate the “diversity” (Schüßler *et al.*, 2021: 1219) of the phenomenon, Srnicek (2017) distinguishes, in accordance with these examples, between product platforms, lean platforms, advertising platforms, industry platforms, and cloud platforms. Formal organisations providing these different types of platforms, such as *Amazon*, *Uber*, *Alphabet*, *Siemens*, or *Microsoft* are considered to be some of the most valuable companies

in the world (Gawer and Srnicek, 2021: 4 ff.) making a name for themselves as ‘big tech’ or ‘hyperscalers’ unsettling entire industries.

Scholars study these developments from heterogeneous perspectives – ranging from platform studies (Apperley and Parikka, 2018) to economics (Evans and Schmalensee, 2016), information systems (de Reuver, Sørensen and Basole, 2018), law (Gawer, 2021: 7 ff.), management studies (Chen *et al.*, 2022; McIntyre *et al.*, 2020), media studies (van Dijck, Poell and Waal, 2018), and sociology (Schüßler *et al.*, 2021).

Additionally, socio-theoretical diagnoses have been formulated ranging from ‘platform capitalism’ (Srnicek, 2017), ‘digital capitalism’ (Staab, 2019), and ‘surveillance capitalism’ (Zuboff, 2019) to ‘platform economy’ (Kenney and Zysman, 2016) and ‘platform society’ (van Dijck *et al.*, 2018). These diagnoses, already being reflected in their diversity (Vallas and Schor, 2020: 277 ff.), question optimistic narratives about platforms. These seem to be not least shaped by the formal organisations providing these platforms, who are “working not just politically but also discursively to frame their services and technologies” (Gillespie, 2010: 348).

As diverse as these literature streams might be, however, there is a growing consensus that “twenty-first century capitalism” comes along with the “distinguishing organizational form” (Schüßler *et al.*, 2021: 1217) of the platform. Or as Gawer (2021: 2) puts it: platforms and ecosystems are the “dominant organizational forms in the digital age.” Discussions about these organisational forms as initiated by Gawer (2014), however, tend to lack a coherent theoretical framing (McIntyre *et al.*, 2020).

In this paper, I argue that the distinction between platform organising and platform organisation is key to reducing some of the equivocality in the discussion. So far, the literature has focused on the novelty of the ‘organisational form’ without reflecting on the inherent ambiguity of this term: whereas some scholars use it to describe a new kind of social ordering, others associate it with a new kind of formal organisation. In this beginning of a new approach, I show that both understandings are relevant, but that they should be kept separate for analytical reasons. *Platform organisations are formal organisations that are dependent on the technological infrastructure of the digital platform, whereas platform organising is a new kind of social ordering combining organising outside and organising inside of formal organisations.*

The paper starts by examining the literature aiming to identify two different, but complementary ways of approaching the organisational form of platforms (Section 2). It continues by explicating the underlying theoretical perspective by reflecting on the distinctions between organising and organisation (Czarniawska, 2013) as well as decided and non-decided organising (Ahrne and Brunsson, 2011) on the one hand and different processes (Langley and Tsoukas, 2016) of platform organising on the other (Section 3). The main thrust of both the literature analysis and the conceptual embedding is to develop a framework of how platform organising works both inside and outside of formal organisations (Section 4). From this framework, I derive several conceptual and empirical questions for further research (Section 5).

2. Two understandings of ‘organisational form’

Given the prominence of platforms in recent scholarship, as manifested in an “enormous number of articles and special issues” (Schüßler *et al.*, 2021: 1218), there is a diversity of research streams ranging from a focus on infrastructure in information systems research (de

Reuver *et al.*, 2018) to strategic considerations in economics or management studies (Chen *et al.*, 2022; Kretschmer *et al.*, 2020; Schüler and Petrik, 2021). When investigating this phenomenon, however, very different conceptualisations of platforms are used. Besides the mere ‘technological’ definition of a ‘platform’ as a “extensible codebase of a software-based system that provides core functionality shared by the applications that interoperate with it and the interfaces through which they interoperate” (Tiwana, Konsynski and Bush, 2010: 675), there are several conceptualisations based on social-theoretical considerations: are platforms a subtype of markets (Rochet and Tirole, 2006) or market organisers (Kirchner and Schüßler, 2019)? Are they similar to networks (Shipilov and Gawer, 2019) or do they even constitute a new form of social ordering (Stark and Pais, 2020)? Schüßler *et al.* (2021: 1221) synthesise this discussion by stating that “platforms are neither like other social collectives such as markets, hierarchies or communities, nor completely distinct from them.”

In this paper, I focus on approaches emphasizing that platforms are a “distinguishing organizational form” (Schüßler *et al.*, 2021: 1217). The question is: which concepts of organisation and organising are used by authors making this proposition? Although it is not a problem per se that scholars ‘hear’ different things when they speak of ‘organisational form’, it is, however, problematic when this equivocality is not identified as such. One way out of this situation may be to assert that “platforms can simultaneously *do* and *be* different things” (Schüßler *et al.*, 2021: 1225). However, I follow a different path and try to map out two different groups of conceptualisations. One group sees platforms as an organisational form in the sense of ‘social ordering’, that is, organising; the other group thinks of them as an organisational form in the sense of ‘formal organisation’. Both approaches are important as a holistic understanding of platforms requires considering platform organising *and* platform organisations. These two phenomena must be clearly differentiated – not least to set the conceptual foundations to conduct empirical research on how they are related.

2.1. Platforms as a new kind of social ordering

This section focuses on bottom-up approaches on the organisational form of platforms. Although they may be very different in detail, they all look at the emergent ordering ‘around’ the platform and call this ordering ‘meta-organisation’ or ‘ecosystem’. In particular, Anabelle Gawer (2014) has exerted a lasting impact on the platform discourse by calling for an “organizational lens” (Gawer, 2014: 1240) to be applied on platforms. She states:

By organization I do not necessarily mean one firm or one legal entity, nor one type of organizational form but rather, returning to a fundamental definition of what organizations are [...], a ‘system of coordinating activities of two or more persons’, without any a priori as to the organizational form it might take.

Although referring to Barnard, Gawer does not speak of ‘formal organisations’ when referring to ‘platforms’. Quite to the contrary, she equates ‘organisation’ with ‘social order’. She goes on stating that a “key conceptual barrier to bridging current perspectives on platforms may lie in their respective fixed assumptions about the organizational form that platforms take. In order to develop a unified framework I allow the organizational form to be an endogenous variable” (Gawer, 2014: 1240). Gawer seems to intentionally use ‘organisational form’ as a rather empty concept designed to stimulate the search for its

different materialisations. The concept helps to refrain from both a merely economic and a merely technological understanding of platforms. Starting from this argument, it has become almost common sense to state that platforms are “a fundamentally novel organizational form” (McIntyre *et al.*, 2020).

This paper fully concurs with Gawer’s approach. However, difficulties arise at the point where Gawer (2014: 1240) goes one step further and uses the concept of ‘meta-organisation’ in relation to platforms. Referring to both Ahrne and Brunsson (2008) as well as Gulati *et al.* (2012), Gawer (2014: 1240) asserts that the latter “further clarified” the approach of the former. This statement, however, is problematic as both approaches are very different from each other. For Ahrne and Brunsson (2008: 429 f.), a meta-organisation is a “formal [!] organization whose members are themselves organizations”. In the following, this usage of ‘meta-organisation’ will be referred to as ‘meta-organisation^D’, where the ‘D’ stands for ‘decided order’. For Gulati *et al.* (2012), this is not at all what meta-organisations are. Due to their very different conceptualizing of ‘organisation’, their descriptions of meta-organisations differ as well. They are defined as “organization[s] whose agents are themselves legally autonomous and not linked through employment relationships” (Gulati *et al.*, 2012: 573). This definition – referring to what may be called meta-organisations^E in the following (where the ‘E’ stands for ‘emergent’) – is in at least four ways different from Ahrne and Brunsson’s (2008) approach.

First, for Gulati *et al.* (2012: 573) meta-organisations^E are a topic of a *normative* approach dealing with “organisation design” requiring “architects”, whereas Ahrne and Brunsson (2008: 431) are primarily interested in the *empirical* phenomenon with the ideal type being the “association”. *Second*, for Gulati *et al.* (2012) the ‘agents’ taking part in meta-organisations^E do not have to be formal organisations: “An agent in this definition could [!] itself be an organization” (Gulati *et al.*, 2012: 573), but it could just as well be an individual. This is exactly the opposite of what Ahrne and Brunsson (2008: 429 f.) say when defining meta-organisations as consisting of other formal organisations. *Third*, meta-organisations^E themselves are – again very different from Ahrne and Brunsson (2008: 448) – not formal organisations but other kinds of social ordering. In a meta-organisation^E, the agents just mentioned are explicitly “not linked via a framework of formal authority associated with employment contracts” (Gulati *et al.*, 2012: 573). To create a meta-organisation^E, does not imply a *decision*, whereas exactly this decidedness is crucial for a meta-organisation^D to exist. *Fourth*, for Gulati *et al.* (2012: 573) the term is first and foremost characterised by its negativity: “the defining feature of a meta-organization is the absence of formal authority”. Only as a second step, however, two positive attributes of meta-organisations^E are explicated. They are “characterized by a system-level goal” and they “emerge when focal firms attempt to exercise control over external partners despite the absence of formal authority within an employment relationship” (Gulati *et al.*, 2012: 575). Both propositions are very different from what Ahrne and Brunsson (2008) claim. Meta-organisations^E are not decided orderings. They *emerge*. And: they emerge based on the will (sic!) of one of the agents within the meta-organisation^E. This leads the authors to the definition that “meta-organizations comprise networks of firms or individuals not bound by authority based on employment relationships but characterised by a system-level goal” (Gulati *et al.*, 2012: 573). Thus, meta-organisations^E are social systems *emerging* by a subset of their actors *pursuing a goal*. This existing of a “system level goal” does not mean that each agent within the meta-organisation^E actually “share[s]” this goal (Gulati *et al.*, 2012). It does, however, imply that an “architect[.]” (Gulati *et al.*, 2012: 573) exists whose goal is pursued.

That broad definition of ‘meta-organisations’^E equips scholars with a tool to study highly heterogeneous phenomena (except for formal organisations or social aggregates requiring no architect whatsoever; e.g., the economy).

Kretschmer *et al.* (2020: 407) are consequent in utilizing the emptiness of the term to relate the concepts of meta-organisation^E and ecosystem: “Given the typical structure of platform ecosystems, it is useful to think of a platform ecosystem as an ‘organisation of organisations’, that is, a meta-organisational form.” By interchangeably referring to prominent ecosystem authors such as Adner (2017) and Kapoor (2018) on the one hand and the above mentioned Gulati *et al.* (2012) on the other, Kretschmer *et al.* (2020: 407) continue to say that “meta-organisations connect multiple organisations, actors, activities, and interfaces, and are underpinned by interrelated social or economic value propositions or business models.”

As ecosystems are identified as meta-organisations^E in the proposition above, it is worthwhile taking a short detour looking at the ecosystem-literature where a similar debate takes place. Cennamo and Santaló (2019: 617), to give just one example, state that “platform-based technology ecosystems are new forms of organizing independent actors’ innovations around a stable product system.” This specific type of an interorganisational relation is primarily distinguished from established types by its generativity: “Platform systems can thus expand and evolve without hierarchical control from the system’s creators” (Cennamo and Santaló, 2019: 617). Based on technological modularity, so-called complementors can build modules (complements) on the platform without this building being decided by the formal organisation providing the platform. Complementors are those actors (including formal organisations and individuals) who extend the technological core, that is, the platform, through contributions, so-called complements (e.g., rides, posts, apps, housing space) (Jacobides, Cennamo and Gawer, 2018). For this complementor-role, the literature offers different words, such as “provider” (Stark and Pais, 2020), “innovator” (Gawer, 2014), and “partner” (Adner, 2017).

It is important to recognise the mutual influence of all actors, because unlike in the case of supply chains and their related “pipeline businesses” (Van Alstyne, Parker and Choudary, 2016b), not all threads come together at a single formal organisation. Thus, not all multilateral interactions could be dissolved into bilateral ones: “An ecosystem is a set of actors with varying degrees of multilateral, nongeneric complementarities that are not fully hierarchically controlled” (Jacobides *et al.*, 2018: 10). Accordingly, multilateral and interdependent social relations creating unforeseen feedback-loops are essential features of ecosystems (Adner, 2017; Jacobides *et al.*, 2018: 12 f.). Using concepts from the study of business models, this *may* lead to value capturing being centralised (as *one* platform organisation materialises almost all processes of platform organising), whereas value creation remains distributed (Schrieck, Wiesche and Krmar, 2021). However, even in this extreme case, such a powerful formal organisation needs to refrain from full hierarchical control otherwise turning a meta-organisation^E in a supply chain (Jacobides *et al.*, 2018: 13) without the essential feature of generativity (Tiwana *et al.*, 2010; Schrieck, Wiesche, Ondrus, *et al.*, 2021, see also Section 4.1). Within meta-organisation^E, no one *decides* what exactly is supplied at what price by whom (Jacobides *et al.*, 2018: 13, footnote) – or at least this is a question which needs to be answered very differently depending on the “extent to which digital platform owners grant complementors autonomy in conducting value-creating activities” (Chen *et al.*, 2022: 159).

This is one of the reasons why Chen *et al.* (2022: 148 f.) – in their review of the literature on platform governance and design – come to the conclusion that platforms are “hybrid organisations” or “meta-organisations” managing “activities within the organisational

boundary.” By ‘boundary’, however, they do not refer to the boundary of a formal organisation, with contributions being attributed to this formal organisation (Luhmann, 2020). They speak of a system of contributions in a more general sense (see also Gawer, 2020). In their argument they refer to Saadatmand *et al.* (2019) and Cennamo and Santaló (2019), but mostly align with Williamson (1995), hypothesizing “two salient similarities between digital platforms and our established understanding of hybrids” – a first one being “interfirm relationships are only weakly contractualized”, and a second one being “hybrids rely on partners who pool strategic resources and share decision rights” (Chen *et al.*, 2022: 152).

Instead of contractually setting instructions, “indirect links” (Adner, 2017: 44) exist ordering the communication between the complementors. An important subtask here is to set incentives for community building: “In the absence of communities on either side of the market, the characterization would devolve into a regular supply chain with the platform playing the role of distributor” (Adner, 2017: 50). Annabelle Gawer even makes this function of the platform a defining feature. A platform does not only coordinate, but also provides for “federation of complementors into a collective” (Gawer, 2014: 1245).

In short: ecosystems are conceptualised as a sub-set of meta-organisations^E, characterised by additional attributes like a specific type of complementarity (Jacobides *et al.*, 2018) or a particular combination of the degree of stratification and the permeability of boundaries (Gulati *et al.*, 2012). However, both concepts share something crucial for the present investigation of the platform literature’s usage of the term ‘organising’: they explicitly do not refer to the meaning of ‘organisational form’ in the sense of ‘formal organisation’.

2.2. Platforms as a new kind of formal organisation

The bottom-up approaches, discussed so far, mention formal organisations ‘participating’ in platform organising, but they do not systematically conceptualise them. Beside these approaches, however, there are also top-down approaches explicitly focusing on these platform organisations – either the “firm which owns the focal platform” (McIntyre *et al.*, 2020) or the “platform dependent entrepreneurs” (Cutolo and Kenney, 2021). At the same time, these top-down approaches tend to fade out the meta-organisation^E as described in Section 2.1. Thus, this section sheds light on a selection of these approaches – categorised by the identified objects the formal organisation is supposed to take care of, respectively. Some approaches are more technology-oriented in their identification of the platform organisations’ object, others focus on social relations to be organised by platform organisations. In total four such objects can be identified: technology, markets, networks and the meta-organisation^E.

A *first* approach of conceptualizing platforms as formal organisations is provided by Frenken and Fuenfschilling (2021: 104) arguing that platforms need to be conceptualised “as corporations”. Here, platform organisations are defined as rather conventional formal organisations, characterised mostly by a specific technology as their object. The platform as a technical product is, therefore, one object to be taken care of by platform organisations (Gawer, 2014; McIntyre *et al.*, 2020; Van Alstyne *et al.*, 2016b).

A *second* object of platform organisations, discussed in the literature, is the set of networks ‘around’ the platform emerging due to interactions of the complementors (Shipilov and Gawer, 2019). This specification can be found in the approaches emphasizing the relevance of communities for platforms (Schrieck, Wiesche and Krcmar, 2021), but it can also be found in

more critical accounts. Dolata (2019: 184) for an example emphasises this ‘socio-technical’ aspect of platforms, while simultaneously being sceptical regarding the ‘emergence’ of the social systems:

Both – the organization of markets and the shaping of social action frameworks – [...] do not simply emerge from the interaction of a multitude of social actors, but are above all the result of the intentional formation of structures by the platform operators (Dolata, 2019: 184, my translation).

A *third* object of the platform organisation discussed in the literature, is based on the concept of ‘Uberization’ introduced by Davis (2016). Following Davis, scholars theorise platform organisations as being characterised by “a radically different organizational structure: a shift from large capital-intensive facilities to a model of aggressive outsourcing, franchising, and streamlining” (Rahman and Thelen, 2019: 182). Especially Kirchner and Schüßler (2019, 2020) determine the market as the resulting object of platform organisations, the latter thus becoming “market organizers that establish and operate digital marketplaces” (Kirchner and Schüßler, 2020: 217). This argument is based on a combination of the Uberization-approach, the concept of partial organisation (Ahrne, Aspers and Brunsson, 2015), and the notion of ‘platform logic’ (Kirchner and Beyer, 2016), according to which three mechanisms of decoupling need to be considered for the success of platform organisations, that is, delocalisation, delegation, and decoupling from the product. At this point, the notion of ‘platform logic’ matches with insights from the ecosystem debate discussed above (2.1): platform organisations “relinquish direct responsibility for which concrete products are ultimately offered” (Kirchner and Beyer, 2016: 329, my translation).

Consequently, a *fourth* object of the platform organisation discussed in the literature is the platform organisation’s relevant environment, that is, the meta-organisation^F described above (Section 2.1). Especially, Watkins and Stark (2018: 75) emphasise that “with neither market contracts nor partnering alliances, the organizational ‘action pattern’ [...] of the Möbius is to co-opt the organizational actions of other entities in their environment” (Watkins and Stark, 2018: 75). In a follow-up article, Stark and Pais (2020) even go one step further. They refrain from categorizing platforms as a subset of formal organization (hierarchy) claiming platforms being neither hierarchies nor markets or networks, but a “new form of social organization” (Stark and Pais, 2020: 53). Against this proposal, in turn, some scholars negate platforms being a social order of their own by emphasizing the “hybridity” of them combining “elements of markets, hierarchies, networks and communities” (Schüßler *et al.*, 2021: 1221). However, the general argument is similar: “digital platforms – as an organizational model – constitute a next step in a trajectory of dissolving organizational boundaries enabled by Internet and communication technologies” (Schüßler *et al.*, 2021: 1220, see also Kornberger, Pflueger and Mouritsen, 2017; Vallas and Schor, 2020).

To sum up, the organisational form of platforms is not only theorised from the bottom-up as explicated in Section 2.1, but also from the top-down by focusing on platforms as specific kinds of formal organisations. The approaches differ, however, in that they a.) either focus more on the orthodox (Dolata, 2019; Frenken and Fuenfschilling, 2021) or more on the unorthodox aspects (Kirchner and Schüßler, 2019, 2020; Watkins and Stark, 2018) of them – resulting in theses claiming their hybridity (Schüßler *et al.*, 2021) or negating their character as formal organisations altogether (Stark and Pais, 2020) – and b.) take other objects of the formal

organisation as their starting point: technologies, networks, markets, and the meta-organisation^E. Now, that the two streams of understanding ‘organisational form’ have been explicated, a conceptualisation integrating both of these streams may be in place.

3. Conceptual framing

The starting point of this paper is the lack of an adequate theoretical framing in the discussion about platforms’ organisational form (Gawer, 2014; McIntyre *et al.*, 2020). After having analysed the current debate, the main concepts used throughout the paper need to be introduced: organising and organisation (Section 3.1), partial and formal organisation (Section 3.2), and platform organising as opposed to platform organisations (Section 3.3).

3.1. Organising and organisation

Before conceptualizing organising and organisation, it is worthwhile briefly discussing a question asked by Czarniawska (2013: 6): “Do organization theorists create organizations?” A first answer to this question is: *Yes, they do*. However, a second and third answer to this question reveal: They are not alone in doing it. And, probably more surprising is that they also create organising. At least from the perspective of radical constructivism, there is no way out: if a researcher wants to scientifically observe something, she needs to construct certain objects by using “a distinction in order to refer to one part of the distinction, not the other” (Luhmann, 1994: 133). Following Latour (2007: 27 ff.), however, the researcher should also try to “minimize [...] the a priori assumptions before the study can begin” (Czarniawska, 2013: 13) and to avoid the “fallacy of ‘misplaced concreteness’” (Whitehead, 1978: 18; see also Bakken and Hernes, 2006: 1601), which might lead both to a “reification of organizing” (Czarniawska, 2013: 7) and a ‘processication’ of organisation.

That being said, I fully commit to Czarniawska (2013: 15) in examining “organizing as the construction, maintenance, and destruction of action nets”, where organisations are no more (but also: no less!) than “stabilized fragments of wider action nets”. Put differently: In the following, speaking of ‘organisation’ does not imply understanding it as an object “out there” (Czarniawska, 2013: 13) with certain properties (e.g., size), which can be analysed in different ways, most prominently in terms of their contingency factors (e.g., industry). Against *this* concept of organisation, that is, organisation-as-entity, where organisations are basically “systems of mechanical or organic parts” (Czarniawska, 2013: 8), the notion of organising-as-process has been developed (Van de Ven and Poole, 2005). This notion not only instructs the researcher to look for what *actually happens* ‘inside’ and ‘outside’ of “virtual objects” (Czarniawska, 2013: 18) like bureaucracies, corporations and the like. It also instructs her to interpret “processes” not as “actions *carried out* by entities, but rather as actions which *form entities*” (Bakken and Hernes, 2006: 1604). The “ordering” this organising “involves” makes the researcher wonder about the “*process of organizing*” (Czarniawska, 2013: 12), where “action become[s] coordinated in the world of multiple realities” (Weick, 1995: 75).

That being said, organisations can conceptually be re-introduced as “entities”, which are not simply “out there”, but “outcomes rather than inputs of organizing” (Czarniawska, 2013: 13). From this point of view, they can be analysed more precisely as “entities, or abstractions”, which “emerge *from* processes and enter *into* processes in turn” (Bakken and Hernes, 2006:

1602). As “abstractions” they are “part and parcel of processes and cannot be detached from them” (Bakken and Hernes, 2006: 1602).

Deviating, however, from the above mentioned authors, I follow Weick’s (1995: 72) claim that all “social forms associated with organizing” need to be specified by their “function [...] to manage” the “transitions” from intersubjective to generically subjective et vice versa. They enable social actors to transcend group-specific meanings and enter a realm of generic meaning. In this view, organisations are “entities that move continuously between intersubjectivity and generic subjectivity” (Weick, 1995: 75). Going even one step further – and here I follow Ahrne and Brunsson (2011, 2019) –, this function may be fulfilled in two different ways: by referring to decisions (formal and partial organisations) or by not referring to decisions (networks and institutions). This distinction will be described in the following.

3.2. Decided and non-decided organising

A second theoretical perspective the paper aims to both apply and extend is based on the concept of partial organisation as introduced by Ahrne and Brunsson (2011, 2019). The basis of their argument is a distinction between two forms of social ordering. Following the argument above (3.1), these might be called ‘decided organising’ and ‘non-decided organising’. For both, two sub-distinctions are discussed (Ahrne and Brunsson, 2011: 87 f.). Decided organising includes, first, *formal organisations*, which are ‘complete’ organisations. Loosely based on authors like March and Simon (1993) or Luhmann (2018, 2020), formal organisations, thus, can heuristically be conceptualised as abstractions within decided organising, which decide about the following five aspects of their own structure: membership, hierarchy, rules, monitoring, and sanctions (for a critical discussion of this approach see Apelt *et al.*, 2017). *Partial organisations*, in contrast, are forms of decided organising for which only a subset of these five aspects is decided upon. Standards, for example, can be classified as instances of partial organisation. With their help, organising is decided in its rules, not in its other dimensions, that is, membership, hierarchy, monitoring, and sanctions (Ahrne, Brunsson and Seidl, 2016: 96).

In contrast to decided organising, forms of non-decided organising, that is, institutions and networks, are characterised by their underlying structures not having been decided upon. They “merely happen rather than being decided” (Ahrne and Brunsson, 2011: 90). *Networks* imply “informal structures of relationships linking social actors, which may be persons, teams or organizations” (Ahrne and Brunsson, 2011: 88). *Institutions* imply “behaviour based on beliefs and norms” (Ahrne and Brunsson, 2011: 89).

3.3. Platform organising and platform organisations

In the following, the term ‘platform organisation’ is used to identify the formal organisations involved in the processes of platform organising. ‘Platform organising’, however, refers to the processes necessary for the social ordering emerging ‘around’ platforms. Based on the literature (Section 2.2), I argue that platform organising requires at least four processes (for theoretical considerations of the process view in general, see Langley and Tsoukas, 2016): organising its technology (providing the platform-core as well as complements, e.g., apps), its markets (regulating), its networks (integrating), and its meta-organisation^E (orchestrating).

Which of these processes are materialised by one or several platform organisations, however, is an empirical rather than a conceptual question.

Platform providing means making the technological platform available by developing and supporting it. Although the technological skills for fulfilling these processes are remarkable (Ziegler, 2020), an important assumption in the literature needs to be questioned. The formal organisation taking care of platform providing is not necessarily responsible for carrying out the other platform processes as well. It is neither necessarily the “platform owner” (Chen *et al.*, 2022; Cutolo and Kenney, 2021; Schüßler *et al.*, 2021) nor the “platform leader” (Cusumano and Gawer, 2002). Empirically, this correspondence might in almost all cases be a fact. However, from a theoretical point of view, these processes should be kept conceptually separated from ‘their’ platform organisations to allow for the observation of empirical cases deviating from this ‘normality’.

This observation is also important when it comes to organising the platforms’ markets, networks and meta-organisations^E. In the literature, various terminologies are used to identify the corresponding roles (Chen *et al.*, 2022: 176), that is, “leader” (Gawer and Cusumano, 2002), “regulator” (Boudreau and Hagiu, 2009), “integrator” (Nambisan and Sawhney, 2011), or “orchestrator” (Iansiti and Levien, 2004). In the following, I stick to the term ‘orchestrating’ for the process of organising the meta-organisation^E, confining the term ‘regulating’ to the organising of markets and the term ‘integrating’ to the organising of networks.

Although the terms are similar, platform organisations are therefore very different from platform organising. When looking at platform organisations as contingent materialisations of the processes of platform organising, they become less extraordinary. Prominent platform organisations include *Apple, SAP, Uber, Salesforce, Airbnb, Amazon, Shopify, or Spotify*. All these platform organisations are ‘normal’ formal organisations in the sense that they fulfill standard criteria of formal organisations. They are formal organisations in the sense of the classical literature (Coase 1937; Barnard, 1960; March and Simon, 1993; Weber, 2012) as well as in the narrower sense of theories of organisations as decisions (Grothe-Hammer, Berkowitz and Berthod, 2022). They exhibit full organisationality, that is, interconnected decision-making processes, actorhood, and identity (Dobusch and Schoeneborn, 2015). Based on the concept of organisation used in this paper, they are also formal organisations as they decide on membership, hierarchy, rules, monitoring, and sanctions. It is important to discuss whether these formal organisations are *a new kind* of formal organisation (Section 2.2), but it can hardly be argued that they are no formal organisations at all.

Although the processes of platform organising may require formal organisations in most *empirical* cases (Ametowobla, 2020), none of these processes *necessarily* lead to the constitution of formal organisations. Which of the platform organising processes are materialised by which combination of formal organisations should be treated as an empirical rather than a conceptual question.

In other words: there is a considerable variety of combinations of the structuring of these processes and the number of formal organisations involved in them. Rather, from its earliest attempts at theoretical taxonomies, “the conceptualization of platform acknowledges that the roles played by the platform’s constitutive agents can evolve over time” (Gawer, 2014: 1247).

One exemplary possibility of a materialisation of these processes is the following: one platform organisation taking care of the processes of providing the platform, regulating, integrating, and orchestrating at the same time (e.g., *Apple*) and four other platform

organisations fulfilling the processes of providing complements (e.g., *Adobe, Spotify, Airbnb, Uber*).¹

But also, other combinations are possible: one of the platform organisations might be responsible for platform providing, a second for regulating, a third for integrating, a fourth for orchestrating, and a fifth for providing complements. Platform organisations may also create a *new* formal organisation (a meta-organisation^D), responsible for taking care of a subset of platform organising processes, such as orchestrating and regulating. And one last example: platform providing, regulating, integrating, and orchestrating may be materialised by one platform organisation only, whereas providing complements may be carried out by individuals instead of formal organisations altogether. This is the case with platforms like *Airbnb* or *Uber* (although a tendency towards the formalisation of the processes of complement providing may be observed empirically), which may be associated with the gig economy (Vallas and Schor, 2020) or the peer-to-peer sharing economy (Wirtz *et al.*, 2019).

In short: to explicate the inherent complexity of this new form of organising it is necessary to make use of at least four concepts:

- a) *Platform organising* consisting of providing technology, regulating markets, integrating networks, and orchestrating meta-organisations^E,
- b) *Forms of non-decided organising* relevant for the platform, that is, networks, markets, and the meta-organisation^E ('ecosystem') emerging 'around' the platform,
- c) *Platform organisations* as formal organisations, which might or might not materialise (different combinations of) subsets of these processes,
- d) *Partial organisations* supporting the organising the platforms' networks as well as their markets (these will be relevant in Section 4.2 and Section 4.3).

4. Four processes of platform organising

Based on a clear distinction between bottom-up approaches identifying the organisational form of platforms as a distinctive type of social ordering and top-down approaches identifying the organisational form of platform as a specific type of formal organisation, different assertions about the objects of platform organisations could be identified in the literature (Section 2.2). The following section uses the outcome of this identification, the literature review on bottom-up approaches (Section 2.1) as well as the concepts introduced in Section 3 to substantiate the conceptual framework of 'platform organising', which entails providing

¹ Complementors – also termed “platform-dependent entrepreneurs” (Cutolo and Kenney, 2021) – generate complements (e.g., applications, functions, interfaces) for the platform (Adner and Kapoor, 2010). From the perspective of the platform provider (as a formal organisation), these are (in the standard cases) both customers of the platform and providers *vis-à-vis* third parties. The example above also shows the importance of the distinction between “infrastructural platforms” and “sectoral platforms” as proposed by Van Dijck *et al.* (2018: 12 f.). Among the former, they include only the Big Five (GAFAM), which form the “core” (van Dijck *et al.*, 2018: 15) of what they call the ‘social platform ecosystem’. The latter are dependent on the platform core in providing sector-specific services (like news, transportation, healthcare, and education). In the example above, *Apple* provides the core platform on which other peripheral platform organisations (*Adobe, Spotify, Airbnb, Uber*) build their platforms.

technologies (Section 4.1), regulating markets (Section 4.2), integrating networks (Section 4.3), and orchestrating the meta-organisation^E (Section 4.4).

The framework starts by asking: what if platform organising were only a matter of technology? From this, it works its way up adding as many specifications as necessary. Imagining such a minimal theory makes transparent that platform organising is much more difficult than organising technology, because it encompasses both technological and social processes (Saadatmand *et al.*, 2019). Realizing that different parties (e.g., buyers and sellers) need to be connected, it becomes apparent for platform organising to encompass the processes of market organising (Kirchner and Schüßler, 2019, 2020). By closely examining the role of hierarchy within the processes of market organising, however, it can be shown that this addendum is not sufficient. Without “securing complementor engagement” (Saadatmand *et al.*, 2019) platform organising goes idle. If all platform participants are conceptualised as buyers and sellers, the consequences of platforms’ malleability and generativity get out of sight. Platform processes are necessarily triangular as complementors are not only in interaction with the platform provider but also with other complementors (Chen *et al.*, 2022; Van Alstyne *et al.*, 2016b).²

4.1. Providing (organising technologies)

The most basic description of platform organising starts with its technological challenges. It is not surprising, therefore, that a platform can be described as “an intermediary organisational form between two or more sides, providing the necessary infrastructure to enable interactions between different user groups” (Schüler and Petrik, 2021: 2). At this point, it is important to note how the authors prioritise the attributes. Essential to a platform is first and foremost the technical infrastructure *and not the intermediation*:

Platforms not only provide a stable core but also mediate between different groups of users [...]. Platforms that merely mediate between different user groups but offer no extensible codebase should not be considered digital platforms in the IS discourse (de Reuver *et al.*, 2018: 125–27).

To better understand the background of these propositions, I confine the argument to a special subtype of platforms: innovation platforms (Cusumano, Gawer and Yoffie, 2019: 19). While at least most sociological analyses focus on transaction (or, even as prominent subgroups: on social media or gig) platforms, this paper follows Cusumano *et al.* (2019), Gawer (2020, 2021) and Gawer and Srnicek (2021) in emphasizing the role of innovation platforms within the platform debate to develop a broader conceptual framework of platform organising.

² The development of this conceptual framework works its way up starting from a minimal theory, which is methodologically inspired by authors like Marx (2004; Harvey, 2010) and Parsons (1964: 27 ff.). Additionally, the framework is inspired not only by the platform literature, but also by theoretical reflections on functional prerequisites of social systems, namely “individual actor[s]” (here: formal organisations), “interactive system[s]” (here: networks and markets), and “a system of cultural patterning” (here: the meta-organisation^E) (Parsons, 1964: 27).

Unlike transaction platforms, where already existing goods and services are exchanged (e.g., *Uber*, *Airbnb*), innovation platforms consist of “common technological building blocks that the owner and ecosystem partners can share in order to create new complementary products and services” (Cusumano *et al.*, 2019: 18). The differentiation criterion between both types is not the scope of application, as in Srnicek’s (2017: 48 ff.) case, but their function. Transaction platforms focus on the exchange (buying and selling) of already existing goods and services. Innovation platforms, on the other hand, enable innovation on the platform (Gawer, 2020). They are not designed to exchange *existing* goods and services, but to enable the creation of *non-existing* goods and services. Examples for innovation platforms are *force.com* (formal organisation providing the platform: *Salesforce*), *Azure* (formal organisation providing the platform: *Microsoft*), *AWS* (formal organisation providing the platform: *Amazon*), and *iOS* (formal organisation providing the platform: *Apple*) (De Reuver *et al.*, 2018: 126; Cusumano *et al.*, 2019).

As the function of innovation platforms is not the exchange of already existing goods and services, but the creation of previously non-existing ones, innovation platforms “create value by facilitating innovation on the platform” (Gawer, 2020). They are not reduced to selling transaction cost reduction (Parker, Alstyne and Choudary, 2016), because they are “both intermediary and architecture” (de Reuver *et al.*, 2018: 125; McIntyre *et al.*, 2020). The term ‘intermediary’ as a designation for this role of innovation platforms should therefore not be associated with the notion of “profiteer” (Ahrne *et al.*, 2015). Making the platform available as a constantly evolving technological core on which complements can be created is at least as important (Baldwin and Woodard, 2009; Tilson, Lyytinen and Sørensen, 2010; Tiwana *et al.*, 2010: 675; Gawer, 2014: 1242; Hein *et al.*, 2020). Innovation platforms do not only need to provide complementors with the space for innovation, but also with its continuous development, with its basic equipment, and with the tools necessary for generating further innovations (Hein *et al.*, 2019, 2020; Gawer, 2020; Jansen, 2020; Chen *et al.*, 2022: 157; Van Vulpen, Jansen and Brinkkemper, 2022).

Although both types of platforms rarely exist in pure form, most have a clear focus. Only a few companies succeed in driving a hybrid strategy. Cusumano *et al.* (2019: 103) argue that it is precisely these hybrid platforms that are the “next phase in the evolution of platform thinking” (see also Schreieck *et al.*, 2021).

Moreover, the function of innovation platforms as intermediaries cannot be limited to specific role constellations (of the market or the media). While in economics, innovation platforms tend to be reduced to multi-sided markets (Gawer, 2014: 1240 f.), more technically oriented strands of research emphasise their role as “technological architectures that facilitate innovation” (McIntyre and Srinivasan, 2017: 150) in the very definition of platforms. Thus, it is problematic to conceptually decide in advance which kinds of entities are part of the “two or more ‘sides’ which could not easily interact otherwise” (McIntyre *et al.*, 2020). It is an empirical rather than a conceptual question which two sides become involved. Actors can assume multiple roles and they can change these roles over time (Gawer, 2014: 1240; 1245). This does not only imply that platform organising should not be reduced to market organising (4.2). This also implies that the very essence of what a platform does changes when looking at it from an innovation platform perspective. Both the mediation function and the role constellations of this mediation (e.g., supply and demand) become secondary.

Failing to draw the distinction between transaction platforms and innovation platforms carries the risk of overlooking the technological difficulties of platforms in general, thus

turning them into “black box[es]” (de Reuver *et al.*, 2018: 126) which ‘simply’ intermediate (McIntyre *et al.*, 2020). When platform organisations are conceived as such black boxes, “the platform as an organization becomes invisible” (Gawer, 2020) in a twofold sense: First in its organising functions, second in its tendency of being dependent on powerful formal organisations. When looking at innovation platforms, however, the problem of reducing platforms in general to their mediating information (Weinryb, Gullberg and Turunen, 2019) or transactions (Kirchner and Schüßler, 2019) becomes visible.

When focusing on the function of building a stable core, however, it becomes more plausible that platform organising requires not only “economic, and ecosystem capabilities” (see sections 4.2-4.4), but also “technical capabilities” (Hein *et al.*, 2020: 93). ‘Platform providing’ trivially means providing a platform on which apps, functionalities, interfaces etc. may be built. The platform itself is, as it were, a technological core that is refined by further innovations. Platform providing is, therefore, heavily dependent on others bringing forth innovations on the platform. For precisely this reason, an increasing number of scholars call this type of platform ‘innovation platform’ (Cusumano *et al.*, 2019).

With this in mind, it now needs to be asked how innovation platforms fulfill their function. The answer to this question is twofold: on the one hand, they succeed by providing a technical structure (‘architecture’), and on the other hand, by providing a social structure (‘intermediary’). The architecture enables innovation – and does so by significantly shrinking the effort required to create something new (Chen *et al.*, 2022: 157; Evans, Hagiú and Schmalensee, 2006). Precisely because they relieve application builders from having to reinvent the wheel, innovation platforms use economies of substitution in promoting innovation through their architecture (Garud and Kumaraswamy, 1995; Hein *et al.*, 2020: 93).

However, the function of innovation is not only enabled by this architectural aspect – which could be analysed much further (Jansen, 2020; Nieuwenhuis, Ehrenhard and Prause, 2018: 12) – , but also by the necessity to intermediate. In that way, even the tasks of innovation are externalised: innovation is outsourced to the ecosystem – an often risky endeavour given that it creates dependence on partners (Adner, 2012). Nevertheless, this step is considered to be important to protect the desired dynamism of innovation from obstacles like planning guidelines in organisations: “[Innovation platforms] externalize specific innovation capabilities to independent actors, while focusing internal resources and capabilities towards the development of the platform and the aligning ecosystem” (Schüler and Petrik, 2021: 2 f.).

Starting from this technological core, it can now be analysed how markets, networks and the meta-organisation^E can be integrated as part of the intermediary processes of platform organising.

4.2. Regulating (organising markets)

Now that the architectural part of platform organising has been explained and distinguished from its intermediary part, this section starts with a closer look at the latter. One aspect of the intermediary part of platform organising is market organising. Especially Kirchner and Schüßler (2019) emphasise the importance of the processes of market organising, which may also be called ‘regulating’ in accordance with Boudreau’s and Hagiú’s (2009) term “regulator”. Kirchner and Schüßler (2019) hypothesise that in addition to two competing sellers and a buyer “market orders of digital marketplaces require an additional fourth actor: the market

organizer” (Kirchner and Schüßler, 2019: 133), which is defined by referring to the five forms of partial organisation mentioned above (Section 3.2): it decides upon “account membership” (membership), “algorithmic bureaucracy” (rules), “user evaluations and process data recording” (monitoring), “exclusion and rating impact on transaction terms” (sanctions), as well as “asymmetrically decided order” (hierarchy) (Kirchner and Schüßler, 2019: 147).

The present paper fully commits itself to the authors’ description of these forms except for three assertions. *First*, the way the hierarchy-component is described, needs to be questioned. To consider hierarchies within the processes of platform organising is highly relevant. However, does this mean that they are *decided*? Are platforms’ power structures not more similar to ‘elementary’ social orderings to be found in groups (Emerson, 1962) than they resemble those within formal organisations (Cutolo and Kenney, 2021)? At least some formulations by Kirchner and Schüßler (2019: 145) implicitly indicate this non-decidedness of hierarchies: “The market organizer – being a formal organization itself – assumes [!] a strong hierarchical role in the digital marketplace”. The word ‘assumes’ seems to imply that hierarchies between the different parties are *not* decided by the market organiser, which is contrary to the authors’ argument. Based on the arguments of Cutolo and Kenney (2021), the present paper hypothesises that hierarchies within the processes of platform organising rather happen than being decided upon. Platform organisations responsible for market organising may “decide asymmetrically on the organization of the digital marketplace” (Kirchner and Schüßler, 2019: 145). However, this is very different from deciding on the hierarchies structuring platform organising. From a partial organisation perspective, the latter, that is, the deciding on the asymmetry of the social structuration, is what needs to be considered. Overcoming Kirchner and Schüßler’s (2019) proposition of a *decided* hierarchy within platform organising seems to be necessary to be able to have an eye for alternative materialisations. If an ecosystem as a special type of a meta-organisation^E is transformed into a meta-organisation^D, that is, a *formal* organisation consisting of other formal organisations, it could indeed be possible to decide upon hierarchy. This may be a strategic option for practitioners to dispose of non-decided hierarchies playing such an important (and problematic) role within platform-based meta-organisations^E, but this strategy remains – as it seems – an exception.

Second, Kirchner and Schüßler (2019) do not differentiate between market organising and the formal organisation which may be responsible for materializing this process, that is, the ‘market organiser’. The *third* point of deviation concerns the authors’ exclusive focus on the processes of market organising. Based on the literature, I claim, that there is more to platform organising than market organising – on the one hand, technology organising as described in the previous section, and on the other hand, network organising and meta-organisation^E organising, which are to be expanded on in the upcoming sections.

4.3. Integrating (organising networks)

A third function of platform organising besides organising technologies and markets is organising networks. Processes of network organising, which might – following Nambisan and Sawhney’s (2011) concept of the “integrator” also be called ‘integrating’ – are especially accentuated in its importance by van Aalst *et al.* (2016b: 5) arguing that “[w]ith platforms, the assets that are hard to copy are the community and the resources its members own and contribute.” The authors claim that the value of the platforms’ networks, which they call ‘communities’, may be even more important than the value of the technical platform. This

importance of the platform's networks seems to be just as relevant for transaction platforms (Reischauer and Mair, 2018) as for innovation platforms. Cusumano *et al.* (2019: 88) even speak of a "shared sense of the collective" with regards to these networks. This 'shared sense' is ensured with the help of practices such as "community engagement" and "developer relationships" supported by IT-Tools (Jansen, 2020; Schreieck, Wiesche and Krcmar, 2021; Van Vulpen *et al.*, 2022).

To ensure innovation, platform organising seems to be dependent on cultivating a sense of identification among its complementors. Wareham *et al.* (2014: 1198) emphasise the importance of "maximiz[ing] contributions toward reusable knowledge, positive externalities, complementary innovations, and the ecosystem's social goods, as well as individual identifications increasing desirable variance to encourage creative, explorative, and entrepreneurial responses to client requirements and market developments." Or as Saadatmand *et al.* (2019) put it: "securing complementor engagement [...] is thus the most critical success factor of such organizations."

How can the processes of network organising be analysed in more detail? Following Kirchner and Schüßler (2019) in their conceptual approach, the categorisation of different forms of partial organisation provides the key to answering this question. The outcome of this analysis will be similar to what Chen *et al.* (2022) call "Platform Governance and Design".

To develop contributions as a complementor on an innovation platform, the complementing actor must participate in the meta-organisation^E. Because participating on a platform presupposes technical access, it needs to be decided on *memberships*. These are, however, not identical to memberships of formal organisations. Following a term recently re-introduced by Grothe-Hammer (2020), the question here is the following: who is allowed to contribute to the platform? Ahrne and Brunsson (2011: 87) speak of "clubs" with regards to such memberships without "hierarchy", "rules", "sanctions" and the "right to monitor". Such clubs are crucial for platform organising as they enable decisions about inclusion and exclusion, on the one hand, and – using "participation architecture[s]" (Schüler and Petrik, 2021: 18) – about distinctions among those included on the other. In this regard, several challenges are discussed in the literature, such as the balance between openness and closedness (Boudreau, 2012; Croitor, Adam and Benlian, 2021) including the presentation of this balance (Benlian, Hilkert and Hess, 2015).

Chen *et al.* (2022: 162 f.) speak of "access control" with regards to this dimension of governance, which can be related to the differing in degrees of "conferring autonomy" (Chen *et al.*, 2022: 159). In this context, Wareham *et al.* (2014: 1203 f.) describe an interesting mechanism, called "self-selection". It is up to the complementor to decide whether she merely wants to be part of the 'outer club' or whether she prefers belonging to the 'inner circle'. The further 'inward' a complementor gets, however, the more autonomy she must concede. In the inner circle, further components of partial organisation are increasingly added – for example, sanctioning in the form of certifications, or monitoring in the form of point systems: "[P]artners are granted very high levels of autonomy when they enter the ecosystem. Via self-selection, they choose the level and nature of control that is appropriate for their business portfolio [...]" (Wareham *et al.*, 2014: 1203).

Rules as a second form of partial organisation are also applied to innovation platforms in a variety of ways, most prominently in the form of standards (Jansen, 2020; Schüler and Petrik, 2021). On the one hand, platforms need to allow for modularisation – and thus greater

adaptability (Tiwana and Konsynski, 2010). On the other hand, the trade-off between control and the stimulation of innovation needs to be resolved. Technological standards play a particularly important role – for example rather comprehensive software development kits (SDKs), that is, ‘craft kits’ designed to equip complementors with “software tools, developer libraries, APIs [application programming interfaces], documentation, code samples, and guides” (Ghazawneh and Henfridsson, 2013; Cusumano *et al.*, 2019: 88; Gawer, 2020). However, standards are not only used in the form of such boundary resources, but also in the form of intellectual property agreements (Huang *et al.*, 2013) as well as software and collaboration frameworks communicated along with SDKs (Jansen, 2020). In all of these cases, it is a matter of using two types of standards – those increasing good variance and those reducing bad variance (Wareham *et al.*, 2014: 1203). Chen *et al.* (2022: 157) capture this dimension by referring to “sharing of resources” and “provision of information”.

In terms of *monitoring* as a third form of decided order, the repertoire of platforms is not only restricted to “output control” (Chen *et al.*, 2022: 163), “behavioral control” (Chen *et al.*, 2022: 164), and “external relationship control” (Chen *et al.*, 2022: 165), but also to rating systems as a means of structuring (Schrieck *et al.*, 2018: 47). Ratings can occur in the form of surveys on “software operation knowledge” (Jansen, 2020). In such instances, complementors evaluate each other regarding the quality of the applications, the developers, and the assistance they provide for others – a mechanism similar to what Vallas and Schor (2020: 282) call the “regime of permissive power”. In addition, however, digital technologies can also be used to centrally monitor individual activities: “In internet-connected and digitalized contexts, resources can be controlled without formal ownership or employment” (Gawer, 2020; Adner, Puranam and Zhu, 2019).

A fourth form of partial organisation applied by platforms is deciding on *sanctions*. Wareham *et al.* (2014: 1203) describe an “advanced regime of certification of both employees and partners for technology competencies”. Crossing over into one of the ecosystem’s inner circles, for example, is only approved if a certain quality threshold can be demonstrated through certifications. “[O]bserving, supporting, and enabling software developers” is ensured by “testing, road mapping, [and] shared requirements” (Jansen, 2020). Chen *et al.* (2022: 160) call this dimension “giving rewards”.

Finally, *hierarchy* as the fifth form of partial organisation is – just like in the case of regulating – not decided within integrating (see Section 4.2).

4.4. Orchestrating (organising meta-organisations^E)

After having focused on organising technologies, markets, and networks, this section outlines the process of organising the meta-organisation^E. Following Iansiti’s and Levien’s (2004) terminology of the “orchestrator”, this process may be called ‘orchestrating’. This label has become established in research on innovation networks. Although the word is identical, ‘network’ here means something different from what has been described in Section 4.3. To avoid misunderstandings, in the following, the term ‘network’ is replaced by the term ‘meta-organisation^E’ (see Section 2.1). In the seminal conceptualisation, Dhanaraj and Parkhe (2006: 661) divide orchestration into managing “knowledge mobility”, “innovation appropriability”, and “network stability”. While the scope of these sub-processes of orchestrating is discussed in much more detail in the literature (Nambisan and Sawhney, 2011; Reypens, Lievens and

Blazevic, 2019), at its core, orchestration is about driving innovation in the meta-organisation^E by influencing the involved actors, that is, especially complementors.

McIntyre *et al.* (2020) and Williamson and De Meyer (2012), thus, point to the importance of managing complementors' portfolios including "practices such as the creation of partnership models, partner training, and consultancy and sales partner support" (Jansen, 2020). Van Alstyne *et al.* (2016a) make a similar observation when emphasizing innovation platforms' need to optimise their openness, motivate developers, and put "critical mass ahead of money". Whether the platform performance (for the users) or the expansion potential (for the complementors) is to be optimised remains a strategic question, as the two can well be in conflict with each other (Anderson, Parker and Tan, 2013).

Orchestrating is, thus, not just a matter of coordinating actors from different sides (e.g., customers and vendors), but just as much a matter of taking care of the relationships among the complementors. In order to achieve network effects, complementor relationships need to be monitored and improved (McIntyre and Srinivasan, 2017; Cusumano, 2019: 105). At the same time, orchestrating does not imply specifying plans. Often it does not even imply knowing which innovations the platform will attract. "Potential innovators of complementary products self-identify to the platform owner [...]" (Gawer, 2014: 1245). Even where contractual relationships with the complementors are the background of interorganisational relationships (Boudreau and Lakhani, 2009), contracts do not determine which partners have to pursue which goals in the meta-organisation^E (Chen *et al.*, 2022: 161). To make sure that everyone still does what they are supposed to do, a "process of federation of complementors into a collective" (Gawer, 2014: 1245) must be in place. This is the specific function of organising the meta-organisation^E.

How can such a "collective identity" (Gawer and Phillips, 2013: 12) be generated, which in the end may enable not only cooperation but even collaboration, that is, mutual help in the pursuit of individual goals (Castañer and Oliveira, 2020)? This is achieved with the help of institutions. Gawer and Phillips (2013: 12), thus, call this function "institutional work". This observation can be illustrated particularly well by looking at standards: "A standard becomes institutionalized [...] when people do not recall that it was once decided upon, or the motivations used and the options considered" (Ahrne and Brunsson, 2011: 95). Initially, standards are developed on the level of the platform and installed based on decisions. This may sound simple, but in fact involves building up a "comprehensive portfolio of new types of productive forces" (Ziegler, 2020: 60, my translation) ranging from big data to distributed systems, modularisation, and cloud technologies.

Orchestrating does not necessarily imply imposing these standards on the meta-organisation^E. Here, too, the principle of self-selection seems to prevail. As shown above, technology organising provides the technological foundations on which new technologies and applications are built. In the process, however, not only new technologies emerge, but also new concepts. Fasel and Meier (2016: 5, my translation) note in passing "that it needs to be considered that, in addition to research, web-based companies [e.g., *Alphabet*, *Yahoo*, and *Amazon*] were among the first to coin the term 'Big Data'." A list of these institutionalised concepts framing the thinking of thousands of developers and other agents may be worthwhile examining – starting with the concept of platform itself (Gillespie, 2010). Similar institutionalisations may be found by looking at job roles such as 'Data Scientist' – a concept coined by *Facebook* and *LinkedIn* (Stockinger, Stadelmann and Ruckstuhl, 2016) – , or at management practices – the best-known example here probably being the management

system of Objectives and Key Results (OKRs) coined by *Intel* and *Alphabet* (Engelhardt and Möller, 2017).

This scheme of thoughts, perceptions, and evaluations, which might even be described as a platform-habitus, is made available within and even beyond the meta-organization^E via an almost “quasi-magical process of socialization” (Bourdieu, 1990: 58).

Another means of institutionalisation is the open-source software project, which provides an excellent distribution channel for the concepts developed (Schrape, 2015; Vogl, 2020). The *Hadoop ecosystem*, influential in practice and increasingly used worldwide – for an illustrative case study see, for instance, Gügi and Zimmermann (2016) – has been designed in its core components primarily by platform organisations such as *Alphabet*, *Yahoo*, *Facebook*, and *Twitter* (Landset *et al.*, 2015: 9; 15; Fasel, 2016: 133). Another institutionalisation practice that at first glance seems almost trivial, is “partnering with academia” (Jansen, 2020). With only negligible time lag, the concepts developed by such platform organisations are already being taught in the curricula of higher education institutions with the hypothesis being that the dissemination of concepts and know-how via channels such as *stackoverflow* (Wang, Lo and Jiang, 2013), but also *youtube* or *udemy* contributes significantly to their institutionalisation.

Through these institutionalisations of different standards and concepts, these platforms are themselves increasingly transformed into institutions. With their platform design, they not only shape their ‘own’ meta-organisation^E (Schüler and Petrik, 2021), but they also “establish themselves as a quasi-standard in ever wider parts of the economy” (Ziegler, 2020: 77, my translation). This is also indicated by McIntyre and Srinivasan (2017: 144) stating that “[d]ominant platforms, and their sponsoring firms, may play a significant role in the formation of standards to the extent that the specifications embodied in the platform can be seen as de facto industry standards once the platform has achieved a critical mass of network users.”

With all these different means of orchestrating, the meta-organisations^E based on platform organising transform themselves into social orderings extending far beyond their decision-making horizon. Shifting decisions about which product to sell to complementors (de Reuver *et al.*, 2018: 126) directs organisational control to non-decisional ordering. The fragmentary structure of platforms, their open character, malleability (De Reuver *et al.*, 2018: 133; Schüßler *et al.*, 2021: 1219), and generativity (Zittrain, 2006) create a “paradoxical nature of change and control” (Tilson *et al.*, 2010). Platforms become dependent on what they themselves have only orchestrated. This may be the reason why their status as formal organisations or other forms of social ordering may be blurred. They are – similar to but different from other organising forms (Grothe-Hammer, 2019)– simultaneously actors, because their processes may be processed by formal organisations, and non-actors. Today’s widespread criticism of platform organisations downplays this problem, tending to imagine them as purposeful actors who know what they are doing (Zuboff, 2019). The concept of platform organising, however, indicates something probably even more worrisome: that these platform organisations, for their part, are engaged in processes they cannot control. This perspective, however, is largely neglected, although implicitly addressed time and again (e.g., Nicas and Alba, 2021).

5. Conclusion, contributions, and a research agenda

The present paper suggests that the distinction between platform organising and platform organisation sheds light on the discussions on the organisational form of platforms. Platform

organisations are formal organisations which are dependent on the technological infrastructure of a digital platform. They may or may not ‘materialise’ the processes of platform organising. Platform organising, on the other hand, that is, the social ordering ‘around the platform’, entails at least four processes: providing (organising technology), regulating (organising markets), integrating (organising networks), and orchestrating (organising the emerging meta-organisation^E). Figure 5.1 – graphically based on a figure of Sydow *et al.* (2016: 20) on the management processes within interorganisational relations – aims to illustrate these processes:

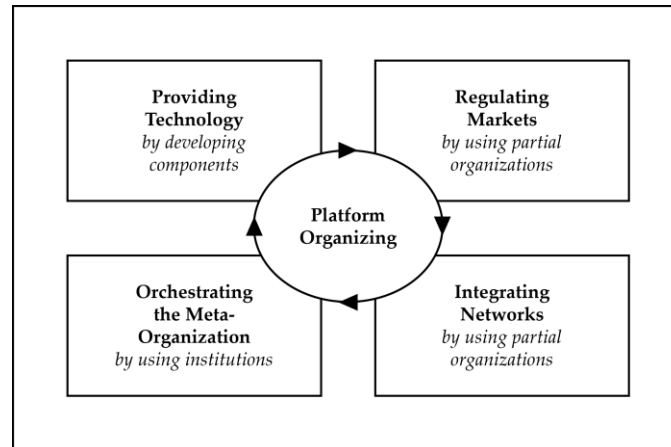


Figure 5.1. The four processes of platform organising.

The first process is technology related. It lends itself particularly well as a starting point of analysis (Section 4.1). However, the literature shows that these technical processes are not sufficient for describing platform organising. In addition, three processes with a stronger focus on social relations must be considered. One of them relates to the structuring of the meta-organisation^E by means of institutions, where I suggested that current platform criticism focusing on platform organisations only (thus neglecting platform organising), might run the risk of overestimating the actor-status of those platform organisations (Section 4.4). The remaining two processes (regulating and integrating) are based on partial organisations (Ahrne and Brunsson, 2011). Expanding on Figure 5.1, Table 5.1 lists several forms of partial organisations used in those two processes (Section 4.2; Section 4.3):

Deciding on	Market organising mostly following Kirchner and Schüßler (2019: 147) – Section 4.2	Network organising mostly following Chen <i>et al.</i> (2022) and others – Section 4.3
Membership	“Account membership”	“Access control” and self-selection to reduce autonomy
Hierarchy	Non-decided organising	Non-decided organising
Rules	“Algorithmic bureaucracy”	Boundary resources, intellectual property agreements, SDKs
Monitoring	“User evaluations and process data recording”	“Behavioral”, “output”, and “external relationship control”

Deciding on	Market organising mostly following Kirchner and Schüßler (2019: 147) – Section 4.2	Network organising mostly following Chen <i>et al.</i> (2022) and others – Section 4.3
Sanctions	“Exclusion and rating impact on transaction terms”	Rewarding, supporting, enabling, certificating, rating

Table 5.1. Partial Organisations regulating markets and integrating networks.

Table 5.1 indicates that not only the relations between customers and complementors are partially organised via the process of market organising (Kirchner and Schüßler, 2019), but also those between complementors via the process of network organising.

Here, too, access is controlled by membership – but usually more strictly and dependent on the membership level via “self-selection” (Wareham *et al.*, 2014: 1203). Additionally, rules are set. On the one hand, this works technically by predefining interfaces as well as software development kits (SDKs), that is, tools used for development. On the other hand, this works socially by governing legal matters such as intellectual property agreements. Here, too, network integrating acts on a decided basis – even more differentiated, however, than with regards to market organising – up to the point of influencing the offers being made to other platforms (external relationship control). Finally, a number of sanctions for complementors can be identified. For such a listing of partial organisations related to integrating, it was not possible – as in the case of partial organisations related to regulating (Kirchner and Schüßler, 2019) – to directly relate to an existing approach. Instead, different sources – first and foremost Chen *et al.* (2022) – had to be adjusted and combined (Section 4.3).

I suggest, however, – and here I deviate from Kirchner and Schüßler (2019) – that hierarchies are *not* decided upon within platform organising. Following Cutolo and Kenney (2021), I argue that the extraordinary asymmetry of power-relations on platforms is not least due to this *non*-decidedness of hierarchies (Section 4.2).

With this paper, I make three contributions to the literature. *First*, I try to clarify some of the core concepts in the platform discussion. *So far, too little attention has been paid on differentiating between platform organisations, that is, formal organisations being dependent on the platform as a technological infrastructure (e.g., platform provider, platform complementor etc.), and platform organising, that is, the system of interrelated actions dependent on and creating this very platform.* The paper aims to help understanding the functioning of platforms in terms of organisation theory through a mix of different types of organising, that is, formal organisations, partial organisations, networks, markets, and meta-organisations^E. On platforms, organising inside of formal organisations interacts with organising outside of formal organisations, thus constituting a meta-organisation^E. Thus, platform organising is not only something “hybrid” (Schüßler *et al.*, 2021: 1219), but also something new emerging from a novel combination of existing social orderings (Vallas and Schor, 2020: 282).

Second, the paper aims to integrate theoretical discussions about organising outside and inside formal organisations on the one hand and partial organisations on the other. It contributes to answering the question to what extent organising outside of formal organisations is something that is done despite organising inside of formal organisations (Czarniawska, 2013). When it comes to platform organising, organising inside of formal organisations and organising outside of formal organisations interact with each other in

multiple ways. To illustrate this argument, I focused on innovation platforms as a particular and hitherto – at least in sociology – relatively unexplored subset of platforms (Schüßler *et al.*, 2021: 1219).

A *third* contribution to the literature is a more elaborated social-theoretical foundation aimed at developing new empirical questions. By distinguishing between platform organising and platform organisations, this research can expand beyond empirical cases framed along seminal descriptions of platforms' organisational form.

5.1. Understanding platform organising

(1) The aim of this paper was to clarify important concepts in the platform discussion. To counter the equivocality involved in the term 'organisational form', I proposed to clearly distinguish between platform organising and platform organisation. I tried to make this conceptual distinction explicit by identifying forms of organising inside and outside of formal organisations. The concept of partial organisation reveals that platforms seem to transcend the underlying distinction: platform organising entails both decided organising and non-decided organising. What had to be omitted from this paper are comparisons of the proposed framework with approaches of "unconventional forms of organizations" (Brès, Raufflet and Boghossian, 2018) and discussions about the "disappearing organization" (Besio, du Gay and Serrano Velarde, 2020). These comparisons would, however, be of high relevance for both a better understanding of organising in general and of platforms as well as formal organisations in particular. Moreover, it would be worthwhile – following ideas on this topic for formal organisations by Luhmann (1999: 123 ff.) and for platforms by Cutolo and Kenney (2021) – comparing the concept of meta-organisation^F to approaches of social systems in general, as proposed for instance by Parsons (1964), or to approaches of elementary social systems, as proposed for example by Homans (1958) or Emerson (1962).

(2) Based on the distinction between platform organising and platform organisation, I discussed what the organising of platforms implies. In doing so, I highlighted four key processes. These processes might be materialised by formal organisations in different combinations. However, several questions could not be properly discussed. *First*, it would be worthwhile to connect the concept of platform organising closer to approaches looking at the interactions between "technology" and "social processes" (Saadatmand *et al.*, 2019). *Second*, one could use the concepts presented to further elaborate on the platform-specific capabilities (technical, economic, and ecosystem capabilities) as proposed by Hein *et al.* (2020: 95). *Third*, further clarification of the concept of 'organising' within the concept of 'platform organising' is necessary in order to work out differences and similarities to approaches famously published by Weick (2005) or Law (1993) in more detail. *Fourth*, it would be an important theoretical task to reconcile the discussions on the organisational form of the platform with broader social-theoretical considerations. In many accounts, Williamson's (1995) or Powell's (1990) concepts – markets, hierarchies, hybrids, and networks – are used as a starting point to undergo this project (Chen *et al.*, 2022; Shipilov and Gawer, 2019; Stark and Pais, 2020; Vallas and Schor, 2020). However, it might also be conceptually promising using Talcott Parsons' (1964) or Niklas Luhmann's (1995) theories of social systems as conceptual toolboxes for theorizing platform organising.

5.2. Advancing the partial organisation perspective

(1) Ahrne *et al.* (2016) propose to extend organisation studies into domains such as standards, meta-organisations^D, market organisations, and networks. This paper builds on this suggestion. Platform organising indeed entails different forms of social ordering. It requires decided and non-decided organising thus forming a genuinely digital way of cooperation and coordination. This specificity of platform organising became especially apparent by looking at innovation platforms. Therefore, the latter must be taken more seriously in discussions of platforms as a distinctive form of social ordering so as not to run the risk of “develop[ing] theory on a small subset of the platform phenomenon” (McIntyre *et al.*, 2020).

(2) Platform organising constitutes a meta-organisation^E. Platform organisations, then, may materialise specific processes within one or many such meta-organisations^E. Following Cusumano *et al.* (2019), innovation platforms have been described in their function as facilitators of innovation: they enable the production of previously non-existent goods and services by providing an architecture and by acting as intermediary for this architecture. Platform organising entails four processes which can be broken down in a two-fold way. On the one hand, platform organising regulates markets and integrates networks by making use of various forms of partial organisation. On the other hand, platform organising implies a stewardship of technologies (e.g., by constantly updating the technological infrastructure) and of cultural patterns involved in the meta-organisation^E ‘around’ the platform (e.g., by establishing institutions by means of educational activities, open-source projects etc.). In short, the paper contributes to answering the question to what extent organising outside of formal organisation is something that is done despite organising inside of formal organisation (Czarniawska, 2013). Additionally, there are several unrelated questions outstanding. To pick out just one: the paper proposed to conceptualise the hierarchy-dimension within platform organising as *not* being decided upon. This non-decidedness of the hierarchy-aspect may be the reason why power is such a delicate topic when looking at platform organising (Cutolo and Kenney, 2021; Vallas and Schor, 2020). A comparison to formal organisations in this respect would be of high importance. Up to now, the literature lacks such a comparative view. This might even help our understanding of how power within formal organisations works.

5.3. Widening the scope of empirical questions

(1) The present framework aims to offer a lens for empirically examining differences between instantiations of platform organising in greater detail. How are the four processes of platform organising structured empirically? Which of these processes are materialised by how many formal organisations in which combination? Which processes are prioritised by the respective platform organisations? What are the consequences of such asymmetries? How do the four processes interact with each other? How is this bundling of the processes within specific formal organisations related to power issues?

(2) Throughout the paper, I adopted a clear distinction between meta-organisations^E in the sense of Gulati *et al.* (2012) and meta-organisations^D in the sense of Ahrne and Brunsson (2005, 2008). The former are explicitly no formal organisations; the latter are explicitly formal organisations. In empirical contexts, this distinction is crucial because in the case of platform organising meta-organisations^D are usually not established. In this regard, a promising question is how platform organising can be transformed from a meta-organisation^E to a meta-

organisation^D – and why this mostly occurs with transaction platforms and only very rarely with innovation platforms. Can this observation be related to meta-organisations^D creating “new conditions for interaction, isomorphism and status orders – different, for instance, from the conditions provided by networks, markets, and regulation” (Ahrne and Brunsson, 2005: 448)? How do these conditions change existing power structures (Cutolo and Kenney, 2021)? What are advantages and drawbacks of a closer coupling of platform organising and meta-organisations^D in cases in which organisations try to turn “part of their environments into [formal] organization” (Ahrne and Brunsson, 2005: 447)? Or the other way round: as “environments are often described as more uncertain, more unfriendly or less controllable” (Ahrne and Brunsson, 2005: 447) than the inside of formal organisations, how do platform organisations accomplish this complexity reduction without establishing meta-organisations^D? Is this related to the empirically ‘normal’ distribution of the processes of platform organising, that is, one platform organisation taking care of providing the core components of the platform as well as integrating, regulation and orchestrating all other actors, whereas the latter are reduced to merely providing periphery components of the platform? And how does platform organising fulfill the functions normally fulfilled by meta-organisations^D? What role does technology play in all of this? And to what extend might platform technology be a substitute for meta-organisation^D?

To understand the digital transformation of society, it will be crucial to theorise in a sufficiently unprejudiced and comparative manner. I hope, I could at least help stimulating further theoretical reflection and empirical research in this direction.

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Key Words:

digital platform, platform governance, platform economy, platform organisation, meta-organisation, partial organisation, ecosystem, orchestration, process view

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