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Milena Leybold

**A Communication Perspective on Organizing Openness:  
The Case of the Medicines Patent Pool**

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Milena Leybold

## A Communication Perspective on Organizing Openness: The Case of the Medicines Patent Pool

### Abstract

This paper presents an explorative analysis of how organizational openness is inter-organizationally constituted through communication. Drawing on a Luhmannian communication perspective, I consider decision communication to be the key characteristic of organizations. I theoretically conceptualize organizational openness by using a three-dimensional framework considering range of purposes, topics, and participants acknowledged as meaningful for organizational decision-making. Seeing an inter-organizational arrangement as catalyst of organizational openness, I explore the arrangement of the Medicines Patent Pool within the pharmaceutical industry as an extreme case to analyze how organizational openness is enabled through inter-organizational closure. By using an adapted framework of (inter-) organizational openness, I show which inter-organizational, mainly formalized, decisions have limit setting, limit softening, and limit restricting influences on organizational openness. Further, I demonstrate how a formal intermediating instance facilitates the emergence and stabilization of this inter-organizational (openness) arrangement.

### Keywords

Organizational Openness, Communication Theory, Decision-Making, New Forms of Organizing

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## **Introduction**

“We are open!” In the past, this expression only meant that you arrived at a shop during business hours. Today, the notion of being open has seemingly changed from an objectively observable status of an organization’s door to a socially desirable organizational characteristic: At the employer evaluation platform kununu a company can get certified as “open company” (depending on their willingness to collaborate with kununu) (Kununu GmbH, 2018). Further, organizations such as Westwing Group GmbH advertise their company by claiming: “We are open, honest, direct, and reliable” (Westwing GmbH, 2018). As this organizational openness lacks an “official” definition, the implementation into practice can have various faces: empirical examples range from open innovation projects and open strategy-making, to open access, or open governance initiatives. A growing body of literature addresses these phenomena of organizational openness. Some studies underline the potentially beneficial effects of an increasing organizational openness by examining empirical examples such as open strategy (e.g., Stieger et al., 2012; Whittington et al., 2011) or open innovation (e.g., Chesbrough & Appleyard, 2007). In these cases, organizational openness is conceptualized as continuum ranging from closed to open organizations (Dobusch & Dobusch, 2018). Other studies propose to consider tensions and dilemmas of organizational openness (e.g., Hautz et al., 2017), point to organizational openness in closed networks (Sydow et al., 2016), and to take a relational perspective on openness “in that sense that certain forms of openness are related to and depend on complementary forms of closure” (Dobusch et al., 2017b: 3).

According to the literature and conducted case studies, phenomena of organizational openness can occur intra-organizationally, for example, by involving internal staff members into strategy processes (Hutter et al., 2017), and inter-organizationally, for example, by collaborating with external actors towards a shared goal (Aten & Thomas, 2016). The latter is partly linked to new conceptualizations of collaborative arrangements as organizing “outside and among formal organizations” (Ahrne & Brunsson, 2011: 84). Case studies linking openness with inter-organizational arrangements were, for example, conducted within contexts of collectives like the Premium collective (Luedicke et al., 2017) or communities like Wikipedia (Dobusch et al., 2017b).

The strand of literature that links inter-organizational collaborative arrangements with the phenomenon of organizational openness leads to the perception that certain new collaborative arrangements function as catalysts for organizational openness. However, the question how this openness might be constituted and organized by these inter-organizational arrangements remains rather unexplored. In this paper, I aim to illuminate these relationships. It focuses on organizational arrangements that might work as catalysts of organizational openness.

Theoretically, I apply a perspective that puts “communication as constitutive of organization” (CCO-perspective) at the center of attention (cf. Schoeneborn, 2011). Therefore, the main research question of this paper is how organizational openness is inter-organizationally constituted through communication. Employing the Luhmannian theory of social systems (TSS) as a stream of the CCO-perspective, I conceptualize decision communication as the core of organizing. Therefore, I conceptualize an inter-organizational arrangement as auto-poietic system with a certain decided social order, and organizational openness as communicative openness of decision-processes regarding three dimensions: the range of purposes, topics, and participants. I apply a relational perspective on communicative openness constituted by a paradoxical interplay of opening and closing mechanisms.

Empirically, I explore how organizational openness of single engaged organizations is constituted inter-organizationally through (decision) communication over time by analyzing the case of the Medicines Patent Pool (MPP) as an inter-organizational arrangement within the pharmaceutical industry. The MPP constitutes an appropriate empirical context as it is an extreme case of a complex inter-organizational arrangement: the fulfillment of its purpose(s) depends on contributions of a broad range of stakeholders from the patent-driven and rather protective pharmaceutical industry. The data set from the MPP's website encompasses 200 documents relating to certain decisions made in the context of the pool. It allows developing a processual knowledge on how decisions are made, by whom, and which influences they have on organizational openness within the context of the inter-organizational arrangement.

I expound the findings of the study in different phases and place them within the Luhmannian theoretical background. My results demonstrate that the organization behind the MPP, namely the Medicines Patent Pool Foundation (MPPF), is a key stakeholder within the context of the pool: its decisions made at the beginning of the pool's history set the stage for most of the activities that followed. I further show that organizational openness can be potentially increased over time because of the engagement in the MPP. However, foundational decisions are one of the most influential restrictive mechanisms enabling this future openness. I exemplify how decisions made inter-organizationally make an inter-organizational arrangement function as openness catalyst for engaged organizations and how organizational openness is constituted by inter-organizational closure. Finally, I discuss a framework for analyzing (inter-)organizational openness that is based on classical theory without fear for formality.

Through my investigation, I contribute to the strands of academic literature on phenomena of organizational openness. Further, I contribute to another theory-driven discourse in the field of organization studies: by taking the Luhmannian TSS as basis for my study, I use a classical theory to explore a new form of organizational constellation that goes beyond formal organizations. Therefore, I support the diffusion of the Luhmannian CCO approach in English written literature (Schoeneborn, 2011) and offer an additional lens that might yet be underused in the Anglo-American organization studies literature.

## **Theoretical Background**

### *Recent Discourses Regarding Formality of Organizations*

In the history of organization studies, different schools of thought contributed their theoretical perspectives to the following core questions: What is an organization and how to conceptualize organizations? (Du Gay & Lopdrup-Hjorth, 2016; Ahrne et al., 2016: 93). On the one hand, organizations are conceptualized along characteristics of formality and authority (e.g., Brown, 1965; Blau & Scott, 1963; Stinchcombe, 2001). On the other hand, organizations are theorized along alternative concepts such as community (e.g., Hamel, 2006) or institutional logics (e.g., Meyer & Rowan, 1977). In their text "Fear of the formal", Du Gay and Lopdrup-Hjorth (2016) criticize the development of these alternative streams. They argue that "critics, reformers, and management gurus alike have urged public and private sector organizations to break out of the stifling straightjacket of formality, to dispense with bureaucracy, and to tear down hierarchies" (ibid.: 7). Referring to organizational theory, they fear the field to lose its distinctive character: formality as the core of an organization and the theoretical core object of organization studies.

In 2016 Ahrne et al. published their paper "Resurrecting organization by going beyond organizations". Similar to Du Gay and Lopdrup-Hjorth (2016), they want organization studies, which loses "sight of the organization", to go "[b]ack to the classics". In contrast to their

colleagues, Ahrne et al. (2016) do not criticize the concept of institutionalism for lacking criteria of formality but for not being able to adequately describe the organizational environment regarding organizations outside organizations.

Indeed, Ahrne and Brunsson (2011: 84) state in their paper “Organization outside organizations: the significance of partial organization” that “organization [can be found] not only within, but also outside and among formal organizations”. The authors observed that previous organizational theories mostly refer to organization as a “legal form of formal organization” (ibid.), thus making the distinction between environment and organization fundamental. The environment, which can also consist of other organizations, is not assumed to be organized. According to these theories, “the order existing outside and between formal organizations” (ibid.) is theorized through concepts like markets, networks, or institutions. Criticizing this theoretical development for not being exhaustive to analyze social order beyond organizations, Ahrne and Brunsson (ibid.) suggest the definition of “organization as a decided [social] order [...] [where the] environment of formal organizations can be organized, and formal organizations may be active in organizing their own members and their environment: other organizations and other individuals”. They draw on Niklas Luhmann’s TSS with a focus on communication and claim “organizational elements can also exist outside the context of formal organizations” (Ahrne et al., 2016: 95). Ahrne and Brunsson (2011) argue that partial organizations as a kind of decided social interactions lack certain decision elements of formal organizations without fundamentally losing organizational character. This perspective opens up a way to conceptualize organizational arrangements regarding the degree of fulfilling organizational character.

Thus, Ahrne et al. (2016) make a counter-argument to Du Gay and Lodrup-Hjorth (2016). Focusing on decision processes including characteristics of formality becomes necessary not because alternative ways of organizing are bad but because these new organizational arrangements that go beyond formal organizations require classical organizational theory to be described and explored comprehensibly. “Back to the classics” (Ahrne et al., 2016: 94) in their view refers to a theoretical perspective that includes formality as criterion to analyze organizations by focusing on regulative decisions. The concept is able to address contemporary developments in the practical field of organizations by

“allowing for different degrees of ‘organizationality’ [...] and by relaxing some of the traditional assumptions about the characteristics of organization – the assumption that only individuals, not organization, are organized, and the assumption that the organizational environment is not organized” (ibid.: 98).

“Back to the classics” (ibid.: 94) means going back to the Luhmannian system theory, putting decisions and processes around decision-making at the core of organizations and opening up opportunities for organization studies to go beyond formal organizations without losing the focus on organizing.

#### *Organizations as Autopoietic Social Systems (Re-)Produced by Decisions*

According to Luhmann (2015: 30; translated by the author), the assumption that “there are systems” enables theorists to gather new insights to explain social phenomena. Systems are the core analytical units of Luhmann’s theory. While focusing on social systems, Luhmann puts the concept of autopoiesis at the center of his TSS.

I conceptualize an organization from a Luhmannian TSS perspective. Everything that applies to autopoietic systems on an abstract level applies to organizations as social systems as well.

They (re-)produce themselves by means of their own elements. They are operatively closed and structurally open at the same time (ibid.). As “organized social systems can be understood as systems made up of decisions” (Luhmann, 2003: 32, in: Schoeneborn, 2011: 671), decision communication is the feature that makes communication within social systems organizational. Therefore, conceptualizing organizations refers directly to decisions and leads to questions about what decisions are, how and by whom they are made, and how they stabilize the organizational system. Because of viewing decision communication as constitutive for organizing the TSS is later argued to constitute an important stream of the CCO thinking (Schoeneborn, 2011).

According to Seidl (2005: 39; italics in original), decision is “a special form of *communication*. It is not that decisions are first made and then communicated; decisions *are* communications. [... D]ecision communications too are not produced by ‘human beings’ but by the social system, the organization”. Only decisions are the meaning processing communication that reproduces the organization as autopoietic social system (Schoeneborn & Blaschke, 2014).

Organizations consist of decisions that are interconnected. An organization emerges/exists if it ensures connectivity of communication by producing further communication that is linked to former communication. This is the case when “a past decision becomes the ‘decision premise’ for further decisions” (Schoeneborn, 2011: 677). A decision premise can be defined as precondition to a further decision (Luhmann, 2006). Decision premises stabilize an organization over time as the decision connectivity constitutes a self-referential network of decisions and therefore, operational closure. As only communication in general can communicate, only decisions (as a network of decisions) can decide (Seidl & Becker, 2006). By exclusively applying to internal organizational decisions (instead of the competitor’s decisions), decision premises communicatively constitute and maintain the boundary between the organizational system and its environment (Schoeneborn, 2011).

As Schoeneborn (2011: 676) states: “Because organizations are indeterminate in their complexity and given the large range of possible connections between communicative events, organizations are driven by the continuous need to execute selections in form of decisions”. By connecting decisions through decision premises, an organization processes meaning. It is its way to absorb uncertainty and to cope with complexity. By reducing complexity, decision premises enable an organization to achieve certain results (Seidl & Becker, 2006). The ability to cope with complexity in form of interaction with the environment requires a reduction of complexity in form of operative closure through decision premises that paradoxically can increase internal complexity (Luhmann, 2006).

This paradox is especially strong when decisions are made on decision premises that apply to a yet undefined multitude of future decisions. As these far-reaching decision premises, called “decidable decision premises” (Seidl & Becker, 2006: 28), are binding for a multitude of future decisions, they constitute simplifications for future organizational decision processes. Luhmann (2000) distinguishes three types of decidable decision premises: programs, communication channels, and personnel.

Deciding about future decisions through programs means to decide on criteria that define a decision as correct or incorrect. They can occur in two different forms: conditional or goal programs. While the former might often comprise a sort of conditional rule, the latter encompasses defined goals that are aimed at being achieved by the decisions (Seidl & Becker,

2006). Another type of decidable decision premise refers to communication channels. Through a decision premise, an organization can prescribe which communication channels should be used during the decision-making process in order for the decision to be recognized as an organizational decision (Luhmann, 2006). Seidl and Becker (2006: 28) refer to communication channels as “the ‘organization of the organization’ [...] [defining] what decisions have to be treated as decision premises by which other decisions”. They add examples such as hierarchy and matrix organization. Defining competences is crucial to make decisions: who is allowed to issue binding instructions, who is allowed to be listened to (Luhmann, 2006)? The third decidable decision premise addresses personnel. Personnel is recruited to fulfill certain tasks and decide on certain topics. Therefore, this premise concerns “the recruitment and appointment of the organization’s members to positions with regard to the expected ‘perturbations’ they will cause in the decision processes” (Seidl und Becker, 2006: 28). Decision premises in general and particularly decidable decision premises are the organization’s stabilizers: they ensure connectivity and are able to deparadoxify the paradox of undecidability underlying a decision.

These key concepts of organizations as autopoietic systems and decision communication constitute the foundation for the conceptualization of inter-organizational arrangements.

#### *Inter-Organizational Arrangements as Special Type of Decided Social Order*

According to Luhmann (2006: 407, translated by the author), “inter-organizational relationships gain particular attention in the literature since the 1960s. It can also be observed that the dissolving and recombining of large scale organizational systems increased, as if composite systems become more important, from which can be concluded that the importance of system boundaries decreases”. This quote relates to Ahrne and Brunsson’s (2011) suggested definition of organizations as decided social order being able to organize their own organizational members and the environment. In their opinion the definition of an organization as decided social order “makes the distinction between the organization and the environment less dramatic” (ibid.: 84). They describe five decision types as constituting elements of a decided order (membership, rules, monitoring, sanctions, and hierarchy), which can be traced back to the three decidable decision premises Luhmann suggests. Drawing on these theoretical considerations, the working definition of decided social order constituted through decision premises seems to be the most appropriate one to analyze organizational arrangements beyond and among organizations (Ahrne et al., 2016). I assume that inter-organizational relationships (Sydow et al., 2016), in this paper referred to as inter-organizational arrangements, are decided social orders allowing for different degrees of organizationality. Their organizational character is constituted by their elements: decisions.

By transferring the Luhmannian TSS to conceptualize inter-organizational arrangements, the concept of autopoiesis remains central: inter-organizational arrangements can be theorized as meaning processing systems that are self-referentially closed and structurally open for environmental perturbation. Even though the importance of the boundary between the system and the environment might decrease, the distinction between system and environment remains useful for the conceptualization of the arrangement. The arrangement as overall system encompasses several members that might be social systems and psychic systems. These systems are autopoietic as well. The overall system functions as internal environment for the subsystems, a conceptualization Luhmann (2015: 37; translated by the author) refers to in the context of “differentiation of further system/environment-differentiations”. However, an inter-organizational arrangement as overall system is still observable as a unit: a unity of a multitude of internal system/environment-differentiations. The more internal differentiations



in form of subsystems a system has, the more relations between the elements of these subsystems are possible and, thus, the higher could be the inner complexity of the overall system. The higher the inner complexity of a system is, the more capable it is of interacting with its environment – as long as the complexity is organized. Otherwise the complexity can be overwhelming and could lead to chaos (Luhmann, 2015: 46). Luhmann (ibid.) describes this managing of complexity with the term “‘organized complexity’ that means nothing else than complexity with selective relationships between elements”.

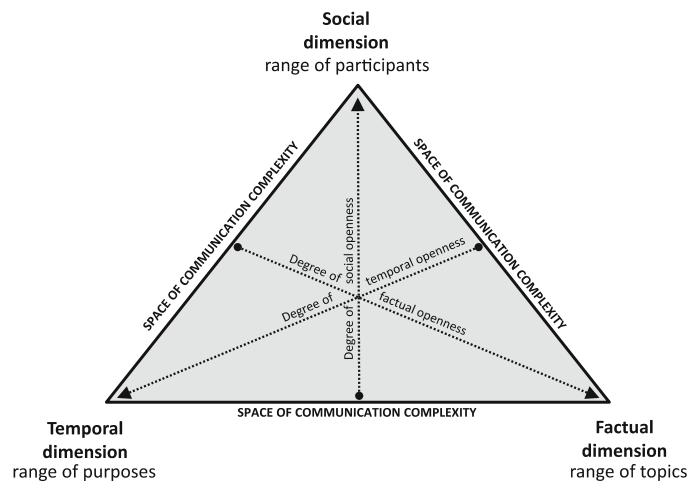
Referring back to inter-organizational arrangements, this implies that the inner complexity of the inter-organizational arrangement rises with the differentiation of the inter-organizational arrangement into subsystems. As systems are limited in dealing with complexity, selection, for example, in form of (decidable) decisions premises, is needed to ensure the inter-organizational arrangement’s ability to cope with that complexity (Luhmann, 2000).

Another way to address the topic of complexity is to look at the degree of openness of communication processes as meaning processing entities. Communicative openness and system differentiation address complexity on different levels. While system differentiation increases a system’s inner complexity, the degree of openness of communicative processes (later defined in the context of organizational openness) leads to a higher complexity of these processes while not only being limited to inner complexity. A TSS-based framework provided by Dobusch et al. (2017a) supports this thought. I use it to conceptualize organizational openness and to transfer it to inter-organizational arrangements.

#### *Referring Organizational Openness to the Concept of Meaning*

**Framework of Openness.** According to Dobusch et al. (2017a: 9; italics in original), “the most straightforward interpretation of openness refers [...] to the number of possibilities there are to carry a specific communication process forward in a *meaningful way*”. What a system considers as a meaningful communication process depends on three dimensions of meaning: sociality (range of participants), faculty (range of topics), and temporality (range of purposes) (Luhmann, 2015). A communication process with a high degree of openness regarding every dimension would mean, (1) that contributions of a wide range of internal/external participants are treated as meaningful, (2) that a wide range of topics is allowed to be discussed, and (3) that a wide range of different purposes/temporal projections in form of interpretations of the past and future visions are allowed to be considered (Dobusch et al., 2017a). Therefore, the openness of a communication process is about the system’s capability to connect its own communicative events to other, internal and external, communicative events.

According to Dobusch et al. (ibid.), the degree of openness of a communication process influences the degree of communicative complexity: increasing openness regarding every single dimension would lead to a wider scope the communication process can reach. Nevertheless, the scope a communication process can reach is not endless. Too much openness can become overwhelming and communication processes (as meaningful unities) result in chaos. Therefore, the three dimensions of meaning being constitutive to communicative complexity are under tension: “As the capacity of organizations to deal with complexity is limited, increasing the openness, and hence complexity, of a communication process in one dimension of meaning will result in pressures to provide structure, that is, to decrease openness with regards to another dimension of meaning” (ibid.: 10). The tensions between the dimensions and limited capacity to cope with complexity can be visualized by a triangle (ibid.).



*Figure 1: Communicative Complexity Resulting from different Degrees of Openness (Dobusch et al., 2017a: 11)*

The shape of the triangle depends on the degree of openness of every dimension of meaning: The higher the degree of openness the more the inner corner of the particular dimension is being reduced. The complexity of a communication process is represented by the surface area. The degree of communicative complexity results from the degree of openness of the three dimensions, as it does the size of the triangle as well: “the higher the degree of openness, the larger the surface area” (ibid.: 10). Considering the limited capacity of a system to deal with communicative complexity, the size of the surface area remains ultimately the same, even if the degree of openness increases regarding one dimension. This would foster the system to decrease the degree of openness regarding another dimension. Nevertheless, although the surface area is limited theoretically, Dobusch et al. (ibid.: 22) claim that this surface area might be extended through (communication) technology and put that up to future research.

**Organizational Openness and its Implications for Organizations.** Considering Dobusch et al.’s (2017a) assumptions, the terms “communicative complexity” and the “openness of a communication process/communicative openness” are rather used synonymously: the former is the result of the latter. I conceptualize the degree of openness of communicative processes depending on internal and external influences that are allowed to intervene in the meaning creation process. These influences are, in Luhmannian TSS terms, communicative events. By including system-external communicative events or at least allowing them to perturbate, communicative openness can be distinguished from a system’s (inner) complexity. To avoid terminological confusion within this paper, “communicative complexity” should be substituted by the term “communicative openness”. Thus, communicative openness results from the degree of openness regarding the three dimensions of meaning within a communicative process and is therefore represented by the surface area of the triangle (in the following also referred to as “triangle of openness”). The considerations regarding communicative complexity can be applied to communicative openness as well, for example, by assuming that communicative openness cannot be unlimited and selection (further on also referred to as closure) is necessary.

A higher degree of openness of the communication processes would constitute a higher degree of system openness (ibid.). Regarding organizations, it is decision communication that constitutes their organizational character. Therefore, organizational openness the way it is used in the context of this paper, is defined through the degree of communicative openness

(constituted through the three dimensions of meaning) an organization reaches in its organizational decision processes.

As an organization cannot deal with unlimited communicative openness of their decision-making processes, it needs to be managed through certain structures in form of selection, for example, decision premises that reduce the degree of openness of one dimension in case the degree of openness of another dimension has been opened up (ibid.: 10; Luhmann, 2006). These considerations and paradoxes around openness and closure are used to conceptualize organizational openness within inter-organizational arrangements.

*Inter-Organizational Arrangements as Catalysts for Organizational Openness*

**Organizational Openness within Inter-Organizational Arrangements.** As Luhmann (2006) recognized, there is an increased occurrence of composite organizational large scale systems. An empirical example that Luhmann could have in mind is the inter-organizational arrangement around the Open Source Software Linux. It encompasses several types of engaged participants: big and small corporations using Linux or developing it, universities, privately organized non-profit or for-profit interest groups, individuals, and a foundation that manages the infrastructure of the arrangement (The Linux Foundation, 2018). The arrangement is perceived as unity and works as internal environment as it constitutes a unity of multiple internal system/environment-differentiations. The organizations and psychic systems engaged within an inter-organizational arrangement can be conceptualized as the inter-organizational arrangement's subsystems. Organizations as embedded subsystems of an inter-organizational arrangement are the object of analysis of this paper. Psychic subsystems should be excluded from these conceptualizations as they do not process meaning by communication.

As boundaries within such an arrangement might become more permeable, organizations might face the situation that their decision processes in the context of the inter-organizational arrangement can be (compared to classical forms of organizations only being influenced by internal impulses) especially influenced by other players within the arrangement. If this is the case and decisions are made inter-organizationally, an increasing openness regarding all three dimensions of meaning for organizational decision processes is imaginable in the context of an inter-organizational arrangement. Then, one could argue that the degree of organizational openness within an inter-organizational arrangement might be higher than without that arrangement: an extension of the triangle's surface would result.

**Extension of Organizational Openness through Certain Technologies.** An inter-organizational arrangement might enable an organization to more organizational openness regarding its decision-making processes in the arrangement's context. This would be consistent with the assumption of Dobusch et al. (2017a), who claim that the triangle's surface area might be extended through certain technological devices. These devices would manage the organizational openness in a way that openness, regarding all dimensions of meaning, would be increased. Dobusch et al. (ibid.) give the example of crowdsourcing software that "allows structuring and processing thousands of contributions". The structures provided by the software could be seen as analogous to a selection process: without them, the openness would be overwhelming. They work as selection mechanisms enabling a communication process to be open: they organize communicative openness.

Accordingly, I conceptualize an inter-organizational arrangement as legal technology that delivers certain structures (closure mechanisms) enabling an increase of organizational

openness of engaged organizations. This paradox of an increase of organizational openness that is only possible because of an inter-organizationally constituted closure can be illustrated by the following example: An organization being part of an inter-organizational arrangement was entered because of sharing the same vision of the future and strategies. In case the inter-organizational arrangement's strategy changes and the organization wants to adapt it, an opening up regarding all three dimensions is theoretically possible: The organization might invite other organization's representatives and own members to join the strategy adaption process. As the organization would not have invited external participants for strategy adaption before, the organizational openness regarding sociality would have increased. The range of purposes that are treated as meaningful for the strategic decision increased, as the alignment of the strategy might not have happened without the inter-organizational arrangement's strategy change. Expanding the strategy to new fields might increase the range of topics as they would need to be aligned. This exemplifies that the communicative openness of an organizational decision process might be increased through an inter-organizational arrangement only because it is engaged within it. Nevertheless, the degree of that openness might depend on how far this decision is linked to other inter-organizational members as contributors and on how openness managing structures are established and interfering within organizational decision-making processes.

Although this openness of an organization might increase by entering an inter-organizational arrangement or being engaged in one, it still requires a limitation to ensure the organization's stability. A paradoxical interplay of organizational openness and inter-organizational closure seems to appear. Giving an example focused on closure mechanisms: An inter-organizational arrangement might enable an organization to open up by increasing the range of possible contacts for its decision processes. At the same time structures would be needed for organizational members to use this range effectively and not getting overwhelmed, for example, certain rules (maybe legally fixed) that define who is allowed to interact or technological devices that allow interacting with each other. Additionally, rules would be needed to define who is allowed to enter the arrangement to avoid instability of organizational members by overwhelming them with an unlimited range of potential participants included in their decision processes. These structures would represent an inter-organizational closure in form of a decidable decision premise on communication channels and personnel: organizational openness in this case would be managed inter-organizationally. Therefore, I assume the following: an inter-organizational arrangement might enable the organizational openness of its subsystems through decidable decision premises on programs (e.g., by providing plans on how the inter-organizational arrangement should develop and therefore setting a strategic agenda for subsystems), communication channels (e.g., providing certain interfaces for organizational interactions), or personnel (e.g., only allowing certain systems to enter).

Following up on the framework of openness by transferring these assumptions, the maximum level of openness regarding the dimensions of meaning an organizational subsystem can reach in an inter-organizational arrangement would be represented by the boundaries of the inter-organizational's triangle: the range of purposes, topics, and participants that this arrangement allows to be involved in organizational decision processes. Therefore, the paradox of openness and closure remains the same; it only changes the level from an organizational to an inter-organizational one.

The Luhmannian TSS, the theoretical framework provided by Dobusch et al. (2017a), and my conceptual elaborations based on the former two, lead to the following assumption: if

organizations are engaged within an inter-organizational arrangement, their degree of organizational openness is at least influenced or even increased. I expect organizational openness, illustrated through the triangle of openness (ibid.), to increase after an organization has become part of an inter-organizational arrangement. This organizational openness cannot be “endless” as the engaged organizations cannot handle too much communicative complexity. I therefore further expect certain mechanisms within the inter-organizational arrangement that decrease or at least limit the openness an organization can reach regarding the three dimensions of meaning. So far it is unclear, if and how organizational openness is enabled inter-organizationally, how this inter-organizational influence looks like in practice, and how and by whom it is communicatively established. Therefore, the main research question I want to explore empirically is, how organizational openness is inter-organizationally constituted through communication. Exploring the research question step-by-step through answering sub-questions, I show empirically how the triangle of organizational openness is shaped over time. The empirical findings can give indications on how to enable organizational openness inter-organizationally, for example, by certain (inter-)organizational decidable decision premises connecting (inter-)organizational decisions.

To examine the main research question of how organizational openness is inter-organizationally constituted through communication, the empirical study is aimed to answer the following hierarchically listed sub-questions:

1. How do opening/closing mechanisms in form of decisions influence the three dimensions of meaning of organizational decision processes within inter-organizational arrangements and how do they shape the triangle of organizational openness over time?
2. What are important communicative events within the inter-organizational arrangements that function as pre-decisions and decidable decision premises for these mechanisms?
3. How is the connectivity of decisions ensured through decidable decision premises and which included organizational system is deciding on the decidable decision premises within the arrangement?

These questions are answered empirically by conducting a case analysis and analyze organizational openness of organizations being engaged within an inter-organizational arrangement.

## **Methods**

To advance and deepen the understanding of how organizational openness is inter-organizationally constituted through communication, I conducted an explorative case study analysis. A case analysis is an adequate research strategy, when “a ‘how’ or ‘why’ question is being asked about a contemporary set of events, over which the investigator has little or no control” (Yin, 2009: 13). It is especially appropriate, when it is used to investigate a contemporary phenomenon that is not clearly separable from its context. This is the case regarding my investigation: the boundaries between organizational openness and the engagements within inter-organizational settings are not “clearly evident” (ibid.: 18).

The methodology was driven by the idea of the constitutive role of decision communication as the core of organizing. I therefore analyzed decision communication. The inter-organizational arrangement “MPP” constitutes the context and therefore, is the single case for my inquiry. As the research question refers to the constitution of organizational openness through communication, the embedded sub-units of analysis (Baxter & Jack, 2008) are the organizational members acting in the context of the pool and their constitutive organizational decision processes.

*Field and Case Selection and Description*

**Pharmaceutical Industry.** In industries where research and development activities constitute one of the most important pillars for a company's success, answering normative calls for more openness of organizations might be especially challenging: when new inventions are not yet protected by intellectual property rights, the industrial actors find themselves in tension between opening up and trying to protect knowledge (European Patent Office, 2017).

The pharmaceutical and biotechnological industry sees itself depending on strong protection mechanisms (Dutfield, 2009). As the development of successful pharmaceutical products requires a lot of resources, while copying a product requires little, pharmaceutical companies rely on a working patent system to protect inventions and innovations and to prevent free-riding (ibid.; Gurgula, 2017). According to Notegen (2012) the patent system constitutes the backbone of a pharma company's business model. Patents protect an invention for 20 years after the patent is filed. Getting a patent granted for a product means the company gains the power to build a monopoly market for it and is allowed to charge high license fees from other drug manufacturers willing to produce the product (Dutfield, 2009). Once a patent expires, generic companies are allowed for production of the product (WIPO n.d.). Representatives of the pharma industry claim these mechanisms to be the main drivers for innovation (Notegen, 2012). As the prizes fall when other manufacturers launch generics of a drug, pharma companies are fostered to push innovative processes forward to launch new products.

Patenting criteria and related fears that knowledge reaches the public domain before filing a patent foster pharma and biotech companies to develop products behind closed doors. Traditionally, companies keep confidential information under control by not sharing knowledge with company outsiders or using confidentiality agreements when collaborating with other parties (Bradner, 2013). Several participants of the patent-discourse (e.g., academics, scientists, or non-governmental organizations (NGOs)) criticize this system for inhibiting innovation and being a hurdle for public health (Sonderholm, 2014; Dutfield, 2009). They claim the system to inhibit innovation as companies do not share knowledge and might do redundant development investigations (Reichman, 2009). Others see the system's main problem in the industry's neglect to develop and distribute affordable medication against diseases that only appear in poorer populations (Moon et al., 2012). Moon et al. (ibid.: 2) state in their article that "a patent allows a company to price a medicine at the same level in the United States as in India, as some firms have chosen to do". Critics describe this price setting for patent out-licensing and selling the original product to end customers as dissatisfying, although legal according to patent law. They call for a system change (ibid.).

Open activities in the pharma and biotech industry emerged over the last three decades, either as part of a coordinated patent pool or individual initiatives. They might constitute an answer to the dissatisfaction. These activities are described by Bradner (2013: 421):

"Open activity in drug discovery can include the open source development of biological software, public websites that organize data and make collaboration possible, crowdsourcing for intellectual assistance or, in drug development, trial participants, and, most importantly, the open source sharing of materials, such as molecular probes and other technologies".

Nevertheless, the patent system remains the industry's main underlying driver. Because of the patent regulations and related uncertainties, I expect pharma and biotech companies, compared to other industries, to face extreme tensions between protection (e.g., keeping knowledge behind closed doors) and open activities (e.g., collaborating, crowdsourcing,

making patents accessible for low prices, etc.). Therefore, the pharmaceutical industry constitutes the field of interest for this paper.

**Patent Pooling within the Field of Pharma.** Fostering collaboration by patent pooling is an established practice within industries like aircraft or consumer electronics. It has already been applied in the pharma industry since more than two decades (Powell, 1996). Besides successfully facilitating innovation and economic efficiency, patent pools aim to reduce transaction costs for parties involved (Kingsbury & Gamman, 2013). At least two patent holders are needed to found a patent pool to benefit from each other's patents. They "license their individual patent rights to each other or to third parties, in return for royalties on sales of the resulting products" (Goulding & Palriwala, 2012: 1).

In comparison to these "usual" patent pools, there are other types of patent pools within the pharmaceutical industry that encompass features like voluntary actions and engagements of different types of stakeholders: for example, "patent pools for global health technologies" (ibid.: 1). They differ from other patent pools because they entail "distinct groups of patent donors (mainly multinational biopharmaceutical companies or universities in the most affluent countries) and patent users (mainly generic drug companies and smaller biotechnology firms), instead of involving firms that both contribute and use the IP [Intellectual Property] within the pools" (ibid.: 1). Depending on the purpose of the pool, it can solve dissatisfaction claims regarding accessibility/affordability of patents for developing countries and answer the call for more efficient innovation processes (Moon et al., 2012). A patent pool for global health technologies is very suitable for my research as it is an inter-organizational collaborative arrangement that encompasses communication between many different stakeholders (Vakili, 2016).

To explore the communicative constitution of organizational openness through inter-organizational arrangements, I have chosen a special type of patent pool as contextual environment of this study: the MPP, a pool "to reduce patent thicket problems in order to promote public health" (Kingsbury & Gamman, 2013: 5).

**The Medicines Patent Pool.** The MPPF is a Swiss non-profit foundation founded in 2010 as a public political response to the Human Immunodeficiency Virus (HIV) crisis in developing countries (ibid.). It was founded and is funded by UNITAID, an international organization hosted by the World Health Organization (WHO) (UNITAID, 2018). By establishing and managing a patent pool, the MPP, it follows the mission "to increase access and promote innovation in the fields of HIV, hepatitis C and tuberculosis treatments through voluntary licensing and patent pooling" (Medicines Patent Pool n.d. a). The arrangement of the patent pool has the task "to prioritize and license new and existing medicines for low- and middle-income countries" (ibid.). The terms "MPP" and "MPPF" seem to be not selectively used on websites and in documents. In this paper, I refer to the MPP as the collaborative arrangement of the different engaged parties – a bigger system, while the MPPF is one actor (organizational system) within the MPP.

To realize the mission, the MPPF is collaborating inter-organizationally with different stakeholders. Participants engaged in the arrangement are patent holders, generic manufacturers, product developers, governments, universities, NGOs, etc. (Medicines Patent Pool n.d. b). Since its foundation, the pool is continuously growing: in January 2018 the pooling activities encompassed more than 130 sublicensing projects with more than 30 actively engaged organizations (Medicines Patent Pool, 2018).

To forecast treatment needs and to prioritize medicines and countries, the MPPF is supported by experts of particular diseases, civil society, patient groups, and especially the WHO. The MPPF claims technology and patent sharing as key to face the need for multiple sources of medicines in disadvantaged countries. It describes patents as the market mechanism to innovate and, if licensed widely, to foster the development of competitive environments. Competition in developing countries leads to price pressure that makes medicine affordable to people living there (Medicines Patent Pool n.d. c).

The process of licensing, out-licensing, and patent pooling works as followed: Patent holders of technology and medicine agree on licensing their patents to the MPPF – by doing that, an original “patent pool” emerges. The MPPF licenses these IP rights to generic manufacturers under certain conditions. These manufacturers are then allowed to produce and sell the low-cost versions of the medicines in developing countries. Additionally, the pooling and licensing of patents enables manufacturers to combine different patented treatments into one pill or develop special combination medicine for children. The competition among the generic manufacturers lowers the prices for the treatments in the developing countries and therefore, improves accessibility to the medicine (ibid.).

I conducted my research on the case of the MPP, since it provides appropriate circumstances to explore the theory-based research questions empirically: The pool represents an extreme and complex case of an inter-organizational arrangement within a field where openness of organizational decision processes is presumed to be exceptional. The pool encompasses many participants of different types of organizational systems, addresses a broad range of topics, has a shared mission, and decision processes might constitute an organizationality that goes beyond formal organizations.

#### *Data Collection*

Between May and August 2018, I collected a broad range of data published on the MPP’s website. The collected archival data was of the period from July 2010 until June 2018. “[A]iming at corroborating the same fact or phenomenon“ (Yin, 2009: 116), I included different types of data such as legal binding documents including contracts between stakeholders or the statutes of the foundation, Press Releases (PRs) regarding different decisions occurring within the pool, meeting protocols documenting certain decisions, presentations, reports, letters, etc.. This data collection approach is, besides the Luhmannian, also driven by Cooren and Fairhurst’s perspective on communication: I included the dimension of socio-materiality in the concept of communication, meaning that communication is “entangled with material objects (e.g., texts, tools, artifacts of all kinds) that endure and thus allow space and time to be transcended” (Schoeneborn, 2011: 677). This allowed me to analyze the collected material regarding my research question as I attributed underlying decisive character.

All data sources reveal certain decisions made by participants of the MPP over time. As some data sources refer to the same communicative events, the data provided valid processual and relational information about activities within the context of the pool. By systematically counterchecking these complementary documents for empirical evidence, I could triangle my data purposefully (Yin, 2009). Since I used similar documents of the same document type for my analyses, I could gather an understanding about decision patterns and exceptional communicative events.



**Description of the Analyzed Material.** In total, I downloaded around 360 documents from the MPP website. I clustered them into content-related document groups keeping the document type identifiable. I screened them guided by the question which of these documents might embody relevant information regarding the research question. I initially prioritized some document groups for data analysis. This selection of documents was not fixed: as I applied an iterative approach of analyzing the data, I reread non-prioritized material and included meaningful documents into the database. I mainly excluded documents encompassing a broad range of decisions and activities in a single document (e.g. Annual Reports) but included them, if necessary, to complement information missing in other document groups. External press articles, for example published by newspapers, were also excluded. They often comprise information already included by internal PRs or do not refer to focused decisions. The final selection of my data consists of 21 document groups encompassing 200 documents of different document types.

Table 1 describes the document groups in alphabetical order. The group name partly provides information about which activities or decisions are addressed by the documents. As the applied iterative logic included an explorative pre-analyzing of the documents to prioritize them, the summaries of the document groups already encompass analytical parts, for example, content, involved actors, or relations to other groups.

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Group	Σ Documents	Σ Coded Documents	Ø Length (pages)	About the Group
<b>Board Decisions</b>	13	13	2	Group encompasses Meeting Protocols where the Governance Board of the MPPF met face to face or decided on certain topics by correspondence. The protocols reveal information about who attended the meeting and summarize the decisions the Board made. All documents within this group have the same structure and function.
<b>Chairman's Summaries</b>	14	14	2	Documents within this group are comparable to "Board decisions" as they are meeting protocols of Governance Board Meetings, too. These documents are written by the chairman of the Board. Except one document, they do not refer to attendees. They address the contracting activities between the MPPF and licensors (also noticeable in the document's title).
<b>Forecasting Documents</b>	5	5	20	Documents include scenario analysis of licensed and not yet licensed products regarding market share, competition, pricing, usage, etc. Documents are rather presentations partly presented or drawn in collaboration with other stakeholders, e.g. WHO representatives.
<b>Internal Policy Agreements and Statutes</b>	11	11	8	Group encompasses different types of documents. Statutes and by-laws are legally binding, official documents that were necessary for the foundation of the MPPF. The statutes, together with a business plan that was an attached document to the first license agreement (but drawn and published before), are temporally the first documents I found in the context of the MPP. Additionally, the group consists of internal documents that (with the exception of the Terms of Reference of the Expert Advisory Group (EAG)) refer to internal policies, e.g., addressing transparency, whistle-blowing, etc..
<b>License Agreements</b>	18	18	24	Documents are either new, amended, or renewed LAs between the MPPF and one patent holder (usually a pharmaceutical company). They are always signed by representatives of the two parties. They are official contracts comprising the terms and conditions of licensing as well as included terms of e.g., contract termination or confidentiality. LAs usually comprise more than 20 pages written in technical legal terms. Partly they have attached information regarding patents (e.g., patent numbers) or sublicensing forms for future sublicensees.
<b>Licensing Termination Letters</b>	12	12	1	The group encompasses one type of documents: letters that announce the termination of a sublicensing contract. A termination is usually written by one sublicensee. It is usually only for certain sublicensees, thus, a sublicensee remains in the pool even when terminating a sublicense contract.
<b>Memorandum of Understandings</b>	9	9	6	This group comprises contracts between MPPF and usually one stakeholder. These contracts include terms and conditions of collaboration and therefore, refer to the parties' duties. They can also be amended and temporally extended. Compared to LAs, stakeholders of MoUs are more diverse, including NGOs, Universities, governmental supported foundations, and partly also licensing-related stakeholders. They sign these documents to obligate each other for collaboration regarding events, product development, or in some cases, further negotiations on potential licensing. The structure of these documents varies depending on the content.
<b>Newsletter</b>	19	7	3	Newsletters cover a lot of ongoing activities within the MPP. They summarize activities and are published regularly on MPP's website.
<b>Press Releases and Highlights on MoUs</b>	4	4	2	
<b>Press Releases on Events</b>	10	10	2	
<b>Press Releases on Invitation to Collaboration</b>	1	1	1	
<b>Press Releases on Leadership Changes</b>	5	5	1	
<b>Press Releases on License Agreements</b>	18	18	3	PRs refer to different kinds of communicative events that happen shortly before a release gets published: signing LAs or MoUs, signing sub-LAs, decisions regarding changes of MPPF's leadership structure, etc.. I clustered them topic-based. As they summarize former decisions, they can be used complementarily to the "original" documents that represent decisions more directly. They are particularly beneficial for understanding the key content of official contracts and contract amendments like LAs. I used PRs to get an initial overview as well as to get information in cases where the primary data source was not available online. This was the case for decisions to sign sublicensing agreements (SLA).
<b>Press Releases on Mandate Expansion and Strategy Change</b>	2	2	2	
<b>Press Releases on Progress and Ongoing Negotiations</b>	2	2	2	
<b>Press Releases and Statements on Sublicensing</b>	14	14	3	
<b>Press Releases / Highlight on Data Access</b>	3	3	2	
<b>Report / Study on Feasibility of Expansion MPP Mandate</b>	1	1	151	Group comprises only one document: it is a analyzing report about the feasibility of MPP's expansion. It encompasses forecasting studies, is drawn by MPPF staff members in collaboration with other stakeholders, and used as indicating feature for the decision whether to expand or not in 2018.
<b>Reports on LA / MoU</b>	13	13	6	Documents are reports drawn by the EAG and signed by its chair that refer to a certain communicative event in the future: Governance Board meetings where it is decided whether to sign a LA/MoU or not. I titled them in reference to the proposed LA they refer to. The documents are always structured similarly, consisting of an introduction, an overview about the proposed agreement, an assessment based on certain pre-defined criteria, and a concluding recommendation.
<b>Reports on Prioritizing (partly part of Annual Reports)</b>	10	8	73	This group is a mix of two document types: priority reports and annual reports. Both are published by the MPPF on an annual basis (except 2016: no priority report was made in this year). As the priority reports published on the website are not complete, I integrated parts of the Annual Reports in my analysis, since they reveal similar information regarding prioritization decisions. Both types of reports encompass information in form of written text visualized in tables. The tables were the main data source I used for mapping priorities in my own table to get an overview over years.
<b>Sublicensing Forms</b>	16	16	37	This group consists of contracts that are not signed yet. After signing they become legally binding. As Sublicensing Forms are always related to an LA, they are often attached to them. They are written in similar technical terms and are decided on by the same parties as LAs. Sublicensing forms define the specific terms and conditions under which a sublicensee can use the patents granted by the licensor.
<b>Total</b>	<b>200</b>	<b>186</b>		

Table 1: Case Study Database

The documents differ regarding one important characteristic: the enactment of a decision. All of them are enacted decisions in themselves. However, while signed documents like license agreements (LAs) or statutes represent the communicative event itself that is enacted by

signature (e.g., becoming a licensor by signing an LA or founding the MPPF by signing the statutes), other document groups are secondary, complementary material. Examples for these documents are meeting protocols or PRs: although the writing and publishing of these documents are decisions themselves, the communicative events that they summarize or refer to are the interesting decisions to be analyzed in the context of my research question. I claim that the doubling of data about certain communicative events (e.g., LAs and PRs on LAs) is a big strength of the data set, since it helps to interpret decisions comprehensively. Additionally, the documents refer to each other and allow getting a deep processual understanding of a communicative event from different perspectives: I collected meeting protocols, reports of the Expert Advisory Group (EAG), and PRs, that all refer to the same communicative event of signing a certain LA. Depending on the document group, they refer to a future decision, to a past decision, or partly they are the decision (e.g., LA). Although the data are processual and multiple documents can be used complementarily, the dataset also has its limitations.

**Limitations of the Data Set.** The MPP strives for transparency and publishes a lot of documents. This allowed me to collect a high amount of similar documents of various data types. However, all documents are extracted from the MPP webpage as a single information source. Further, some document groups are incomplete: not all priority reports were published and I needed to use Annual Reports to fill the information gaps. Some LAs were only published as amended versions – a gap I tried to fill by using PRs as secondary source. As signed sublicense agreements (SLAs) have not been published either, I applied the strategy of using PRs to deepen my knowledge regarding these communicative events. The EAG reports are not available for every ongoing contracting activity. Nonetheless, the document density regarding these activities is high and allows identifying patterns. As I did not include data sources of participants' websites or interviews, I neither know about additional influences their engagement in the context of the MPP has on other organizational decision processes, nor about possible informal contacts and informal decision-making that are not documented in written form.

#### *Data Analysis*

The data analysis was driven by the research questions and oriented on the theoretical conceptualizations developed in advance. I adopted an iterative approach (Corbin & Strauss, 1990). This approach had inductive and deductive elements and implied a logic of analyzing data, taking a step back to reflect on current results and the meaningfulness of the process, asking colleagues for their interpretations of certain documents, rereading theoretical concepts, rereading non-prioritized material and including it if useful, adopting strategies of data analysis purposefully, and starting again. I used an innovative method mix for data analysis. By describing my course of action, I refer to the different methods I integrated for this paper.

The phase of data collection encompassed a first prioritization of the most important document groups. This step was the analytical part of the collection. According to Corbin and Strauss (ibid.: 6), “[i]n grounded theory, the analysis begins as soon as the first fit of data is collected”. From the beginning, the data collection and analysis were driven by theoretically developed key concepts, instead of “inductive theorizing” by applying a pure grounded theory approach (Langley, 1999: 699). Nevertheless, I integrated methodological characteristics of the approach.

As an initial step of the data analysis, I chronologically sorted the documents in their document groups to get a processual understanding and reconstruct the emergence and

interrelations of certain decisions and decision patterns. The step allowed using a temporal bracketing logic (ibid.) for analyzing and interpreting the material. It has the advantage of revealing the emergence of complex phenomena while taking into account contextual conditions (Yin, 2009; Langley, 1999). By applying this logic, I tried to identify certain events during the analyzed period of time that have especially strong influences on the investigated phenomenon.

To identify these communicative events and connect them logically, I applied an analytical approach that could be described as a “structured document analysis”. Besides prioritizing document groups and ordering documents chronologically, I coded mainly on a document level. This means that I coded the key messages of a document in parallel to identify code-relations within and among coding categories and relations between different document groups. The approach remained dominant for the whole analysis. I coded text sequences only in case the code could not be applied for the whole document or in case I wanted to gather more detailed information about certain decision mechanisms. I applied the approach in four steps:

First, I reviewed the documents again and developed an initial coding template including higher-order codes (King, 2004; Gioia et al., 2012) based on following questions: who was involved in a certain communicative event (“Actors”), which activity is expressed by that event (“Activity”), and which influences might this communicative event have (“Pre-Decisions and Decision Premises”)? In addition to these inductively developed codes, I extracted six codes for openness from the theoretical framework: “increasing openness regarding the range of purposes”, “increasing openness regarding the range of topics”, “increasing openness regarding the range of participants”, and same combinations for an openness decrease.

Second, I conducted three inductive coding rounds, facilitated by the qualitative data analysis software MAXQDA, to specify the coding template and to further develop and extend the deductively extracted codes on openness. At the end, the coding template comprised 109 individual codes with precisely defined coding rules to make the research reliable and comprehensible. This step is comparable to steps typically included in an axial coding process (Corbin & Strauss, 1990): I further developed the coding template and tried to find several instances occurring under various conditions for same codes (King, 2004). Following up on the categories referring to the three dimensions of meaning (range of purposes, topics, and participants), the following working definitions emerged from the linkage between the initial coding rounds on empirical material and the theoretical framework (Table 2):

Working Definitions		
Term	Definition	Important Coding Rules or Criteria
Participant	All engaged organizations:	
	- MPPF	
	- Patent holders	- A party becomes participant by directly signing a contract with MPPF
	- Licensees	- Also EAG members are participants if they represent a group of people
	- Patient groups	- Patient groups are usually represented by the EAG
	- Governments	- Governments are usually represented by delegates
Topic	- NGOs	- UNITAD always coded as a stakeholder
	- Consortia	
	- Distributors	
	Prioritized and also non-prioritized medications	- Topics enter the pool by signing a License Agreement - Topics always need to relate to a certain purpose
Purpose	MPPF's mandate	MPPF's mandate is also applicable for the whole inter-organizational arrangement

Table 2: Working Definitions for the Most Important Coded Dimensions

Third, I applied the coding template that was developed and specified in the previous analytical steps by conducting a fourth coding round. I used the final coding round for clearing the data from inconsistencies and further enforcing the findings I got from the first rounds. In total, I set 1,563 codes on 186 documents. By applying the precisely defined coding logic, I could identify the most important communicative events and could therefore temporally bracket the data (Langley, 1999). I applied this step at the end of my analysis and used it to structure my findings into four phases.

Fourth, I extracted the, through coding gathered, information into visualizations. This visualization was facilitated by the software Excel. I “mapped” the stakeholder’s entries, sublicensing activities, and prioritization activities over time in the context of the MPP.

### Findings: Decision-Driven Dynamics of Organizational Openness in the Context of the MPP

My explorative analysis led to a key finding: organizational openness increases because an organization is engaged within inter-organizational arrangements – enabled by restricting and softening inter-organizationally set limits. The development is mainly facilitated through formalized decisions of one stakeholder: the foundation behind the arrangement, the MPPF.

Looking at the three dimensions of meaning of organizational decision processes within the MPP, I identified decisions that increase the openness an organizational decision process can reach regarding purposes, topics, and participants. In five cases, this openness decreases regarding participants and partly also topics. I further identified decisions that set limits on the degree of openness that organizational decision processes within the MPP could reach in the future. In addition to limitations of purposes, topics, and participants for future decision processes, there are further decisions that restrict these limits even more, but also decisions softening previously set limits.

To show how these mechanisms work, which communicative events make these mechanisms occur, and which decisions enabled the occasion of these events, I illustrate the case temporally bracketed into four phases, separated by three path-breaking events. Table 3 summarizes the main characteristics of every phase.

Four Phases of (Inter-)Organizational Openness Constitution		
Phases	Starting Point	Phase Characteristics
(0) Setting the Stage for an Innovative Patent Pool by Founding the Medicines Patent Pool Foundation	July 2010	- signing the statutes of the MPPF incl. decisions on decidable decisions - designing a business plan - defining the purpose: fight against HIV/AIDS
(1) Signing First Pathbreaking Licensing Contracts	September 2010	- signing first licensing agreements (LAs) and sublicensing agreements (SLAs) - six licensors and 14 sublicensees entering the pool as participants - twelve medications entering the pool as topics - first prioritizing activities by MPPF
(2) Expanding the Mandate of the Pool and Adding Two Additional Diseases	November 2015	- expanding MPP's mandate: including new purposes to fight against hepatitis C (HCV) and tuberculosis (TUB) - medications contributing to the new purposes entering MPP - new licensors and sublicensees contributing to the fulfillment of the three purposes entering the pool - further prioritizing activities
(3) Expanding the Mandate of the Pool and Including New Patented Essential Medicines	March 2018	- expanding MPP's mandate: including one new purpose to focus on more patented essential medicines (PEM) - new sublicensees entering the pool - no topics entering (neither contributing to the new, nor to previous defined purposes) - *

\*three licensors and two sublicensees leaving in this phase, or having left the pool in phases before

Table 3: Phases of Constituting Organizational Openness Inter-Organizationally

Since every phase encompasses usually every type of openness/closure related mechanism and (decidable) decision premises for later phases, I pick the most interesting and previously not explained decisions of every phase to exemplify these mechanisms.

*Phase 0 – Starting Point 2010: Setting the Stage for an Innovative Patent Pool*

**Description.** The phase starts in July 2010. The MPP as inter-organizational arrangement in the narrower sense of a collaborative form encompassing different patent holders, generic manufacturers, NGOs, governments, etc. does not yet exist. However, by signing the statutes and designing a business plan, the idea what the MPP could eventually be is formalized already. This is a pioneering moment in the MPP’s history as it sets the stage for every action that follows in the context of the inter-organizational arrangement.

**Decisions that Increase Organizational Openness.** With the foundation of the MPPF, the organizational openness within the context of the MPP increases regarding two dimensions: participants and purposes. By signing the statutes, the founding board of the MPPF defines and introduces the purpose of the MPP as an inter-organizational arrangement:

“The purpose of the foundation is to improve health by providing patients in low- and middle-income countries with increased access to quality, safe, efficacious, more appropriate and more affordable health products, including through voluntary patent pool mechanism, [...], initially in the area of antiretroviral pharmaceutical products, pediatric antiretroviral pharmaceutical products and new fixed dose combinations (hereafter referred to as the ‘Patent Pool’)”  
(2010\_07\_MPP\_Statutes\_modified\_2015\_03).

Although the purpose is first defined for the MPPF, it is applicable for the whole arrangement that will be established following this purpose. As there was no purpose defined before, introducing the purpose is the first increase of organizational openness regarding purposes

within the context of the pool. It happens officially as founding members sign the statutes. The mandate of the pool is to fight against HIV/Acquired Immune Deficiency Syndrome (AIDS) in developing countries. It is thereby recognized that the HIV/AIDS situation regarding medical treatment for children and adults must be improved (interpretation of the past) and that the vision for the future is that it can be improved through certain activities.

Signing the statutes is the communicative event of founding MPPF. By signing, the first organization, namely the MPPF, enters the pool and the range of participants involved in decision-making processes increases. UNITAID as the second stakeholder enters during this launching phase and further increases the range of participants. The official entrance is enacted by signing a Memorandum of Understanding (MoU) between WHO and the MPPF in September 2010.

**Decisions that Set Limits of Organizational Openness for the Future.** By defining the purpose and signing the statutes, the MPPF sets the limits of openness: The limit of the allowed visions for the future and interpretations of the past is set by defining the purpose. As the purpose is to fight against HIV/AIDS, every participant who wants to participate in the MPP must share that vision and contribute to fulfill it. The range of topics allowed to enter the pool – patents of medicines and technological know-how – is limited to antiretroviral medicines (ARVs) only.

**Pre-Decisions and Decision Premises for Future Decisions.** Phase 0 is the phase of the decidable decision premises that are applicable for a yet undefined amount of future decisions. The “setting-the-stage”-documents embody decidable decision premises on personnel, programs, and communication channels.

Considering the MPP as an inter-organizational system, the decidable decision premises on personnel do not only refer to MPPF’s staffing but to all participants potentially entering. Therefore, the main decision premise on personnel is the definition of the purpose. However, within the statute documents, the range of participants is further specified. The MPP should encompass different types of stakeholders beside the MPPF and the WHO: patent holders as licensors, generic manufacturers and other appropriate stakeholders as sublicensees, other stakeholders that want to support the MPP, and representatives from different stakeholder groups who work in form of an EAG as consultative instance for Board decisions. Regarding the latter stakeholder group, it is again stated in the statutes that only those are allowed to enter “who support the principle of the Patent Pool” (2010\_07\_MPP\_Statutes\_modified\_2015\_03: 11).

Considering decidable decision premises on programs, it is formalized in the business plan that the WHO is collaborative partner for selecting interesting products to include in the MPP: the “MPPF will collaborate with the WHO for the identification of products of interest” (2010\_07\_Original Business Plan for MPP). This decision premise guides every prioritization activity the MPP exercises in the following years by a certain rule: if a priority list for medicines is published by the MPPF it should consider WHO priority lists and include WHO representatives in decision-making. Other premises on programs are goal-oriented and define the activities that are conducted within the pool. Although these premises apply to the MPPF as intermediary, they include other stakeholders being engaged within the pool. Exemplary premises are “negotiating terms and conditions of license agreements” (2010\_07\_MPP\_Statutes\_modified\_2015\_03: 3), entering into license and SLAs, etc..

Decidable decision premises on communication channels are fixed by the statutes. These premises address mainly the MPPF's activities, but they are influencing the whole pool: MPPF's organizational decisions are allowed to be influenced by other stakeholders and can constitute pre-decisions for other participants' decisions.

The MPPF decision processes are led by four groups with different share of power: the Governance Board, the EAG, the management, and external auditors. The Governance Board and the EAG compose the most influencing instances. The Governance Board is the main decision instance as it is decided in the statutes: "The Governance Board shall be the supreme governing body of the Foundation. [...] The Governance Board shall possess the highest and most extensive authority concerning decision-making and administration of the Foundation" (2010\_07\_MPP\_Statutes\_modified\_2015\_03: 9).

In later phases this decision power gets visible by decisions made in board meetings that have essential influences on the organizational openness of MPP's stakeholders. However, by defining the Board's functions, their power to do so gets formalized in Phase 0. The EAG functions as consultative instance for the Board. The group is composed by representatives of different stakeholder groups. Their functions are set in the by-laws that were decided on in Phase 1. Their influencing role is visible in decision-making processes on licensing.

#### *Phase 1 – Starting Point 2010: Signing First Licensing Contracts*

**Description.** In Phase 1 that lasts until November 2015 the MPPF conducts the activities decided on in Phase 0 and the MPP is growing. The first licensor, the Public Health Service (PHS) and first patents enter the pool in September 2010. Until November 2015, five additional licensors and 14 sublicensees become part of MPP.

**Decisions that Increase Organizational Openness.** In case the MPPF and a patent holder sign the first LA, the decision has two main influences on organizational openness of MPP's participants: The range of participants increases as a new stakeholder enters the pool, namely the licensor. The licensed patents for a medication increase the range of topics available and then potentially includable in organizational decision processes. In the case of Bristol-Myers Squibb Company (BMS) entering the pool in 2013, the topic they sign for is the antiretroviral drug "Atazanavir" (ATV). After the decision on the LA, Desano, a generic manufacturer enters the pool subscribing the SLA as collaborative contract with MPPF and BMS. This decision increases the range of participants within the pool. However, the range of topics remains the same. Other MPP stakeholders who are already holding a sublicense from other licensors agree on additional sublicensing with BMS. This is a decision that does neither increase the range of participants nor topics in the pool but shows how individual organizational decision processes open up: Emcure, who sublicenses patents from Gilead since 2012, includes a new topic (ATV) and a new stakeholder (BMS) into its organizational decision processes by signing the SLA. Emcure's ranges of participants and topics are extended by inter-organizational activities at that moment while the purpose remains the same.

**Decisions that Restrict the Set Limits of Organizational Openness Further.** The MPPF conducts first prioritization activities in 2011. Out of the broad range of ARVs that were set by defining the purpose, MPPF prioritizes 22 HIV/AIDS medicines for future negotiations. Thus, it restricts set limits regarding the range of potentially entering topics and participants further: only those patent holders are favored and contacted for licensing, who are holding patents for the prioritized medications. One of the prioritized medicines is ATV that enters the



pool in 2013 by signing the LA with BMS. This example shows: although it is a restricting mechanism, it does not necessarily lead to a decrease of organizational openness. It is rather the pre-condition for enabling it. Restrictions on topics and participants through prioritizations occur three times until the start of Phase 2: 2011, 2012, and 2014.

First licensing agreements embody restricting decisive mechanisms for future organizational decision processes as well. An LA defines the conditions under which the patents are licensed and sublicensed and is signed with having an attached sublicensing form. Signing this form turns a manufacturer into a sublicensee. An LA restricts the (by purpose and prioritization) set limits further: not all manufacturers, which can identify with the vision of the MPP and which are theoretically able and willing to produce one of the prioritized drugs, are allowed to enter, but only those stakeholders who agree on certain conditions.

**Decisions that Soften the Set Limits of Organizational Openness.** Following up on prioritization, 2013 is the only year during Phase 1 where I identified a softening mechanism on the set and restricted limits regarding topics and participants from the years 2011 and 2012. Compared to the year before (15 prioritized medicines), 16 medicines are prioritized, including one new antiretroviral drug. Prioritization is a way of softening the set limits of openness regarding topics and participants.

**Pre-Decisions and Decision Premises from the Past that Enabled Decisions Made in this Phase.** Activities in Phase 1 can be traced back to decidable decision premises set during the time of setting the stage. Only those participants enter, who contribute to the fulfillment of the purpose (decidable decision premise on personnel). The goal-oriented (sub-)licensing and negotiating activities are based on the decidable decision premises on programs.

Decisions that refer to decidable decision premises on communication channels made in the statutes are further developed in Phase 1. The context these decidable decision premises refer to is contracting: From the beginning of Phase 1, representatives of the MPPF sign LAs/MoUs. Before contracting, the Governance Board decides on whether to sign an LA/MoU or not. This decision requires recommendation of the EAG. This communication channel is visualized below. Negotiating with the contracting counterpart before the signing is obligatory.



*Figure 2: Communication Channel for Signing License Agreements or Memorandum of Understandings*

The channel was not defined until Phase 1. The Board designs Terms of Reference for the EAG in May 2011 and by-laws for the MPPF in December 2011. These decisions are decidable decision premises for the future and refer to the decidable decision premises made in Phase 0. They are still part of setting the stage for the MPP.

There are some decisions formalized during Phase 1 that function as pre-decisions for the same phase. These decision premises are pre-conditions for certain activities. Similar pre-

decisions are observable over all phases and can be described as “predictable decision patterns”, enabled by the decidable decision premises.

An exemplary predictable decision pattern starts with deciding on and leads to signed sublicensing contracts. Priority lists are pre-decisions on negotiating: In 2013, the Board of the MPPF decides to soften the limits of openness regarding topics set by the priority list 2012 and includes TAF as treatment into the prioritization. This is the pre-decision to start negotiations with Gilead. After having designed the contract on licensing, the contract requires approval by the EAG. The EAG as consultative instance compares the proposed LA with the MoU made between WHO/UNITAID and the MPPF. If the LA is aligned to the principles drawn in the MPPF’s statutes and the MoU with the WHO, the EAG gives the recommendation for signing the LA by a representative and the MPPF:

“The EAG concludes that the proposed amendment to the MPP-Gilead agreement is consistent with MPP’s mandate as defined in its Statutes and MoU with UNITAID, and represents a significant improvement over the status quo, [...]. Therefore, the EAG recommends that the Medicines Patent Pool Governance Board request the Executive Director to sign the proposed amendments between Gilead and MPP”  
(2014\_EAG\_Report-Gilead\_TAF: 6).

The Board makes the final decision on signing after reviewing the EAG report.

Similar types of decisions are made for most of the LAs/MoUs and LA amendments. The decision by the Board is a decision premise to sign an LA/MoU – a decision premise for increasing organizational openness regarding the range of topics. The moment TAF enters as sublicensable treatment, it could become part of other stakeholder’s decision processes. It would also allow new sublicensees to enter the pool. Signing the LA is a decision premise for all sublicenses made in the future. This predictable decision pattern is applicable for all phases.

#### *Phase 2 – Starting Point 2015: Expanding the Mandate of the Pool*

**Description.** Phase 2 starts in November 2015. The MPP announces the expansion of its mandate: in addition to HIV/AIDS, the arrangement wants to fight against tuberculosis (TUB), and hepatitis C (HCV) in developing countries. Regarding organizational openness, this decision is the most influential since MPPF’s foundation: it expands the range of purposes that can be taken into account within decision processes in the context of the MPP. This opportunity is used by one existing licensor, namely BMS, new licensors, and other participants. By signing LAs the licensors introduce new HCV and TUB related topics such as the HCV treatment “Daclastavir” (DAC). In this phase, I observed an increase of organizational openness on all three dimensions: six sublicensees who entered the pool in Phase 1 agreeing on the purpose to fight against HIV by sublicensing patents of antiretroviral drugs from the stakeholders Gilead or ViiV, sign SLAs for the HCV medicine DAC from BMS. Regarding their individual organizational decision processes, they increase the range of purposes (HCV), topics (DAC), and participants (BMS) in 2016. In sum, three new licensors, seven additional sublicensees, and at least four other stakeholders enter the pool.

**Decisions that Increase Organizational Openness.** By expanding the mandate, two new purposes enter the pool: first, the fight against HCV and second, against TUB by extending negotiations to treatments addressing these diseases. Consequently, LAs and SLAs on the new purposes are signed.

**Pre-Decisions and Decision Premises from the Past that Enabled Decisions Made in this Phase.** The statutes and by-laws define the Board as responsible instance for strategically deciding on the expansion. It is part of their function to determine the strategy for the MPPF as it is formalized in the by-laws: “In particular, the Board shall be responsible for the determination of the strategic goals of the Foundation” (2011\_12\_MPP-By-Laws-modified\_2016\_10: 5). The influence of the WHO/UNITAID is also pre-decided by a document from that phase.

Several pre-decisions on that expansion were made in Phase 1, for example by the Board in September 2015. It agreed on handing in two proposals to UNITAID for expanding the mandate. As funding partner UNITAID was co-deciding this expansion. They agreed on the expansion in November 2015 and the path is made to increase organizational openness in the context of the MPP. Although the Board had the “last word”, the decision process regarding the expansion illustrates how decisions are made inter-organizationally.

*Phase 3 – Starting Point 2018: Expanding the Mandate of the Pool and Including New Patented Essential Medicines*

**Description.** This phase starts in March 2018. After conducting feasibility studies, the Board decides to introduce a new purpose by one more time expanding the mandate. Other patented essential medicines (PEM), for example, for treating cancer, should be included in the pool’s activities. The mechanisms influencing organizational openness in the context of the MPP are comparable with the expansion in Phase 2. The range of participants and topics that could potentially become part of MPP participant’s organizational processes should at least contribute to fulfill the purposes on HIV, HCV, TUB or PEM. New priority lists are required. Five new sublicensees and one other partnering stakeholders enter the pool while other participants and topics leave in or have left the arrangement before the Phase 3.

**Decisions that Decrease Organizational Openness.** I identified parties who left the pool in or before 2018. The organizational openness decreases regarding the range of topics and participants in case of the exit of three licensors. When two sublicensees leave the arrangement, only the range of participants decreases. In case a licensor had a contract with a leaving sublicensee, its organizational openness decreases in the moment of the sublicensee’s exit. As the licensors who left the pool did not contract with sublicensees, their exit did not affect the organizational openness of another party.

*Theoretical Framing: The Medicines Patent Pool as Autopoietic Social System*

The findings show: Organizational openness is constituted inter-organizationally by decision communication. Decisions are often made by MPPF and at least one stakeholder. However, the MPPF is the key stakeholder of the arrangement. To establish the patent pool, licensors and sublicensees are necessary. The MPPF is the facilitator enabling the pool’s growth and enables the opening of organizational decision-making processes by its activities. Contrary to the pool as arrangement, the MPPF has a legal status. Therefore, most regulative decisions are legally made by the MPPF but often constituted inter-organizationally as many pre-decisions happen in collaboration with other stakeholders.

The MPP is an autopoietic system that is (re-)produced and constituted by decisions. It is constituted through relations between the communicative events occurring in its context: interrelated decisions of certain organizational systems that act collaboratively while sharing a certain purpose and deciding on certain partly shared topics. Going further, these interrelated decisions constitute MPP’s boundaries: the purposes, topics, and participants potentially

available for these interrelated decision-making processes. These inter-organizationally constituted boundaries go beyond the boundaries of the single engaged organizations of the MPP: it is a way of organizing beyond their formal boundaries to reach a certain shared vision.

The organizational systems as participants of the MPP are independent, autopoietic meaning-processing entities. They (re-)produce their own boundaries and have their individual degree of organizational openness. As they are operatively closed and structurally open, they can connect their decisions to decisions beyond their own organizational boundaries. Therefore, they can enter the inter-organizational system by connecting an own decision with another organizational decision made by a pool stakeholder, namely the MPPF. An example is the signing of an LA by MPPF and one entering stakeholder.

The MPPF is the enabling instance for MPP's autopoietic capacities. It is the organizational system that ensures connectivity of communicative events by deciding on decidable decision premises at the beginning of the pool's history. By these decidable decision premises, the pre-conditions for its role as intermediary are made. The role encompasses duties of connecting communicative events. Ensuring connectivity allows the occurrence of the decidable decision patterns: they are the causal interrelating effects that increase the organizational openness potentially reachable within the context of the arrangement. MPPF's role as connector is essential: they negotiate LAs, sign LAs with licensors, fulfill their duty by selecting sub-licensees, and sign SLAs with sub-licensees.

To get perturbed by an entering organization, the MPP as an autopoietic system needs to be stable enough. The stability of the MPP as an internal environment where organizational members can interact, meaning that they are allowed and enabled to interact, is constituted through complexity reduction in form of selection: regulative/restrictive decisions and upstream decidable decision premises. The MPPF functions as the enabling instance for this stability and therefore, as "complexity organizer".

### **Discussion of the Research Results**

Going "[b]ack to the classics" (Ahrne et al., 2016: 94) for conceptualizing and analyzing an inter-organizational arrangement revealed interesting findings that might be transferable to others: organizing as interrelated decision-making within inter-organizational arrangements happens beyond formal organizational boundaries and hereby increases the openness an engaged organization can reach for its decision-making processes. Therefore, I introduce an adapted version of the framework previously suggested by Dobusch et al. (2017a), the "triangle of (inter-)organizational openness", that is applicable for all inter-organizational arrangements. I propose the framework as a useful tool to analyze inter-organizational arrangements regarding their paradoxical interplays between opening and closing mechanisms that are constituted through decision communication.

During my research I developed the following framework that is useful for investigating other inter-organizational arrangements. The attached assumptions are limited to organizational decisions in the context of the arrangements and need to be analyzed relationally to the past:

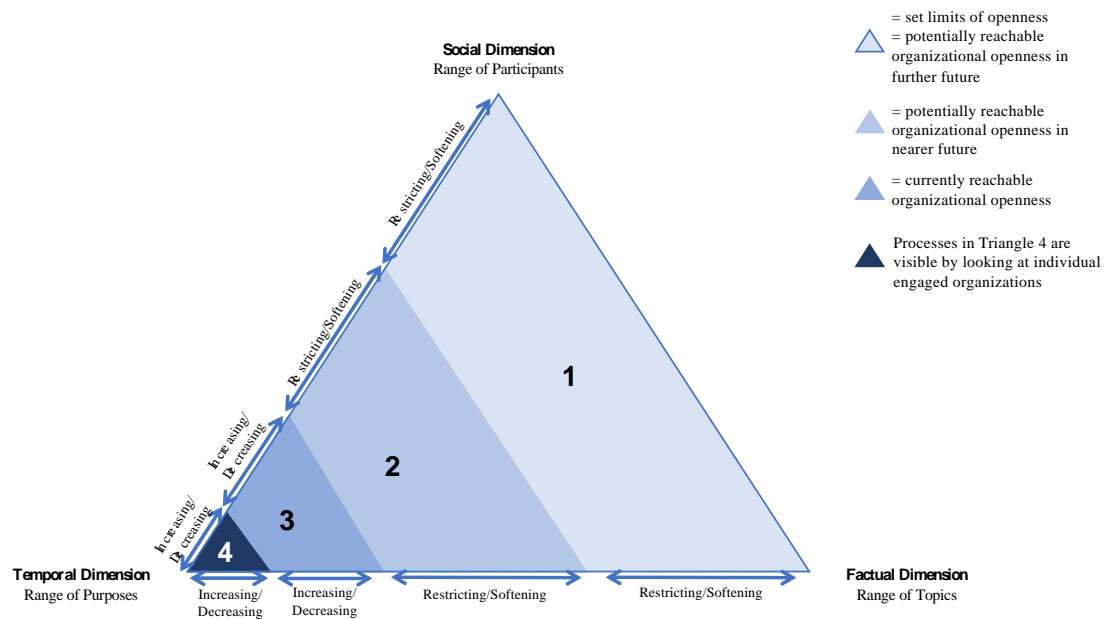


Figure 3: Triangle of (Inter-)Organizational Openness – General Framework

- (1) The limits of Triangle 1 illustrate the maximum degree of openness an organization can potentially reach for its own organizational decisions in the more distant future. They are the outmost set limits of an inter-organizational arrangement regarding allowed purposes, topics, and participants.
- (2) The maximum degree of openness an organization can potentially reach for its own organizational decisions in the nearer future are the limits of Triangle 2. They represent the limits of the inter-organizational arrangement regarding allowed purposes, topics, and participants that were restricted further or softened again. This triangle reflects the system complexity the (inter-)arrangement could potentially handle for the time being.
- (3) Triangle 3 demonstrates the maximum degree of openness an organization can potentially reach for its own organizational decisions at a certain point of time. It could be therefore called “currently reachable organizational openness”. They are constituted by the purposes, topics, and participants that have entered (and not yet left) the inter-organizational arrangement in the past. This triangle illustrates an inter-organizational arrangement’s system complexity: all potential connections between communicative events available within an inter-organizational arrangement.
- (4) The surface of Triangle 4 represents the degree of openness an organization reaches for its own organizational decisions at a certain point of time within the context of an inter-organizational arrangement. It can be measured by direct arrangements of the organization with other participants of an inter-organizational arrangement.

Analyzing an inter-organizational arrangement by using this triangle can reveal detailed information on how organizational openness within these arrangements is constituted through an interplay of different decidable decision premises and pre-decisions. I expect decisions in inter-organizational arrangements as being made by different stakeholders. However, I expect complex inter-organizational arrangements to have an “organizing instance”, an intermediary facilitating the functioning of the arrangement. This intermediary can but does not necessarily have to be a foundation.

I argue that the main regulative decisions that enable an increase of openness are organizational decisions made by that intermediary: it sets the limits on openness by defining a purpose and can restrict or soften them further (this could also be done by other parties). It is

likely that the purpose definition is the limit-setting mechanism in other inter-organizational arrangements as well. The decisions made by the intermediary function as selective mechanisms that are paradoxically needed to enable organizational openness: the scope of openness a decision could reach at a certain point of time regarding included purposes, topics, and participants, cannot be endless. As facilitators they make decisions, functioning as decidable decision premises so that organizing beyond formal organizations through an inter-organizational arrangement does not end up in dysfunctionality.

As the case of the MPP has shown: the decisions increasing the organizational openness regarding topics and participants are inter-organizationally made in form of signed contracts. They are enabled by decidable decision premises agreed on at the beginning of the arrangement's history and emerging inter-organizational predictable decision patterns.

Regarding Du Gay and Lodrup-Hjorth's (2016) claim for formal organizations, the findings give an insight on the role of formality. Formalized decisions can ensure the emergence of an inter-organizational arrangement with organizational character (having a decided social order and being constituted through decisions) that represents a form of organizing among and beyond formal organizations (Ahrne and Brunsson, 2011; Ahrne et al. 2016). I found formalized decisions that have increasing influences and formalized decidable decision premises that ensure the connectivity between them. They stabilize the organizational formation. Following back on the role of the intermediary as organizing instance, I argue that the more complex an inter-organizational arrangement becomes, the more a formal intermediary is needed that regulates this complexity through selection.

Based on my findings, I claim that the communicative constitution of organizational openness does not only require closure, it requires formalized inter-organizational pre-decisions as closing mechanisms. As organizational openness could be constituted by a technological device like a crowdsourcing technology, it also can be constituted by an inter-organizational arrangement enabled by an intermediary as legal technology. It is the facilitator of an arrangement with organizational character or in the terms of Ahrne and Brunsson (2011: 84), an "organization as a decided [social] order [...] [where the] environment of formal organizations can be organized, and formal organizations may be active in organizing their own members and their environment". This active organization might especially be the formal intermediary who is nevertheless open for perturbations by others within the boundaries of the decided social order. Therefore, the result of my investigation might sound as paradoxical as the relation between openness and closure: to allow organizing beyond and among (formal) organizations, formality is obligatory and enables the emergence and existence of inter-organizational arrangements as catalysts for organizational openness.

The purpose of my research was to explore how organizational openness is inter-organizationally constituted through communication. In line with the research agenda proposed by Hautz et al. (2017: 307) who identified research gaps regarding the topic of organizing openness considering "different patterns of moving between openness and closure in different dimensions over time", I depict respective contribution. Researchers could use various theoretical backgrounds to enrich this research gap. By taking the Luhmannian TSS as theoretical foundation of my research, I followed investigations of Dobusch and Schoeneborn (2015) and Dobusch et al. (2017a) who have similar perspectives on openness. With the extended framework I developed, a conceptual contribution for capturing especially (inter-)organizationally constituted openness patterns is made.

My research was driven by the paradoxical understanding of openness and closure addressed by several authors in the past (e.g., Hautz et al., 2017). A case study conducted by Dobusch et al. (2017b) conceptualized paradoxical streams of openness and closure within the context of the inter-organizational arrangement of Wikipedia. The authors “argue that it is a purposeful combination of open and closed components that constitutes a precondition for establishing a certain, feasible open quality of strategy-making processes” (ibid.: 21). Their study is analogue to my research in regard to underlining the importance of a relational view on openness: to constitute openness, certain closing mechanisms are needed. The authors claim technology-enabled forms of openness as an enriching field for future research. I provide a contribution towards exploring that gap and argue that an inter-organizational arrangement facilitated by an intermediary can function as legal technology.

### **Conclusion and Outlook for Future Research**

I have set out my research to investigate how organizational openness is inter-organizationally constituted through communication. By going “[b]ack to the classics” (Ahrne et al., 2016: 94), I put decisions and decision processes in focus of my theoretical and empirical investigation. It allowed me to analyze a phenomenon beyond formal organizations by still keeping an eye on organizing as the core of organization studies.

Theoretically guided by the Luhmannian TSS as a stream of CCO thinking, I operationalized organizational openness by using the dimensions of range of purposes, topics, and participants as driving criteria of my empirical investigation. I found that the MPP as an inter-organizational arrangement functions as openness-catalyst and how organizational openness of MPP participants is constituted inter-organizationally. I demonstrated which selective mechanisms increase/decrease, set limits on organizational openness or soften/restrict the set limits further. Functioning as decision premises for future decisions, they stabilize the arrangement and enable organizational openness to increase. In this context, I underlined the role of the formal intermediary as facilitator of openness influencing decisions within the arrangement. For transferring these findings to other inter-organizational arrangements, I proposed the framework “the triangle of (inter-)organizational openness”.

There are limitations in regard to the findings that point to potential future research. Beside limitations regarding my database, usual limitations in regard to a single case study research design apply. The degree to which the results can be generalized is limited as I do not have the same depth of information for other cases. Future research could use a similar research setting to analyze additional cases of inter-organizational arrangements, compare them, and further develop the proposed analytical framework. Methodological limitations of the data collection phase of this study could be minimized by enlarging the data base with missing documents, interview data, or non-formalized ethnographic material. Further, data collection and analysis were iteratively conducted and required interpretative skills from the author. Although I made some counterchecks with colleagues before and while coding, more researchers would be needed to achieve higher intercoder reliability.

Questions emerging from this paper could enrich the research agenda of organization studies regarding the communicative constitution of organizational openness and the role of inter-organizational arrangements as openness catalysts: What consequences does an increased openness of an organization have on activities conducted outside the context of the inter-organizational arrangement? Regarding relations among the phenomenon of organizational openness and digital and legal technologies one could ask, how digital interfaces facilitate and support the legal technology of an inter-organizational arrangement to foster organizational

openness further. Is digitalization a driving force of emerging inter-organizational arrangements?

The research within this field is far away from being exhaustive. It is up to future researchers where to close the research gap by making decisions. To inspire future researchers, my final remark refers back to the starting point of this paper: I support Ahrne et al. (2016) and Du Gay and Lodrup-Hjorth's (2016) arguments and recommend others to follow. The academic field of organization studies can be especially enriched by using classical organizational theory to analyze new emerging organizational phenomena. There should be no fear of the formal, nor fear of classical theories. Embracing classical theories that can include a focus on formality as purposeful might be an especially useful step for researchers in exploring new emerging organizational phenomena.

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## Organized Creativity - Practices for Inducing and Coping with Uncertainty

The aim of this DFG-sponsored Research Unit (FOR 2161) is to examine different dimensions of uncertainty in several practice areas and investigate what role they play in creative processes in different contexts and over time. Therefore four different projects will be conducted in which the dynamics in both the music and pharma industries will be compared. The focus of all these projects will thereby be the creative process both in organizations and in interorganizational networks.

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### For further information

<http://www.wiwiss.fu-berlin.de/forschung/organized-creativity/>

Organized Creativity Discussion Paper

