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Why Partnerships in Ecosystems Fail – Towards a Construct of Cultural Values in Ecosystems

Completed Research Paper

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Abstract

Business Ecosystems are dynamic structures of interdependent actors who co-create value. Despite high interest, the networks remain poorly understood. Participants form partnerships to collaborate with each other, however, these partnerships are fragile. As a possible analytical lens for the success or failure of these partnerships, this study draws on cultural values. By combining value creation characteristics of business ecosystems with the available knowledge base of cultural values, the study develops an artifact which identifies ten crucial cultural values in business ecosystems. The construct functions as a compass of cultural values and helps organizations to anticipate potential issues and recalibrate accordingly. The artifact was developed in a consortium project following the design science research. The paper contributes to a better understanding of value creation and organizational culture in business ecosystems.

Keywords: Business Ecosystem, Value Co-Creation, Organizational Culture, Cultural Values

Introduction

Business ecosystems were studied since the early 1990s (Moore 1993) and interest grew significantly in recent years (Iansiti and Levien 2004; Jacobides et al. 2018). The concept describes dynamic network structures of autonomous, yet interdependent actors, who coordinate their activities towards a greater goal (Moore 1993). This network structure represents a unique organizational form of loosely coupled partnerships (Jacobides et al. 2018) where value is being co-created (Autio and Thomas 2018) by performing activities across the network with regard to a shared vision (Vargo and Lusch 2011).

There are studies available on how to participate in business ecosystems, for example from a strategic (Adner 2017; Jacobides et al. 2018) or technical perspective (Gawer and Cusumano 2014). Others aim at better understanding value creation, for example by providing insights on the different roles (Williamson and de Meyer 2012) or coordination activities (Helfat and Raubitschek 2018; Nambisan and Sawhney 2011). Thus researchers and practitioners spend time and effort to better understand why and how these complex networks function (Fuller et al. 2019; Jacobides et al. 2018) or why they fail (Pidun and Reeves 2020; Yoffie et al. 2019). However, the question “why business ecosystems fail” may be difficult to answer. Firstly, the metaphor describes network structures that are considered open systems (Post et al. 2007) and one single organization does not necessarily lead to the death of the whole ecosystem. Secondly, the concept rather abstractly describes the structures of relationships among the

different actors (Jacobides et al. 2018) and it remains unclear what it is that fails – a single organization (i.e. a platform company) or the whole system. A better object of analysis are partnerships between these autonomous yet interdependent actors. One important factor that determines success and failure of such a partnership is organizational culture (Sirmon and Lane 2004). It represents an underutilized perspective to analyze interorganizational collaboration (Weare et al. 2014). It was applied to explain a range of social behaviors and outcomes (Keesing 1974; Tushman et al. 1988), including firm performance (e.g. Gordon 1985), firm effectiveness (e.g. Denison and Mishra 2017), and merger and acquisition outcomes (e.g. Weber et al. 1996). Research has already identified organizational culture as an important factor in business ecosystems (Williamson and de Meyer 2012), however, there are no studies which conceptualize culture in the context of business ecosystem, yet.

Against this backdrop, the following study aims at contributing to the academic discussion by providing a construct of cultural values in business ecosystems. Therefore, the following research question is answered: **RQ: What are the cultural values on the organizational level in business ecosystems?** To answer this question, a research artifact, type construct, is developed following design science research (DSR). The next section will provide a review of the underlying conceptual ideas. Following, the research methodology will be outlined. The results section will present analysis and data collection and develop the artifact. After a discussion, a conclusion with limitations and an outlook is provided.

Theoretical Background

Business Ecosystems

The term ecosystem was borrowed from biology where it was first introduced in the early 1930s. It describes “an assemblage of organisms of different types (species, life forms) together with their abiotic environment in space and time” (Jax 2006, p. 240). Species in this system constantly exchange energy to meet their individual needs, thereby forming relationships among each other which produce a complex web of interdependencies. These network structures are considered open systems (Post et al. 2007), characterized by constant evolution. Certain species leaving or possibly (re-) invading the ecosystem, therefore continuously changing the system constituency over time (Begon et al. 2006).

In the business context, the metaphor was borrowed by Moore (1993) to describe how actors in different roles collaborate for a service to materialize. In this study, the term business ecosystem is defined as a dynamic structure of autonomous yet interdependent actors, who coordinate their activities towards a shared purpose to co-create value (Betz and Jung 2021). It describes a unique hybrid organizational form on the spectrum between market and hierarchy (Williamson and de Meyer 2012). Business ecosystem and ecosystem are henceforth used interchangeably. With its broad use, it remains difficult to work with a generally valid understanding of the term ecosystem. In addition, with the overall RQ aims at identifying values that are ecosystem specific. Therefore, various key characteristics were extracted from academic literature which will be used as a grid to identify relevant cultural values.

Ecosystems contain a **(A) shared value purpose** which acts as a reference point for the activities of the individual parties in their roles. It comprises an overall offering which consists of complementary activities (Adner 2017; Jacobides et al. 2018) and furthermore understands the beneficiary as an active part of the value creation process (Autio and Thomas 2018; Betz and Jung 2021). In contrast to a value proposition, the shared value purpose is more future oriented and addresses the dynamic nature (Fuller et al. 2019; Gawer and Cusumano 2014) of ecosystems. The single organizational entities are subject to **(B) multilateral relationships**, meaning that they are directly or indirectly connected to other parties in the network (Adner 2017). Additionally, with an increasing number of relationships and closer collaboration, interdependency also grows between the different parties (Helfat and Raubitschek 2018; Jacobides et al. 2018). Furthermore, ecosystems are characterized by **(C) value co-creation** which considers all parties as an active part of value creation (Autio and Thomas 2018). Several organizational entities or natural persons collaborate closely in order for the shared value purpose to materialize (Hein

et al. 2019; Jacobides et al. 2018). This is a result of an increasing modularity of services, where distinct service components can be created and combined by several parties without high coordination effort of the single elements (Baldwin and Clark 1997; Gawer and Cusumano 2014; Jacobides et al. 2018). Actors pursue **(D) different roles** in an ecosystem (Iansiti and Levien 2004; Moore 1993). There are various perspectives on archetypes of ecosystem roles available (Jacobides et al. 2018). While these roles perform specific functions within an ecosystem, they can do so in a highly autonomous manner with **(E) non-hierarchical control** (Adner 2017; Jacobides et al. 2018). That means that the actors have a large authority when it comes to production- or pricing decisions, of with whom they want to interact. Additionally, the hierarchical control of assets is distributed across the network, meaning that no single party controls all assets in the ecosystem (Jacobides et al. 2018). Coordination is facilitated largely with incentives by creating opportunities for others (Williamson and de Meyer 2012). Furthermore, ecosystems are characterized by **(F) shared rules and infrastructure**, certain elements which provide functional structure to enables interaction. This refers to an agreed upon set of norms and code of conduct which is oftentimes facilitated by platforms (Gawer and Cusumano 2014; McIntyre and Srinivasan 2017). It is important to distinguish between platforms (Gawer and Cusumano 2014) and ecosystems (Jacobides et al. 2018). A platform may be useful to facilitate transactions between different parties, but not every ecosystem requires a platform to function. Table 1 shows the six ecosystem characteristics.

With an apparent high complexity of ecosystems, one of the critical aspects to consider is organizational culture (Davidson et al. 2015). Organizational culture differs across entities and forms a potential breaking point for partnerships. It is important, however, to emphasize, that an ecosystem is not simply the same as the number of partnerships, it should be rather understood as a complex system. However, focusing on a single partnership may provide a manageable level of analytical complexity. The next section will elaborate on this important concept.

Organizational Culture

Few concepts in organizational theory have as many different and competing definitions as organizational culture including a myriad of varying conceptualizations, assumptions, and dimensions used to describe this construct (Straub et al. 2002). Ott (1989), for example, provides an integrated overview of different definitions of organizational culture and Sackmann (1992) discusses the central concepts used in various studies to describe organizational culture. Despite the ambiguity in existing definitions of this concept, there is broad agreement among scholars to distinguish between different conceptual levels of culture comprising explicit, observable cultural aspects such as norms and practices (Hofstede 1998) and implicit, less observable aspects such as beliefs and assumptions (Sackmann 1992). For this research endeavor, organizational culture is defined as a set of basic assumptions, values, and artifacts that are widely shared and held throughout an organization and reflected in behaviors and social norms of the members of an organization (Deal and Kennedy 1982; O'Reilly and Chatman 1996).

This definition is based on Schein's (2010) organizational culture model that describes both the less observable and more observable aspects of the culture construct. According to Schein (1985) culture can be analyzed on three interdependent levels based on their particular degree of visibility and consciousness – (i) basic assumptions; (ii) values; and (iii) artifacts. At the first level basic assumptions represent cognitive structures or interpretive schemes that individuals use to perceive situations and to interpret events, activities, and human relationships (Van Maanen and Barley 1985; Reichers and Schneider 1990). These unconscious elements of culture are formed over time as members of a group develop patterns to cope with problems and pass along these approaches to new members, thereby constituting the basis for collective action (Van Maanen and Barley 1985). At the second level, culture is manifested through values that comprise espoused beliefs defining what is important to members of a group (Schein 2010). In the organizational context, values form the foundation for organizational culture and provide the basis for appropriate behavior of members within an organization (Deal and Kennedy 1982). At the third level, artifacts are the most visible manifestations of culture representing

the directly observable elements of this concept and including aspects such as technology, symbols as well as myths, language, rituals, and ceremonies (Pettigrew 1979).

In organizational culture research, values have been characterized as the predominant theoretical approach to conceptualize the culture construct (e.g. Ferris et al. 1998; Posner et al. 1985) and used as a proxy for measuring organizational culture (Dobni et al. 2000). Schein (2010), for instance, argues that values are both more accessible than basic assumptions, which are invisible and preconscious and therefore not easily studied and more reliable than artifacts that are, while being most visible, are not easily decipherable in terms of their underlying cultural meanings. In organizational settings certain artifacts, such as rituals are not culturally neutral and may symbolize a variety of different values formed by underlying assumptions, thereby their unambiguous informative value is limited (Coombes et al. 1992). Although basic assumptions are at the core of the culture construct, they are merely impossible to observe since they represent taken-for-granted beliefs that determine perceptions, thoughts, and feelings of individuals (Schein 2010). To be consistent with the predominant approach to studying culture in organizational contexts, this study will adopt a value-based perspective on culture.

Values can be seen as social norms that define the unwritten standards for social interaction through which members of a social group act and communicate (Keesing 1974; De Long and Fahey 2000). These social norms have an impact on behavior and judgements of firm members through setting the boundaries of appropriate behavior (O'Reilly and Chatman 1996). Complementary to this aspect, organizational values are collective beliefs about the organizational purpose and hence provides a bonding mechanism between people to set the context for environmental interaction and alignment towards common goals (Schein 2010). Thus, organizational values have a significant impact on organizational identity and behavior standards for organizational actions (Meglino and Ravlin 1998).

In the context of both mergers and acquisitions and joint venture studies, researchers have generally argued that organizational culture represented by values constitutes a key factor concerning the success of partnerships between organizations (e.g. Pothukuchi et al. 2002). According to Cartwright & Cooper (1993) many organizational alliances fail to meet expectations because the cultures of the partnering organizations are incompatible. Consequently, the degree of cultural fit that exists between partnering organizations is likely to be directly correlated to the success of the partnership (Cartwright and Cooper 1993). Therefore, values as a proxy for organizational culture may be particular useful in explaining which cultural factors determine the success or failure of partnerships in ecosystems.

Research Methodology

Design Science Research

The objective is to extend the understanding of partnerships in ecosystems. While the impact of social culture on ecosystems has been investigated (Rong et al. 2018), only few insights are available on the impact of organizational culture in the context of partnerships in business ecosystems. This study addresses a practical problem, namely, to anticipate potential cultural issues when forming partnerships in such ecosystems. With a practical problem at hand, this study combines multiple sources of data and insights from both theory and practice, and therefore follows the design science research (DSR) approach (Hevner et al. 2004; March and Smith 1995). The practical problem is addressed by developing a research artifact of the type construct which can be understood as a description of the phenomenon at hand and providing a shared vocabulary and knowledge to generate a solution (March and Smith 1995).

This research is embedded in a consortia project (Oesterle and Otto 2010). The consortium consists of 16 companies from the banking industry, e.g. smaller and mid-sized regional banks and one large universal bank and mid-sized financial services software providers from Switzerland, Austria, and Germany. The researchers work together with 40 company representatives and meet regularly for workshops and virtual working group meetings. This research was conducted during June 2020 and February

2021. Due to the Corona-pandemic, two virtual workshops were conducted (Nov. 2020, Feb. 2021) and two physical workshops took place under safety regulations (June 2020, Sept. 2020). Additionally, regular virtual working group meetings were established between the workshops for one hour each via Microsoft Teams. A subgroup of the consortium consisting of 8-10 company representatives took part in these meetings. These practitioners have a particular interest in ecosystems due to their function within their company, such as “Head of API Strategy and Ecosystems” of a universal bank and “Product Manager Ecosystem” of a software company. Figure 1 shows the interaction with the company representatives on a timeline.

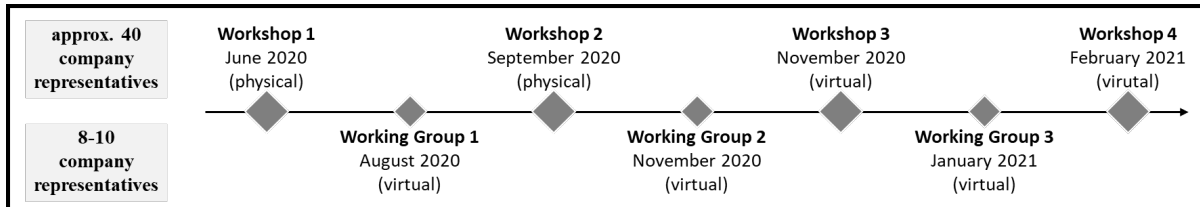


Figure 1. Interaction with company representatives

The researchers followed the six-step process model for DSR proposed by Peffers et al. (2007) (see figure 2). The process starts with the problem identification in the respective research domain in **step 1**. The researchers used academic literature and insights from discussions with practitioners to provide input to the understanding of the problem space. During **step 2**, the objectives that characterize a possible solution were formulated. This was done during the workshops together with the research consortium by describing how the intended artifact is expected to support the solution for the problem at hand. During **step 3**, the researchers determined the desired functionality of the artifact and started with its design. The research question was approached by combining two building blocks: business ecosystem characteristics and cultural values. In close collaboration with the practitioners, six characteristics for ecosystems have been developed. Building on that, the researchers included insights from organizational theory and enriched the construct with the cultural value dimension. Together with the practitioners, the artifact has been refined until it reached a sufficient stability. In **step 4**, the design solution was demonstrated to and discussed with the practitioners during interviews, in which the construct was applied to real-life situations in interviews. During **step 5**, the artifact was evaluated using the evaluation criteria of Sonnenberg and vom Brocke (2012), that were applied in a questionnaire. In **step 6**, the final solution was presented in the last workshop in February 2021 with the aim to diffuse the artifact within the practitioners’ organizations (Oesterle and Otto 2010).

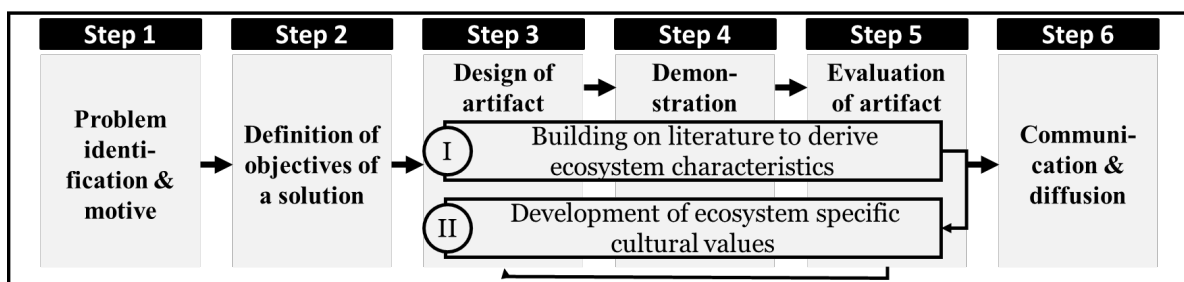


Figure 2. Research steps based on process model of Peffers et al. (2007)

Research Iterations in Steps 3, 4 and 5

After the problem statement were validated and the solution was specified, the researchers aimed at developing the ecosystem characteristics. To achieve this, a literature review was used to identify properties of ecosystems in the context of relationships, value creation logic, and other relevant concepts. EBSCO, ABI/INFORM, and Emerald have been used as databases. Additionally, backward and forward research were conducted (Webster and Watson 2002). After initial title and abstract screening, 40 peer reviewed papers have been analyzed in detail. Several items were identified and aggregated in an initial

list. This list was shared with practitioners in September 2020 in a one-hour input presentation followed by a discussion in break out groups. In further iterations, the list was jointly refined. The final list with six characteristics was presented in November 2020 to the practitioners and jointly refined.

Based on the previous results, the construct was enriched with the organizational culture dimension. A literature review was conducted analogously to the above-described process. After initial title and abstract screening, 32 peer reviewed papers were analyzed in detail and revealed numerous cultural values of varying granularity. The combination with the ecosystem characteristics was crucial at this point. To generate a list of ecosystem-specific cultural values, the researchers used a pair-coding approach similar to Proba & Jung (2019) according to which two researchers work separately on the problem at the same time. They examined the items, removed duplicates, and allocated them to the specific ecosystem characteristics. The findings were compared and discussed. In case the researchers individually reached different conclusions regarding the allocation of the cultural values, they resolved the issue together and developed a single, integrated list of organizational values according. The result of this process was shared with the practitioners in a one-hour input presentation in November 2020 followed by discussions in break out groups. In a further iteration, the list was refined, and the items were aggregated.

In addition, the list of ecosystem-specific values was applied in interviews. The final list of ten items has been presented in February 2021 to the practitioners and evaluated using the approach of Sonnenberg & vom Brocke (2012). The evaluation criteria were *completeness, ease of use, elegance, simplicity, and understandability*. A Likert-scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used.

Analysis

Step 1: Problem Identification

Insights from academia emphasize the importance of close collaboration. Strategic decisions must be made while considering others' interests (Adner 2017; Jacobides et al. 2018) and collaboration processes must be designed so that important information is available to others (Autio and Thomas 2018; Gawer and Cusumano 2014). Furthermore, activities must incorporate incentives for others to contribute (Jacobides et al. 2018; Nambisan and Sawhney 2011). For all of these aspects, a suitable organizational culture plays a crucial role (Davidson et al. 2015). Nevertheless, culture is difficult to measure, however, cultural values functions as proxy (O'Reilly and Chatman 1996) to better understand inter-organizational partnerships in ecosystems. Thus, ecosystem-specific cultural values must be identified.

During the meetings with the experts, the initial research hypothesis was backed. "Ecosystems can put an organization in a position of uncertainty with the constant need to interact with a changing environment. This is something the organization must be prepared to do", one practitioner said. While formal organizational structures are one aspect to cope with uncertainty, organizational culture is another. "Companies form close partnerships in ecosystems, where they leverage each other's skills" says another expert. The discussions revealed that how these partnerships are formed, maintained, and refined take a share in the success of ecosystems. "Culture may be the crucial breaking point among different organizations", one practitioner said. In summary, the research objective of developing a vocabulary of ecosystem specific cultural values, is supported from both academic and practitioners' perspective.

Step 2: Objectives of Solution

In this step, the researchers conceptualized, how a possible solution to this overall research goal should look like. During the research and the discussions with practitioners, three requirements were identified.

1. A set of ecosystem characteristics is necessary which provides a specific contextual setting. The unique organizational structure of ecosystems must be reflected in these characteristics.
2. Cultural values are used as a proxy to analyze organizational cultures of an organization. Cultural values are mapped with the ecosystem characteristics to form ecosystem-relevant values.

3. A comparable aggregation level of ecosystem characteristics and cultural values must be ensured. The items must be aggregated to an appropriate level to ensure understandability and usability.

Step 3: Design of Artifact

Initially, the researchers used the conceptual ideas from the literature review (see section theoretical background). In the academic literature, various unique ecosystem characteristics have been identified. These have been gathered as sub-components and aggregated together with the practitioners. The final list of ecosystem characteristics (A-F) including the respective sub-characteristics is shown in table 1.

ID	Aggr. char.	Sub characteristics
A	Alignment with a shared value purpose	Different actors contribute to an overall value proposition in the ecosystem (Adner 2017; Autio and Thomas 2018; Moore 1993)
		A vision is shared among the participants towards which they direct their activities (Gawer and Cusumano 2014; Nambisan and Sawhney 2011)
		The purpose and the resulting actions are dynamically changing over time (Adner 2017; Williamson and de Meyer 2012)
B	Multilateral relationships	The actors develop and maintain links to several parties (Adner 2017; Autio and Thomas 2018; Jacobides et al. 2018)
		The relationships of partners are characterized by high interdependency (Helfat and Raubitschek 2018; Kapoor and Lee 2013)
C	Value Co-creation	Beneficiary is an active part of the value creation (Vargo and Lusch 2011)
		The ecosystem offering comprises complementary products and services (Hein et al. 2019; Jacobides et al. 2018)
		A degree of modularity of components (i.e. modular architecture) is necessary (Baldwin and Clark 1997; Gawer and Cusumano 2014)
D	Actors in different roles	Actors contribute to the overall ecosystem by pursuing different roles (Iansiti and Levien 2004; Jacobides et al. 2018)
		Each role is characterized by needs and individual interests (Adner 2017; Muegge 2013; Nambisan and Sawhney 2011)
E	Non-hierarchical control	The individual actors autonomously perform their activities (Autio and Thomas 2018; Jacobides et al. 2018)
		Single actors do not have full hierarchical control over all assets or capabilities (Adner 2017; Betz and Jung 2021; Jacobides et al. 2018)
F	Shared rules & infrastructure	Common architecture for interaction (Gawer and Cusumano 2014)
		Common norms & rules guide others (den Hartigh and van Asseldonk 2004)

Table 1: Aggregated characteristics and sub-characteristics of business ecosystems

During a second literature review, cultural values were identified. Based on the above-described methodology, a set of 27 cultural values were gathered using the pair coding technique. The single cultural values were aggregated into a list of 10 values. Table 2 shows the results of this aggregation process and the corresponding single organizational value items including references.

ID	Aggr. cultural values	Explanation	Single cultural values
1	Consistency of purpose and goals	Having a shared vision, uniform beliefs, and commitment to accomplish common goals with partners.	Mission (Denison and Mishra 2017)
			Common goals (O'Reilly 1989)
			Community orientation (Hofstede 1991)
2	Innovative adaptability	The capacity to constantly challenge status quo to create or capture new opportunities.	Innovation (O'Reilly 1989)
			Adaptability (Denison and Mishra 2017)
3	Partnering attitude	Emphasizing partnerships with others and supporting partner's active involvement.	Cooperation (Enz 1986)
			Partner involvement (Vurro et al. 2010)
4	Collaborative engagement	Willingness to actively contribute resources in partnerships and to emphasizing customer needs.	Customer focus (Hofstede 1991)
			Collaboration focus (Vurro et al. 2010)
5	Interorganizational openness	Having a collaborative attitude towards partner's ideas and an open communication beyond organizational boarders.	Constructive (Cooke and Lafferty 1987)
			Openness (Dobni et al. 2000)
			Partnering commitment (Austin 2010)
			Impartiality (Van Der Wal and Huberts 2008)
			Supportiveness (Wallach 1983)
6	Partner supportiveness	Promoting partner's welfare, knowledge, and opportunities.	Supportiveness (Wallach 1983)
			Benevolence (Schwartz 1992)
7	Identity creation	Creating a unique identity as a company and establish ownership among the company's members.	Company identity (Dobni et al. 2000)
			Group (Quinn 1988)
			Involvement (Denison and Mishra 2017)
8	Self-directed and autonomous actions	Executing independent actions to create and capture value.	Self-direction (Schwartz 1992)
			Adhocracy (Cameron and Quinn 2006)
			Autonomy (O'Reilly 1989)
9	Task orientation	Focus on the completion of own tasks to contribute to the achievement of common goals.	Value orientation (Hofstede 1991)
			Job orientation (Hofstede 1991)
10	Needs and norm orientation	Respecting partners' interests, norms, and expectations.	Security (Schwartz 1992)
			Partner satisfaction (Vurro et al. 2010)

Table 2: Aggregated cultural values and single cultural values

The presented in tables 1 and 2 have been consolidated: The inner circle reflects the ecosystem characteristics (A-F) and the outer circle reflects the corresponding cultural values (1-10) (figure 3).

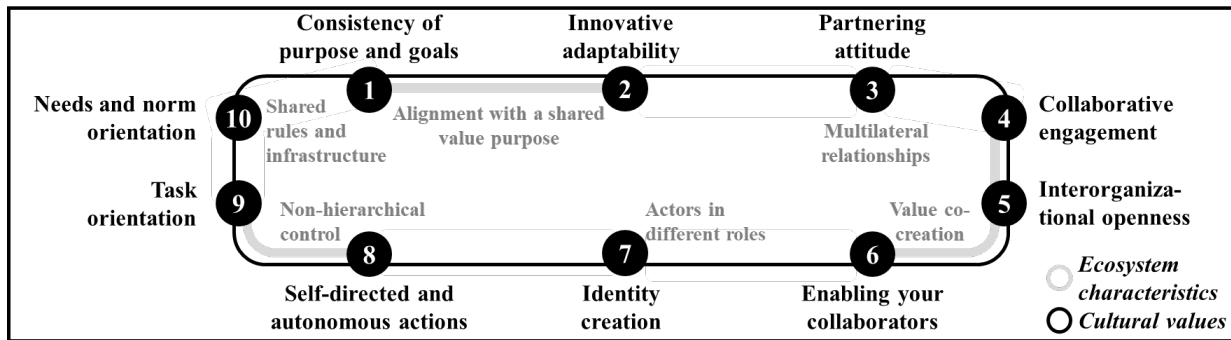


Figure 3: Final artifact: ecosystem characteristics & corresponding cultural values

Step 4: Demonstration

The final artifact (figure 3) was used with practitioners in interviews as a conceptual grid to discuss their experience from working on external partnerships. Along the dimensions of the artifact, we pinpointed difficulties in these external relationships. For the practitioners, this artifact is understood as a “compass of culture”. They confirm that a template to anticipate potential challenges is useful. (1) constitutes the necessity to consider the overall ecosystem offering instead of only a firm’s own service, as one practitioner says, while the constant review of activities ensures the alignment within the ecosystem (2). The construct also emphasizes that the individual strengths of multiple partners (3). However, it requires alignment of collaborative engagement, roles and responsibilities and the management of expectations (4). Openness (5) means that all parties should embrace other opinions and ideas. This emphasizes the attitude of collective learning, as new information might lead to adjustments in the network, one practitioner states. (6) ensures the inclusion of others so that the ecosystem can evolve steadily. This also means using constructive criticism. (4), (5), and (6) are of high significance as they promote trust in a partnership. Organizations must accept that not everything can and should be controlled. (7) states that while knowing that others help and contribute, a focus on one’s own strengths is necessary. (8) and (9) emphasize that given partners’ knowledge on the strengths of each other, one party cannot control all the activities: they will act autonomously to some extent. This goes hand in hand with a high level of trust, as described above. (10) describes the definition of shared rules to meet each party’s expectations. Overall, the construct functions as a comprehensive mind map towards a co-creation attitude and identifies cultural pitfalls when establishing and maintaining partnerships in ecosystems.

Step 5: Evaluation

A survey was distributed to practitioners with expertise in ecosystems, either due to their current job description and organizational functions or because they are part of the original research consortium.

Criteria	Ave	StD	Comments from participants (excerpt)
Completeness	5.34	0.87	“The values and their descriptions are complete, but context might be needed to understand some of them due to complexity”
Ease of use	5.66	1.10	“The ease of use depends on the knowledge level of the target audience and could be improved by providing examples for values”
Elegance	5.44	0.88	“For a clearer depiction it should be noted that the artifact consists of stand-alone values that are not built on each other”
Simplicity	5.72	0.92	“The simplicity of the artifact could be enhanced by an introductory description for a person having no expert knowledge”
Understandability	5.63	0.94	“An in-depth explanation is needed to understand the exact meaning of the organizational values”
<i>Ave: average; StD: standard deviation; number of participants n=32</i>			

Table 3: Evaluation of research artifact according to Sonnenberg & vom Brocke (2012)

The construct was evaluated on a Likert scale from 1 to 7 in five dimensions. All dimensions are supported on average. Dimensions two, four, and five show an average above 5.5, which confirms the research results. Dimensions one and three reveal an average below 5.5, yet still indicating a tendency for acceptance, even though less strong. Standard deviation is below 1 in all dimensions, except dimension two. There is one outlier in this dimension (3 on the scale), with 59% voting either *strongly agree* or *agree*. Concluding, the overall results are confirmed by the experts (see table 3).

Step 6 Communication

The results have been presented to the practitioners in the consortium in a one-hour presentation. In this presentation the findings were discussed, and the results were made available to all parties. Additionally, presentations in the respective organizations were planned to support the diffusion of the results.

Discussion

In this study, we argue that to understand the success and failure of partnerships in ecosystems, organizational culture plays, among others, a crucial role. (Davidson et al. 2015; Williamson and de Meyer 2012). The concept of organizational culture consists of three levels: (i) basic assumptions; (ii) values; and (iii) artifacts. While basic assumptions are invisible and preconscious, artifacts are most visible, however, not easily decipherable. This study therefore focused on cultural values as an analytical proxy.

For the first ecosystem characteristic **(A) shared value purpose**, the research process revealed two distinct cultural values: **(1) consistency of purpose and goals** and **(2) innovative adaptability**. The first value describes the ability to follow a shared purpose which lies beyond one's own organizational boundaries. Ecosystems, with their high degree of interdependencies, are dynamic structures and the participants influence each other constantly. This requires the ability to constantly change and innovate for the purpose to materialize. The second characteristic **(B) multilateral relationships** requires a strong **(3) partnering attitude**. It describes the ability to form and maintain partnerships and to promote other partners' active involvement. The third ecosystem characteristic **(C) value co-creation** revealed three aggregated cultural values: **(4) collaborative engagement** **(5) interorganizational openness**, and **(6) partner supportiveness**. Collaborative engagement describes the willingness to actively contribute resources and capabilities and to let others participate from one's own success. Compared to **(3)**, it emphasizes the actual doing versus an attitude (e.g. by using collaborative processes). Interorganizational openness describes the ability to reflect on own actions and to share information. It comprises a degree of curiosity and willingness for compromise if necessary. Partner supportiveness means that others must be empowered and supported to ensure one's own success. The fourth ecosystem characteristic **(D) actors in different roles** revealed the cultural value **(7) identity creation**. It describes the ability, despite a common purpose and the co-creation setting, to define the role the organization plays in an ecosystem and to be aware of one's own contribution. For the fifth characteristic **(E) non-hierarchical control** two distinct values have been identified: **(8) self-directed and autonomous actions** and **(9) task orientation**. Self-directed and autonomous actions describe the ability to take control over one's own activities. It also means to be able to give up some degree of responsibility and to acknowledge that other parties perform their activities according to their abilities. Task orientation means that organizations have to focus on their activities and make sure that they are performed appropriately (division of work into specialized components). This goes hand in hand with **(8)**. The sixth ecosystem characteristic **(F) shared rules & infrastructure** shows the last cultural value **(10) needs and norm orientation**. This item describes the ability to understand others' interests, shared norms which facilitate interaction across the organizations. The interviews with the participating experts revealed, that questions arise, what organizational culture promote successful participation in ecosystems. Practitioners, for example in innovation or business development teams can use this compass to figure out, if there might be gaps in their own organizational culture which could reduce the probability of

success when participating in ecosystems. It could also help to identify potential mitigation measures, for example the right collaborative tools or communication styles to establish an “ecosystems culture”.

Conclusion

This study addresses the RQ by developing a construct of ecosystem characteristics and corresponding cultural values on the organizational level. It was developed according to DSR and represents a compass to identify and analyze organizational values. The paper makes three primary contributions to research. First, it contributes to the ecosystem literature by highlighting different ecosystem characteristics as an analytical frame. Second, it identifies crucial cultural values for partnerships in ecosystems. Our findings provide an analytical proxy, why such partnerships in ecosystems may fail. It is important to distinguish partnerships from business ecosystems, however, we believe the focus on single partnerships provides a suitable analytical angle with manageable complexity. The construct functions as a compass which can be used to anticipate challenges and to identify mitigation measures. Through our pair-coding approach of ecosystem characteristics and cultural values, we identify specific values in the ecosystem context. Thirdly, this study provides prescriptive knowledge in terms of Gregor’s (2007) design theory, namely (i) an analysis of the problem space, (ii) principles of form and function, and (iii) justificatory knowledge. In addition, there are two practical implications. First, the presented construct provides a valuable analytical lens for practitioners to examine the cultural readiness of their own organization to participate in ecosystems or to investigate possible cultural distance in terms of differing values between their own and other organizations. Second, based on the compass, organizations may be able to identify mitigation measures and to develop strategies to anticipate problems before they appear.

The first limitation concerns the analytical perspective on cultural values as a possible breaking point of ecosystems. We argued that the question “why ecosystems fail” might be formulated to broadly and more analytical focus is necessary. While cultural values might be one issue when participating in ecosystems, it might be not enough to explain, why whole ecosystems fail. Secondly, the study draws on the existing body of organizational culture and ecosystem literature. Cultural values were identified in the context of existing ecosystem characteristics. However, other cultural values might emerge in these ecosystems. Thirdly, the study was part of a consortium research with organizations from financial services. Generalizability regarding other industries requires further investigation.

The first opportunity for future research targets at the identification of additional nascent cultural values in organizations. In this context, both academia and practice would benefit from tools to analyze cultural values in an organization and to find future mitigation approaches of risks. The second research opportunity lies around business ecosystems itself. With no overarching theory available at this point, both academia and practice would benefit from suitable tools to analyze value creation activities, which may in turn be helpful to better understand how organizations interact. The third research opportunity lies in the identification of other potential factors which determine the success and failure of partnerships in business ecosystems, such as differences in strategic alignment or unsuitable governance structures.

References

- Adner, R. 2017. “Ecosystem as Structure: An Actionable Construct for Strategy,” *Journal of Management* (43:1), pp. 39–58. (<https://doi.org/10.1177/0149206316678451>).
- Austin, J. E. 2010. *The Collaboration Challenge: How Nonprofits and Businesses Succeed Through Strategic Alliances*, John Wiley & Sons.
- Autio, E., and Thomas, L. D. W. 2018. “Ecosystem Value Co-Creation,” in *Academy of Management Annual Meeting Proceedings*, pp. 1–30. (<https://doi.org/10.5465/AMBPP.2018.15913abstract>).
- Baldwin, C. Y., and Clark, K. B. 1997. “Managing in an Age of Modularity,” *Harvard Business Review* (1997).
- Begon, M., Townsend, C. R., and Harper, J. L. 2006. *Ecology: From Individuals to Ecosystems*, (4th Editio.), Malden, MA: Wiley-Blackwell.

- Betz, C., and Jung, R. 2021. "Conceptualizing and Analyzing Business Ecosystem Service Offerings," *Proceedings of the 54th Hawaii International Conference on System Sciences | 2021*, pp. 6123–6132.
- Cameron, K. S., and Quinn, R. E. 2006. *Diagnosing And Changing Organizational Culture*, (Third Edit.).
- Cartwright, S., and Cooper, C. L. 1993. "The Role of Culture Compatibility in Successful Organizational Marriage," *Academy of Management Executive* (7:2), pp. 57–70. (<https://doi.org/10.5465/ame.1993.9411302324>).
- Cooke, R. A., and Lafferty, J. C. 1987. *Organizational Culture Inventory*, Plymouth, MI.
- Coombs, R., Knights, D., and Willmott, H. C. 1992. "Culture, Control and Competition; Towards a Conceptual Framework for the Study of Information Technology in Organizations," *Organization Studies* (13:1), pp. 51–72. (<https://doi.org/10.1177/017084069201300106>).
- Davidson, S., Harmer, M., and Marshall, A. 2015. "Strategies for Creating and Capturing Value in the Emerging Ecosystem Economy," *Strategy and Leadership* (43:2), pp. 2–10. (<https://doi.org/10.1108/SL-01-2015-0003>).
- Deal, T. E., and Kennedy, A. A. 1982. *Corporate Cultures: The Rites and Rituals of Corporate Life*, Reading, MA: Addison-Wesley.
- Denison, D. R., and Mishra, A. K. 2017. "Toward a Theory of Organizational Culture and Effectiveness," *Organization Science* (6:2), pp. 204–223.
- Dobni, D., Brent Ritchie, J. R., and Zerbe, W. 2000. "Organizational Values: The Inside View of Service Productivity," *Journal of Business Research* (47), pp. 91–107. ([https://doi.org/10.1016/S0148-2963\(98\)00058-7](https://doi.org/10.1016/S0148-2963(98)00058-7)).
- Enz, C. A. 1986. *Power and Shared Values in the Corporate Culture*, Ann Arbor, MI: UMI Research Press.
- Ferris, G. R., Arthur, M. M., Berkson, H. M., Kaplan, D. M., Harrell-Cook, G., and Frink, D. D. 1998. "Toward a Social Context Theory of the Human Resource Management-Organization Effectiveness Relationship," *Human Resource Management Review* (8:3), pp. 235–264. ([https://doi.org/10.1016/s1053-4822\(98\)90004-3](https://doi.org/10.1016/s1053-4822(98)90004-3)).
- Fuller, J., Jacobides, M. G., and Reeves, M. 2019. "The Myths and Realities of Business Ecosystems," *MIT Sloan Management Review*. (<https://mitsmr.com/2Nt8fmC>).
- Gawer, A., and Cusumano, M. A. 2014. "Industry Platforms and Ecosystem Innovation," *Journal of Product Innovation Management* (31:3), pp. 417–433. (<https://doi.org/10.1111/jpim.12105>).
- Gordon, G. G. 1985. "The Relationship of Corporate Culture to Industry Sector And Corporate Performance," in *Gaining Control of the Corporate Culture*, R. H. Kilmann, M. J. Saxton, and R. Serpa (eds.), San Francisco: Jossey-Bass, pp. 103–126.
- Gregor, S., and Jones, D. 2007. "The Anatomy of a Design Theory," *Journal of the Association for Information Systems* (8:5), pp. 312–335. (<http://aisel.aisnet.org/jais/vol8/iss5/1/>).
- den Hartigh, E., and van Asseldonk, T. 2004. "Business Ecosystems: A Research Framework for Investigating the Relation Between Network Structure, Firm Strategy, and the Pattern of Innovation Diffusion," in *ECCON 2004 Annual Meeting*, pp. 1–38.
- Hein, A., Weking, J., Schreieck, M., Wiesche, M., Böhm, M., and Krcmar, H. 2019. "Value Co-Creation Practices in Business-to-Business Platform Ecosystems," *Electronic Markets*, Electronic Markets. (<https://doi.org/10.1007/s12525-019-00337-y>).
- Helfat, C. E., and Raubitschek, R. S. 2018. "Dynamic and Integrative Capabilities for Profiting from Innovation in Digital Platform-Based Ecosystems," *Research Policy* (47:8), Elsevier, pp. 1391–1399. (<https://doi.org/10.1016/j.respol.2018.01.019>).
- Hevner, A. R., March, S. T., and Park, J. 2004. "Design Science in Information Systems Research," *MIS Quarterly* (28:1), pp. 75–105. (<https://doi.org/10.2307/25148625>).
- Hofstede, G. 1991. *Cultures and Organizations: Software of the Mind*, New York, USA: McGraw-Hill.
- Hofstede, G. 1998. "Identifying Organizational Subcultures: An Empirical Approach," *Journal of Management Studies* (35:1), pp. 1–12. (<https://doi.org/10.1111/1467-6486.00081>).
- Iansiti, M., and Levien, R. 2004. "Strategy as Ecology," *Harvard Business Review* (82:3), pp. 1–11.
- Jacobides, M. G., Cennamo, C., and Gawer, A. 2018. "Towards a Theory of Ecosystems," *Strategic Management Journal* (39:8), pp. 2255–2276. (<https://doi.org/10.1002/smj.2904>).
- Jax, K. 2006. "Ecological Units: Definitions and Application," *The Quarterly Review of Biology* (81:3),

- pp. 237–258.
- Kapoor, R., and Lee, J. M. 2013. “Coordinating and Competing in Ecosystems: How Organizational Forms Shape New Technology Investments,” *Strategic Management Journal* (34:3), pp. 274–296. (<http://10.0.3.234/smj.2010>).
- Keessing, R. M. 1974. “Theories of Culture,” *Annual Review of Anthropology* (3), pp. 73–97. (<https://doi.org/doi:10.1146/annurev.an.03.100174.000445>).
- De Long, D. W., and Fahey, L. 2000. “Diagnosing Cultural Barriers to Knowledge Management,” *Academy of Management Executive* (14:4), pp. 113–127. (<https://doi.org/10.5465/ame.2000.3979820>).
- Van Maanen, J., and Barley, S. R. 1985. “Cultural Organization: Fragments of a Theory,” in *Organizational Culture*, P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, and J. Martin (eds.), London, UK: Sage Publications Inc., pp. 31–54.
- March, S. T., and Smith, G. F. 1995. “Design and Natural Science Research on Information Technology,” *Decision Support Systems* (15:4), pp. 251–266. ([https://doi.org/10.1016/0167-9236\(94\)00041-2](https://doi.org/10.1016/0167-9236(94)00041-2)).
- McIntyre, D. P., and Srinivasan, A. 2017. “Networks, Platforms, and Strategy: Emerging Views and Next Steps,” *Strategic Management Journal* (38:1), pp. 141–160. (<https://doi.org/10.1002/smj.2596>).
- Meglino, B. M., and Ravlin, E. C. 1998. “Individual Values in Organizations: Concepts, Controversies, and Research,” *Journal of Management* (24:3), pp. 351–389. (<https://doi.org/10.1177/014920639802400304>).
- Moore, J. F. 1993. “Predators and Prey: A New Ecology of Competition,” *Harvard Business Review* (71:3), pp. 75–86. (<http://blogs.law.harvard.edu/jim/files/2010/04/Predators-and-Prey.pdf>).
- Muegge, S. 2013. “Platforms, Communities, and Business Ecosystems: Lessons Learned about Technology Entrepreneurship in an Interconnected World,” *Technology Innovation Management Review* (3:2), pp. 5–15. (<https://doi.org/10.22215/timreview655>).
- Nambisan, S., and Sawhney, M. 2011. “Orchestration Processes in Network-Centric Innovation: Evidence From the Field,” *Academy of Management Executive* (25:3), pp. 40–57. (<https://doi.org/10.5465/AMP.2011.63886529>).
- O’Reilly, C. 1989. “Corporations, Culture, and Commitment: Motivation and Social Control in Organizations,” *California Management Review* (31:4), pp. 9–25. (<https://doi.org/10.2307/41166580>).
- O’Reilly, C. A., and Chatman, J. A. 1996. “Culture as Social Control: Corporations, Cults, and Commitment,” *Research in Organizational Behavior* (Vol. 18).
- Oesterle, H., and Otto, B. 2010. “Consortium Research,” *Business & Information Systems Engineering* (2:5), pp. 283–293. (<https://doi.org/10.1007/s12599-010-0119-3>).
- Ott, J. S. 1989. *The Organizational Culture Perspective*, Pacific Grove, CA 1989: Brooks/Cole Publishing.
- Peppers, K., Tuunanen, T., Rothenberger, M. A., and Chatterjee, S. 2007. “A Design Science Research Methodology for Information Systems Research,” *Journal of Management Information Systems* (24:3), pp. 45–77. (<https://doi.org/10.2753/MIS0742-1222240302>).
- Pettigrew, A. M. 1979. “On Studying Organizational Cultures,” *Administrative Science Quarterly* (24:4), pp. 570–581.
- Pidun, U., and Reeves, M. 2020. “Why Do Most Business Ecosystems Fail?”
- Posner, B., Kouzes, J. M., and Schmidt, W. H. 1985. “Shared Values Make a Difference: An Empirical Test of Corporate Culture,” *Human Resource Management Journal* (24:3), pp. 293–309. (<http://dx.doi.org/10.1016/j.jaci.2012.05.050>).
- Post, D. M., Doyle, M. W., Sabo, J. L., and Finlay, J. C. 2007. “The Problem of Boundaries in Defining Ecosystems: A Potential Landmine for Uniting Geomorphology and Ecology,” *Geomorphology* (1-2 SPEC. ISS.), pp. 111–126. (<https://doi.org/10.1016/j.geomorph.2006.07.014>).
- Pothukuchi, V., Damapour, F., Choi, J., Chen, C. C., and Ho Park, S. 2002. “National and Organizational Culture Differences and International Joint Venture Performance,” *Journal of International Business Studies* (33:2), pp. 243–265. (<https://doi.org/10.1057/palgrave.jibs.8491015>).
- Proba, D., and Jung, R. 2019. “Defining Situational Characteristics for Situational Agile Method

- Engineering,” *25th Americas Conference on Information Systems, AMCIS 2019*, pp. 1–10.
- Quinn, R. E. 1988. *Beyond Rational Management: Mastering the Para Doxes and Competing Demands of High Performance*, San Francisco: Jossey Bass.
- Reichers, A. E., and Schneider, B. 1990. “Climate and Culture: An Evolution of Constructs,” in *Organizational Climate and Culture*, B. Schneider (ed.), San Francisco: Jossey-Bass, pp. 5–39.
- Rong, K., Secchi, D., and Shou, Y. 2018. “Culture, Trust and Business Ecosystems: The Mediating Role of Online Chat in China.,” *International Journal of Mobile Communications* (16:3), pp. 247–265. (<http://10.0.5.224/IJMC.2018.10003824>).
- Sackmann, S. A. 1992. “Culture and Subcultures: An Analysis of Organizational Knowledge,” *Administrative Science Quarterly* (37:1), pp. 140–161.
- Schein, E. H. 1985. “How Culture Forms, Develops and Changes,” in *Gaining Control of the Corporate Culture*, R. H. Kilmann, M. J. Saxton, and R. Serpa (eds.), San Francisco: Jossey-Bass, pp. 17–43.
- Schein, E. H. 2010. *Organizational Culture and Leadership*, (Fourth Edi.), San Francisco, CA: John Wiley & Sons, Inc.
- Schwartz, S. H. 1992. “Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries,” *Advances in Experimental Social Psychology* (25:C), pp. 1–65. ([https://doi.org/10.1016/S0065-2601\(08\)60281-6](https://doi.org/10.1016/S0065-2601(08)60281-6)).
- Sirmon, D. G., and Lane, P. J. 2004. “A Model of Cultural Differences and International Alliance Performance,” *Journal of International Business Studies* (35:4), pp. 306–319. (<https://doi.org/10.1057/palgrave.jibs.8400089>).
- Sonnenberg, C., and vom Brocke, J. 2012. “Evaluations in the Science of the Artificial – Reconsidering the Build-Evaluate Pattern in Design Science Research,” *Advances in Theory and Practice. Proceedings of the 7th DESRIST Conference Las Vegas, NV, USA (7286)*, pp. 381–397. (<https://doi.org/10.1007/978-3-642-29863-9>).
- Straub, D., Loch, K., Evaristo, R., Karahanna, E., and Srite, M. 2002. “Toward a Theory-Based Measurement of Culture,” *Journal of Global Information Management* (10:1), pp. 13–23.
- Tushman, M. L., Newman, W. H., and Nadler, D. A. 1988. “Executive Leadership and Organizational Evolution: Managing Incremental and Discontinuous Change,” in *Jossey-Bass Management Series. Corporate Transformation: Revitalizing Organizations for a Competitive World*, R. H. Kilmann and T. J. Covin (eds.), Jossey-Bass, pp. 102–130.
- Vargo, S. L., and Lusch, R. F. 2011. “It’s All B2B... and Beyond: Toward a Systems Perspective of the Market,” *Industrial Marketing Management* (40:2), Elsevier Inc., pp. 181–187. (<https://doi.org/10.1016/j.indmarman.2010.06.026>).
- Vurro, C., Dacin, M. T., and Perrini, F. 2010. “Institutional Antecedents of Partnering for Social Change: How Institutional Logics Shape Cross-Sector Social Partnerships,” *Journal of Business Ethics* (94:SUPPL. 1), pp. 39–53. (<https://doi.org/10.1007/s10551-011-0778-0>).
- Van Der Wal, Z., and Huberts, L. 2008. “Value Solidity in Government and Business: Results of an Empirical Study on Public and Private Sector Organizational Values,” *American Review of Public Administration* (38:3), pp. 264–285. (<https://doi.org/10.1177/0275074007309154>).
- Wallach, E. J. 1983. “Individuals and Organizations: The Cultural Match,” *Training & Development Journal*, pp. 28–36.
- Weare, C., Lichterman, P., and Esparza, N. 2014. “Collaboration and Culture: Organizational Culture and the Dynamics of Collaborative Policy Networks,” *Policy Studies Journal* (42:4), pp. 590–619. (<https://doi.org/10.1111/psj.12077>).
- Weber, Y., Shenkar, O., and Raveh, A. 1996. “National and Corporate Cultural Fit in Mergers/Acquisitions: An Exploratory Study,” *Management Science* (42:8), pp. 1215–1227. (<https://doi.org/10.1287/mnsc.42.8.1215>).
- Webster, J., and Watson, R. T. 2002. “Analyzing the Past to Prepare for the Future: Writing a Literature Review,” *MIS Quarterly* (26:2), xiii–xxiii. (<https://doi.org/10.2307/4132319>).
- Williamson, P., and de Meyer, A. 2012. “Ecosystem Advantage: How to Successfully Harness the Power of Partners,” *California Management Review* (55:1), pp. 24–47. (<https://doi.org/10.1525/cm.2012.55.1.24>).
- Yoffie, D. B., Gawer, A., and Cusumano, M. A. 2019. “A Study of More Than 250 Platforms Reveals Why Most Fail,” *Harvard Business Review*, pp. 2–6.