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Fading Boundaries

The Emergence of Collaborative Architectures

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I. An Overdue Switch of Perspectives

When Weber outlined his theory on bureaucratic organizations he was guided by two central themes dominant in those days: technical superiority and strict subordination. An organization, in his eyes, was more advanced if it performed precisely, speedily, frictionless and optimized in terms of material and personal costs. In line with this logic, «the fully developed bureaucratic mechanism compares with other organizations exactly as does the machine with the non-mechanical modes of production>, and thus is capable of managing «complicated tasks» more precisely than other organizational forms1.

Ever since he has written these words, the world around organizations has changed dramatically. To stay with his analogy, the mechanisms of our days rather compare to knowledge-based, big data processing than to «machines», while the activities have turned to be complex and interdependent rather than «complicated»². Although our world saw significant change, organizational perspectives and analytical concepts remained deeply grounded in intra-firm foci. Instead of lockstep development, we see theory decoupling from practice.

Reducing our scope to a single firm in our analysis seems to be a rather incomplete or monocular view, particularly in the context of a growing interconnectedness of organizations (e.g. firms, unions, associations, regulatory bodies, research institutes, academia, etc.). It is becoming increasingly difficult to ignore the discrepancy between existing organizational theory and empirical reality. In fact, re-aligning them is a pressing issue. Academia will benefit through higher relevance while business world receives fresh concepts indispensable to meet today’s challenges. This, however, is not an easy task.

First, because shifting perspectives is a cognitively difficult task to perform – especially when it induces further complexity. Second, because our current concepts are deeply institutionalized and continuously reinforced by top business schools and «best business practice».

For example, the PORTERIAN concept of «Five Forces» resembles the best known and most practiced strategy tool in contemporary business world. Yet, it analyzes the business world around one firm in isolation, leading to an oversimplification of real world phenomena.

No doubt, neatly sliced value chains with linear running processes and clear-cut boundaries are easier to get a grip on, and thus a convenient unit of analysis. But what if the implications derived from this analysis are limited in its validity? What if reducing complexity of our unit of analysis by taking single-firm perspectives results in a blurry image of reality with a limited explanatory power? New perspectives with problem-focus organizational concepts are needed.

² For a discussion on the difference of complex versus complicated see: MARKUS SCHWANINGER, Complex versus complicated: the how of coping with complexity, Kybernetes 2009, 83–92, 1–2.
II. Introduction

Recent developments pointing towards integrated product demands and collaborative problem solving (e.g. crowdsourcing) are accompanied by a general trend in our business environment: the migration of industries.

Fading industry boundaries result from increasing customer demands for integrated and complex solutions rather than for standardized products of the rack. This, however, requires drawing on a widely diffused knowledge base, which locates beyond traditional firm boundaries. Internalizing knowledge through mergers or acquisitions proved to be too costly, inflexible, or complex to unlock the full value potential. Managers increasingly realize that owning critical resources cannot yet be equated with profits. Only if value can be created will profits follow. Similarly, alliances have shown to be an inferior alternative for its cognitive and administrative boundaries of management capacity.

In response to these challenges firms are becoming increasingly open for collaborative relationships to leverage the knowledge of partners. Embedding partners of diverse industries and institutional backgrounds allows joint interpretations of ambiguous and complex situations. Integrating partners also allows a quick resource recombination in fast changing environments. In separating de facto from de jure ownership of resources, collaborative architectures provide timely resource accessibility whenever needed for value creation. Moreover, multiparty collaborations help to increase innovative capacity and to decrease costs. At the same time they may provide more stability for all participants and increase each firm’s resilience.

Despite these facts, intra-firm organizational designs and hierarchical structures persist to dominate scholastic organizational theorizing. These designs are fundamental to our understanding of single-firm mechanisms, yet insufficient for upcoming organizational challenges. This article proposes a meta-organizational perspective as a viable extension to currently established organizational concepts.

III. Facing New Realities

Integrated product demand and migrating industries have a significant impact on our business logic. A considerable amount of literature in the field of strategic management has been conducted from an egocentric organizational point of view. This business logic is based on «all against all» scenario of competitive interplay between market actors emphasizing competitive advantage, interfirn rivalry, hypercompetition and strategic maneuvering. Firms go to wars for customers and talents, battle for resources and appropriation of value. The last one bites the dust.

A) Changing Business Landscapes

Our changed business landscape, however, stipulates as set of different business logics and models of organization. What we see is an asymmetric distribution of resources and capabilities amongst the firms. An overwhelming complexity and competitive intensity drove many firms into highly specialized niche positions. It seemed to be a desirable position from an intra-organizational point of view to reach economies of scale and a clear strategic positioning. Likewise, large corporations squeezed their value chains and trimmed their portfolios through outsourcings and sell-offs in an attempt to create focus. Some of those firms increased their performance, but decreased their ability to produce integrated solutions. As a result, firms have become interdependent.

This is good news in a world which is increasingly loaded with complexity. Open markets and new technologies increased customer reachability. Products and services may be ordered around the globe without a significant growth of transaction costs. This has spurred productivity and innovativeness on one side, but competitive intensity and higher customer demands on the other. One individual firm is bound in its abilities to cope with this complexity. Collaborative architectures and meta-organizational designs, however, are

capable of decomposing complexity into manageable parts, process them efficiently and re-integrate them in a customer-oriented fashion.

Drawing on a wide variety of resources and capabilities in meta-organizations, allows tackling each individual task in the most efficient manner. Thus, resource access as a major limitation of individual firms becomes the major asset of collaborative forms of organization – particularly the exclusive access to resources and capabilities which are not tradable or available on markets\(^9\).

**B) Mutual Interdependence**

Interdependence is not a problem but a gift as long as it is mutual. Mutual interdependence, as found in meta-organizational designs, enables the integration of specialized activities of diverse actors in a highly productive manner. It ties the actors together by the mutual benefit that the whole is more worth than the sum of its parts. It decreases hazards of opportunistic hold-ups, allowing asset specific investments and co-specialization of its members. Each member has a defined role to fulfill within this concert. This idea is not new and dates back to Hume’s work in 1739 on the partition of employments in «A Treatise of Human Nature», where he observes that:

«When every individual person labours a-part, and only for himself, his force is too small to execute any considerable work; his labour being employ’d in supplying all his different necessities, he never attains a perfection in any particular art; [...] By the conjunction of forces, our power is augmented. By the partition of employments, our ability encreases: And by mutual succor we are less expos’d to fortune and accidents. 'Tis by this additional force, ability, and security, that society becomes advantageous\(^10\).»

Yet, partitioning activities is only one part of a successful collaboration. The other crucial part is the coordination and synthesis of dispersed activities towards the aforementioned integrated solution. We may increasingly observe the emergence of a new organizational concept as a response to master these complexities – collaborative architectures. The next chapter addresses the questions, quintessentially driving organizational designs and the core mechanisms as well as concepts of collaborative architectures.

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IV. The Emergence of Collaborative Designs

A) Firm Boundary Decisions

How do collaborative architectures emerge? To answer this question it is crucial to understand how and why firm boundaries are drawn. SANTOS/EISENHARDT’s study provides some insights (see Fig. 1)\(^\text{11}\). Following their argumentation we can refer to four theoretically different conceptions as shown below:

First, the dominant transaction cost economics (TCE) perspective suggests that collaborative architectures emerge to harmonize two central challenges: transaction versus coordination costs and organization via markets or hierarchies\(^\text{12}\). Thus, a point of minimum cost defines organizational boundaries. Second, organizations seek to reduce dependency and enhance power\(^\text{13}\). By gaining control over limiting external forces, firms diminish uncertainty and enhance performance. Following this logic «a boundary decision is a choice of activity domains over which the organization will exert influence»\(^\text{14}\).

Third, following a resource-based view boundary, decisions are made to maximize resource access or to exploit the resource usability by targeting new markets with existing resources. Therefore, access or possession of competence and applicability (or fit) becomes the main criteria of organizational boundaries.

The last conception builds on managerial cognition and identity literature\(^\text{15}\). An organization runs through a collective sensemaking process aiming to co-align activities with its identity\(^\text{16}\). This process develops cognitive frames, which reduce ambiguity and environmental complexity. This process develops cognitive frames, which reduce ambiguity and environmental complexity.

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\(^\text{11}\) FILIPE SANTOS/KATHLEEN EISENHARDT, Organizational Boundaries and Theories of Organization, Organization Science 2005, 491–508, 5.


\(^\text{14}\) SANTOS/EISENHARDT (Fn. 11), 495.


As a result, firms develop a common mindset of an idiosyncratic way to success guiding future actions described as a «dominant logic»\(^{17}\).

![Diagram](image)

**Figure 1: Boundary conceptions and their theory-driven strategic logic (own figure based on SANTOS/EISENHARDT, 2005, p. 492–500)**

Despite the intriguing logic of these theoretically derived conceptualizations of organizational boundary settings, a crucial aspect gets insufficient attention: Problem-driven boundary phenomena\(^{18}\). Empirically based approaches with a problem centered focus, however, may uncover hitherto unknown «laws» of boundary formation. Unlike theories, problems constantly change, driven by environmental challenges. With this in mind, a recurrent evaluation of problem-driven phenomena and their impact on organizational mechanisms seems indispensable.

**B) Collaboration – A Problem-Driven Approach**

Emerging collaborative forms of organizing are problem-driven responses to challenges described at the outset of this article. It is a visible reaction to

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\(^{18}\) **SANTOS/EISENHARDT** (Fn. 11), 505.
increasingly pressing challenges in our environment. In fact, boundary choic-
es are the outcome of competing influences of either expansion or contrac-
tion. Thus, decisions are based on any one or all of the four boundary concep-
tions presented above.

For example, new forms of governance (informal) and new technologies ex-
plain boundary setting decisions from an efficiency perspective (TCE). In-
creasing customer demands, integrated product design and accelerated inno-
vation cycles amplify the resource and capability needs, thereby redefining
competence boundaries. For the same reason, stakeholder interaction intensi-
fies and creates strong interdependencies – a key impetus for firms to span
boundaries in order to maximize control over critical dependencies from a
power perspective19. Finally, value creation in today’s markets does not hap-
pen solely within traditional firm boundaries but rather through dispersed (or
outsourced) activities. Thus, diverse interests and conflicting goals clash over
questions as how value is created and how it is appropriated. Overarching
goals and «collective strategies» are required to orchestrate these dispersed
activities. An identity perspective holds that organizations redraw boundaries
when inconsistencies are in conflict with their identity.

To understand how collaborative organizational forms contribute to a solution
of contemporary challenges, we need to define them and understand their
central mechanisms.

C) Collaborative Architectures

The terms «cooperation» and «collaboration» are often used interchangeably,
though linguistically they are two fundamentally different ways of contribu-
tion. Cooperating organizations are contractually tied with each participant,
working on selfish goals yet contributing to the overall realization of an en-
deavor. The desired outcomes are well defined and the distribution of future
returns is pre-negotiated as in alliances, joint ventures, or other hybrid forms
of cooperation. Collaboration, however, means co-creation based on mutual
interest on a single and shared goal. This logic suggests that collaborative
organizations are not tied by a «nexus of contracts» but rather linked through
lateral and reciprocal forms of relationships. Hence, decision making happens
in a meritocratic or fairly democratic manner.

Research on collaborative forms of organization has gained strong momen-
tum in the last years. Various organizational concepts have been presented on

19 PFEFFER/SALANCIK (Fn. 13).

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ecosystems\textsuperscript{20}, platforms\textsuperscript{21}, communities\textsuperscript{22} and actor-oriented designs\textsuperscript{23}. More recently, Gulati et al. provided an overarching conceptual design describing multiple legally autonomous units named «meta-organizations». Meta-organizations form a set of firms or individuals, bound non-contractually and characterized by a «system-level goal» \textsuperscript{24}. A central motivation for firms entering meta-organizations is mutual interest and shared goals, which provide a guiding logic for individual action while maintaining the necessary leeway to realize collective goals.

A central characteristic of all collaborative architectures is the absence of a central formal control and shared purpose or interests\textsuperscript{25}. Thereby, these organizational forms starkly depart from hierarchically organized and authority based employment relationships. Some authors argue that meta-organizational designs arise when focal firms strive to control stakeholders in non-contractual constellations without a formal authority\textsuperscript{26}. However, the dominance of informal coordinative mechanisms does not preclude the existence of regulatory elements in meta-organizations – although their roles are relatively limited, providing rules and soft laws rather than directives\textsuperscript{27}.

\textsuperscript{22} Carliess Baldwin/Eric von Hippel, Modeling a Paradigm Shift: From Producer Innovation to User and Open Collaborative Innovation, Organization Science 2011, 1399–1417, 6.
\textsuperscript{23} Øystein Fieldstad/Charles Snow/Raymond Miles/Lettl Christopher, The architecture of collaboration, Strategic Manage J Strategic Management Journal 2012, 734–750, 6.
\textsuperscript{24} Gulati/Puranam/Tushman (Fn. 3).
\textsuperscript{26} Gulati/Puranam/Tushman (Fn. 3), 573.
1. Collaborative-Crowdsourcing

Collaboration-based crowdsourcing has found to be a unifying mechanism within these forms of organization. It is built on the basic principle that self-selected actors work together («gang up») on a specific problem to deliver the best possible solution. Wikipedia is one of the earliest examples of crowdsourcing. It started off as a highly organic form or organization distributing all writing, editing and formatting rights to its members. A clear role distribution and shared goals lacked and content quality was weak or even faulty. For example, David Beckham described to as a Chinese Goalkeeper in the 18th century while another contribution contained a guide to a socialist hairstyle.

Needless to say, this model was changed to a more managed approach. Now, an army of self-organized freelancers contribute their workforce, providing a large variety in content and quality, while a small managing group of editors selects contributions and coordinates work. Wikipedia’s decision to hold on to a crowdsourced organizational design is not made haphazardly, but rather based on principles of multiple theoretical perspectives.

2. Collective Strategizing

The concept of «collective strategizing» is not new. Its theoretical foundation was laid in the 1980’s by Astley/Fombrun, who argued that collective action is a systemic response of organizations to absorb inter-organizational environmental variation. From a macro level perspective they reason, organizations can only maintain strategic choice through an overarching collective organization. In other words, through collective action organizations may withstand environmental selection mechanisms, opposing the strict deterministic view of population ecologists.

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30 Astley/Fombrun (Fn. 25), 576.
This argumentation is grounded in Emery/Trist’s socio-ecological perspective. They stress the need to account for the deliberate and emergent collective efforts to construct and govern the exogenous «social environment» – rather than accepting the primacy of environmental forces. In turn, the socio-ecological perspectives are based on a rich theoretical tradition developed by human ecologists. These researchers have drawn heavily on bio-ecological analogies to explain collectively managed environments developed as a cushion for detrimental exogenous effects. Particularly, collective adaptation to varying environments is a well-established dimension in biological and human ecology.

A collective strategy is an essential precondition for the emergence of collaborative structures. Collective strategies serve as an indispensable mechanism to harmonize diverse interests. It is crucial to co-align interests and find consensus to achieve organizational cohesion in a stream of highly self-organized activities. Effective collective strategies are sufficiently comprehensive accommodating each member’s individual purpose while at the same time precise and powerful enough to give guidance for collective action. Finding a common denominator among competing priorities in collaborative architectures is a challenging and ongoing task. However, once collective strategy finds widespread acceptance it may create a powerful momentum of progress.

The electro-mobility sector provides an illustrative example. A multitude of firms with diverse industrial backgrounds as automotive, chemical, electro, information and telecommunications, energy, advertisement, team up to realize an overarching goal: changing mobility landscapes. This, however, is not the end of a collaborative architecture, but the core. Apart from business firms, other institutions are part of this ecosystem of value creating activities such as governmental coordinative agencies (national and supranational), regulatory bodies, cities and councils, associations, private initiatives, research institutes, academia, customers, etc. In a broader sense, all actors who contribute or influence the value generation process of collaborative architectures can be considered to be part of it.

One firm on itself is not capable of planning, financing, developing and building e-cars and the appropriate infrastructure. Neither could it manage to achieve regulatory changes or broad customer acceptance for this new tech-

nology. Individual firms or entrepreneurs are unlikely to possess the required resources, power, or identity to manage complex production or change process. As a response, firms «run in packs» rather than «doing it alone» 36.
Combining forces of mutually interdependent actors with a tangible overarching goal may help to create a favorable regulatory environment and the necessary market power to gain customer acceptance. In the electro-mobility sector an explicit collective strategy is not articulated. But what started as an ideological approach of futurists and «do-gooders» turned into a vision and now forms a collection of competing individual sub-strategies, which combined on a system-level provides cohesiveness of an implicit collective strategy.

D) Shifting Forms of Governance

Generally, less stratification has been used as a measure of boundary openness and an indicator of collaborative designs 37. However, hierarchies have been found to be necessary to establish a working system and transparency even in self-organizing forms of operations. They fulfill several functions: they integrate dispersed production, reduce task complexity through decomposition into subsystems, limit moral hazards or execute coordinative and motivational roles 38.

The classical automobile industry, as an example, makes use of stratification (i.e. supplier hierarchies) through «tiering», where upper tiers enjoy extended governance power over lower tiers for the reasons named above. In contrast, in the currently evolving electro-mobility sector stratification is absent. For two main reasons: First, a large variety of new players from diverse industries entered the arena. Roles and rules of the game are in the process of formation and redefinition. Dominant players and dominating rules have not crystallized yet. Second, the sector is built on collaborative business logic, where architects are less «governors» and rather neutral coordinators, integrators and enablers.

These initial explanations raise one important question: If stratification is absent and organizations are based on collaborative business logic, then other, compensatory governance mechanisms must exist. In the following value-based, resource-based, and soft law-based governance mechanisms in collab-

37 GULATI/PURANAM/TUSHMAN (Fn. 3), 576.
orative forms of organizing are outlined as viable alternatives to traditional forms of governance.

1. **Value-based Governance**

Shared values and motivation have been identified as important factors of why firms with similar ambitions organize in the first place. Using contracts in collaborative architectures bears the risk to signal distrust and constrain the development of value-based exchange relationships.

Research on similarity clusters and communities of practice has shown that value-based mechanisms play a key role in governing a collective of people with similar views on how to perform activities. Values generally work in two ways: in binding those who share similarities and delineating from outsiders who do not. Common values in collaborative architectures carry a normative role providing guidance for self-governed activities. When collective values and purpose become internalized the interpretation of the world among members is co-aligned giving sense to actions and allowing coordination of behavior for the benefit of the community.

Trust has been found to play a significant role in relationships of collaborative architectures, reducing transaction costs and facilitating coordinative activities. The accumulation of trust over time – an organization’s expectation that another firm will not act opportunistically – is a central antecedent for substitution effects of less formal over more formal governance choices.

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43 Adler/Kwon/Heckscher (Fn. 38), 361.
44 Fiol/Romanelli (Fn. 40), 598.
46 Gulati/Nickerson (Fn. 39), 688.
Research on inter-organizational relationships has shown that informal psychological contracts increasingly compensate or are relaxed for contractual arrangements as trust and reliance grow over time. In platform-based architectures of IT industries, for instance, peripheral complementors are strongly dependent on platform leaders and exposed to their decision making. A repeating interaction of platform actors creates intensive ties and interdependencies, and thus depreciates the value of contractual safeguards. An exclusive reliance on relational forms of governance, however, may not be always worthwhile as the following allegory illustrates:

My coauthor and I take a boat out for an afternoon sail on the Pacific. If I fall overboard, I trust that my coauthor will give his life in an effort to save mine. The sentiment is reciprocal. Nonetheless, the uncertainties (even the risks) of an ocean sail make it prudent for each of us to wear life jackets and not rely exclusively on our trust in each other.

The same authors argue that collaborative architectures may be adversely affected by an overreliance on both contracts and relationships. Hence, stable architectures maintain a balance between formal and informal processes.

O’Mahony/Ferrano’s research on open source communities suggests that governance systems must be organized in a meritocratic way to attract high-quality contributions from its voluntary members. Given this, status, responsibility and perspectives are important means to incentivize members. On the other side, disincentives have been found to be a viable governance option. Disincentives might be used in discouraging members to prevent premature withdrawal from collaborative exchange relationships thereby sustaining stability and continuity particularly important in long term undertakings.

2. Resource-based Governance

The ownership of valuable resources, as information technology or knowledge, has shown to be an effective form of governance within firms. The possession of unique resources or capabilities (e.g. knowledge, reputation, access) leads to increased bargaining power, which subsequently trans-
lates into an increased reach of governance in collaboratively structured organizations\textsuperscript{51}. IT investments are one example how organizations can enhance a resource-based mode of governance. In lowering communication costs and providing technical infrastructure for governance execution, organizations might develop important platforms for collaborative interactions.

Furthermore, governance of collaborative activities can be achieved through accumulation and exploitation of knowledge. Firms can efficiently coordinate loosely coupled entities, by holding slack resources and «knowing more» than is needed to operate tasks\textsuperscript{52}. Empirically, this strategy explains why firms make provisional investments in R&D fields outside their core competencies\textsuperscript{53}. In other words, being a central player with superior knowledge and capabilities to integrate partial solutions of suppliers and complementors, allows for comprehensive power of governance in collaborative architectures. Being in control of knowledge, enables organizations to delegate and reintegrate tasks in networks, drawing on specialized capabilities and distant solutions\textsuperscript{54}.

JACOBIDES ET AL. uncover strategies geared towards «architectural advantage» – a crucial mechanism to leverage value appropriation and governance capabilities in collaborative constellations\textsuperscript{55}. When central players impose one-sided dependencies on other members de facto hierarchies in non-hierarchical arrangements may arise. Thus, in managing to become the «bottleneck» firms can achieve favorable positions and install governance mechanisms in collaborative architectures\textsuperscript{56}.

3. Soft Law-based Governance

Members joining a collaborative community may be prone to risks of moral hazard. While more traditional forms of organization allow reducing this risk

\textsuperscript{51} Gulati/Puranam/Tushman (Fn. 3), 574.
\textsuperscript{52} Stefano Brusoni/Andrea Prencipe/Keith Pavitt, Knowledge Specialization, Organizational Coupling, and the Boundaries of the Firm: Why Do Firms Know More Than They Make?, Administrative Science Quarterly 2001, 597–621, 4.
\textsuperscript{53} Brusoni/Prencipe/Pavitt (Fn. 51), 597.
\textsuperscript{54} Afuah/Tucci (Fn. 4), 360.
through internalization or contracting, collaborative architectures primarily rely on transparency in interactions and potential sanctions for those who play against informal rules\textsuperscript{57}. Informal rules established through repeated interactions, are a quintessential element of collaborative architectures, helping to overcome a longstanding problem of joint value creation; the opportunistic exploitation of commons and resources collectively owned.

By definition, informal rules convenient, meritocratic, self-enforcing, reactive, and thus soft by nature\textsuperscript{58}. Soft laws are based on standards, guidelines, codes of practice, protocols, voting, white books or other reciprocally binding mechanisms as communication, signaling and relational contracting\textsuperscript{59}. In this matter they clearly depart from traditional directives. For instance, Fieldstad et al. propose protocols as codes of conduct to govern collaborative architectures in dealing with the allocation of labor, mobilization and linkage of actors for jointly organized tasks\textsuperscript{60}. Members also refer to protocols when drawing on commons – defined as collectively owned resources. Unlike predefined formal rules, the gradual formation of soft laws is not necessarily a fair process. Dominant actors might impose informal rules to their convenience to appropriate a larger amount of collaboratively generated value.

Besides the informal rules of behavior described above, rules of membership constitute another form of soft law-based governance mechanism. Architects of collaborative structures make deliberate choices concerning the permeability of the organization. In this process they specify terms as exclusivity, duration and contribution by acting as a «gatekeeper» for membership. Imposing relatively low membership restrictions allows generating an enormous amount of solutions – the drawback, however, is often found in the poor quality of these solutions, as illustrated by the «Beckham as Chinese goalkeeper» example earlier in this article. Thus, collaborative organizations with open membership terms have to compensate for lower quality contributions through intensified ex-post interventions.

Three governance mechanisms were presented in this article. Each of those dimensions does not exist independently but forms configurations contingent on industry context, size of the architecture and characteristics of its members. This list is not exhaustive, but rather an overview of the most salient

\textsuperscript{57} Williamson/de Meyer (Fn. 37).
\textsuperscript{59} Boudreau/Hagiu (Fn. 27), 8.
\textsuperscript{60} Fieldstad/Snow/Miles/Lettl (Fn. 23), 735.
forms in collaborative architectures. There is no doubt that other categories exist and within these categories many more informal mechanisms (i.e., on an individual level) need to be explored.

V. New Challenges Ahead

When value creation is jointly organized and organizational boundaries are blurry, who is responsible for product liabilities? When many actors contribute and pool their resources and capabilities to realize integrated solutions, intellectual property rights become more salient. When many industries are involved, which industry-specific regulations apply? Which interests do unions and associations represent? Clearly, when various interests intermingle, business life becomes messy. Current strategic changes are driven by a problem-based strategic logic – a re-alignment of organizational structures, however, is only a matter of time. When strategies change, structural change will follow – an observation made by CHANDLER decades ago in his studies on corporate strategy change and its implication for organizational structures.

This article outlined future challenges for organizations and their problem-based responses. Changing business landscapes urge organizations to develop new business logics for the sake of increased survivability. Individual organizations are bound by restricted resource pools, and hence, open up for collaborative approaches. Undoubtedly, organizations morph towards collaborative value generation architectures with a diverse and interconnected set of actors and increasingly permeable boundaries.

This process is forcefully driven by attempts to limit opportunism, access «distant» resources and capabilities and redefine power constellations to reduce dependencies or recreate identities. Moreover, firms strive to decompose increasing complexity through involvement of a larger set of actors. Since cognitive and organizational capacities are limited, tasks are split up into manageable subsystems. Activities are highly co-specialized with each of them making a non-redundant contribution and performing a clear role, which is indispensable for the overall architecture. This in turn, creates interdependencies, which are crucially important for the emergence of collaborative architectures designed for reciprocal benefits through joint value creation.