

Consulting Assemblages – A New Metaphor for Advancing Consulting Theory and Practice

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Abstract

This paper introduces the concept of “Consulting Assemblages” to advance consulting theory and practice. The paper builds on the new organizational metaphor of “Organizations as Algorithms”, applies it to the consulting context and thus reframes consultant-client interactions in the digital and AI era. Grounded in a semi-systematic literature review, the paper conceptualizes consulting as sociomaterial assemblages, offering a new framework to analyze agency and value creation dynamics in consulting. The paper hence provides insights for consulting practitioners and charts avenues for further research in this new topic area.

Introduction

Amid the increasing influence of digitalization and, notably, artificial intelligence (AI), a new metaphor for organizing has been introduced called “Organizations as Algorithms”. Glaser et al. (2024) propose this new metaphor as a contrast to Morgan’s original “Images of Organization” (2006) which are machines, organisms, and brains. While those older metaphors focus on structure, adaptation, and intelligence, organizations as algorithms are composed of a set of assemblages – dynamic networks of data, algorithms, decisions, and routines – that gain and lose territory over time. These assemblages possess agency, which means they function autonomously and have the capacity to make decisions and influence outcomes similar to how individuals would in an organization.

In consulting research, different theories or schools have been discussed over the past decades, two of the most prominent ones being the classical and the system-theoretical school (Tomenendal, 2016). According to the classical school, consulting is viewed through a mechanistic lens that emphasizes formal-rational logic and predictability. Consultants act as expert advisors providing clearly structured top-down recommendations, with the consultant being able to significantly influence the client organization. This school corresponds to Morgan’s machine metaphor. System theory, on the other hand, adopts a holistic view where organizations are self-referential systems. This perspective challenges top-down control thinking, favoring self-organized and complex interactions. Consultants in this school induce self-reflection and problem awareness within client systems, rather than providing prescriptive solutions. This school more closely aligns with Morgan’s organism and partially brain metaphor.

From the perspective of consulting research and practice, the question arises as to how the new metaphor of organizations as algorithms can be made fruitful for updated theorizing on consulting organizations and what consulting practitioners can derive from the newly gained theoretical insights. It is the aim of this paper to offer initial insights into this question. The paper is designed as a conceptual note. Methodologically, it is based on a targeted (semi-systematic) literature review on the topic at hand (Snyder, 2019) and the development of a conceptual argument grounded in this review (Jaakkola, 2020).

To this end, the paper is structured as follows: In the next section, the concept of organizations as assemblages is explained by delving into the metaphor of organizations as algorithms. Then, the metaphor is applied to consulting organizations by discussing the alignment of consulting levels of value added with assemblage components and introducing a typology of consulting assemblage patterns. Finally, the paper concludes with implications for theory and practice, offering insights into consulting engagements along certain patterns and proposing avenues for future research that can further refine the understanding of consulting assemblages.

Organizations as Assemblages

In their newly introduced metaphor of organizations as algorithms, Glaser et al. (2024) conceptualize organizations as assemblages composed of four interrelated components: data, algorithms, decisions and routines (see Figure 1, below).

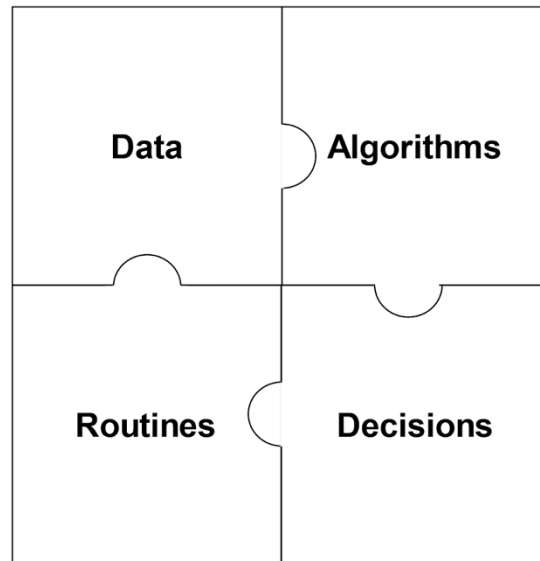


Figure 1: Components of Organizational Assemblages

- *Data* are the machine-readable traces that constitute the basic ingredients of algorithmic organizing. They are produced by organizational activities and infrastructures and then classified, codified, and rendered machine-readable, so that they can circulate and be processed at scale. Classifications embedded in data “valorize some points of view and silence others”, giving data also a political and normative character (Glaser et al., 2024). Data are both inputs to algorithmic systems and outputs of them, as assemblages continuously generate new data and metadata that reshape future organizing and decision-making. Examples of organizational data are customer records like purchase frequency or net promoter scores and human resource metrics like absenteeism or performance ratings.
- *Algorithms* are precise computational recipes that transform input data into outputs (e.g. demand forecasting, credit scoring models, or route planning) that can augment or automate organizational work (Glaser et al., 2021). In Glaser et al.’s assemblage view, algorithms are not standalone tools but entangled, sociomaterial configurations that encode theories and designer intentions and interact with other artifacts, actors and practices. Their capabilities and limitations depend on available data, organizational goals, and the broader assemblage in which they are embedded.
- *Decisions* are the organizational choices (e.g. approved or denied loan applications or pricing decisions) that are increasingly shaped, supported, or made by algorithmic systems. Algorithms “automate decisions, enact roles and expertise and perform calculations”, becoming actants in decision processes rather than passive tools (Glaser et al., 2021). Within the assemblage, decision authority can shift: Some decisions are fully delegated to algorithms, others are hybrid human–algorithm processes, and still others use algorithmic outputs as inputs to human judgment. Decision-making thus becomes a distributed property of the assemblage, not of humans alone.

- *Routines* are the recurrent, patterned, organizational practices through which data, algorithms, and decisions are enacted over time. Examples are daily order-fulfillment sequences, regular reporting cycles or onboarding checklists. Algorithms are woven into “routine assemblages,” helping to script, stabilize or also disrupt work practices and coordination patterns (Glaser et al., 2021). They both encode existing institutional rules and norms and, through repeated enactment, can reconfigure roles and power relations. Routines therefore are both shaped by algorithmic assemblages and key sites where those assemblages are reproduced or transformed.

The theoretical roots of the new metaphor lie in assemblage theory (e.g. Deleuze and Guattari, 1987) and broader sociomaterial perspectives in organization studies. At its core, the new metaphor view emphasizes that algorithms never operate in isolation, but are always “entangled in assemblages”. These assemblages are sociomaterial in nature, which means that organizational outcomes emerge from the patterned interaction of technical elements and social practices rather than from either side alone (Glaser et al., 2021).

As agency is located in the assemblage itself, not in humans or algorithms alone, accountability and power must be analyzed at the level of distributed configurations rather than individual actors. Assemblages gain and lose territory as their compositions and connections shift, leading to new roles, forms of expertise and organizational boundaries that may even exceed designers’ intentions. Strategic action therefore involves continually configuring and reconfiguring these assemblages rather than assuming stable, fully controllable systems.

Consulting Organizations as Assemblages

In order to apply the metaphor of organizations as algorithms to consulting, levels of consulting services shall first be described, before the concept transfer shall be performed.

Levels of Value Added

Day (2004) distinguishes four escalating levels of value added in consulting: commodity, product, project and experience (see Figure 2, left side). These differ in the form of consulting services provided and consultant-client interactions.

- At the commodity level, consulting services are highly standardized and interchangeable. Consultancies provide standardized information and analyses that are widely available and easily comparable like market data and benchmarks. This is high-volume, low-margin work that can often be obtained from multiple suppliers. The focus is on efficiency and low cost for the provided data. The client perceives little differentiation between providers, so price, delivery speed and reliability dominate. Switching costs are low, and the consultant-client relationship is transactional.
- At the product level, the consulting offer is presented as a defined solution or methodology packaged into more distinctive, branded offerings: a diagnostic tool, proprietary models, report templates or software. The value lies in codified intellectual property that can be repeatedly sold and reused across clients. The value lies in the consultant’s proprietary know-how and templates.

Customization is limited but higher than at commodity level, and margins are better because intellectual capital is embedded in the “product”.

- At the project level, value shifts from what is delivered to what is changed. Consultants apply their tools and insight in a tailored engagement which includes structuring problems, generating options and helping leaders make and implement specific strategic or organizational decisions. Consultants deliver bespoke solutions to a specific client problem. Work is tailored to context including custom analysis, design and implementation support. Value comes from problem-solving capability and the ability to orchestrate complex projects. Relationship quality and understanding of the client organization become central, and the consultant is seen as a partner rather than a vendor.
- At the experience level, consulting becomes a co-created, transformative engagement. The focus is not only on solving a discrete problem but on reshaping capabilities and culture of the client organization. Value is created jointly through intense collaboration, learning and experimentation. The client’s managers gain new ways of thinking and working, while the consultant may help reframe the client’s situation. The value is the sustained change in how the client organization thinks and acts, not just the immediate solution or deliverable.

Across these four levels, value added shifts from cost-efficient delivery of standardized inputs to unique, co-created transformations of the client’s organization and managerial experience. In practice, high-impact consulting traverses several or all four levels of value added.

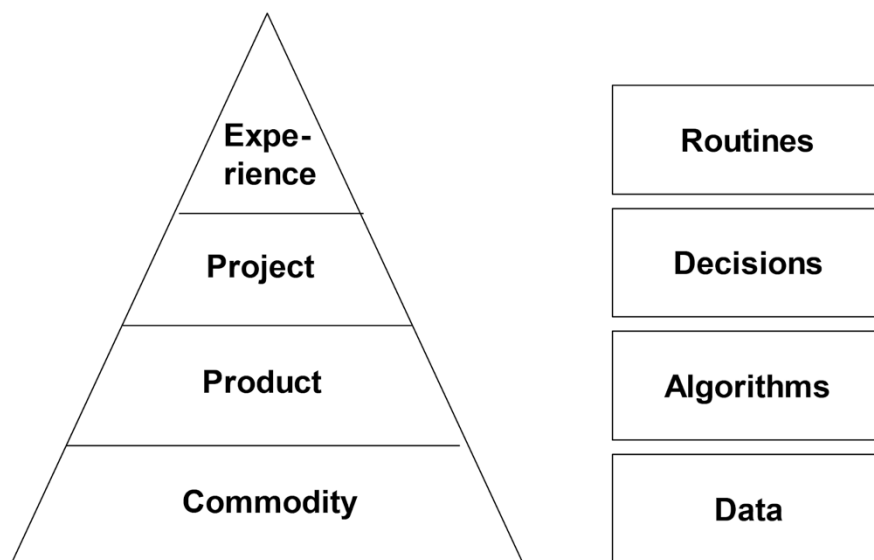


Figure 2: Elements of Consulting Assemblages

Linking the Levels of Value Added to Components of Organizational Assemblages

I suggest that the components of organizational assemblages, as described in the former section, align with the four levels of value added of consulting (see Figure 2). Through this alignment, we can see how agency is distributed across different assemblages and how it influences the consulting process.

- *Data as Commodity* (Data readiness): At the base level, consulting services focus on providing standardized, data-focused offerings such as data audits, dashboards, benchmarking, or compliance reporting (see also Oesterle et al., 2020). These services align with the data component of assemblages, emphasizing the processing of machine-readable information. Here, main activities are based on the consultant's research and technical expertise and following standardized methods, as the consultant guides the transformation of raw data into usable formats. The client's contribution mainly involves granting access to systems and providing contextual information. Agency lies in the concrete combination of accessible and deployed data and communication schemes between the actors involved.
- *Algorithms as Product* (Packaged analytical solutions): As consulting services progress to the product level, they incorporate data capabilities into pre-configured products, such as off-the-shelf risk models, process mining tools or AI accelerators (see also Urbinati et al., 2019). This level primarily reflects the algorithmic component of assemblages, where consultants' and data scientists' methodologies transform into products that maintain scalability. In the era of (agentic) AI, agency in this assemblage has a large algorithmic component.
- *Decisions as Project* (Co-created decision interventions): At the project level, algorithms become more integral as consultants design decision-oriented interventions like organizational optimization projects or AI-supported process redesigns (see also Payne et al., 2008). Here, the decisions component of the assemblage aligns with co-created project engagements, including the algorithms from the former level.
- *Routines as Experience* (Transforming organizational practice): At the apex of the value-added pyramid are consulting engagements that transform how organizations embed data-driven practices into routines, culture and identity, corresponding to the routines component of assemblages. This involves ongoing co-design, emphasizing long-term value co-creation, where consultants act as facilitators of change (see also Fuentes et al., 2019). Agency is shared in the most complex way, with consultants and clients collaboratively working on a transformational experience, including an integrated use of algorithms.

In sum, the levels of value added of consulting go along with the components of organizational assemblages so that these together may be understood as consulting assemblages. After having introduced the components of consulting assemblages, possible types or patterns of assemblages may be introduced which allow us to reflect in a differentiated manner on their influence on consulting engagements.

Conceptualizing Patterns of Consulting Assemblages

Exemplarily, I suggest that different patterns of assemblages may be sorted in a 2x2 matrix as a framework for analyzing and categorizing diverse assemblage patterns based on their strategic focus and governance structure (see Figure 3). On the horizontal axis, there is the mode of value creation, differentiating between “solution-centric” and “change-centric” approaches, which are fundamentally different in consulting intent and temporality: Solution-centric refers to delivering answers and artifacts, embodying a commodity/product logic. On the other hand, change-centric involves reshaping practices and routines over time, aligning with a project/experience logic. This idea builds on Sturdy (1997) who articulates that consulting engagements often oscillate between providing immediate, tangible solutions and facilitating broader organizational transformation, thereby highlighting the dual focus on both outcomes and processes within consulting practices. On the vertical axis, the governance of the assemblage is denoted, separating “consultant-governed” from “client-governed” approaches. Consultant-governed implies that consultants control key algorithms, framing and decision templates, whereas client-governed indicates that clients own and control the data, decisions and core routines.

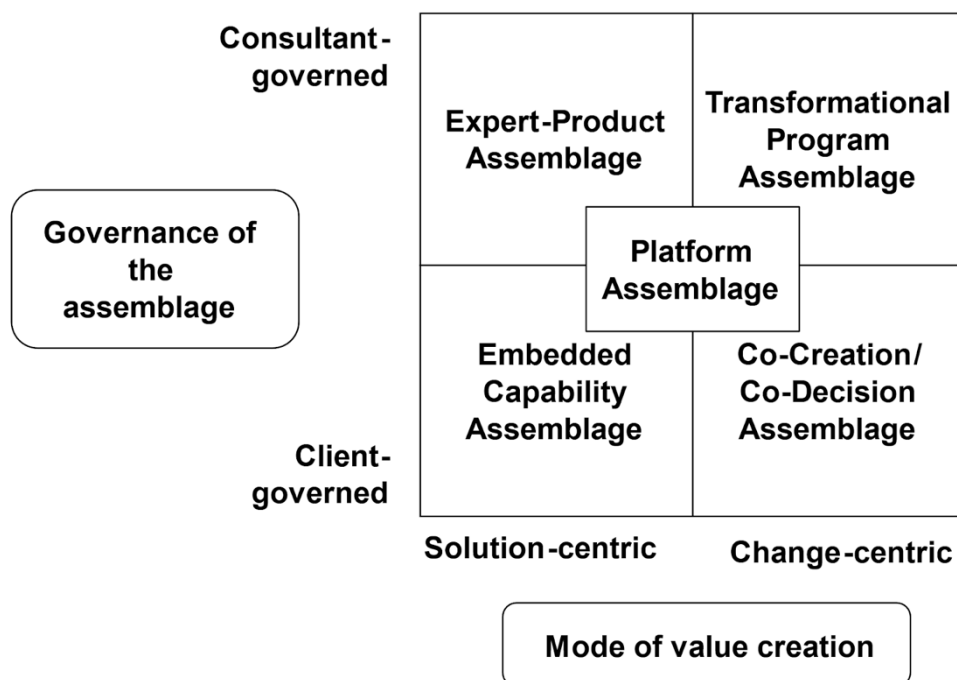


Figure 3: Patterns of Assemblages

The framework differentiates among five different consulting assemblage patterns:

- *Expert-Product Assemblage*: In this pattern, the consultancy predominantly governs the solutions, characterized by delivering high-codification, solution-

centric products such as proprietary tools and benchmarks. The consulting firm owns the data models, algorithms and intellectual property, providing clients with readymade answers and minimally adaptable toolkits. Clients typically implement these solutions with only surface-level alterations to existing routines, so that the consultant acts in a largely directive way. This quadrant may be observed in environments requiring standardized diagnostics, benchmarking exercises and the application of functional best practices. Client organizations may deliberately select this model when dealing with structured problems where speed, comparability and consistency are crucial, outweighing the need for in-depth transformational changes. In this assemblage, agency emerges from a blend dominated by data, algorithms, and the consultant's formulation of a standardized report with minimal client adaptation. An example would be a client's finance team purchasing a packaged process mining license and dashboard from a consulting firm that delivers ready-made KPIs and automated reports and using the outputs with minimal customization to monitor transaction flows.

- *Transformational Program Assemblage*: In this consultant-governed, change-centric approach, consultants design and implement comprehensive change programs, orchestrating all elements of the transformation. They could for example lead a several-months-long digital transformation, designing governance, deploying AI driven workflows and steering staged organizational redesigns while the client implements changes across business units. The consultant here actively steers the process, while the client participates within a predefined structure. Organizations may select this model when they require highly visible, coordinated change efforts steered by authoritative external expertise, ensuring thorough restructuring aligned with strategic objectives. Agency is rooted in the consultant-orchestrated blend of decisions and routines using data and algorithmic insights to drive cultural and procedural transformations aligned with strategic objectives.
- *Embedded Capability Assemblage*: This client-governed, solution-centric model focuses on building capacity within the client's organization. Consultants facilitate the development of tools and infrastructures, e.g. an in-house analytics platform, which the client subsequently owns and operates. Emphasis lies on initial setup, training and provision of governance templates rather than ongoing involvement, promoting the internalization of systems and decision-making rights within the client entity. A preference for this approach may exist during initiatives aimed at analytics enablement and the strengthening of in-house expertise. This assemblage features agency in a client-centered blend where data and routines play a key role, with consultant-facilitated infrastructure empowering clients to implement and govern new capabilities, gradually internalizing decision-making and analytical processes.
- *Co-Creation/Co-Decision Assemblage*: In this client-governed, change-centric quadrant, problem-solving is highly collaborative, involving diverse client actors and shared decision-making and interpretation rights. Consultants and clients work together to frame problems, interpret data and iteratively redesign routines, fostering a sense of co-ownership and collective participation. Central to this approach are emergent routines facilitated through learning experimentation and reflexivity. This quadrant may be prevalent in situations involving complex, contested issues such as strategic planning under

uncertainty or multi-stakeholder innovations. Here, legitimacy and local adaptation are critical and multiple internal stakeholders collectively own the outcomes. Agency within this assemblage emerges through a collaborative integration of data, algorithms, decisions and routines, fostering shared problem-solving and adaptive decision-making between consultants and clients. As an example, consultants and a healthcare provider as the client could run iterative pilots together to redesign care pathways, jointly interpreting local data and adapting routines based on frontline clinician feedback.

- *Platform Assemblage*: Situated at the intersection of consultant- and client-governed as well as solution- and change-centric spaces, the Platform Assemblage embodies a hybrid consulting model. This assemblage leverages data-heavy and algorithmic platforms to facilitate consulting, minimizing traditional face-to-face decision-making. It externalizes certain routines, utilizing digital tools to possibly crowdsource expertise and execute remote or online consulting models. This assemblage may be applied when organizations require expansive reach and varied expertise with minimal geographic or logistical constraints. Here, agency is distributed across a dynamic hybrid network where algorithmic platforms manage data-driven decisions and routines, enabling flexible and remote interactions that transcend traditional consulting constraints. An example would be a consultancy which provides a cloud platform that aggregates client data, runs algorithmic diagnostics and enables distributed teams and external experts to contribute solutions remotely, with platform rules mediating access and recommendations.

Overall, the assemblages differ in several key aspects of the consulting dynamic. First, they vary in where algorithmic work is concentrated, with some models centralizing data and analytical processes within the consultant's domain, while others distribute these capabilities across the client organization. Second, they differ in how agency, as the emergent, distributed capacity to make a difference, is distributed, ranging from consultant-led approaches where the consultant has substantial control, over client-driven models that empower client organizations to take a leading role in decision-making and implementation to even more algorithmically-driven projects. Third, they determine what kind of "client" is constructed and mobilized, as each assemblage involves a unique relationship between the consultant and the client, impacting how clients engage with solutions, transformations and innovations. These distinctions influence not only the consulting engagements' structure but also the outcomes and effectiveness of the consulting partnership.

Conclusion

Contribution

Patterning consulting assemblages may be both theoretically fruitful and practically useful for designing and steering consulting engagements. *Theoretically*, the mapping extends the "organizations as algorithms" metaphor into the domain of consulting by explicitly conceptualizing consulting arrangements as sociomaterial assemblages that process data, deploy algorithms, generate decisions and stabilize (or transform) routines. The mapping thus contributes to debates on agency and

control in algorithmic organizations. By treating the consultant-client system as an assemblage which now explicitly also includes data and algorithms, it foregrounds distributed agency, which means that no single actor—neither the consultant, the client manager, nor “the algorithm”—fully determines outcomes. Instead, patterns of influence are shaped by how data are curated, how algorithms are parameterized and prompted, how decision forums are structured and how routines are inscribed into tools and practices.

The mapping shows how consultants and clients are connected with algorithmic infrastructures like data pipelines (diagnostic data, benchmarks, client databases), algorithmic devices (analytics tools, frameworks, decision-support systems), decision arenas (workshops, steering committees, governance forums) and routinized practices (methodologies, playbooks, implementation routines). This positions consulting organizations and consultant-client relationships as sites where algorithmic and human agencies are constantly reconfigured.

Moreover, the suggested 2x2 matrix differentiates among different consulting assemblage patterns. Each assemblage offers insights into the configuration of consultant-client interactions and algorithmic mechanisms and how power and knowledge, and thus agency, travel through the assemblage. The framework makes visible how the “experience” level in consulting is increasingly mediated by data-based solutions and generative AI tools, how “expertise” is partly relocated into algorithmic templates and how consulting firms become sites of assemblage design rather than mere providers of expert advice.

Practically, the mapping helps consultants diagnose and redesign their own value propositions. First, it provides a systematic way to locate where their current offerings are concentrated: Are they mostly selling data commodities (reports, benchmarks), algorithmic products (tools, frameworks), decision projects (facilitated strategy processes) or long-term experiential transformations (capability building, routine change) and in which kind of combination? By making the underlying assemblage explicit, consulting organizations can intentionally rebalance their portfolio - e.g. by investing in more robust data infrastructures to support higher-level decision work or by strengthening routine-change capabilities to avoid “PowerPoint-only” recommendations that never embed in practice.

Second, the mapping can guide capability development within consulting firms. Viewing themselves as algorithmic assemblages encourages consulting organizations to treat their methodologies, templates, and digital tools as evolving “algorithms” that must be continuously updated and reassembled with client data and routines. It suggests investments in roles such as data engineers and prompt designers alongside classic consultant profiles. It also encourages explicit reflection on the politics of data access and the ethical implications of algorithmic nudges in client decision-making.

Third, the mapping helps to anticipate potential tensions in consulting relationships, such as the mismatch when clients expect co-decision-making in a fundamentally expert-product-algorithm-oriented engagement. Clients may better understand what they are buying and what is required from them at each level and in sum in which combination. At the data/commodity level, clients need to ensure data accessibility and quality; at the algorithm/product level, they must align analytical tools with their context and constraints; at the decision/project level, they must commit decision

makers and governance structures; at the experience/routine level, they must mobilize change management, training, and local experimentation. This can improve the design of governance between consultants and clients.

Finally, for both consultants and clients, the mapping sharpens reflexivity about power and learning. By seeing how assemblage components travel—how a consultant's framework becomes embedded in client routines or how client data enhance a consultant's products—actors can better negotiate issues of ownership, lock-in, and long-term capability building. Possibly, this supports learning-oriented consultant–client systems in which algorithmic infrastructures are designed to enhance, rather than substitute, organizational autonomy and judgment.

Avenues for Further Research

Future research is suggested to provide insights into several aspects of consulting assemblages and their applications. A comparative analysis across sectors could for instance reveal how these assemblages vary based on industry and project type, thus uncovering sector-specific differences and guiding adaptive consulting strategies. Additionally, developing metrics and methodologies to measure the effectiveness of various assemblages could benefit both academics and practitioners.

Further exploration into how and to which extent specific consulting assemblages facilitate organizational change is also valuable. Researching which assemblage patterns for example most effectively promote successful transformation initiatives can provide guidance on the configurations that support change management efforts and strategic organizational development. Similarly, examining the ethical implications of algorithmic governance within consulting warrants attention. This research should address how proprietary algorithms influence client decisions, issues related to the transparency of these technologies and the ethical responsibilities consultants face in addressing potential biases and power imbalances.

In conclusion, in the era of digitalization and AI, the new metaphor of consulting assemblages provides a new perspective on how agency is dynamically located in consulting environments and what this means for consultant-client relationships.

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