

## Organizational plasticity: what is it? How does it work and why does it matter?

The entire management enterprise has been built on efforts directed towards *efficiency* (with varying emphases over the decades; see [Scott, 2003](#)). This can be defined as the appropriate disposal of resources such that either the least possible inputs are used to produce an output or more output comes from the exploitation of a given amount of inputs (e.g. [Simon, 1997\[1947\]](#)). This approach has provided tremendous support to the development of management as a discipline and it still contributes to the way management is practiced. As a result of this, we know a great deal about how to structure, plan, create, organize, maintain and improve processes, procedures and routines ([Abrahamson, 2002](#)). Instead, we know very little about how to disorganize, create simpler structures from complex structures, isolate and deconstruct/debunk unnecessary routines, reduce bureaucracy to functional levels, for example, ([Abrahamson and Freeman, 2013](#)). And this information would have come at great use to face the constraints to organizational actions imposed by the coronavirus disease 2019 (COVID-19) pandemic. Some have categorized all these aspects under the umbrella of disorganization management ([Herath et al., 2016, 2017](#); [Herath, 2019a, b](#)). However, present day organizations are sometimes required to move towards more flexible and adaptive forms ([Fioretti, 2012](#)) due to an ever-changing environment and workforce ([Myerson et al., 2010](#); [Raguseo et al., 2016](#)). Especially in the domain of human resource management (HRM) ([Ngoc et al., 2021](#)), this need for flexibility has been increasingly evident in the past year, when businesses have had to find different ways to manage the workforce due to unprecedented circumstances arising from the COVID-19 pandemic ([Gigauri, 2020](#); [Carnevale and Hatak, 2020](#)).

A combination of flexibility and adaptability that makes internal organizational processes malleable and open to change is summarized here with the word *plasticity*. One of the challenges of this area of study is that it is both costly and difficult to study. It is so because it is usually practiced by trial-and-error in a fluid process where decisions are either unplanned or only partially planned (in a way reminding of what Magnani calls cognizing “through doing”; see [Magnani, 2007](#); [Secchi, 2011](#)). This happens because *organizational plasticity* is motivated (or based), on the one hand, and practiced (or implemented), on the other, under conditions of ambiguity and uncertainty. In the former case, pressures to respond to what could be a temporary condition of the market or to adapt to an ever-changing technological environment are generally difficult to interpret. This, in turn, determines uncertainty in the way in which *plasticity* is implemented, generating a working solution rather than a recipe. This is not it. *Organizational plasticity* can be observed at multiple operational levels. While the individual could adopt plastic actions (micro), organizational procedures and processes could also be made plastic (macro). In addition to this classic dichotomy, there are several *meso* domains ([Secchi and Cowley, 2020](#)) in which plasticity could manifest; for example, formal and informal social networks.

The authors would like to thank Professor Thomas Lange (Editor-In-Chief) and Dr Fabian Homberg (Associated Editor) for giving them the opportunity to develop this special issue and for handling the papers submitted by the guest editor’s independent from their authors. The authors also extend their gratitude to the European Academic of Management, Organisational Behaviour Special Interest Group and The University of Huddersfield Business School for co-funding the ABMO3 Symposium which helped source articles for this special issue. Finally, the authors would like to thank Symposium participants, all of the contributors, reviewers for their exceptional and tireless work, especially during a global pandemic.



Given the above, the study of *organizational plasticity* through traditional methodologies reveals itself to be largely insufficient. In fact, the above suggests that complex systems research methods capable of tackling uncertainty and ambiguity may be of help. This makes advanced computational simulation techniques particularly useful for the exploration of a topic such as this one, especially since they allow for a representation of complex adaptive systems (Edmonds and Meyer, 2015; Miller and Page, 2007). Moreover, they (can) maintain strong ties with actual organizations, making their findings particularly relevant (Homburg *et al.*, 2020). The idea for this special issue was motivated by the exploration of the opportunity (potential) that agent-based computational simulation modelling could have when applied to the study of *plasticity*.

In putting the aforementioned ideas to action, we organized a symposium on the topic of organizational plasticity in January 2018 co-funded by the European Academy of Management and The University of Huddersfield Business School in the UK (the venue). This symposium was also the Third Agent-Based Models of Organizational Behavior Workshop (ABMO3). We were able to bring together a collection of academics and practitioners from a variety of disciplines and interests for a two-day worth of in-depth discussions. Here, we cast a wide net that welcomed contributions from any discipline that had something to add to the conversation on plasticity, including but not limited to psychology, sociology, management, computer science, engineering, cognitive science, decision science, language, artificial intelligence, economics and philosophy. The submissions we received in the ABMO3 Symposium ranged from empirical investigations to cross-methods studies, and theoretical and philosophical perspectives.

From the perspective of content, our discussion at the ABMO3 Symposium addressed the following key questions:

- (1) What is the plastic organization? What are its characteristics and possible shapes, especially when referring to human resource management (HRM)?
- (2) What are the characteristics of the individuals that deal with plasticity within the organization? How could contemporary cognitive paradigms such as distributed (Hutchins, 1995) or systemic cognition (Cowley and Vallee-Tourangeau, 2013) help us understand cognitive mechanisms that support or hinder change?
- (3) How is organizational cognition framed in a plastic organization? How is it different from a standard/non-adaptive organization? Recent work on the crisis of standard cognitive paradigms is of help (Secchi, 2017; Herath, 2019b; Secchi and Cowley, 2020).
- (4) What is the limit of organizational flexibility? How much and what kind of flexibility leads to better (or worse) decision-making outcomes? Micro, meso and macro (especially HRM) levels of analyses are considered and relevant here.
- (5) Through the famous “garbage can” model (Cohen *et al.*, 1972), the literature indicated that anarchy is sometimes preferable to hierarchy (Fioretti and Lomi, 2010; Herath *et al.*, 2016; Herath, 2017). Are there other alternatives to the anarchy-hierarchy model? How so? And how do these alternatives reflect on HRM practice?

Following the contributions received in the workshop, we embarked on a long journey developing these ideas into fully fledged articles that have finally reached the publication stage. This special issue thus is the culmination of our efforts in the past two years. It was open to those who participated in the ABMO3 Symposium and, at the same time, to a wider audience, to extend the range of interested academics. In the end, though, the topic of this special issue – i.e. exploring plasticity through agent-based modelling – is very much a niche and we mainly received submissions from the ABMO3 Symposium’s participants. As readers are about to find

out, the quality of these submissions has been remarkable in terms of the variety of topics covered and of the way in which agent-based computational simulation has been employed. Not only *organizational plasticity* is a relatively uncharted domain but the method used here is also unusual for HRM research. Before we can add more on these points, it is probably useful to outline some of the salient elements of the five articles featured in this special issue.

The starting paper of the collection “On the quest for defining organisational plasticity: a community modelling experiment” by Siebers, Herath, Bardone, Farahbakhsh, Knudsen, Madsen, Mufti, Neumann, Richards, Seri and Secchi is a viewpoint piece [1] that sets the agenda for this special issue and our exploration of *organizational plasticity*. This article shows how the novel community modelling framework (Philolab) was operationalized to brainstorm new conceptual ideas on *organizational plasticity* in a structured and efficient set up with a multidisciplinary group of 14 participants (split into two independent working groups). This definitional article demonstrates how two independent working groups with the goal of defining plasticity through agent-based modelling arrive at a set of axioms that share several core elements. For example, both groups indicate a mix of internal and external causality mechanisms for the emergence of plasticity. These core elements thus pave the way for developing a shared definition of *organizational plasticity* that transcends disciplinary boundaries.

The second paper “Towards developing a measure of disorganization”, written by Herath [1], approaches the exploration of plasticity through disorganization. Disorganization is often seen as an antecedent to plasticity. However, while we see rich conceptual development in this domain, we are yet to move these ideas forward through empirical investigation. As such, this paper is one of the first of its kind to explore the problem of specifically measuring disorganization. Herath uses the Work and Employment Relations Survey UK data to develop a disorganization index with items sourced from existing measurement tools. Results showcase disorganization having a positive effect on the individual financial performance of workers. Importantly, this paper highlights the limitations of adopting pre-existing scales for measuring disorganization and presents a forceful case for the development of a dedicated measurement tool for disorganization. The underlying assumption here is that plastic features are more likely to emerge when disorganization is practiced.

Neumann’s “From organizing to organizations: a typological scale of human relations management outside the legal world” is the third paper of this special issue. The author looks at the interplay between hierarchical structure and informal networks in the unique setting of criminal organizations. This interplay between hierarchy and deviations from it is often a setting where conversations around the utility of plasticity emerge. Using an applied case study methodology, this study shows how undifferentiated networks based on informal trust lack mechanisms for conflict resolution while hierarchical organizations provide the highest degree of structural resilience up to the level of self-organized system criticality. One of the messages from Neumann’s paper is that unbridled plasticity is not necessarily a net positive, especially given the specific contextual characteristics of some environments.

The following paper, the fourth, “Organisational plasticity: can we really model human-agent behaviours?” by Richards takes aim at the tools (specifically agent-based modelling) often vouched for the exploration of phenomena such as plasticity. Through the use of a creative review and of analogies, this paper articulates the important trade-offs between predictability and realism when we consider the complex nature of human behaviour, and more so that of interactive human-agent behaviour. As such Richards raises essential critical points as he questions the relevance of these tools for exploring human behaviour. The study brings to bear the complications involved which are relevant to anyone using computational simulation tools for exploring *organizational plasticity*.

The final paper of the collection, “Cognitive attunement in the face of organizational plasticity” by Secchi [1] explores the practical implications of plasticity from a micro

perspective. This means that the study designs and performs an agent-based simulation built on assumptions about cognitive dispositions of employees in an organization. Secchi operationalizes elements of systemic cognition (see above) to understand how the agent-employee copes with and adapts to an increasing number of tasks. In doing so, the simulation lays the ground for a better understanding of the links between micro and macro structuration of *organizational plasticity*.

The summary of the articles makes it apparent that this special issue offers a robust exploration of *organizational plasticity* by examining some of the most important questions in our continued effort to develop a better understanding of the phenomenon. In particular, the tension between the micro-individual and the macro-structural are very important elements to understand how HRM could not just cope with but embrace plasticity. Through the variety of takes, the tapestry of ideas and the unique insights of the contributions above renders this special issue a foundational collection of articles exploring this emerging topic. As such, we believe this special issue is of relevance to a broad array of HRM academics as well as practitioners who are interested in understanding the inner workings and implication of *organizational plasticity*. We hope you enjoy reading this collection of articles as much as we have enjoyed putting them together.

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#### Note

1. The double blind peer-review process for this paper was handled by the Editor-in-Chief independent of the author(s).

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