

Pragmatic View of Research of Organisations

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Abstract:

Research question (RQ): Is pragmatic research the answer to researching complex, uncertain, and irrational organisational landscapes?

Purpose and originality: This article explains a mechanism-based pragmatic approach to organizational science. A comprehensive examination of core approaches to organizational research reveals that traditional organizational theories and classical models prove inadequate in providing a holistic understanding of the escalating complexity and multimodality of organizational phenomena. This underscores the novelty and potential of the pragmatic approach in tackling these complexities.

Method: The research used organizational source criticism as a historical methodology to analyse the shift in organizational science beyond classical objectivist conceptualizations. Mechanism-based research explored and understood the contingency of knowledge and action using a pragmatic approach to organisation research.

Results: This study's findings underscore the practical implications of pragmatic research in organizational science. It is not a static method but a dynamic and evolving one that effectively addresses organizations' changing needs, societal trends, and technological advancements. This emphasis on adaptability and relevance keeps pragmatic research at the forefront of organizational science, making our findings all the more significant and interesting.

Limitations/Further research: It's important to note that this research is based on conceptual views of organizational pragmatic research. While it involved a systematic analysis of the application of pragmatic research methods in the empirical field, it's crucial to acknowledge that further analysis is not just a suggestion but a necessity to fully understand the method's role in explaining complex organizational phenomena. This acknowledgement of the need for more research encourages the reader to delve deeper into the topic, fostering a sense of curiosity and engagement.

Keywords: paradigm, pragmatism, concept, model, complexity, reality, social mechanism, organisation.

1 Introduction

Major events in human society often lead to permanent changes in how people live and work, affecting every aspect of human life. The term 'modernity' describes these changes, characterised by technological, economic, and institutional features. Traditional and

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organisational science are rooted in modernist assumptions, as Gergen and Thatchenkery (1996) stated. It is empirical, inductive, observational, and experimental science, beginning with Francis Bacon's book 'The Organon.' His work became a source of various scientific and technological advances. Since then, new methodologies have developed, such as idealism and romanticism, but a rationalist or positivist view of organization still prevails today.

Itzkowitz (1996, p. 31) argues that traditional micro theories see individuals and their rational actions as pivotal for the social world. Society or social structures become possible only when actors' psychological meanings and rational intentions are revealed. In response, macro theorists deny individuals' prevailing role, arguing that micro theory is incapable of creating and developing structures. Additionally, Bueno and Salapa (2021) confirm that the classical theories of organization and administration, often the foundation of our studies, share the idea of a static and universally applicable organizational structure aimed at smooth functioning in achieving the outcome. However, as we delve deeper into these theories, they may not hold up to the realities of our dynamic and complex organizational environments. Taylor (1911). Scientific management, for instance, is based on “one best way” of applying Taylor’s scientific management empirical and experimental methods to solve everyday problems of organisations, which was not empirically validated. The rationality of scientific management treating workers as machine parts, emphasizing efficiency and productivity, and neglecting human factors, social context, and worker relationships do not explain the complex and dynamic functioning of the organisation (Casey, 2002, p. 71).

Fayol (1949) emphasized the hierarchical top-down management style and rigid formal structures and procedures. While these aspects may have been effective in the past, they fail to address the multifaceted challenges of a dynamic, permeable, and ever-changing organisational environment. Administrative theory, for instance, avoids the motivation factors of organisation members and gives no insight into engaging and inspiring workers. Fayol’s view of the organisation is simplistic and does not address the multifaceted challenges of a dynamic, permeable, and ever-changing organisational environment.

Weber (1947) developed the bureaucratic theory of organization, assuming that organizations are impersonal, structured by rules and procedures, and inefficient. Formalising processes and activities slow down the organization and make it unresponsive to change. Workers feel like the cogs in a big machine; their contribution, recognition, and individuality do not count. The bureaucratic organization theory does not explain the role of motives, responsiveness to change, and adaptability capacity of the organization in a rapidly changing and complex organizational environment.

However, classical organizational theories provide insight into foundational principles of organization. Only their exclusive emphasis on structure, control, and efficiency neglects the flexible, motivational, and adaptable capacity for change and the role of people in these processes (Itzkowitz, 1996, p. 22).

The rationalist paradigm reinforced modern society's dependence on science and technology (Gergen & Thatchkenkery, 1996). In the 20th century, positivism faced new philosophical currents such as pragmatism, hermeneutics, phenomenology, and social constructivism. However, these opposing philosophies could not successfully engage with positivism due to their lack of clarity (Hjørland, 2016, p. 133).

The Enlightenment period significantly impacted organisational research and shifted the focus to employees and managers. We know that an organisation's knowledge is not objectively rational but rather a result of individual rationality (Gergen & Thatchkenkery, 1996). Hjørland (2016) argues that classical rationalism emphasises the importance of intuition and reason in science. As a part of European philosophy, this approach is a fundamental aspect of the rationalist paradigm. The subsequent paradigm of logical positivism, which emerged from a combination of empiricism and rationalism, remained significant until the rise of pragmatic naturalism in the 1960s under the leadership of Thomas Kuhn (1922-1996).

Kuhn coined the term "paradigm," which refers to a set of beliefs, values, techniques, and other factors shared by a particular community. According to Hjørland (2016), Kuhn believed that articulated and unarticulated factors influence paradigms in the research process, and new paradigms emerge, leading to new theories, approaches, and definitions. Taylorism, the first rational paradigm, held the firm belief that maximising the sensible behaviour of a rational actor could only be achieved through carefully planned, organised, coordinated, and controlled processes. From a rationalist perspective, management by Objectives and Total Quality Management is a method to increase employee performance. Many management researchers, such as Lawrence & Lorsch (1967), Vroom (1964), House (1971), Hersey and Blanchard (1980), and Fiedler (1967), took a similarly rational approach to studying the ideal manager.

In 1957, Herbert Simon introduced the concept of "bounded rationality," which raised the crucial question of the limitations of humans in processing available or hidden information. All theories and paradigms from this period emphasised the importance of human direction and control in organisations. March and Simon (1958) brought the discussion and study of organisations into the academic arena. They illustrated the nature of the "limits of rationality" at the limits of individuals constrained by the elements of the situation that are not included in the rational calculations supporting the strategic factors (Weick, 2019, p. 1531). Hedström and Swedberg (1998) see March and Simon's (1958) present rational constraints in decision-making as an example of theorising with social mechanisms. Bromiley et al. (2019) argue that the limits of rationality set by the situation lead to the perception and understanding of the selective and attentive effect of different mechanisms at different organisational levels involved in decision-making (Weick, 2019). Furthermore, strategic organisational performance is crucial and is the focus of organisational science research (Cooper & Burrell, 1988; Ambrož, 2021). However, successful management, even on the strategic level, relies heavily on the analytical capacities and competencies of the individual (Ambrož, 2021, p. 64).

Senge (1990) argues that the perception that someone up there is in control of an organisation is a pure illusion. This illusion rests on the belief that controlling an organisation's dynamic and detailed complexity is possible. To solve the problem of organisations' hidden complexity and dynamics, we first need to understand what organisational research has brought to light in the past. The history of organisations shows that we can trace many organisational changes back to important social events such as the Industrial Revolution, the globalisation of markets, and the development of information and communication technologies. Secondly, as organisations become increasingly complex, uncertain, and irrational, it is necessary to move away from an exclusively rational perspective and adopt new philosophical and methodological approaches to understand better and address the evolving concept of organisation. Organisational models and traditional research methods are insufficient to cope with the rapid and profound changes caused by modern society's complex and turbulent circumstances.

This article highlights the pragmatic shift in organisational science that presents itself in mechanism-based methodology approaches. (Figure 1). Empirical evidence on organisational research shows that current organisational theories and classical models are not the contemporary focus of organisational research and may not make sense of the phenomenon of organisation. The article explicates three core methodological principles: (1) mechanism-based theorizing, (2) multidisciplinary research, (3) problem-solving research resulting in actionable knowledge, and (4) mixed methodology with advanced analytical techniques rooted in inquiry and practical research process.

2 Theoretical framework

Natural science always tries to understand organisations and explain their behaviour (Van Aken & Romme, 2009). While positivist rational assumptions and deductive methods work well in the natural sciences, they require some refining in social sciences and studies. The positivist paradigm has four dimensions: objectivity, generality, empiricism, and linearity (Zhang et al., 2011). To gain a complete understanding of an organisation, Uduma and Sylva (2015) propose that a mixed approach is necessary, as relying solely on interpretative or positivist approaches can be limiting. Although positivist research studies can offer insight into one aspect of the problem, they do not suggest solutions. Mckenna et al. (2001) advocate using non-rationalist and non-positivist paradigms to overcome this gap in future research.

From a human perspective, the concept of an organisation is complex and individualised, and there are no universally applicable laws. Personal and societal characteristics, such as cultural capital, influence the interpretation of organisational research findings. When studying social systems, researchers cannot remain objective observers, and their participation will inevitably impact the object of analysis. Postmodern, critical approaches to the organisation are the device for understanding the non-deterministic view of the organisation (Feys, 1965; Zhang et al., 2011).

Weik (2022) argues that organisations influence how employees think and feel about the world. The author criticises rationalist and cognitivist attitudes to organisational institutionalism, which do not include the notion of life as the source and the motion of all creativity, valuation and self-actualisation. Weik (2022) emphasises predominantly the immediate experience of feeling, perception and understanding, the process of creativity and novelty and presents the organismic, humanist and non-humanist model of life, which guards against the reduction of knowledge to solve the problem of social collaboration and non-focus on creativity and novelty.

The organisational research history can highlight the pathways to future organisational research (Maclean et al., 2016). Interpreting some segments of organisational history explains the core ideas, constructs and theories that underlie the pragmatic research approach as philosophy and methodology. Moreover, Coners and Matthies (2014) argue that the historical approach combined with content analysis explains and understands various organisational phenomena. Content analysis categorises primary data collections based on interviews or open-ended surveys and transforms qualitative data into quantitative outcomes. We can analyse historical archived data with new analytical techniques that did not exist before (Edelmann et al., 2020).

Moreover, using newly digitalised data, researchers can develop new macro-level theories of social networks and cultural change and micro-level theories to explain human decision-making on micro levels. Examples include new macro-level theories of social networks, cultural change, and micro-level theories of human decision-making. According to Scherning (2011, p. 4), multilevel research on technology adoption uses social network theory on different levels to research theory, measurement, and analysis.

Wadhvani and Sørensen (2023) introduce the role of serious play in historical and organisational research. Drawing on the pragmatic philosophy of Pierce (1877), the authors argue that playful methods are effective for abductive methods in seeking new knowledge and improving it by creating and categorising new sources, detecting connections, developing new insights, and entertaining new presentations. New hypotheses and interpretations arose from the profound experience of the external and internal worlds comprised of the symbolic worlds connected by rules, habits and representations (Wadhvani & Sørensen, 2023).

Pfeffer's (1993) research shows that studying organisations requires further development due to the variety of theoretical and methodological approaches, which necessitates more agreement. Karatas-Özkan and Murphy's (2010) study highlights the importance of understanding and examining alternative perspectives on organisational analysis. Burrell and Morgan's functionalist, interpretive, radical humanist, and structuralist, as well as Hardy and Clegg's normative, interpretative, critical, and postmodern paradigms, establish modern organisational analysis. Hardy and Clegg (1997) stress the importance of intuitively exploring diverse research methodologies. They assert that the level of reflexivity demonstrated by knowledge in a specific context is crucial in achieving research objectivity. The authors

highlight the significance of distinguishing between theory and practice to avoid solely relying on normative and prescriptive practice concepts. Research and practice are inherently distinct, and reference images shape the identity of theory. A broader approach to theorising that encompasses different domains is necessary since the approach cannot recognise itself. Finally, plural communities tend to be more reflective of conventional wisdom.

According to Weick (1993, p. 635), reality is an ongoing accomplishment aimed at creating order and making retrospective sense of what occurs. Organisations are indeed transforming using new technologies and new sources of data. Employees' experiences are changing accordingly, generating vast data about the organisations. Davis (2017) argues that emerging pervasive markets can make organisations obsolete in many areas of human endeavour. Different access to information and markets will reshape organisations. The author even argues for the new institutions to replace the old ones. Polzer (2023) states that newly developed data, combined with established methods and supported by new analytical techniques, are the latest challenge to studying human behaviour at work. Moreover, Bosco (2002) thinks that the greatest potential to further organisational scientific progress lies in

- the extraction and selection of large-scale data,
- using a formal protocol and,
- open access to databases.

Church & Burke (2017) point out that topics like strategy, organisational design, mission, human capital, reward systems, diversity and inclusion of employees will play significant roles in the future. However, the authors also emphasise three key drivers important in organisational change processes: changing nature of work, changing nature of data, and changing workforce dynamic. These changes are related to changes in the organisation's design. Moreover, drivers are the new venue for future organisation research. The future of work is becoming a relevant future research topic. Barbosa et al. (2002) are talking about the 4th Industrial Revolution. Robotics, AI, biotechnology, and nanotechnology will mark this revolution.

Wenzel et al. (2020) see the organisational future as an open-ended category in organisational life and propose "future-making practices" to delineate it. According to Church and Burke (2017), four future trends emerge from the key drivers explaining the nature of organisational change. The first is a shift to platforms over products, where platforms are new organisational designs due to the development of communication and information technologies. The second is a shift from mechanic to digital due to the need for agility and quick response of the organisation to the external and internal environment challenges. The third trend is a shift to insights into data that generate huge volumes of hidden information. Insights are more important than data-generating patterns and trends that support the future behaviour of organisations. The fourth trend is a shift to talent over employees due to changing demographic trends and the need to select the use of resources by high-potential people.

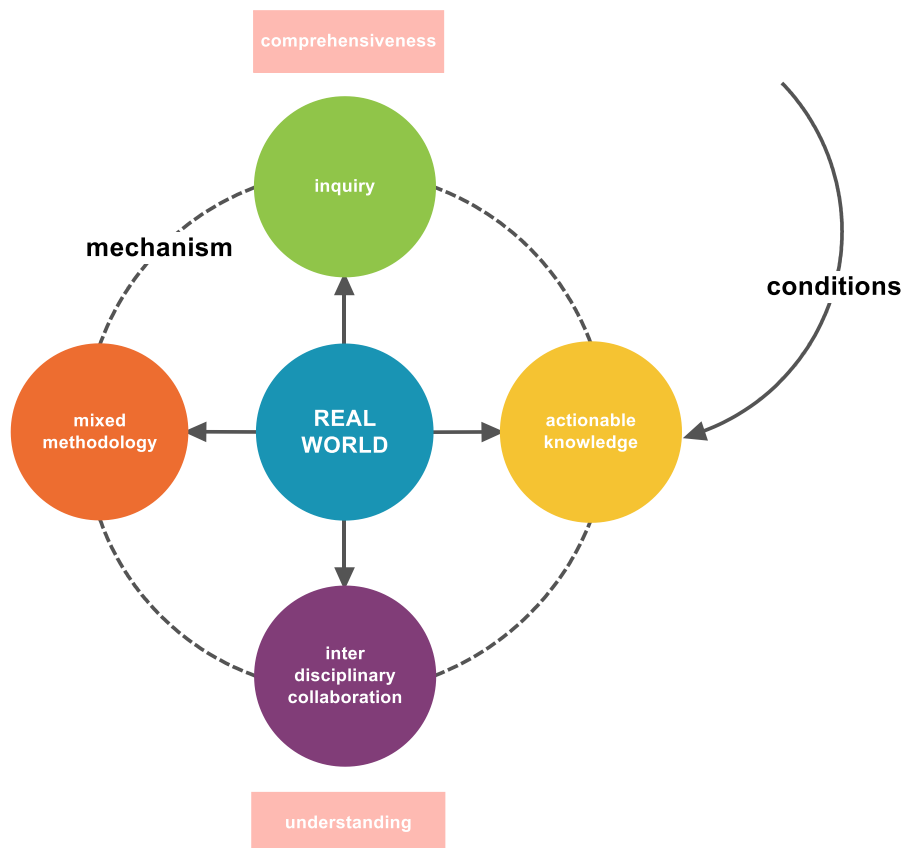


Figure 1. Pragmatic shift in organizational science

Research question: Has pragmatic research the explaining power in answering complex, uncertain, and irrational organisational landscapes?

2.1 Pragmatism as Organisational Philosophy

Back in (1998), Wicks and Freeman made a case that organisational studies required a significant shift. They believed pragmatism was a valuable philosophy that brought attention to ethical and moral concerns. More recently, Farjoun et al. (2015) discovered that many scholars of organisational theory view pragmatism as a philosophy that can help solve problems in organisational processes and relationships.

A pragmatic approach is primal to navigate changes and complexities within an organisation. This approach balances traditional rational and structural viewpoints in contemporary turbulent times marked by wars, migrations, industrial and technological revolutions, and environmental challenges (Lorino, 2018). Brecht (2011) and Simon (1957) suggest that humans make decisions based on limited knowledge and cognitive capacity, which Lorino (2018) further explains as complexity and uncertainty, requiring exploration, experimentation,

teamwork, community involvement, and significant resource commitment from the organisation (Pérez-Ortega & Vargas-Hernández, 2018). Pragmatism combines value, meaning, and practical consequences by linking truth with usability, as stated by Dewey (1986).

Tywoniak et al. (2021) provide an operational definition of pragmatism based on triadic thinking and mode of inquiry. This approach involves seeking a third way to discover useful solutions, unifying action and thought through a model to aid actors in understanding the situation, and interconnecting structure and processes in an ongoing process narrated as a story from the initial situation's description to the disruptive event, proposed actions, immediate action, and feedback loops to stabilise the system.

Tracy (2007) noted that context is essential in organisational research, involving observation, pattern-seeking, and theorising based on empirical evidence. Modern organisations combine classical concepts, social and behavioural sciences, and organisational theory, creating a link between the organisation and its environment (Davis, 2010).

2.2 Pragmatism and New Competencies

Current researchers tend to concentrate on their particular fields when studying organisations instead of affiliating themselves with a specific theoretical tradition. Davis (2010) clarifies that the sluggish development of new theories can be attributed to the absence of experimental control among researchers. We commonly see organisations as instruments rather than natural entities, and the patterns within them can shift over time because of the dynamic nature of modern organisations, making it challenging to maintain generalisations.

As per Walsh's (2006) research, knowledge is a critical production factor that assists workers alongside machines and capital. In today's knowledge-based work, problem-solving and strategic brokering are paramount. Therefore, workers require new competencies such as perception, attentiveness, and decision-making to excel in the new organisational setup. Wealth accumulation nowadays relies on investing in human capital through formal education. Balková et al. (2022) argue that this is insufficient and recommend that organisations' values significantly impact their performance and should be studied systematically. Organisations are constantly in need of creative behaviour. In 2016, Obeidat and his colleagues presented a proposition for additional exploration into the AMO theory. This theory posits that a functioning system has three separate elements that impact employee qualities and ultimately aid in the company's prosperity: an employee's capability, drive, and chance.

Ganster and colleagues (2018) highlight the importance of conducting psychological research in organisational sciences. They explore different approaches to stress and health, including arousal studies, neuroscience perspectives, emotions, individual differences, and sleep. To better comprehend the impact of work on our mental and physical well-being, the researchers

recommend creating an Allostatic load model, as proposed by Ganster and Rosen (2013), which can shed light on the factors that contribute to stress progression.

Waldmann et al. (2017) reviewed the advent of neuroscience in management and organisational research. The review identifies two general topics: how the brain may be important to management and organisational behaviour. Authors argue that the brain when resting, provides trait-like information that is important in understanding individuals' cognition, emotions and behaviour. Secondly, the brain offers state-like responses to stimuli. Waldmann et al. (2017) emphasise the need to research the theoretical basis of neural concepts and team-based neuroscience technologies, identifying and developing the organisational leaders to avoid narcissistic, Machiavellian and psychopathic individuals. Authors suggest using neuroscience to identify entrepreneurial talent and verbal and nonverbal communication in teams.

2.3 Mechanism-based Theorising

The past can highlight the pathways to future organizational research (Maclean et al., 2016). Interpreting some segments of organizational history explains the core ideas, constructs, and theories that underlie the pragmatic research approach as philosophy and methodology. Moreover, Coners and Matthies (2014) argue that the historical approach combined with content analysis explains and understands various organizational phenomena. Content analysis categorises primary data collections based on interviews or open-ended surveys and transforms qualitative data into quantitative outcomes.

The impact of technology, digital advancements, and the COVID-19 pandemic has caused significant changes in organisational structures and work processes (Polzer, 2022). Cascio and Montealegre (2016) highlight the transformative effects of cloud and mobile computing, big data and machine learning, sensors and intelligent manufacturing, robotics, and clean-energy technologies. These advancements have greatly influenced work efficiency and performance in organisations. However, there needs to be more research on the influence of modern technologies on leadership and organisational roles, as the authors argue.

Thanks to the information and communication technology revolution, scholars worldwide now have access to organisational data, leading to a transformation in organisational design (Davis et al., 2016). Problem-driven work has taken centre stage, and the focus is no longer solely on the organisation. This work utilises mechanism-based theorising and research to understand better the social mechanisms explaining relationships and how and why certain outcomes occur (Davis & Marquis, 2005; Anderson et al., 2006). Mechanism-based research aims to understand the processes that lead to causal relationships by examining the mechanisms and theories involved (Ylikoski, 2019). Reviewing these mechanisms, we can move beyond surface-level descriptions of phenomena (Davis & Marquis, 2006). Many researchers and scholars agree that having more data does not necessarily equate to more precise or higher-quality theories. Becker (2014) expands on this concept by linking social

mechanisms to case studies that deeply examine specific situations, organisations, and events.

In (2007), Tracy implemented a problem-based methodology that was contextual. This approach, created by Huberman and Miles (1994), involves an iterative process of analysing data while drawing upon previous research. The analytical process focuses on layers and cycles, and Tracy believes it is essential to produce intriguing, practical, and theoretically significant outcomes by paying close attention to detail. She dismisses the interpretive analysis steps that rely on predetermined rules, preferring to immerse herself in a context, iteratively analysing data, revealing power relations that hide subordinated knowledge, and developing results that can engage and be evaluated by different audiences. Zang (2023) concurs that observable studies can only be fully understood when linked to unobservable internal mechanisms supported by the ontologically defined existence of underlying structures.

2.4 Pragmatic View of Mechanism-based Research

As Weber (1947) noted, the social and organisational world is not a means that determines ends. Important factors are motives that have various relations to means. The same action and structure can lead to different social outcomes. Ekström (1992) believes that social actions are influenced by mental dispositions, intentions, social contexts, meanings, and structures, making it a complex interplay. Zhang (2023) argues that we must note that observable events actualise unobservable ones. We can understand the social world by understanding the structures that generate events.

According to Elster (1998), mechanisms provide insight into the inner workings of human behaviour, particularly the relationship between beliefs and desires. Similarly, Ekström (1992) advocates for a causal explanatory approach to research, which focuses on identifying the causal properties of processes instead of just establishing correlations between variables.

However, research using mechanisms rests on some rules: stopping rule, boundary rule, rule of levels, self-awareness rule, temporal dimension, and links to practice. These rules are bound, set limits, assess capabilities, set time limits, and develop the usability of the process using mechanisms in research (Anderson et al., 2006). Hedström and Ylikoski (2019) develop a different set of characteristics. They emphasize that mechanisms are far more than unobservable. They can involve irreducible links between the mechanism and its effect, forming causality, which is local with spatiotemporal dimension, enabling the forming of mechanism hierarchy and its variable structure.

Mechanisms aim to understand how individual parts form a collective result (Ambrož, 2022). Social mechanisms can be classified into three types by Hedstrom and Swedberg (1998): situational, action-formation, and transformational. Situational mechanisms show how macro-level factors affect the micro-level. Action-formation mechanisms, on the other hand, operate

on the micro-level, connecting cognition to behaviour. Transformational mechanisms, the third type, transform micro-level effects into macro-level outcomes. The ultimate aim of mechanisms is to connect these three levels and uncover the underlying mechanisms at the macro level. Situational mechanisms shape organisations, networks, and structures related to objectives, opportunities, beliefs, and expectations. Action formation and transformational mechanisms bring about both intended and unintended macro outcomes for actors through multi-level and multi-factor processes (Hedstrom & Swedberg, 1988; Hedström & Wennberg, 2016). As Weber (1936) argued, the motives of the social actors define the use of means to achieve ends. Social actors may have different motives, actions and structures to achieve the same end or use different motives, actions and structures to achieve various ends. We can hypothesise that different social mechanisms underlie social action (Ambrož, 2021). Coleman (1990) suggests that individual properties, actions, and relations to one another explain social facts and relational structures based on individuals' rational choices in social life phases.

In Aparna et al.'s (2019) individual-level MMO (massively multiplier games) framework, mechanisms are applied to three independent interacting domains: performing capability, desire to perform, and chances to perform. Barnett and Coulson (2010) define the strong social importance of the MMO as a form of online communication tool. Players in the MMO interact, form relationships and friendships, create working groups, and work together to accomplish goals. The MMO framework requires many resources to conduct in-depth analyses of individual performance.

In their research, Baum and Amburgey (2017) use organisational ecology to illustrate how social, economic, and political factors impact the variety of organisations, their evolution or extinction, and how different levels and dimensions of organisation can be combined. Hedström and Wennberg (2016) suggest that organisational ecology connects macro and micro levels and is a promising avenue for future research on organisations.

2.5 Multidisciplinary Research

In the past two decades, a new stream of research in organisation science emerged addressing organisational relationships, alliances, and partnerships. Engaging organisations with external agencies, local communities and non-profit organisations increases and develops the urge for collaborative action and transformation. The nature and meaning of the network in change processes are in introducing the role of dyadic relations based on the dialogue principle as a central mechanism for change learning new sustainability capabilities (Ryan et al., 2012).

Multidisciplinary research on organisation networking could develop knowledge of system-level change mechanisms, relationship dynamics, and mechanisms of dyadic learning on intra- and inter-organizational levels (Ryan et al., 2012; Ambrož, 2021). Organisations can create an equilibrium of stability and change in the internal and external environment by recognising the mechanisms constraining actors' ability to utilise agency (Capra & Luisi, 2014; Flockhart, 2016). Johnson and Onwuegbuzie (2004) emphasise the pragmatic

philosophical framework's nature in a multidisciplinary approach. They view knowledge as constructed (organisation as structure) and functional (organisation-environment transactions).

Breslin (2011a, 2014, 2015) argues for the research of evolutionary processes in organisations, introducing two approaches to evolution processes in organisation entities and a practice-based approach. The entity's approach advocates that ideas, knowledge and capabilities are the features of individuals, groups and organisations. The practice-based approach concentrates on how ideas, knowledge and capabilities perpetually enact and change through actions. Moreover, Peschl (2023) argues for a paradigm shift in understanding organisation as an innovation process based on organisational learning and a source of innovations.

Polzer (2023) introduces new trends in organisational research. He confirms that organisations employ organisational scientists to complement their informational science teams' research on concrete organisational problems. Organisational scientists have profound disciplinary knowledge and methodological and analytical expertise for conducting rigorous human resource research. Polzer (2023) emphasises that we face a new organisational landscape with research challenges such as data-driven decision-making processes developing from algorithmic aversion to appreciation, from algorithmic complements to substitutes, embedding algorithms in the flow of work, analysing social networks, and adapting collective intelligence in generating scientific knowledge through teams. Polzer et al. (2022) see meetings as a research source studying team interactions and conversations using conversation metrics. However, Polzer (2023) directs attention to new phenomena based on the development of computational linguistics to measure culture. Many other areas of work and management will become subject to algorithmic influence and raise questions about control, monitoring, transparency, privacy and fairness (Gagné et al., 2022).

Combining machine learning and artificial intelligence allows practitioners to use the information from abundant data and learn from data scientists. Using the design thinking method as an iterative process for redefining processes and creating innovative solutions (Razzouk & Shute, 2012; Church & Burke, 2017) as a parallel to the scientific method fosters better collaboration in the internal organisational research processes. This changing landscape of the organisational research ecosystem helps to bridge the research and practice and gives way to a pragmatic approach to scientific research (Polzer, 2023; Sarwar & Fraser, 2019).

2.6 Problem-driven Research

As we investigate future research venues for organisations, we have realised that the traditional definition of an organisation is no longer sustainable. Davis & Marquis (2005) and Davis (2006) highlight a significant shift in organisation theory research. Previously, organisation research was driven by paradigms; now, it is driven by problems. The effects of paradigmatic approaches to study organisations are no longer effective (Davis, 2006). Instead,

less obvious mechanisms of aggregation allow social scientists to analyse and interpret data at different levels of granularity, uncover patterns and relationships within complex social systems, and generate insights that inform theory, policy, and practice. That creates order within the organisation science and is key to understanding organisational behaviour (Coraiola et al., 2023).

In a study conducted by Davis et al. (2005), over 120 articles on organisational theory were analysed, and they found that only a handful rest on classical organisation theory (institutional theory 25.4%, network theory 16.8%, population ecology theory 6.7%). Surprisingly for the author, contingency theory was only used by 2.5% of the authors. On the other hand, 56% of the authors used organisation theory in their research. The authors' chosen descriptors were quite diverse, covering many themes, and Davis (2017) reinstates the problem of the phenomenon called organisation, defining it with relationships and actions.

2.7 Technology Mechanism of Organisation Research

The impact of technology, digital advancements, and the COVID-19 pandemic has caused significant changes in organisational structures and work processes (Polzer, 2022). Cascio and Montealegre (2016) highlight the transformative effects of cloud and mobile computing, big data and machine learning, sensors and intelligent manufacturing, robotics, and clean-energy technologies. These advancements have greatly influenced work efficiency and performance in organisations. However, there needs to be more research on the influence of modern technologies on leadership and organisational roles, especially in the field of psychological theory, on how to cope with technological developments, as the authors argue.

As we all know, our world is becoming increasingly global and technology-driven, reshaping how we create value, work, communicate, and interact in organisations. According to Cascio and Montealegre (2016), it is the job of organisational researchers to interpret these ongoing changes and their direct impact on organisational research. Asante (2013) presents two schools of thought on technology's influence. The first is technological determinism, which holds that technology plays a crucial role in determining an organisation's success. Research studies in organisation and technology explore how technology interacts with organisational aspects such as product and process quality and customer relations. Second, an opposing school of thought suggests that technology can shape human action. This viewpoint considers technology as a reflection of human behaviour. Assante (2013) notes that social interactions and political decisions play a crucial role in determining the development and application of technology.

Organisations invest heavily in technology with the clear expectation of enhancing their overall performance and productivity. The findings from studies conducted by Lakhwani et al. (2020), Borowiecki et al. (2021), and Gomes et al. (2018) indisputably demonstrate that IT technology has a positive impact on an organisation's productivity. Orlikowski and Barley (2001) and Malayeri et al. (2011) make it crystal clear that there is an essential contrast

between the beginnings of organisational studies and information technology. This difference lays the groundwork for an invaluable collaboration between institutional analysis and information research, highlighting technology's material properties as a crucial factor for organisational research. Through this approach, we can thoroughly analyse and explore the field.

Lazer et al. (2009) argue for a new computational social science based on the short-term teams of social and computer scientists. Computational science differs from classical social science in using new data sources and multi-discipline teams as a new intellectual community. It is usually digital and large-scale from all spheres of human life (Foster, 2023). Overall, Foster's characterisation underscores the transformative impact of computational approaches on social science research. It highlights the shift towards digital, interdisciplinary, and data-driven methodologies that enable researchers to explore and understand human behaviour and societal phenomena in novel ways.

New science calls for a new cross-disciplinary approach (Lazer et al., 2020). New data sources are hybrid: historical archived data and data on organisational behaviour aimed at understanding employee behaviour, performance, and well-being. In this domain, research scientists will continue to play an important role in explaining psychological, sociological, and organisational phenomena (Coraiola et al., 2023). Lyra et al. (2023) introduced NERMAP, a semiautomated program for discovering future events through the timeline, expressing the need for a small group of researchers. This program works with machine learning and can gather 83% of future events in documents compared to humans, significantly sparing time and lowering costs.

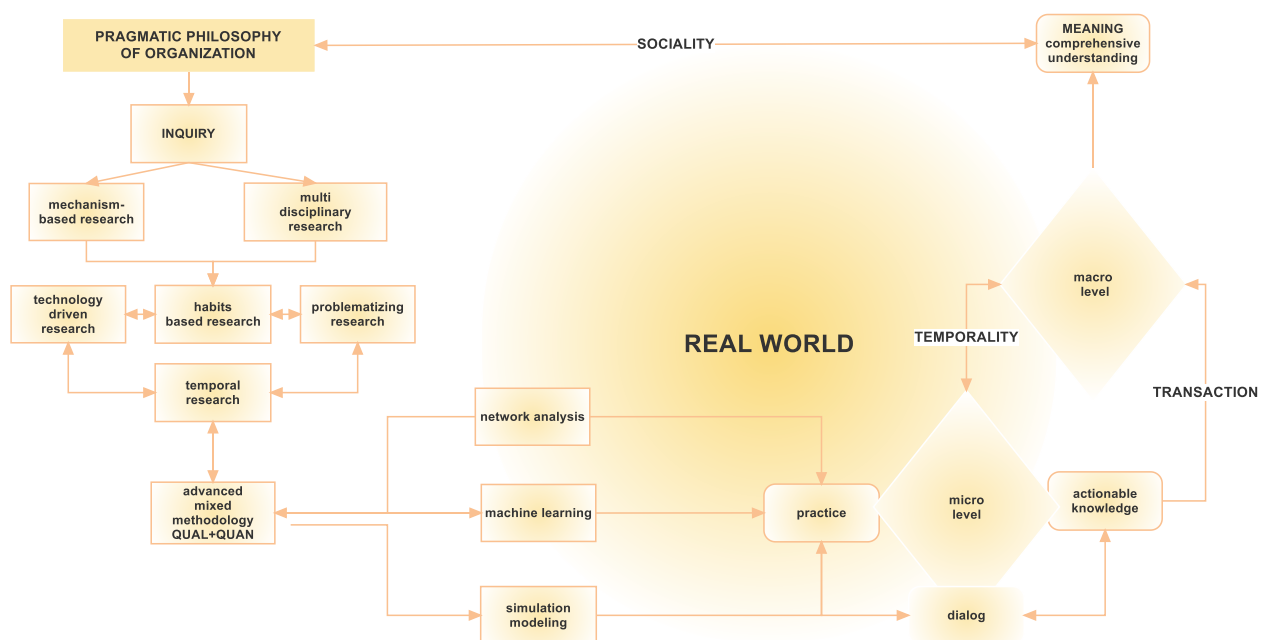


Figure 2. Conceptual model of pragmatic research of organisations

3 Method

Using organisational source criticism as a historical methodology, I researched sources in the history of organisational theories and concepts (patterns extending over time, contingencies, and contexts) to establish the veracity and meaning of the pragmatic concepts of the organisation (Burgelman, 2011; Heller, 2023; Lorino, 2018, p. 68) Through selective interpretation of pragmatic research concepts, I present the mechanism-based concept of pragmatic organizational research in a case study of the organisational culture of three industrial organisations. A case study is a method of inquiry that allows for a comprehensive understanding of a particular case within its real-life context (Schultz & Hatch, 1996). Case study as a research method provides a comprehensive, in-depth understanding of organisational phenomena (Harrison et al., 2017). Moreover, Ylikoski (2019) argues that case studies are a permanent issue in social science methodology and are suitable for the pragmatic method of inquiry to mechanism-based theorizing as they generate actionable knowledge of organisational phenomena (Yin, 2003). The pragmatic approach corresponded to the research goals of consulting in three industrial organisations as an initial method of qualitative analysis with the method of inquiry (King et al., 2003). During the consulting project preceding the doctoral project, I examined the processes underlying organisational culture as complex phenomena (Gutterman, 2023).

3.1 Organisational Culture Performance Project

The research design for the project linking organisational culture to performance is based on Hedström and Swedberg's (1998, 2005, p. 18; Gutterman, 2023) taxonomy, converting to actual (situation), constructive (action-formation) and ideal (transformation) culture. These organisational culture mechanisms were used by seeking the answer to the following questions:

1. How can organisation members build an effective organisational culture of an organisation going through cultural change imposed by external situations?
2. Which beliefs and opportunities for better performance generate individual action?
3. How do changes in collective behavior lead to better organisational performance?

The research was significant in its aim to delve into the inner organizational mechanisms that foster a performative organizational culture. This enables organizational members to gather self-relevant feedback from others and recognize habits they were previously unaware of. Biesta (2010, p. 112) emphasizes the importance of different approaches yielding different outcomes, and the knowledge gained should be assessed pragmatically. My project's goal was to gain insight using a pragmatic approach and make claims solely based on the processes and procedures through which knowledge about organizational culture has been generated (Biesta, 2010, p. 113). Pragmatically, the aim was to uncover causal factors that could bridge the gap between the ideal and factual culture, synthesize differentiation, transformation, and

aggregation mechanisms to achieve collective action and link them to the organization's performance (Gutterman, 2023).

These objectives were successfully achieved through a rigorous research process. First, a comprehensive literature review was conducted through databases like Google Scholar, Science Direct, and DOAJ to identify research gaps in organizational performance that supported the research questions. Second, an actionable knowledge approach was used to gather data, ensuring the information collected was practical and relevant. Finally, the link between organizational culture and performance was thoroughly explained, leaving no room for ambiguity. This meticulous approach to the research process instils confidence in the validity and reliability of the study's findings. Further, the research process developed into mixed-method research, including quantitative analysis (Biesta, 2010, p. 95).

In detail, the project's objectives were achieved through an active inquiry process, which included trans-actional dialogues, texts, acts, tools, and habits (Lorino, 1918, p. 143). This process involved intensive observations of the processes and the researcher's direct involvement in the organizational processes through trans-actional dialogues analyzing texts, speeches, acts, tools, and habits (Polzer, 2023). As Bakhtin (1981) argues, the storyteller and the listener jointly create the stories dialogically. This active role of the researcher was crucial in gaining a comprehensive understanding of the organizational culture and its impact on performance (*Figure 2*).

I initially anticipated that subcultures in all three organizations would differ from the organizational culture on the organizational level. Therefore, I employed purposive theory-based sampling based on an ethnographic approach. This approach allows for a close examination of the participants' understanding of organisational culture (Nymbili & Nymbili, 2024). I chose purposive sampling with rational sample selection to build a multilayer sample. In this way, I obtained actionable knowledge of the cultural habits of participants and made the practical relevance of the impact of organisational culture on the performance of organizations under enquiry (Lorino, 2018, p.102) evident.

3.2 Data collection

I conducted interviews with three-level management, administration, production and support processes, and focus groups with simulations of, e.g., teamwork on various levels of the organisation. Diverse research methods allowed for mapping the processes, triangulation of research problems, and even unseen and undetected ones (Hedström & Swedberg, 1996). The pragmatic method revealed different interpretations of reality experienced by all participants in the enquiry and important practical habits with the potential to improve the performance of organisations.

I initially conducted a quantitative analysis using inferential statistical models to research organisational culture based on values, beliefs, norms, expectations and habits in all three

textile, machine, and food industry organisations. In the second phase, I gathered data using a narrative hermeneutic approach, interpreting texts, communications, habits, and interactions. The narrative approach was especially useful as Charniawska (2011) argues: "...narratives — that is, texts that present events developing in time according to (impersonal) causes or (human) intentions — are the main carriers of knowledge in modern societies toward the end of the 20th Century. « In the third phase, I asked respondents to thoroughly describe their practices to detect those that had been missed or not documented using quantitative and narrative-hermeneutic methods. Triangulating data from three phases of research allowed us to verify and validate the information about changes in organisational culture (Manning, 2018). The pragmatist approach based on abduction unified narrative and logical thought shifted perspectives and gave voice to all participants engaging in daily activities (Lorino, 2018, p. 218). Moreover, the pragmatist approach enabled reflection on efficient working methods. Follow-up surveys in all major organisational processes enabled the implementation of performance problems and solutions (Schultz & Hatch, 1996).

4 Results and Discussion

The research on the organizational cultures of three organizations emphasizes actionable knowledge to inform organizational practice. The researcher collaborated closely with practitioners to identify research questions, co-create solutions, and facilitate the implementation of research findings in real-culture settings. The pragmatic approach allowed the use of several different techniques to extract organisational performance factors and draw conclusions about the unique organisational changes imposed by other organizations.

Core pragmatist principles and constant feedback drove the dissemination of practical knowledge in organising the organisations' core processes. Knowledge not obtained by quantitative analysis was extracted from particular organisational practices relevant to a particular organisational culture. Practical knowledge on the level of practice allowed the researcher to extract useful knowledge and link micro and macro levels through organisational processes. A pragmatic approach enabled the interconnectedness between experience, actionable knowledge, and temporal transactions, as Lorino (2018, p. 80) states: "Habit is a kind of crystallization of social experience, and, as such, it conveys some image of the past into the action-in-progress".

The situation where respondents' habits were mutually communicated in an inter-habit conversation kept them motivated and allowed them to further make field notes to communicate practical findings relevant to organisational performance. Constantly adding new writings of ongoing practices, supported by interviews and timely feedback loops, resulted in a dynamic and complex view of organisational performance. Charmaz (2009, p. 151) argues: "Straightforward categories about ordinary experiences have profound meaning in producing an analytic lens that sharpens and focuses views of these experiences." This

flexible and constantly recurring data collection is called abduction, the process of logical operations introducing new ideas (Pierce, 1931).

Using a pragmatic paradigm in organisational research produced several practical findings and solutions. Mechanism-based research inducing causal relationships allows digging under organisational phenomena' surface (Davis & Marquis, 2006). Becker (2014) links pragmatic research to social mechanisms and case studies to profoundly examine specific situations. In our case, we were in situations to be dealt with in the face of organisational change due to novel organisational practices (Ambrož, 2004).

The paradigmatic method was the right tool to detect organisational processes, examine performance measurements and evaluation, and detect a dynamic and multi-faceted view of cultural practice (Kelly & Cordeiro, 2020). Moreover, this method deepened the quality and diversity of practices that structure organisational culture performance factors. Additionally, the pragmatic approach allowed the researcher to combine micro and macro levels through transactional processes. The research design allowed stakeholders to engage actively in a larger organisational context and linked deductive, inductive, and abductive reasoning, placing evidence-based findings into theory.

Advanced analytical techniques, such as machine learning, network analysis, and simulation modelling, were used to analyse complex organizational data and extract actionable insights. Diverse research methods and techniques enable uncovering patterns, relationships, and causal mechanisms that may otherwise not be accessible. Assessing the effectiveness of interventions and the role of technology and innovation revealed drivers of organisational change and performance. Moreover, it revealed broader implications for organisational performance through the changes in organisational cultures.

Research dissemination and transferability were not neglected. The researcher aimed to link the research findings with the real world and form access to wider organisational audiences in scientific articles, books and conferences.

Overall, pragmatic research in organisational science continues to evolve in response to changing organisational needs, societal trends, and technological advancements. By embracing interdisciplinary collaboration, methodological innovation, and a strong focus on practical relevance, pragmatic researchers contribute to developing evidence-based practices that support organisational success and resilience in an increasingly complex and dynamic world (Ambrož, 2004).

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Povzetek: **Pragmatični pogled na raziskovanje organizacij**

Raziskovalno vprašanje (RV): Ali je pragmatizem prava metoda za raziskovanje kompleksnega, nepredvidljivega in neracionalnega organizacijskega polja? Raziskovanje na področju organizacijske vede se odmika od uporabe klasičnih teorij, ki pogosto niso učinkovite pri razlagi fenomena organizacije, zato smo predstavili pragmatični raziskovalni model, ki omogoča celovit, kompleksen in raznovrsten pogled na delovanje organizacije.

Namen: Namen raziskovanja, na osnovi sistematičnega pregleda raziskovalnih konceptov, oblikovati pragmatični raziskovalni model, ki naj bi zapolnil vrzel, ki nastaja z uporabo tradicionalnih organizacijskih teorij v raziskovanju. Pragmatični pristop k raziskovanju predstavlja celovit, kompleksen in multi-modalni pristop k raziskovanju.

Metoda: Pregled raziskovalnih konceptov na področju organizacije smo izvedli z zgodovinsko in kritično organizacijsko metodo in verodostojni in pomenski pogled na pragmatični raziskovalni pristop. S selektivno razlago različnih pragmatičnih konceptov smo razvili na socialnih mehanizmih temelječ raziskovalni model.

Rezultati: Rezultat selektivnega pregleda in integracije paradigmatičnih raziskovalnih pristopov, je paradigmatični raziskovalni model, ki temelji na socialno - mehanicističnem pristopu, ki obravnava organizacijske spremembe in potrebe, organizacijske trende in tehnološki razvoj.

Omejitve/nadaljnje raziskovanje: Paradigmatični model je nastal na osnovi raziskovanja na konceptualni ravni. Kljub temu, da temelji na selektivnem pristopu k razvoju paradigmatičnega

pristopa k raziskovanju, je treba paradigmatični model operacionalizirati in ga preizkusiti v empirični raziskavi.

Ključne besede: paradigma, pragmatizem, koncept, model, kompleksnost, realnost, družbeni mehanizem, organizacija

Using organisational source criticism as a historical methodology, I researched sources in the history of organisational theories and concepts (patterns extending over time, contingencies, and contexts) to establish the veracity and meaning of the pragmatic concepts of the organisation (Burgelman, 2011; Heller, 2023; Lorino, 2018, p. 68) Through selective interpretation of pragmatic research concepts, I present the mechanism-based concept of pragmatic organizational research.

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