

Understanding Research Philosophy, Paradigm, and Design: The Polas Alignment Framework (PAF) for Methodological Coherence

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Abstract

Methodological coherence in social science research is frequently undermined by persistent confusion among research philosophy, paradigm, methodology, and design, leading to paradigm-design mismatch, inappropriate validation criteria, and recurring reviewer criticism. This study seeks to fill this gap through the development of an integrative conceptual framework that enhances clarity in alignment across critical methodological layers and supports the transparency and credibility of research design choices. Through a conceptual research lens, the paper synthesizes and integrates seminal literature on key constructs such as research philosophy, research paradigms, research methodology, research design, and standards of evidence to develop the Polas Alignment Framework (PAF). PAF formalises a coherence chain connecting philosophy-paradigm-methodology-methods-design-evidence, buttressed by empirically informed alignment rules, decision tools and paradigm specific examples. The framework demonstrates how methodological assumptions can be made explicit, thereby enhancing interpretive clarity and reviewer defensibility. PAF offers practical value for researchers, doctoral supervisors, and editors by providing a citable structure for methodological justification and coherent evaluation across quantitative, qualitative, and mixed-methods research. The study contributes a named, reusable framework that integrates philosophical, methodological, evidentiary, and ethical alignment within a single conceptual model.

Keywords: *E-Learning Challenges; Mixed-Methods Approach; Higher Education; Online Learning; Gender Equality; Reduced Inequalities.*

1. Introduction

Methodological rigour is fundamental to credible and cumulative scientific inquiry. However, many social science studies fail to explicitly align philosophical assumptions with downstream research decisions (Rahi, 2017; Mbanaso et al, 2023). Although methodological textbooks and editorial guidelines are available, researchers often have difficulty translating abstract philosophical positions into concrete methodological practices (Johnson & Onwuegbuzie, 2004; Saunders et al., 2009). It is not only a student problem; junior scholars frequently make trite philosophical claims that are tenuously attached to later design decisions, leading to contradictions that high-quality journal reviewers are well-equipped to identify (Bryman, 2016; Creswell & Creswell, 2017).

One particularly enduring contributor to this confusion lies in the distinctions between research philosophy and research paradigm, two for all intents and purposes interchangeable terms describing different but related concepts. Research philosophy consists of fundamental assumptions concerning reality, knowledge and values, namely ontology, epistemology, and axiology (Crotty, 1998; Hollis, 1994, Klenke, 2016). In contrast, a research paradigm is an application-oriented framework that operationalizes these beliefs and establishes methodological norms, standards for evaluating evidence and practices (Kuhn, 1970; Lincoln & Guba, 1985; Aitamurto et al., 2015). However, most empirical research combines these layers into interchangeable terms like “paradigm of the positivist paradigm” without showing how these philosophical assumptions influence methodological choices. This conceptual slippage results in a mismatch between the respective worldviews and methods, leading to a lack of epistemic incoherence, and concerns regarding (methodological) validity (Saunders et al., 2009; Bryman, 2016).

In response to this chronic problem, this paper describes the Polas Alignment Framework (PAF), a four-part, systematic approach to aligning philosophical assumptions, paradigmatic stances, methodological decisions, and evaluation standards. PAF weaves together the philosophy, paradigm, method, methods, and the design to create a chain of decisions that are traceable. Building on positivist, interpretivist, pragmatist and critical realist scholarship (Sayer, 1992; Johnson & Onwuegbuzie, 2004; Creswell & Creswell, 2017), PAF makes three propositions: (1) separating philosophy and paradigm to avoid design mistakes; (2) clear alignment through the philosophical-methodological chain strengthens validity, reliability, and trustworthiness (Lincoln & Guba, 1985; Bryman, 2016); and (3) a named, visual framework enhances communication and justification of methodological choices, especially for empirical and doctoral researchers.

Methodological alignment demonstrates the philosophical clarity for the mind and body-provoking method. This conceptual paper therefore clarifies the logic of methodological alignment by a differentiating philosophy and paradigm; b demonstrating how paradigms operationalize philosophical assumptions; explaining how methodological choices cascade from paradigmatic logic; and d relating paradigms to standards of evidence. The paper engages with qualitative, quantitative, and mixed-methods traditions and is based on major publishers including Springer, Elsevier, Wiley, Emerald, Taylor & Francis, and SAGE to provide conceptual rigor and practical utility.

By harmonizing philosophical and paradigmatic stances and associating them with methodological benchmarks, the study advances PAF by mapping methodological consistency at source using a conceptual research approach based on systematic review and critical evaluation. Such an approach emphasizes theoretical coherence, analytical integration, and logical consistency, all strong indicators of contribution to methodology.

2. Philosophical Foundations: Ontology, Epistemology, and Axiology

Empirical methodology is related to it carrying philosophy. In social science, namely in business, management and organization studies these assumptions' structure how phenomena are conceptualised, investigated and comprehended (Shan 2022; Klakegg & Tvedt 2024). But they are also typically crudely formulated, leading to research in which the questions and methods and claims of evidence do not cohere epistemically. Academics contend that cursory engagement with ontology, epistemology and axiology leads to methodology-rich but philosophy-weak/neglectful designs (Crotty, 1998 Saunders et al., 2009). In this sense, then, we are setting the philosophical basis of PAF.

Ontology addresses what are taken for granted beliefs about the nature of things, i.e. whether social phenomena are objective or socially constructed (Pretorius, 2024). Objectivist perspectives consider phenomena such as performance or innovation to be quantifiable 'facts' (Bryman, 2016), constructionist standpoints stress meanings as situational and socially negotiated. These assumptions dictate what is asked and why. A poor alignment between the realist orientation and the selected method is frequently

associated with weakened interpretation and theoretical contribution (Creswell & Creswell, 2017; Shan, 2022).

It is epistemological, in that it asks about assumptions about what can be known and how claims to knowledge are established. In business and management studies, this influences the way data is gathered, analysed and verified. Observation and hypothesis testing for positivist epistemologies, reflexivity and contextual understanding for interpretivism (Bryman, 2016) or problem centred inquiry with methodological pluralism for pragmatism depending on the school of thought (Johnson & Onwuegbuzie, 2004; Shan, 2022). In PAF, epistemology connects ontology with the method.

Values, ethics and researcher positionality are issues with which axiology is concerned. Above and beyond these practices, values as well as other premises saturate the fabric of inquiry at every level, influencing priorities and knowledge claims (Lincoln et al., 2011; Lincoln & Guba, 1985; Shan, 2022).

Most social science research is underpinned by four primary philosophical traditions, including positivism, interpretivism, pragmatism, and critical realism (Bryman, 2016; Johnson & Onwuegbuzie, 2004; Bhaskar, 1978; Sayer, 1992). In accordance with this pluralism, PAF is not wedded to a philosophy but focusses on alignment of assumptions and method, rigor, transparency and cumulative development of new knowledge (Creswell & Creswell, 2017; Saunders et al., 2019).

3. Paradigms Clarified: Distinguishing Philosophy from Applied Worldviews

Building on the philosophical foundations outlined in Section 2, this section clarifies how paradigms function as applied worldviews that operationalize philosophical assumptions into methodological norms. The opposition between research philosophy and research paradigm is also one of the most fundamental, yet often misunderstood issues in social science techniques. In the case of applied disciplines such as business, management and organizational research, it is both empirical rigor and relevance that matter which makes such confusion detrimental due to methodological indistinctness and a lack in theoretical robustness (Shah & Al Bargi, 2013). Methodological reviews indicate that academics often profess paradigms while not working to manifest them (Bryman, 2016; Saunders et al., 2019). This is why a theory of the methodological role of paradigms, as conceptions/cosmologies anchored in philosophies, is intrinsic to the PAF efforts at institutionalization (see next section).

A paradigm in research is a world view based on ontological, epistemological and axiological assumptions but unlike philosophy-in the abstract-such perspective guides how these beliefs are actualized into method of choice and standards for evidence (Petersen & Gencel, 2013; Saliya, 2023). Scholars writing in the classics thus portray paradigms as sets of assumptions about what is accepted as rightful knowledge and how that knowledge should be generated and assessed (Kuhn, 1970; Lincoln & Guba, 1985; Saliya, 2023). In the field of organization studies, paradigms serve as hands on resources that frame design for research, inform data collection practices and guide the types of claims that may be plausibly advanced (Saliya, 2023).

As well as those philosophical positions on their own do not govern empirical practice, the paradigm does (Johnson 2017). For example, positivist beliefs characterise actionist paradigms that imply hypothesis testing and generalisability (Creswell & Creswell 2017), whereas interpretivist ontology and epistemology are operationalised via paradigms of contextual meaning and reflexive understanding (Bryman 2016). PAF articulates this distinction in the form of Principle A, with philosophy as a focusing lens and paradigm as its application.

Failure to distinguish between these often leads researchers into methodological drift, such as where a positivist paradigm is declared yet the collection, analysis and interpretation of data rests on interpretivist 'principles' (Joslin & Müller, 2016); a tendency that many reviewers regard as a major fault in methodology (Lincoln & Guba, 1985; Saunders et al., 2009). Transparent paradigmatic stance enhances

transparency and evaluative coherence among audiences (Denscombe, 2008). Positive, interpretivist and pragmatic paradigms each have their own notions of rigor (Lincoln & Guba, 1985; Johnson & Onwuegbuzie, 2004; Levers, 2013).

Instead of treating paradigms as ritual utterances, PAF raises them to the level of strategic methodological procedures. Philosophical clarity is translated through paradigmatic alignment as firm decisions of method, methods and norms of appraisal (PAF Principle A). It does so in the spirit of openness, illumination, and deductive validity – that might be directly traced to statements raised in leading methodological journals (Bryman, 2016; Saunders et al., 2019; Creswell & Creswell, 2017).

4. The Polas Alignment Framework (PAF)

The multiplication of the role of scientific research in the social world including management and organization research, precisely the focus area of this journal makes the need for technical methodological sophistication more salient, but also more necessary to have that sophistication be philosophically consistent across the full range of development of the research process, from problem specification to data collection and analysis of the data to synthesis of conclusions from the analysis (Joslin & Müller, 2016). Although there are useful methodological guidance materials regarding this, empirical studies often align poorly regarding philosophical assumptions, paradigmatic positioning, and design choices. This kind of fragmentation restricts interpretability, dilutes theoretical inference, and leads to reviewer complaints on methodological commonality (Creswell & Creswell, 2017; Saunders et al., 2009). In response to this challenge, the PAF presents an integrative, systematic model that clearly aligns philosophical underpinnings, empirical evidence and methodological rationales in a transparent chain of sequential reasoning.

4.1 The Chain of Coherence

Within PAF, philosophy defines assumptions, paradigm operationalizes those assumptions, methodology defines the logic of inquiry, methods specify techniques, and research design integrates these elements into a coherent empirical plan. PAF is a six-link chain of coherence from abstract philosophical assumptions to empirically defensible research outputs. Research philosophy, which is the first link in the chain, represents commitments to ontology, epistemology, and axiology, assumptions we make about reality, knowledge, and values (Hollis, 1994; Crotty, 1998). These assumptions influence the framing of research problems; and if not articulated, studies run the risk of raising poorly grounded questions, a common critique in organizational research (Braunschweiger & Ehnis, 2018; Bryman, 2016). The second is an applied worldview called the research paradigm, which translates philosophical assumptions into research expectations in terms of how and why inquiry should be conducted. Paradigms define legitimate methodological orientations, analytic strategies, and evaluative criteria (Kuhn, 1970; Lincoln & Guba, 1985). What is different from philosophy says PAF, is that alignment is proved in practice, not declared. Indeed, paradigmatic transparency enhances interpretative transparency and facilitates evaluation (Saunders et al.2019).

The third and fourth links, methodology and methods, are strategic and tactical design elements, respectively. The term methodology refers to approaches to reasoning and broad orientations (Creswell & Creswell, 2018) while methods are more specific and refer to techniques such as surveys, experiments, interviews, or ethnography. As PAF have argued, such choices either logically follow from paradigmatic commitments (qualitative and dialogical approaches fit with interpretivist paradigms (Lincoln & Guba, 1985; Bryman, 2016)), or do not (standardized measurement and statistical inference fit with positivist paradigms). The fifth link, research design, combines elements of methodology and methods into a systematic empirical plan setting distinctive concrete elements like descriptive, causal and longitudinal vs. mixed methods designs (Saunders et al., 2009; Creswell & Creswell, 2017). To prevent overgeneralization or under-theorization, design must reconcile paradigmatic assumptions with methodological strategies. The last link, evidence, relates to standards for justifying empirical claims, and

therefore is paradigm-specific: validity and reliability in positivism; credibility, transferability, dependability and confirmability in interpretivism; and integration validity and inferential consistency in pragmatism mixed methods (Lincoln & Guba, 1985; Johnson & Onwuegbuzie, 2004; Saliya, 2023).

Collectively these six links represent PAFs chain of methodological coherence. PAF Proposition 1: Each link in the research chain must be justified, and the chain itself must be consistent to yield high-quality research. The framework offers a common language that can be used to diagnose alignment issues and therefore bolster the epistemic foundational (Saunders et al., 2009; Creswell & Creswell, 2017; Saliya, 2023) which are an in-principle priority leading organization and methodology research journals.

4.2 Visual Representation of the Polas Alignment Framework (PAF)

Visual abstractions emphasize the importance of visual representations in improving the conceptual clarity, interpretive transparency and scholarly reuse of methodological frameworks. Figures used in high-quality social and management journals are not just visually appealing but act as theoretical compression machines in that they transmit complex connections efficiently (Saunders et al., 2009; Creswell & Creswell, 2018; Saliya, 2023). To meet these criteria, since PAF bridges both philosophy and paradigms and empirical practice a visually intuitive model bolstered with theoretical foundations will increase its explanatory strength in empirical studies.

As seen in the figure below (Figure 1), PAF appears as a vertical, layered outline moving from bottom to top to show assumptions and summary claims about evidence. Forming this kind of construction also follows the route in which epistemic justification is headed in research design. Philosophy, as the foundation, demonstrates that all downstream methodological choices are shaped by ontological, epistemological, and axiological commitments (Crotty, 1998; Lincoln & Guba, 1985; Saliya, 2023). This visualization builds upon the key notion that scientific rigor relies on clarity about the philosophy.

Intermediate layers namely Paradigm, Methodology, Methods, & Design, indicate operationalization stages. As paradigms (Kuhn, 1970), Paradigm serves as type of applied philosophy, signalling norms of inquiry and permissible knowledge production. Methodology refers to the logic of inquiry while methods are the specific techniques for generating data. Design combines these into an organized framework directing sampling, sequencing and analysis (Bryman, 2016; Creswell & Creswell, 2017). To avoid the frequent collapse of conceptual layers typical for empirical papers, PAF visually separates these layers.

Again, arrows show epistemic dependence, and that is, in part, to avoid a post hoc justification that is common when methods are selected prior to philosophical or paradigmatic considerations (see here). The feedback loops embrace practical adaptability, recognizing that the iterative nature of qualitative and organizational research (Lincoln & Guba, 1985; Saunders et al., 2009) is sometimes inconsistent with high fidelity that several ART traditions demand (King et al., 2015).

One key in this case is that the visual structure serves a sort of diagnostic function. It allows researchers and supervisors and reviewers to evaluate whether methodological choices have been made that are consistent with the paradigmatic and philosophical commitments being proposed. PAF Proposition 1 Cohen in Davidson and identify the direct conversation we are having with PAF Proposition 1 through the principled alignment depicted in Figure 1 so that we can both see it and check whether we can verify it. The PAF visual model is a reusable conceptual artifact that adds pedagogic value and methodological rigor across a range of research contexts.

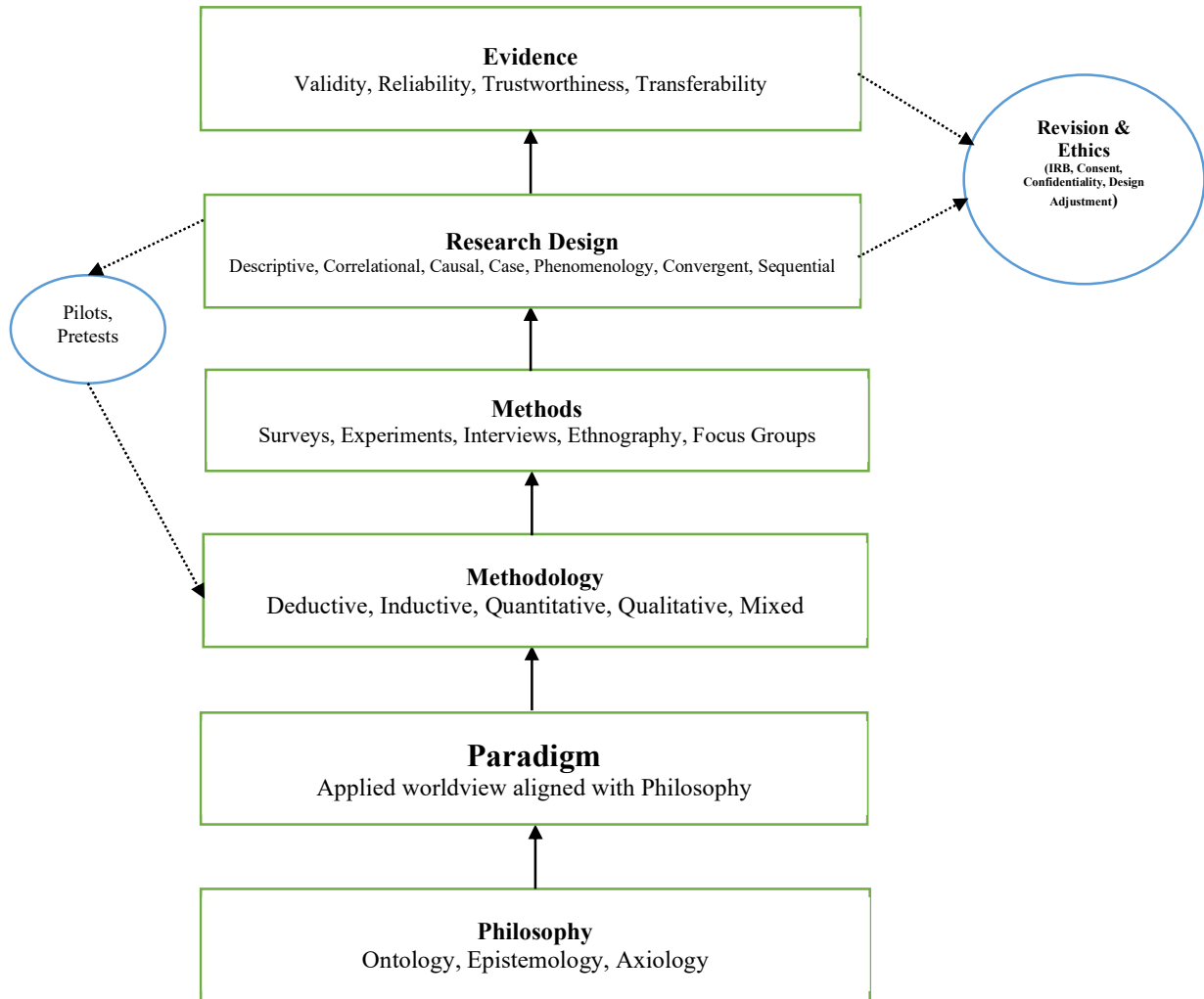


Figure 1. *The Polas Alignment Framework (PAF) (Developed by author).*

This figure can be used as a diagnostic tool by researchers and reviewers to assess whether each methodological decision is demonstrably aligned with upstream philosophical and paradigmatic commitments. The PAF (Figure 1) as a hierarchically aligned and iteratively refined research pathway. This framework illustrates a linear relationship from research philosophy to paradigm, to methodology, to methods, to research design, which leads to evidence that is subjected to paradigm-relevant criteria, such as validity, reliability, trustworthiness, and transferability. Upward arrows in solids indicate methodological dependence of stage on stage (i.e., embodying a foundation), which ensures coherence in the methodology. The left-side loop (pilots and pretests) are dotted, indicating that there is often iterative refinement of methodology and research design post instrument testing; the right-side loop indicates that the nature of empirical results, and ethical considerations, results in feedback into design decisions (revision and ethics). The illustration, in aggregate, describes how PAF offers a space of philosophical assurance over and above adapting ethically attuned research practice to fit into any one of the dominant approaches often briefly characterized at the outset of this paper.

4.3 Normative Alignment Rules for Methodological Coherence (PAF-R)

To implement methodological coherence, the PAF proposes a ruleset for alignment which serves as a normative safeguard against conceptual inconsistency and design mismatch (Levers, 2013). PAF-R1 (Consistency) means Ontological and epistemological assumptions should remain logically consistent with the declared research paradigm and methodological approach, since a contradiction among any of these

levels will lead to downstream confusion and reduced interpretability. Using this as a platform, PAF-R2 (Justification) requires that for every choice of method and design, there should be a rationale traceable to philosophy, e.g., that in-depth interviews was used within an interpretivist paradigm to elicit socially constructed meanings. PAF-R3 (Validation Fit) reiterated that any evidentiary standards must be appropriate to the paradigm that undergirds the research, thus quantitative studies privilege validity and reliability while qualitative ones show credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). In addition to technical alignment, PAF-R4 (Ethical Axiology) highlights the importance of values in guiding research practice by stating that axiological commitments are central to decisions about key issues such as sampling, informed consent, confidentiality, and responsible reporting. Finally, PAF-R5 (Pragmatic Sufficiency) concerns mixed-methods inquiry, stating that theoretical integration through convergent or sequential designs must be driven by the problem under investigation and not the other way around (Johnson & Onwuegbuzie, 2004), to avoid a methodologically additive stance that is in contradiction with pragmatist approach (Johnson & Onwuegbuzie, 2004). In sum, these rules codify the abstract PAF logic into concrete standards that may allow researchers, supervisors, and reviewers to judge coherence across the full research pipeline.

4.4 Conceptual Novelty of PAF

Existing methodology texts describe the specific study philosophy, paradigms, and design are the parts of one life but mostly they have introduced these elements in isolation and generally only to say what they imply or possibly would lead to in reality. The PAF advances this literature in three innovative ways. Firstly, it clearly separates research philosophy from research paradigm and models their relationship as a sequential rather than alternative one. Secondly, it operationalizes alignment through a trackable chain going from philosophy, through paradigm, methodology, methods and design, to standards of evidence, so that both reviewers and researchers can diagnose coherence across all stages. Thirdly, PAF integrates ethics and axiology into the alignment logic as a design feature rather than mere afterthought. In so doing, PAF goes beyond one-form fits all guidance to provide a reusable, evaluative framework that can be cited, audited and applied across paradigms.

5 Methodologies and Methods across Paradigms: A Structured Synthesis

5.1. Quantitative Approaches (Often Positivist or Critical Realist)

Quantitative approaches, mostly based on a positivist or critical realist paradigm, strive for explanation or prediction of relationships between variables, using copyable measures and statistical analyses. Such approaches assume that social phenomena (organizational performance, leadership effectiveness, technology adoption, etc.) can be operationalized into measurable constructs and therefore examined using deductive logic (Bryman, 2016; Creswell & Creswell, 2017). This is particularly true within the Polas Alignment Framework (PAF), where the philosophical-methodological alignment of quantitative inquiry is robust when key ontological assumptions regarding an objective reality and empiricist epistemology are synergistically linked to hypothesis testing, standardized measurement, and inferential analysis.

In terms of yielding quantifiable evidence, quantitative studies are usually deductive in nature and commence from hypotheses derived from theory specifying expected relationships among/between variables. By using standardised instruments and replicable procedures, the researcher's role is perceived as neutral and distanced away with minimized bias (Saunders, Lewis, & Thornhill, 2019). Quantitative methodologies to examine causal mechanisms, correlational patterns, and longitudinal change processes are entrenched in business and organizational research (for example, the impact of leadership styles, technological capabilities, or sustainability practices on performance outcomes).

Quantitative research is conducted by means of several research designs, which are chosen based on theoretical aims and practical limitations. Descriptive designs characterize features of organizations; associational designs explore relationships between constructs; experimental or quasi experimental

designs aim to demonstrate causal mechanisms. However, longitudinal designs are gaining in popularity as they more accurately capture temporal dynamics within organizations, (Creswell & Creswell, 2017). Contextualizing design choices in terms of research questions and which methodological design choices were made form a central pillar of justification, as established in PAF R2.

At the methods level, quantitative research is based on instruments that produce categorical or numerical data, which are amenable to statistical inference, such as surveys that use validated scales, experiments, quasi-experiments, and secondary data analysis of archival or panel datasets (Bryman, 2016; Saunders et al., 2009). The assumption for the credibility of such research is defined in accordance with the evidence criteria of its paradigm, which are internal validity, external validity, construct validity, and reliability; (Creswell & Creswell, 2017) Following these standards (with philosophical and methodological coherence) helps ensure that quantitative findings will “synthesize coherently and become the basis of robust, cumulative insights” under PAF R3 (Validation Fit).

5.2 Qualitative Approaches (Often Interpretivist or Critical)

Qualitative research approaches, generally guided by the interpretivist or critical paradigms, focus on understanding social phenomena in-depth, as they happen, are constructed, and are interpreted because of the context in which they take place (Hood, 2016). Compared with traditional quantitative inquiry, which searches for generalizable patterns by means of measurement, qualitative research understands organizational realities (e.g. the meaning of leadership, employee identity, or institutional power) as socially constituted and contextually embedded (Pettigrew, 1990; Hood, 2016). This means that knowledge is produced inductively, i.e., theory can emerge based on in-depth immersion with the perspectives, interactions, and stories of the participants (Bryman, 2016; Creswell & Creswell, 2017). The PAF aligns subjective ontological and epistemological assumptions with interpretive or critical methodologies; qualitative inquiry within the PAF exemplifies rigor.

Qualitative research is inductive and exploratory and uses a reflexive, contextual, and meaning making approach (Hood, 2016). The researcher is not an impartial observer but an instrument of inquiry, with evolving interpretations based on prolonged engagement in the research setting (Lincoln & Guba, 1985). Qualitative approaches within business and organizational research are especially valuable for studying complicated processes (Bryman, 2016), like leadership sensemaking, organizational culture, and employees experiencing change.

Research designs appropriate to interpretive and critical aims, are used to implement qualitative inquiry. But different types of designs were used including case study (which allows for whole entity examination of bounded phenomena with few variables), phenomenological (which investigates lived experience), ethnographic (in which researchers immerse for an extensive time into local cultures and power relations), and grounded theory (in which theory is inductively created from data). On the other hand, narrative designs also explore the stories (Bryman, 2016; Creswell & Creswell, 2017) people use to construct meanings to organizational life. Alongside PAF R2, the design decisions come with their proper justification from the philosophy level.

Qualitative methods focus on the depth and contextual richness, employing in-depth interviews, participant observation, focus groups, and analysis of documents (Bryman, 2016; Saunders et al, 2019). Evaluation in turn uses paradigm-specific standards of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). In PAF R3 (Validation Fit), rigor is attained not by means of positivist metrics, but by epistemologically coherent criteria which ensure trustworthiness and interpretive rigour.

5.3 Mixed Methods Approaches (Often Pragmatist)

Mixed approaches, frequently based on a pragmatist paradigm, are used when the research problem is too complex for either a qualitative or quantitative approach taken alone (Allmark & Machaczek, 2018).

Rather than drawing fixed lines separating the positivist objectivist views from the interpretivist subjectivist views, pragmatism promotes (in a more pluralistic sense) the most methodological approaches to adopt based on what best informs and produces practical knowledge (Johnson & Onwuegbuzie, 2004; Bishop, 2015). Mixed methods approach combines qualitative and quantitative methods and are particularly useful in applied fields, such as business, management, and organizational research, where both quantifiable outputs and contextualized meanings are studied (for technology adoption, sustainability change, and leadership impact, for example). This study demonstrates that mixed methods research can be conducted rigorously within the PAF when paradigmatic commitments, design logic, and integration strategies are coherently aligned.

Mixed methods inquiry is a traditional and robust approach to inquiry in which an intentional integration of quantitative and qualitative approaches occurs within a single study or program of research (Howe, 2004; Bishop, 2015). There are also different designs such as concurrent designs that gather and analyse both types of data at the same time, explanatory sequential designs (QUAN → QUAL) in which qualitative findings expand on quantitative findings, and exploratory sequential designs (QUAL → QUAN) in which qualitative findings inform the development of instruments or hypotheses (Johnson & Onwuegbuzie, 2004; Creswell & Creswell, 2018). According to PAF R2, justification for the type and order of design should be determined by the research question.

Causal mechanisms identified by the theoretical frameworks become the basis for testing the outcome of interest in each case and are operationalized through integrated research designs that encourage synthesis rather than parallel analysis (Saliya, 2023). Joint displays visual or tabular tools to help convey how quantitative outcomes correspond to qualitative themes are frequently employed as resources for integrated interpretation and meta inference in mixed methods studies (Creswell & Creswell, 2017). For example, research on organizations can integrate findings from a survey with interviews, thus bringing both explanatory power and contextual detail.

At the same time, surveys employing qualitative strategies, and qualitative strategies using quantitative techniques both embody the mixed methods tradition at the methods level (Saunders et al., 2009; Bryman, 2016), for example, surveys joined with interviews, or experiments with case studies, or multi phase designs using secondary data and observations. So, in evaluation the quality of synthesis, the legitimation of methodology and the triangulation take precedent over de-contextualized validity criteria (Johnson & Onwuegbuzie, 2004; Klakegg & Tvedt, 2024). In PAF R3 (Validation Fit), coherence means the integration leads to coherent and interpretable meta inferences, indicating strong paradigm, design congruence and thus providing rigor.

6. Paradigms in Action: Cross Disciplinary Illustrations

This section provides example mappings to illustrate how philosophical assumptions systematically map onto paradigms, methodologies, research designs, and standards of evidence, to demonstrate the practical utility of the Polas Alignment Framework (PAF). Introduction: These examples are not full empirical cases, rather they are conceptual demonstrations that aim to demonstrate how explicit alignment makes methods more credible and interpretable and anticipates peer review concerns that habitually claim paradigm–design mismatch or inadequate validation criteria.

For example, positivist studies that link leadership style to employee performance. The research assumes that constructs like leadership and performance are objectively measurable, and the epistemology is hypothesis testing, with a bias toward statistical inference (Mbanaso et al., 2023). Its methodology follows a deductive approach and is consequentially operationalized through cross sectional survey designs (guided by a positivist paradigm). Data are often gathered with Likert type scales and analysed with regression or SEM. Internal veracity the intrinsic accuracy of qualitative claims is confirmed via reliability testing, construct validity assessment, and robustness checks along with external veracity

verification of constructs beyond the specific qualitative data set is confirmed through cross cases and theoretical saturation, asserting that research design features that presents internal consistency and generalizability further supports the evidentiary rigor of qualitative work (Bryman, 2016; Creswell & Creswell, 2017).

In contrast, interpretivist research investigating entrepreneurial experiences is based on a theory of multiple, socially constructed realities, and its research design is guided by the need for contextual meaning. Such studies following an interpretivist paradigm use inductive approaches (inductive = explore a new theory rather than create one to test) and phenomenological or case-based designs. Data are generated via in depth, semi structured interviews and analysed thematically or phenomenologically. Instead of statistical validation, epistemic legitimacy is provided based on credibility, dependability, and confirmability of evidence (Lincoln & Guba, 1985; Bryman, 2016).

Mixed methods studies focus on both measurable outcomes and the context of decision-making processes, and hence they are a pragmatist exemplification that is particularly encountered in studies of AI or FinTech adoption in SMEs. These studies take a problem centered ontology and a pluralist epistemology and employ explanatory sequential designs (QUAN → QUAL) that integrate surveys and interviews. We reach the idea of integration (joint displays and meta-analysis) and rigor (coherence and triangulation) (Johnson & Onwuegbuzie, 2004; Creswell & Creswell, 2017).

Finally, there is a body of critical realist research on microfinance and gender inequality in which researchers identify observable events and events that reflect underlying causal mechanisms. These studies use case study designs, consisting of interviews, policy analysis and documentary evidence, and are based on reproduction to inform possible generative mechanisms. The evidentiary strength of findings is established not through statistical generalization but through triangulation and explanatory plausibility (Bhaskar, 1978; Sayer, 1992).

Together these illustrations provide some evidence for PAF Proposition 3 that explicit alignment across the research chain improves rigor, review defensibility and interpretive clarity across different research paradigms.

7. Validity, Reliability, and Trustworthiness: Evidence Standards Aligned to Paradigms

At the heart of the Polas Alignment Framework is the idea that evidence standards are not universal, they are paradigm contingent. The evaluative criteria of validity, reliability, and trustworthiness are intelligible only when the associated philosophical and methodological commitments are made clear. Unfitting criteria such as the need of statistical generalizability for interpretivist research or credibility tests for experimental studies determine dislocation between methodology and results, their interpretive strength vanishes thereafter. This synthesis of how evidence standards function across paradigmatic boundaries quant, qual, mixed methods demonstrate the need for alignment for purposes of epistemic rigor.

As a result of the paradigmatic assumptions underlying quantitative multilevel research, generally positivist or critical realist in nature, the quality of evidence is judged according to traditional validity and reliability standards. Internal validity tests the plausibility of causal statements, and external validity considers generalizability—across settings and populations. It forestalls accuracy through construct validity, which examines whether the operations truly capture the intended theoretical constructs, and then reliability, or the reproducibility of the measurements. One more type of validity is called statistical conclusion validity that goes further to assess if the assumptions, power and analytic techniques sufficiently support inferences (Bryman, 2016; Creswell & Creswell, 2018). These criteria, when activated by deductive approaches and experimental or correlational designs, together provide the multiple conditions that favour stringent hypothesis testing and theory verification.

In contrast, qualitative research, which is predominantly guided by interpretivist or critical paradigms, utilises criteria that elevate meaning, context and reflexivity. Using Lincoln and Guba (1985) as a framework, rigor is measured through credibility, transferability, dependability, and confirmability. Solutions such as triangulation, member checking, thick description and audit trails strengthen, respectively, research interpretative trustworthiness without dependence on statistical precision (Lincoln & Guba, 1985; Bryman, 2016). For instance, using quantitative validity metrics in qualitative inquiry confuses epistemological logics, and leads to incoherence.

Evidentiary rigor in mixed methods research, often situated in pragmatism, has focused on the quality of integration between quantitative and qualitative strands [6]. Integration validity, triangulation, and defensible meta inferences derived from transparent analytic procedures and joint displays (Creswell & Creswell, 2017) are highlighted by Johnson and Onwuegbuzie (2004).

These paradigm specific standards taken together affirm PAF Principle B; that the standards of evidence should conform to methodological and philosophical choices. In prioritizing alignment, PAF recasts rigor as contextualized practice instead of a cookie-cutter checklist and thus facilitates both equitable and principled evaluation across research traditions.

8. Ethics and Axiology: Embedding Values in Methodological Coherence

Practically, researchers can operationalize axiological commitments by explicitly justifying sampling decisions, documenting reflexive positionality statements, embedding consent and transparency considerations into research protocols, and reporting ethical trade-offs encountered during fieldwork or data analysis. Making these values visible within proposals and methodology sections strengthens both ethical rigor and methodological defensibility. In the PAF, axiology, which is the role of values in research, is a central dimension to methodological coherence not a procedural add on. The ethics of carrying out a study affect not just what the researcher chooses to study but also what the possible research questions are, who is involved in sampling, how data is generated, and how findings are interpreted and reported (Pretorius, 2024). So, ethical integration is conceived here as a design property, integral to the entire research process and traceable back to the axiological commitments of the researcher rather than limited to formal compliance mechanisms (Rooney, 2016).

At an operational level, the ethical conduct of social science research is based on well-established principles (for example, informed consent, protection of confidentiality, non-coercive participation and the right to withdraw without penalty). A set of principles which are usually watched over by institutional ethics committees or IRBs and require consideration when research involves human participants or sensitive information. PAF, therefore, suggests that ethical rigor involves more than simply formal approval; researchers should be cognizant of design decisions who you recruit, how you store your data, how transparent or not an analysis is which reflect underlying positions of values (Bryman, 2016; Pretorius, 2024).

Axiological issues also extend beyond procedural ethics to highlight the need for justice and inclusion in research design. Sampling strategies must work to intentionally prevent exclusionary practices and to minimize potential harm, especially when sampling with vulnerable or marginalized populations. This means attention to power imbalances, cultural contexts and the implications of knowledge production for people and groups (Lincoln & Guba, 1985; Gillespie, 2019, O'Connor et al., 2023). Transparency, with inclusion of reflexivity statements around researcher positionality and rigor in data management and authorship that appropriately captures contributions and limitations, further serves to reinforce ethical coherence.

These are important considerations that substantiate PAF Principle C; ethical commitments should be apparent in methodological decisions and accountable to axiological foundations rather than viewed as external procedural requirements. Thus, PAF reconceptualizes ethical rigor not as an add-on initiative

but as part of a research quality, validity, and social responsibility trifecta involved in philosophy, paradigm, methodology, and design (all of which would have to be embedded in the ethical review process).

9. Common Pitfalls and Practical Guidance: How PAF Prevents Methodological Misalignment

This section functions as a practical guidance module, translating PAF principles into preventative strategies against recurring methodological errors identified by reviewers and editors. While methodological awareness has grown, there are still several perennial traps that damage the credibility of social science research. One of the most common is paradigm–design mismatch, in which researchers announce interpretivist or constructivist assumptions but fit experimental or strongly positivist designs. Inconsistency here hides the epistemic reasoning, exposing it to critique from the reviewers, that is what PAF tries to overcome through PAF R1 (Consistency) and PAF R2 (Justification), and to align explicitly and justify where the design choices are taken in a philosophically traceable manner. The second common pitfall concerns studies that are overdesigned, meaning they have too many variables, methods, or analytic techniques in the absence of clear integration. In this context, PAF R5 (Pragmatic Sufficiency) shifts attention to adequacy of the problem and safeguards against too much technical detail growing purely because of the cutting edge and technical complexity across the methods, on the premise that the purpose of the research must justify it (Pretorius, 2024).

Another common source of methodological weakness is in sampling errors, when samples are deliberately or inadvertently non-representative and can thus undermine planned evidence standards. To mitigate this risk, PAF requires that sampling strategies are consistent with paradigm-specific evidentiary goals, for example, theoretical sampling in grounded theory to establish analytic saturation, or probability sampling where statistical generalization is claimed. Validation misfit is just as bad, in which case researchers use quantitative validity metrics for qualitative claims or evaluate mixed-methods studies without evaluating integration quality. Additionally, aligned with both PAF R3 (Validation Fit) and evidence standards as in Section 7, PAF stresses the need for paradigm-appropriate standards to protect interpretive validity. Finally, ethical considerations are frequently reduced to procedural afterthoughts without substantial axiological reflection, as most are limited to formal IRB approval. Their approach recognizes this limitation and threads ethics and values into the design stage of the research, making written commitments about consent, confidentiality, inclusion, and transparency visible throughout the research process (and not relegated to compliance documents), by embedding them in the core of what is done.

In contrast with one another, these precautions raise PAF from a merely corrective to a preventative system that allows scholars to foresee where methodological impairments lie and prompt a fix through an alignment in a sound manner. PAF enhances the credibility, transparency, and scholarly contribution of social science research by systematically requiring the clear justification and accordingly traceable philosophical assumptions, design decisions, and evidence criteria, as well as ethical commitments to minimize avoidable critique from reviewers.

10. Practical Decision Tools for Researchers and Reviewers

10.1 PAF Alignment Checklist

To maximize the practical utility of the PAF, this paper proposes an alignment checklist to be used as a diagnostic aid for researchers, supervisors, and reviewers. To overcome these oversights, the checklist encourages researchers to start with a clear articulation of research philosophy, so that ontological, epistemological, and axiological assumptions are made explicit rather than implicitly accepted. Researchers should build on this foundation by evaluating if the stated paradigm is consistent with the philosophical commitments and consistency with the chosen methodology (deductive or inductive, quantitative, qualitative or mixed). Next is a discussion of methods and research design, where authors

must justify their data generation techniques and design structures with respect to research questions and paradigmatic assumptions (Pretorius, 2024).

The checklist then stresses alignment with the level of evidence, querying whether validation and/or evaluation criteria (for example, validity, trustworthiness, or integration quality) are congruent with the methodological approach used. Ethical and axiological considerations are also highlighted by ensuring that values and ethical commitments are not just recorded in an ethics approval procedure but instead are to be made visible in both sampling strategies and informed consent procedures, as well as reporting practices. Lastly, for mixed methods, the checklist demands integration to be planned and spelled out in terms of meta inferences and use of joint displays to assist with transparent synthesis between data strands. Together, this checklist translates PAF alignment principles into a concrete evaluative tool that guards against methodological misalignment and reinforces the cohesiveness and trustworthiness of study designs.

10.2 PAF Decision Tree

Building on the Polas Alignment Framework we further illustrate our framework with a PAF Decision Tree (Figure 2) where researchers make coherent methodological decisions step by step. It starts with the research question and states that methodological choices must be determined by the characteristics and objectives of the inquiry and not the methods of choice. The research question leads researchers to philosophical stances, clarifying assumptions about reality, knowledge, and values. This philosophical foundation then helps guide the selection of research paradigm that is both logically consistent with these assumptions and serves to address the research problem.

From this foundation, the decision tree guides researchers in choosing an appropriate methodology, for example, deductive or inductive thinking and quantitative, qualitative, or mixed methods approaches. Methodological choices then lead to methods and research designs that pair specific data generation techniques and design structures with both the paradigm and the research questions. The decision process then crystallizes into the specification of the evidence and criteria, be it validity, reliability, or quality of integration, that is appropriate to the methodological orientation. Importantly, the PAF Decision Tree features feedback loops, enabling researchers to amend earlier decisions based on ethical considerations, pilot testing or new findings. The decision tree thus reframes PAF as a clearly outlined, pragmatic, reflexive tool to advance methodological fidelity, ethical integrity and research designs that can be swiftly scrutinized by peer-reviewers.

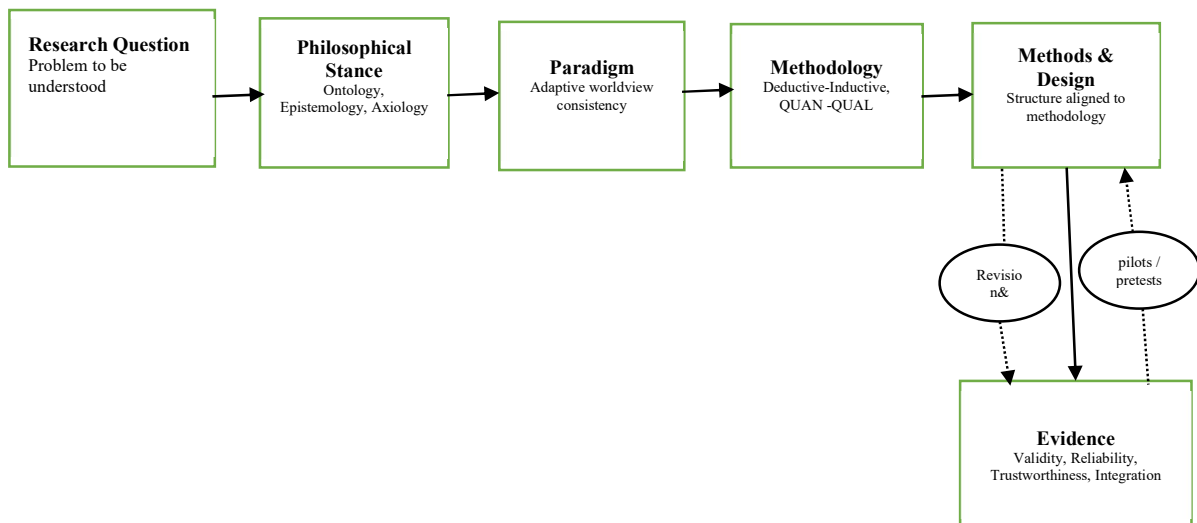


Figure 2. PAF Decision Tree (developed by author). Note. Solid arrows indicate decision flow; dotted arrows represent feedback and iteration.

The decision tree provides a step-by-step guide for selecting philosophically and methodologically coherent research designs while allowing iterative refinement through ethical review and pilot testing. The flow of the research process is depicted in Figure 2, illustrating the logic of how decisions are made in a study from the initial identification of a problem through to the production of valid and reliable evidence. Step 1 is Research question. To begin with, a research question makes a problem that needs to be understood. This leads into the philosophical stance of the researcher, detailing assumptions about ontological questions and epistemological and axiological inquiries (Creswell, 2009). A research paradigm is then chosen that aligns with the worldview by relying on these assumptions.

The methodology selected depends on the paradigm that has been chosen and the methodology will indicate if the study conducts logic deductively or inductively and apply either quantitative, qualitative, or mixed methods. Next, it guides methods and research design, including data collection and data analysis techniques that are consistent with the research paradigm. This process results in evidence that can be evaluated along criteria of validity, reliability, trustworthiness and integration.

This figure also emphasizes iteration in research methods. These feedback loops illustrate how ethical review, amendments, and pilot or pre-test studies guide and improve methods and design ahead of the generation of final evidence. The solid arrows represent the primary direction of the decision path, the dashed arrows represent feedback and iteration, and they highlight that research design is both systematic and reflexive.

11. Implications for Methodological Scholarship, Supervision, and Editorial Practice

The PAF provides some important implications for methodological scholarship, doctoral supervision and editorial practice within the social sciences. Not the least among them, for methodological borrowing interdisciplinary scholarship, PAF provides a named and integrative framework to organize the methodological elements of research in a way that makes the justification of philosophical positions, design decisions and standards surrounding evidence more coherent. To promote greater replicability, comparability, and theoretical synthesis within interdisciplinary work where methodological assumptions are often left implicit or disjointed, PAF assists with making alignment explicit and traceable.

As a doctoral program and a supervisory relationship, PAF is a scaffold, teachable device for helping early-career researchers grapple with complex connections between philosophy, paradigm, methodology, and design. Given that the confusion between these two central constructs of research philosophy and paradigm is not unique to our department, it feels that the principles behind our framework address a prominent pedagogical challenge in research training namely, finding a clear sequential logic as well as practical tools to enable better decisions (for example, through the use of an alignment checklist and decision tree) in all research trainings. By presenting their design choices as stages in a structured decision process, supervisors can detect methodological weaknesses early, the number of design revisions due to poor trial-and-error can be reduced, and this framing position helps doctoral researchers be more confident and defensible in their methodological positioning.

In an editorial and peer-review context, PAF improves diagnostic clarity by providing a common evaluative lens through which to appraise methodological coherence. This framework can help editors and reviewers identify paradigm–design mismatches, validation misfit, or ethical misalignment early in the manuscript assessment process which may lead to a more constructive and transparent feedback. Instead of leaning on implicit or paradigm-specific expectations, PAF encourages standard evaluation based on explicit alignment criteria. Together, the Polas Alignment Framework stabilizes methodological conversations across disciplines without sacrificing methodological pluralism and leaving design-level innovation to the researcher by creating a citable and reusable frame of reference.

12. Conclusion

The PAF reflects the coherence in a sustained response to the persistent oversight of philosophical assumptions in research practice in social science inquiry. The PAF provides an integrating conceptual foundation for rigorous methodological decision making by delineating what constitutes a research philosophy and what not, formalizing a chain of methodological coherence linking methodology and methods, and further research design and evidence seeking, and embedding axiological ethics within this chain. Instead of prescribing what methods to use or favouring certain paradigms, this framework highlights internal consistency, transparency and fit between the evaluative criteria employed, thus reconceptualising rigor as a function of alignment rather than a set of technique.

Aside from providing clarity of concepts, PAF offers a package of normative principles, decision heuristics, and illustrative visual frameworks, that help bridge the gap between abstract strategies and concrete practical guidance for researchers, supervisors, and reviewers. The framework supports the translational value of methodological reasoning, in that it helps anticipate and remedy common sources of reviewer critique such as paradigm–design mismatch, validation misfit, and ethical superficiality, thereby improving the traceability and defensibility of methodological decisions. PAF is explicitly designed to be suitable for reuse and citation in empirical, review, and pedagogical contexts, and we encourage its reuse as a means of supporting cumulative knowledge-building and methodological literacy across fields.

By this means the Polas Alignment Framework helps to stabilize methodological discourse and at the same time does not constrain epistemological pluralism. It opens room for innovation at the research design level but, at the same time, emphasizes the underlying demand that all methodological choices be philosophically anchored and ethically known. The evolution of social science research in both paradigmatic diversity and methodological sophistication opens an important moment for broadening inquiry with techniques such as PAF, a framework that promises to be an enduring building block for increasing the credibility, communicability, and coherence of social inquiry.

Future research may empirically apply PAF by assessing whether explicitly aligned studies experience fewer reviewer objections or greater methodological transparency during peer review. Further work may also adapt PAF to discipline-specific research traditions, supervisory training programs, or methodological auditing tools.

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