# Ethics, truth, and values in political economy research: Implications for entrepreneurship and innovation

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**Abstract**

Science rests on an ethics of responsibility, which presupposes the autonomy of researchers and their freedom of choice, while holding them accountable for their decisions. Yet, social, moral, and other non-cognitive values inevitably shape scientific practice, not only in matters of research ethics but also in methodological choices and the very selection of problems to be investigated. This raises fundamental questions: if science is permeated by values, can it still be regarded as "neutral" and "autonomous"? This essay argues that values are not a contaminant to be eliminated but an epistemic infrastructure that constitutively shapes rigorous and socially relevant knowledge in political economy and entrepreneurship studies. Moreover, is science truly "impartial" in its cognitive evaluation of results, as a condition for valid knowledge? These questions frame the present reflection. The analysis suggests, in a broad sense, that ethics can be understood as the pursuit of truth, with all the particularities implied by the definition of both truth and values.

**Keywords:** Political Economy; Positive Change; Power; Science; Sociology.

## 1. Introduction

Ethics is historically situated: what one era deems acceptable another may condemn. This historicity shapes both social practices and scientific inquiry. As Max Weber argued in *Wissenschaft als Beruf*, science is never entirely divorced from values; even the demand for "value-neutrality" is a normative stance tied to cultural and historical conditions (Weber, 2004/1917). Likewise, Jürgen Habermas showed that knowledge is guided by human interests—technical, practical, or emancipatory—undermining the idea of a fully autonomous science (Habermas, 1971/1968).

In a period marked by rapid technological disruption (e.g., AI, biotech) and persistent global inequalities, the question of how values guide scientific and entrepreneurial action has renewed urgency. The legitimacy of innovation ecosystems increasingly depends on their ethical foundations. Recent scholarship indicates that philosophy remains central to understanding entrepreneurship as a value-driven practice, where ethical and epistemological commitments shape innovation and creativity (Leite, Audretsch, & Leite, 2024; de Almeida Leite, Audretsch, & Leite, 2025).

This exploration critically evaluates ethics within scientific research, emphasising Political Economy and its intersections with innovation and entrepreneurship. It adopts an exploratory and conceptual approach grounded in a critical literature review across philosophy, sociology of science, political economy, and entrepreneurship. Searches in Scopus, Web of Science, and Google Scholar (1968–2025) used keywords such as "ethics in science," "values in political economy," "entrepreneurship ethics," and "responsible innovation" for peer-reviewed articles, books, and book chapters, excluding non-peer-reviewed sources (e.g., conference papers, grey literature) to ensure academic rigour. Inclusion criteria prioritised (i) works in English or Portuguese, reflecting the research team's linguistic capabilities and the global dominance of English alongside the regional relevance of Portuguese in Lusophone contexts; (ii) disciplinary diversity across philosophy, sociology, political economy, and entrepreneurship; (iii) global relevance, incorporating perspectives from North America, Europe, and emerging

economies of economic and research significance (e.g., Brazil, India); and (iv) impact or seminal status (e.g., Weber, 2004/1917; Habermas, 1971/1968; Leite, Audretsch, & Leite, 2024; de Almeida Leite, Audretsch, & Leite, 2025). Approximately 40 sources were selected and synthesised through thematic analysis, coding sources to identify convergences and gaps across three streams: value-free ideals, value-laden perspectives, and socio-political critiques.

Moving beyond the neutrality–value dichotomy, we propose ethics as constitutive of knowledge production—a form of epistemic infrastructure that orients legitimate problems, methods, evidence, and outcomes in Political Economy and entrepreneurship. Classic managerial prompts—e.g., Blanchard and Peale's (1988) questions about legality, justice, reciprocity, and public scrutiny (cf. Holjevac, 2008)—retain salience in scientific contexts, foregrounding ethics as a structuring axis of legitimacy within academia and society.

This essay offers three contributions: (1) it consolidates arguments that values are integral to scientific practice yet compatible with objectivity under conditions of critique and transparency; (2) it proposes a model of ethics as epistemic infrastructure with testable propositions for entrepreneurship; and (3) it links this model to responsible innovation to inform entrepreneurial ecosystem design. The remainder proceeds as follows: Section 2 reviews the three theoretical streams—value-free science, value-laden perspectives, and socio-political critiques—highlighting convergences and tensions. Section 3 develops the proposed model and its implications for entrepreneurship, formulating testable propositions. Section 4 synthesises the framework (Figure 1) and links it to responsible innovation. The conclusion summarises contributions, notes limitations, and outlines an agenda for empirical assessment of the epistemic-infrastructure model in entrepreneurial ecosystems.

## 2. Ethics and the Value-Laden Nature of Science

The literature reveals three major perspectives on the relationship between science and values: (i) the ideal of value-free science (Weber, 1917/2004; Popper & Popper, 2002), (ii) critical accounts highlighting the inevitability of value-ladenness (Lacey, 2005, 1999a, 1998; Longino, 2002, 1990; Brown, 2021), and (iii) socio-political perspectives linking science to ideology and power (Marx & Engels, 2007; Galbraith, 1958; Neves, 2019).

Within this debate, the ideal of a value-free science presupposes that scientific inquiry should be conducted without the influence of subjective values. This notion can be traced back to Max Weber. In Wissenschaft als Beruf, Weber (1917) argued that scientific investigation ought to be guided exclusively by epistemological values such as focus, prediction, and empirical logic, all coherently linked to results. For Weber, the intrusion of other types of values—ethical, political, or religious—would compromise objectivity (Cupani, 2021).

Yet, once the presence of researchers throughout the scientific process is acknowledged, it becomes evident that an interaction between science and values is unavoidable. Values are inevitably embedded in research teams, shaping not only their approaches but also the ways in which results are interpreted by different audiences through their ideological lenses (Aymoré & Ferreira da Cunha, 2021; Dasgupta, 2009).

Hugh Lacey (2005) and Bunge (1999) raise similar concerns with respect to experimental research, its practical applications, and the very selection of problems deemed worthy of investigation. By contrast, Karl Popper placed emphasis on science as grounded in an ethics of responsibility: a relationship of freedom and commitment on the part of scientists towards their discipline. According to Popper and Popper (2002), this responsibility is exercised through the logical criterion of scientificity he proposed, as well as the methodological rules selected by scientists themselves. Such reflections were elaborated across several of his works, including The Two Fundamental Problems of the Theory of Knowledge (1930–1933), The Logic of Scientific Discovery (1934), The Moral Responsibility of the Scientist (1969), Tolerance and Intellectual Responsibility (1983), and The Open Society and Its Enemies (1974).

Recent scholarship reinforces this interpretation. De Assis Dias (2021), for instance, highlights how Popper's conception of scientific responsibility entails not only methodological rigor but also a strong ethical commitment to society. In her view, Popper's ethics is anchored in the idea that the scientist's autonomy must be matched by

accountability, thereby anticipating contemporary debates on the social responsibilities of science and innovation

Within the specific field of Political Economy, the distinction between the two phases of economic production appears crucial to preserve scientificity. Chirat (2018) even considers it naïve to assume that Political Economy could ever provide a straightforward teaching of truth, since historians such as Galbraith have long recognised that both social and scientific arenas are governed by conflicts of interest and ideological struggles.

Galbraith (1958) and Chirat (2018) build on Marx and Engels's (2007) insight that dominant societal ideas often reflect the interests of the ruling class, shaping both economic thought and scientific inquiry. This suggests that political economy researchers must critically engage with ideological influences, acting as active disseminators of knowledge rather than passive conduits for prevailing narratives. Such a stance aligns with Neves's (2019) call for economists to reduce subjective biases through dialectical critique, ensuring scientific rigor without denying the role of values.

From this perspective, one might argue that economists should become active disseminators of their own ideas, rather than mere opinion makers at the service of the ruling class (Chirat, 2018).

Philip Kitcher (2001), however, raises a further question: what ought to be the goal of science in a democratic society? For some, the answer lies in the pursuit of truth; for others, it does not. In practice, truth and democracy may attempt to provide different and sometimes conflicting answers.

Truth may eventually be understood as correspondence to a mind-independent world. Yet science could not reasonably expect to uncover the entirety of such truth. Scientific inquiry must, by necessity, remain selective, concentrating on those aspects of nature that are judged to be most significant.

This, in turn, raises a further problem: how should such judgements be made? Kitcher's answer is that the pursuit of truth must be combined with respect for democracy. Research that we should deem significant is that which addresses the questions identified as most important through informed deliberation among those committed to the well-being of all. In fact, his book develops this perspective into an ideal of well-ordered science, linking it both to past efforts in science policy and to the recognition that the discovery of truth is not always identical with what society most needs or wants. Kitcher concludes with a chapter devoted to the responsibilities of scientists.

Helen Longino seeks to break the prevailing deadlock in the ongoing "science wars" between philosophers of science and sociologists of science—academic battles grounded in disagreement over the role of social forces in the construction of scientific knowledge. Many philosophers of science tend to minimise the role of social forces, insisting that scientific knowledge is best regarded as the outcome of cognitive processes. By contrast, sociologists argue that a range of non-cognitive factors influence what scientists learn, how they package it, and how readily it is accepted.

Underlying this disagreement is a common assumption: that social forces are primarily sources of bias and irrationality. Longino challenges this assumption, arguing instead that social interaction actually strengthens our ability to secure reliable and rational knowledge. This is a crucial insight, enabling her to develop a durable and innovative account of scientific knowledge that integrates the social and the cognitive.

In Science as Social Knowledge, Longino (1990) begins with a detailed discussion drawing on a wide range of contemporary thinkers who write on scientific knowledge, clarifying the philosophical issues at stake. She then critically examines the dichotomous understanding of the rational and the social that characterises both sides of the debate in science studies, and sets out the social account she deems necessary for an epistemology of science that encompasses the full spectrum of cognitive processes. Throughout, her account responds not only to the normative uses of the term "knowledge" but also to the social conditions under which scientific knowledge is produced.

Building on these ideas, Longino brings her account into dialogue with ongoing work in social epistemology and science studies, demonstrating how her critical social approach can help resolve a variety of persistent problems. Although the book is primarily epistemological in its concern with the sociality of inquiry, Longino also explores its implications for scientific pluralism. She thus advances a social account that preserves a meaningful concept of knowledge in the face of theoretical plurality and uncertainty.

Matthew Brown, for his part, aligns with authors such as Lacey, Longino, Kitcher, and Douglas. Indeed, he argues that extra-scientific values can enhance scientific practice, making it not only more socially responsible but also more intrinsically rigorous (Cupani, 2021).

This debate also resonates with studies in entrepreneurship and innovation, where social and ethical values condition how opportunities are recognised, how resources are allocated, and how scientific narratives legitimise organisational practices (cf. Audretsch, 2009; Shepherd, 2015; Zahra & Wright, 2016; Dacin, et al., 2011). Epistemology is therefore not neutral in relation to the economic–organisational field, but directly influences the creation and dissemination of applied knowledge.

Beyond highlighting value-ladenness in scientific practice, entrepreneurship research shows that the very sources of knowledge entrepreneurs rely upon—universities, incumbents, users, or public research—shape which opportunities become thinkable and legitimate, and with what ethical implications (Audretsch & Link, 2018). Likewise, the social role ascribed to entrepreneurship—whether oriented to rent-seeking, inclusion, or prosocial impact—depends on normative commitments embedded in policy and scholarly narratives (Zahra & Wright, 2016). These insights reinforce that epistemology is never neutral vis-à-vis the economic–organisational field; it configures what counts as salient evidence, credible action, and socially acceptable innovation.

In practice, Brown adopts a pragmatic stance fundamentally inspired by Dewey. He thus belongs to the current of normative pragmatism, in a double sense: in relation both to scientific practice and to value judgements.

In sum, the review of the literature reveals two enduring stereotypes. The first holds that science produces knowledge that is "true, certain, reliable, unequivocal, and decisive" (Brown), and that the activity generating it cannot be contingent. The second assumes that values are purely subjective—a matter of personal preference—and therefore necessarily constitute sources of distortion or bias in knowledge.

Thus, the debate has evolved from Weber's ideal of value-neutrality (i), through the recognition of inevitable value-ladenness (ii), to the critical analysis of science as an arena of ideological struggle (iii). This progression reveals that the central question is no longer whether values play a role, but which values should be justified and how.

As Neves (2019) observes, "The subjectivity and the different "visions" (ideologies) and "possible consciousnesses of economists—considered as "enemies" of scientificity (Pimenta)—are in this context inevitable and inexorably mark the selection and interpretation of "facts", and, more generally, all scientific work." Yet, the impossibility of denying subjectivity and values does not invalidate the possibility of objective knowledge. Such objectivity emerges from the scientific method itself, from the fact that theories are open to critique—a dialectical process of "reducing the subjectivities inherent to the various 'possible consciousnesses' that the social fabric shapes" (Neves, 2019, p. 206).

### 2.1. Synthesis and transition

In short, neutrality is untenable, value-ladenness is inevitable, and socio-political critique is indispensable. What follows therefore shifts from *whether* values permeate inquiry to *how* explicit ethical infrastructures recalibrate what counts as salient evidence and legitimate outcomes in applied arenas. We develop this shift in entrepreneurship, where ethical commitments have material consequences for opportunity recognition, resource allocation, and distributional impact.

## 3. From Political Economy to Entrepreneurship: Ethical Dimensions of Knowledge Production

Ethics today commands increasing attention and recognition, yet it is neither a recent concern nor one exclusive to contemporary societies. The great philosophers of classical antiquity consistently addressed ethics in relation to honesty, justice, and life in community, particularly in the domain of work.

The link between Political Economy and Entrepreneurship lies in their shared concern with the production and legitimation of knowledge. While Political Economy has long debated the role of ideology in economic knowledge, entrepreneurship studies show how value-laden narratives legitimize certain opportunities, resources, and actors over others (Audretsch & Link, 2018; Zahra & Wright, 2016). Thus, entrepreneurship can be viewed as the applied arena where the value-leadenness of economic knowledge becomes materially consequential. In other words, entrepreneurship and innovation, ethical commitments materialise in how knowledge sources are prioritised and valorised (e.g., scientific versus user-led knowledge) and in how entrepreneurial activity is framed as serving broader social purposes (Audretsch & Link, 2018; Zahra & Wright, 2016).

### 3.1. Historical Foundations

In the classical period, Aristotle (384–322 BCE) classified ethical problems under *practical philosophy*, insofar as this branch examined human action and the natural aspiration for fulfilment and happiness. For Aristotle, there was no universally valid rule defining happiness; rather, reason—strongly influenced by Socratic thought—enabled human will to guide actions towards useful and virtuous ends. Gradually, such axioms established patterns of behaviour tied to reason and responsibility. Aristotle distinguished two kinds of virtues: rational and moral–ethical (Holjevac, 2008).

Kant (1724–1804), by contrast, grounded ethics in the concepts of free will and responsibility. Free will, in his view, did not legitimise all possible actions; rather, it was constrained by moral law, emphasising reciprocity and duty. Whereas Aristotle identified the supreme good with happiness as a theoretical activity aligned with virtue, Kant described the *summum bonum* as the full subordination of humanity to moral law, so that obedience becomes akin to sanctity (Marques & Cadilha, 2019). For both, and indeed for most major moral philosophers, the idea of a "highest good" functioned as the aim of ethical life.

This philosophical lineage continues to resonate in entrepreneurship studies. Costa Gomes (2023) highlights that ethics and happiness are not separate domains but mutually reinforcing, with entrepreneurship becoming a moral endeavour when guided by ethical values. In this sense, ethics provides the pathway to happiness, while entrepreneurial action, when ethically grounded, serves not only economic but also humanistic purposes (Leite, Audretsch & Leite, 2024).

### 3.2. Contemporary Relevance

A contemporary example lies in research applied to artificial intelligence and sustainability. Ethical decisions concerning data collection, environmental certification, or corporate accountability illustrate how value judgements shape not only scientific validity but also the social legitimacy of business innovation. Here, as in Political Economy, the researcher (or entrepreneur) acts as a mediator between scientific rigour and social responsibility.

The etymology of *ethics*—from the Greek *ethos* (custom, habit, disposition)—already pointed beyond mere description of morality to a critical stance toward prevailing moral practices. Ethics is not simply about cataloguing norms but about evaluating them, identifying values that are defensible as "real" or "true." From a philosophical standpoint, ethical reflection must clarify how moral judgements should be made rather than reproduce them uncritically.

### 3.3. Critical Perspectives

For Brown (2021), value judgements are *"reflective decisions about what to value, and they are better or worse depending on reasons"* (p. 105). These judgements may be made by individuals, research teams, or entire

scientific communities (p. 64). At the core of values lie practical reasons that justify action: *"Valuing is at the heart of action, activity, practice. To value something is to be disposed to act in favour of it"* (Brown, 2021, p. 15).

Neves (2019) similarly stresses that *"Political Economy … is a normative science, based on value judgements, which does not prevent it, in his view, from adopting 'the canons of scientific procedure' and respecting the requirements of 'research ethics' (notably 'intellectual honesty'), indispensable for the pursuit of objectivity"* (p. 208).

Values also encompass multiple dimensions: *biovalues* (e.g., survival, adaptation to the environment), social values (communication, cooperation, trust), cultural values (customs, political convictions, religious beliefs), personal values tied to identity, and institutional virtues such as stability and justice. These may be consciously or unconsciously professed, and they evolve across time and communities.

The supposed ideal of value-freedom thus appears both impractical and undesirable. Human beings are inevitably shaped by motivated reasoning and social influences; values are not external distortions but integral to science. As Brown (2021) argues, *"science without values is neither possible nor desirable"* (p. 63). Importantly, he distinguishes between unreflective valuing and reasoned value judgements, noting that values—as expressions of needs, goals, and ideals—are not necessarily subjective, arbitrary, or incommunicable. His proposed theory conceptualises values as *"inherently tied to action,"* deriving from multiple sources and playing diverse roles in experience (Brown, 2021, p. 20).

This recognition foregrounds the ethical character—especially in terms of responsibility—of scientific and entrepreneurial practice. It also affirms that questions of value can and should be debated empirically, as they pertain to practical problems of what ought to be done under circumstances (Brown, 2021, pp. 20–21).

### 3.4. A Novel Framework: Ethics as Epistemic Infrastructure

To advance beyond existing conceptions of value-laden science (e.g., Longino, 1990; Brown, 2021), we propose a formal model of ethics as epistemic infrastructure in political economy and entrepreneurship research. Unlike Longino's social epistemology, which emphasizes social interactions in knowledge validation, our framework positions ethics as a structural scaffold that integrates cognitive, normative, and practical dimensions of knowledge production. This model comprises three components:

1. Normative Anchors: Ethical values (e.g., justice, inclusion) that define legitimate knowledge sources and priorities in research design.
2. Cognitive Filters: Methodological choices shaped by these values, influencing which data or phenomena are deemed salient.
3. Practical Outputs: The societal impact of research, measured by its alignment with stakeholder needs and distributive outcomes.

Proposition 1: Research programs prioritizing inclusive normative anchors (e.g., addressing marginalized communities) yield higher social legitimacy in entrepreneurial ecosystems, measurable via stakeholder trust metrics (e.g., survey-based trust indices). Proposition 2: Cognitive filters shaped by ethical values (e.g., sustainability) lead to greater innovation diversity, quantifiable through patent heterogeneity or startup mission statements. Proposition 3: Practical outputs aligned with ethical infrastructures enhance long-term ecosystem resilience, evidenced by sustained funding or policy adoption rates.

Operationalisation and research design

*Stakeholder trust* can be measured via (i) validated trust indices adapted to innovation/HEI–industry policy contexts; (ii) triangulation with behavioural proxies (e.g., participation rates in open calls; opt-in rates to data-sharing agreements); and (iii) sentiment analysis of ecosystem communications. *Innovation diversity* can be assessed using (i) patent and publication heterogeneity indices (Shannon/Simpson) at technology-class level; and (ii) supervised textual coding of startup mission statements to capture normative anchors (e.g., inclusion,

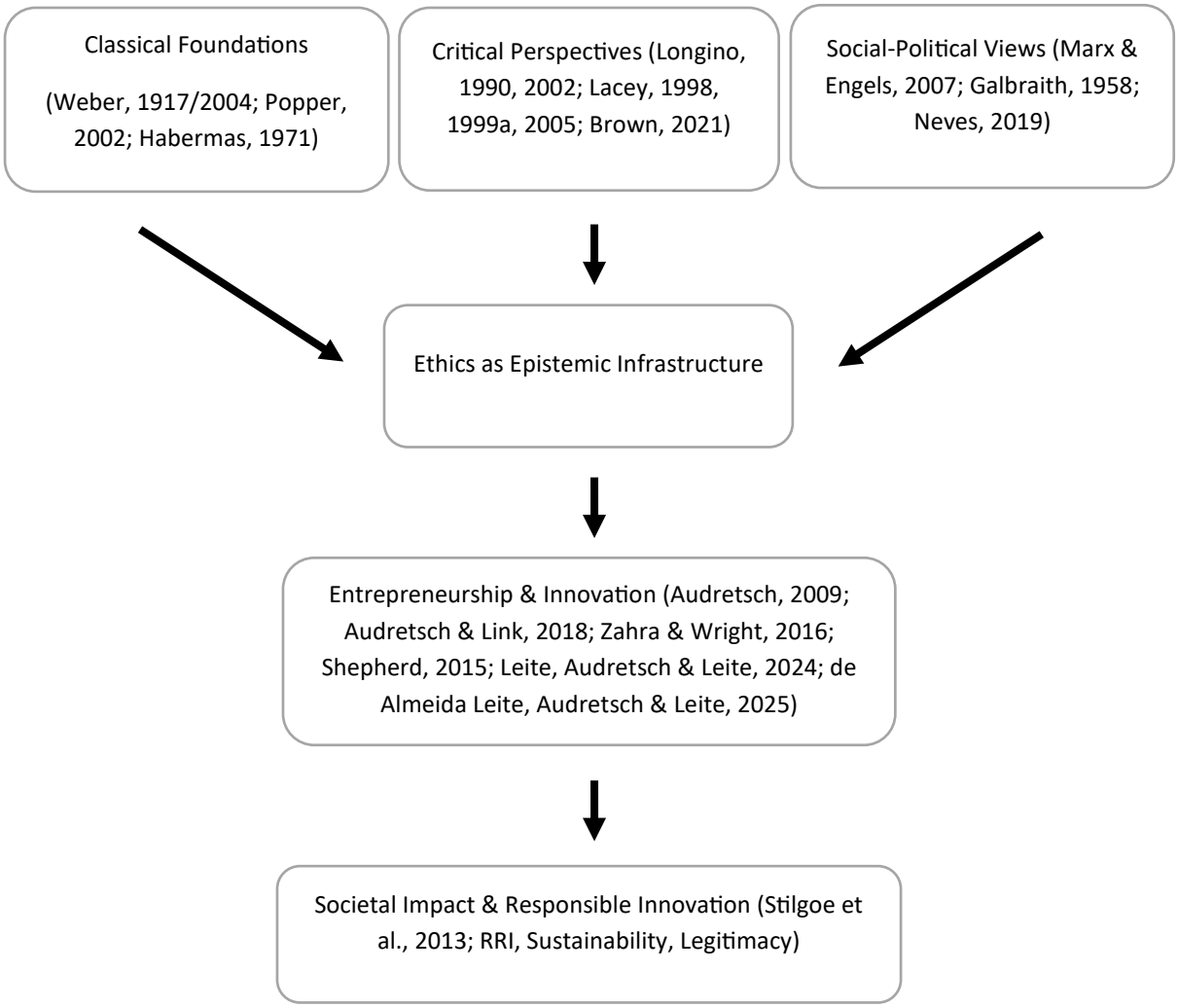
sustainability). *Ecosystem resilience* can be proxied by (i) survival and growth curves of ventures across shocks; (ii) persistence of multi-source funding; and (iii) policy uptake (citations of research in strategies, legislation, or regulatory guidance).

Suggested empirical designs include multi-site panel datasets of regional ecosystems (difference-in-differences with staggered adoption of RRI-like charters), matched-pair case studies (ethics-explicit vs. ethics-implicit accelerators), and mixed-methods process tracing combining archival records with stakeholder interviews and preregistered coding schemes.

Boundary conditions. Effects are likely moderated by institutional quality (rule of law), absorptive capacity (HEI–industry linkages), and social cohesion (inequality indices). We therefore recommend preregistering moderators and robustness checks (placebo tests, alternative outcomes, and sensitivity to model specification).

This framework distinguishes itself by operationalising ethics as a measurable driver of knowledge production—unlike Longino's broader social focus—and provides a testable agenda for empirical studies in entrepreneurship and political economy.

**Figure 1:** Theoretical foundations and practical implications of ethics as epistemic infrastructure in political economy and entrepreneurship research.




**Source:** Conceptualized by the authors.

Figure 1. Ethics as epistemic infrastructure in political economy and entrepreneurship. Inputs (normative anchors): justice, inclusion, sustainability → Cognitive filters: problem framing, construct choice, method selection, evidence weighting → Processes: peer scrutiny, stakeholder engagement, reflexive iteration (RRI) → Outputs: innovation diversity, stakeholder trust, ecosystem resilience → Feedback loops: policy uptake and societal outcomes update normative anchors. Note: Dashed arrows = moderating effects (institutional quality, absorptive capacity, inequality); solid arrows = primary causal pathways. Sources: Weber (1917/2004); Habermas (1968/1971); Longino (1990, 2002); Lacey (1998, 1999a, 2005); Brown (2021).

As illustrated, the classical foundations (Weber, 1917/2004; Popper, 1959/2002; Habermas, 1968/1971) establish the initial dilemma of values in science. Critical perspectives (Longino, 1990, 2002; Lacey, 1998, 1999a, 2005; Brown, 2021) deconstruct the ideal of neutrality and argue for the legitimisation of values. Socio-political views (Marx & Engels, 2007; Galbraith, 1958; Neves, 2019) expose the power dynamics and ideological struggles inherent in knowledge production. Together, these streams provide the groundwork for understanding ethics not as an external constraint but as a constitutive epistemic infrastructure. This infrastructure, in turn, organises and guides knowledge production in the applied fields of entrepreneurship and innovation (Audretsch, 2009; Audretsch & Link, 2018; Zahra & Wright, 2016; Shepherd, 2015; Leite, Audretsch, & Leite, 2024; de Almeida Leite et al., 2025), ultimately shaping the societal impact and responsible innovation of scientific enterprise.

Ethics today commands growing attention and recognition. Yet it is neither a recent concern nor one confined to contemporary societies, and its role in research remains widely debated. Ethical problems are best understood as the search for truth and for the values underlying decision-making, insofar as inquiry investigates human actions and their natural aspirations for fulfilment. Ethics, then, may be defined as a set of values that guide life and social coexistence. To some extent it is relative, since values are not fixed but shift over historical time.

Accordingly, no single universal norm exists that would allow one to evaluate human actions in research with clarity and precision. Rather, ethical judgement tends to follow the direction of human will be shaped by contextual values. Importantly, values should not play a concealed role in the acceptance or rejection of theories. On the contrary, controversies over values will increasingly become part of the global discourse of the scientific community, as scientists retain the freedom to adopt approaches that may serve the interests of marginalised groups such as poorer countries or minorities (Lacey, 1998). As Lacey (1999a) further warns, one must avoid the risk that "specialisation" obscures shared perspectives on values, even if unconsciously held within the scientific community.

In truth, there is no definitive answer to the questions posed in this essay; what emerges instead are certain insights that may contribute to improving processes of ethical judgement. The challenge here has not been to define what ethics *is*, nor to classify what constitutes "truth," but to reflect on the evidence of ethics as illustrated.

For Political Economy and entrepreneurship scholars, this implies explicitly theorising which knowledge sources are legitimised in opportunity recognition (Audretsch & Link, 2018) and which social roles of entrepreneurship are being normatively advanced (Zahra & Wright, 2016)—and with what distributive and ethical consequences. Doing so clarifies how values inform methodological choices, policy prescriptions, and impact claims. This reframes ethics not as an afterthought but as an analytical lens that reveals the normative underpinnings of entrepreneurial ecosystems.

For policymakers and ecosystem builders, this implies moving beyond simplistic metrics of innovation (e.g., number of startups, patents) towards evaluating the *quality* of entrepreneurship in terms of its normative orientation and distributive outcomes. Frameworks like Responsible Research and Innovation (RRI) offer tools for such an evaluation, emphasizing anticipation, inclusion, reflexivity, and responsiveness (Stilgoe et al., 2013).

Science without ethics—or rather without values—would make little sense, and indeed risks generating far greater social harms. Scientists must therefore acknowledge the contingencies of their work as unforced choices, identify the morally salient features of the situations they confront, empathically recognise legitimate stakeholders, reconstruct and imaginatively explore alternative possibilities, and formulate fair and reasoned value judgements to guide their decisions (Brown, 2021, p. 21).

Ultimately, in Weber's words, the ethic of the scientist should be a commitment to truth. Yet this commitment is not always a commitment to the good. Human beings often follow those values that serve them best, weighing advantages and disadvantages at every step. Ethics thus remains a value—but frequently not the decisive one—particularly when survival is at stake.

We therefore propose understanding ethics not as an external restriction upon science, but as an epistemic infrastructure that organises and orients the production of knowledge in Political Economy and entrepreneurship studies. Such an approach enables not only greater scientific rigour but also heightened social relevance, by connecting values with innovation and responsibility.

Consequently, the absence of ethical reflection in science and entrepreneurship risks legitimising harmful practices—exacerbating inequality, enabling exclusionary innovation, or fuelling greenwashing under the guise of progress. Similar concerns emerge in digital health, where AI-driven innovations challenge the adequacy of informed consent and demand new normative safeguards. As Costa Gomes (2025) argues, reconfiguring bioethical frameworks in the age of artificial intelligence underscores that ethical reflection is not an optional add-on but a prerequisite for scientific and social legitimacy. By contrast, recognising ethics as constitutive of knowledge production ensures that innovation not only advances scientific frontiers but also contributes to a more just, inclusive, and sustainable society.

## 4. Conclusion and Future Research

This essay has framed ethics as an epistemic infrastructure integral to knowledge production in political economy and entrepreneurship, moving beyond Weber's (1917/2004) value-neutrality to embrace values as constitutive drivers of rigorous and socially relevant science. Drawing on critical perspectives (e.g., Longino, 1990; Brown, 2021), it argues that ethical commitments shape legitimate knowledge and socially acceptable innovation, offering a novel lens for understanding entrepreneurial ecosystems.

To extend this contribution, future research should empirically test the epistemic infrastructure framework through targeted, high-impact questions:

1. AI-Driven Entrepreneurship: How do ethical values (e.g., transparency, fairness) influence opportunity recognition in AI-driven startups in emerging economies, and what are the distributive consequences for local communities? Mixed-methods studies combining econometric analyses of startup performance with qualitative stakeholder interviews could yield insights publishable in *Research Policy*.
2. Ethical Resilience in Ecosystems: How do normative anchors (e.g., sustainability commitments) enhance entrepreneurial ecosystem resilience during crises like climate disruptions? Longitudinal case studies in regions like Sub-Saharan Africa, measuring startup survival rates, could attract attention in *Journal of Business Venturing*.
3. Policy Alignment with SDGs: How can ethical infrastructures in political economy research inform policymaking to align innovation with UN Sustainable Development Goals (e.g., SDG 10—Reduced Inequalities)? Comparative policy analyses across developed and developing nations could enhance global relevance, targeting *Journal of Management Studies*.

These questions operationalize Responsible Research and Innovation (RRI) principles (Stilgoe et al., 2013), aligning with UNESCO's science-ethics guidance and SDGs (e.g., SDG 9—Industry, Innovation and Infrastructure). Complementary approaches, such as ethnographies of innovation hubs or experimental designs testing ethical frameworks (Parks-Leduc, 2021), can further map how values shape knowledge production in practice. This

agenda not only enriches the epistemology of science but also strengthens the alignment between innovation, responsibility, and societal impact, promising high citation potential and policy relevance.

As a conceptual contribution, this essay paves the way for empirical studies to investigate how ethical commitments concretely shape entrepreneurial ecosystems, ensuring both scholarly rigor and practical dividends for a just, inclusive, and sustainable future.

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