Multifunctional tetralemma: a systems-theoretical programme and its practical implications

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Abstract

Purpose – This general review introduces the concept of the multifunctional tetralemma as a systems-theoretical decision programme. It addresses how organisations can navigate dilemmas in functionally differentiated societies, where the same issue may appear simultaneously as good, bad, both, or neither depending on the functional system through which it is observed.

Design/methodology/approach – This paper situates the tetralemma within Luhmann's theory of decision-making and extends it into a multifunctional form. Practical implications are illustrated with examples from ESG, stakeholder theory, investment behaviour and business model innovation.

Findings – The multifunctional tetralemma provides a structured tool for unfolding and reframing organisational dilemmas across multiple function systems. It enables organisations to resist absolute moral claims, to reclaim alternativity in decision-making and to develop richer, more differentiated strategies for dealing with dilemmas in complex environments.

Originality/value – The paper advances paradox and systems theory by reframing the classical tetralemma in terms of functional differentiation. It demonstrates the potential of the multifunctional tetralemma as both an analytical device and a practical decision programme. Beyond business applications, the paper highlights its use as a deframing strategy in political contexts, where moral codes are often mobilised to delegitimise opponents and argues that safeguarding alternativity is a vital condition of modern society.

Keywords Dilemmas, Decision-making, Values, Moral framing, Deframing strategy

Paper type General review

1. Introduction

The ability of organisations to cope with dilemmas has long been recognised as a key challenge for management and organisation studies (Smith and Lewis, 2011). Organisations are continually confronted with situations in which equally plausible alternatives compete, yet no definitive resolution is available. The enduring question then is how organisations can make more-than-arbitrary decisions under such conditions.

A particularly instructive device for navigating dilemmas is the tetralemma, a logical form originating in ancient Indian thought. The tetralemma expands the binary of "either/or" into four possibilities, sometimes complemented by a fifth, meta-position (Fritzsche, 2025; Priest, 2018; Roth *et al.*, 2023). It provides a way of unfolding dilemmas without collapsing them into premature resolutions.

The problem, however, is that contemporary organisations operate in polycontextural environments in which one and the same event or issue may appear as an economic opportunity, a political controversy, a scientific fact, a religious transgression, or an artistic provocation. Each of these domains represents an incommensurable perspective that also defines whether the events or issues at stake appear as desirable or undesirable. As a result, organisations face not merely isolated, singular but multi-perspectival dilemmas, where the same issue may be judged good in one function system and bad in another.

Existing research on organisational dilemmas and value communication provides important insights (Valentinov, 2017, 2019) but has not sufficiently accounted for the way in which this polycontextual value plurality affects organisational decision-making. Nor has

the tetralemma been systematically explored as a tool for mapping and managing these affectations. This leaves us with a gap: while we know that organisations must navigate value pluralism and the resulting dilemmas, we lack models for understanding how classical decision programmes like the tetralemma can be extended to this multifunctional context.

This article addresses the question of how the tetralemma can be adapted for the conditions of functional differentiation. We propose the concept of the *multifunctional tetralemma*, which maps the logical structure of the traditional tetralemma onto the polycontextural environment of modern society. In so doing, we provide a systematic way of observing how the same issue can be coded as morally positive, negative, ambiguous, or indifferent depending on the function system.

Our contribution is twofold. Conceptually, we introduce the multifunctional tetralemma as a systems-theoretical decision programme that brings together insights from organisational decision-making, moral communication and functional differentiation. Practically, we demonstrate how this approach can be used to challenge absolute moral claims and to reclaim alternativity and decidability in contexts where these appear foreclosed. We further discuss several key examples and implications of how our proposed model can support decision-making within complex business environments to enhance operability and value.

The structure of the article is as follows. Section 2 situates the tetralemma within Luhmann's theory of organisations as systems of decision. Section 3 turns to morality in a functionally differentiated society, highlighting how moral communication interacts with organisational decision-making. Section 4 introduces the multifunctional tetralemma, illustrating its logic with a tabular model of moral statements across function systems. Sections 5 and 6 then discuss theoretical and practical implications before concluding with an outlook on avenues for future research.

2. Tetralemmas as decision programmes

In this section, we situate the tetralemma within the systems-theoretical understanding of organisations as systems of decision (Luhmann, 2018). We first outline how organisations stabilise themselves through decision premises before turning to the constitutive role of dilemmas and undecidability in decision-making. Against this backdrop, we introduce the tetralemma as a historical and conceptual device for handling dilemmas—a subroutine of decision communication that unfolds and reframes the dilemmas at the heart of organisational life.

2.1 Organisations as systems of decision

Social systems theory in the tradition of Niklas Luhmann conceptualises organisations not as containers of actors or resources (Besio and Tacke, 2024; Schoeneborn *et al*., 2019; Roth, 2025), but as systems of decision communication. Organisations emerge and persist only insofar as they produce and reproduce decisions. Each organisational decision is a "compact communication" (Luhmann, 2018, p. 148): it selects one alternative while simultaneously signalling the existence of other, excluded options.

Decisions thus make their own contingency explicit: they could have been made otherwise, and this awareness feeds back into the organisational self-description and the possibility to contest already made decisions.

To prevent paralysis in the face of unlimited alternatives, organisations rely on decision premises, that is, decisions about decisions that stabilise and channel subsequent communications. Luhmann distinguishes four types of such premises:

(1) Personnel decisions (who is entitled to decide),

(2) Communication channels (where and how decisions are conveyed) and

(3) Decision programmes (criteria that specify how decisions are to be made correctly)

(4) Organisational culture (the "non-decided premises for decision-making" [Luhmann, 2018, p. 113])

Decision programmes can be conditional ("if X, then Y") or purposive ("decide in accordance with goal Z"). Together with the other premises, these programmes form the organisational infrastructure that keeps decision-making operationally possible despite its inherent contingency.

2.2 Dilemmas and the undecidability of decisions

Organisational life is structured by dilemmas. Every decision must confront alternatives that are neither fully rationally determinable nor reducible to a single "correct" option. In this sense, decisions presuppose undecidability. von Foerster (1992, p. 14) captured this paradox in his oft-cited maxim: "Only those questions that are in principle undecidable, we can decide".

What von Foerster highlights here is that if a question were decidable in principle, it would not require a decision but simply the application of a rule or calculation. What organisations must decide, however, are precisely those matters for which no definitive resolution is available—whether to hire this candidate or that one, whether to invest or divest, whether to pursue financial or environmental sustainability.

This explains why dilemmas are not accidental disturbances but constitutive features of organisation. In each instance of decision communication, the excluded alternatives remain present as unchosen but possible paths. As Luhmann (2018) observed, this creates the paradox that a decision must present its alternatives as both alternatives (for otherwise it would not be a decision) and non-alternatives (for otherwise no binding choice could be communicated). The paradox is not resolved but shifted—from the immediate moment of choice to the stabilising decision premises that guide subsequent choices.

2.3 The tetralemma as a decision programme

It is against this background that the tetralemma can be understood as a compact decision programme designed to handle dilemmas (see Table 1).

Emerging from ancient Indian logic and jurisprudence, the tetralemma sets out four possible stances in the face of contradiction:

(1) This (A): adopt the perspective of one side of the dilemma.

(2) That (¬A): adopt the perspective of the opposing side.

(3) Both (A and ¬A): explore possible ways of holding or combining both sides simultaneously.

(4) Neither (¬A and ¬¬A): step back to question the underlying distinction that produced the dilemma in the first place.

Later developments often include a "fifth position", which suspends or denies all the above four ones, thereby reopening the space of new possibilities.

Table 1. The four basic positions of the traditional Indian tetralemma

	This	Not-this
That	Both	That
Not-That	This	Neither

Source(s): Kleve *et al.*, 2020, p. 436

In organisational contexts, the tetralemma functions as a decision programme that combines aspects of conditional and purposive programmes: if there is a dilemma and if the purpose is to manage it, then one may resort to the tetralemma. This programme then does not resolve the underlying dilemma once and for all but provides a structured way of unfolding and reframing it. Instead of enforcing an either/or logic, the tetralemma keeps the dilemma communicable and manageable: sometimes both sides may be embraced, sometimes neither and sometimes the dilemma itself must be questioned.

The resilience of the tetralemma across philosophical and organisational contexts lies precisely in this capacity to make dilemmas and the underlying paradoxes operable without reducing them. As such, it can be seen as a minimalistic but powerful decision programme—a reusable subroutine that enables organisations to navigate the constitutive dilemmas of decision-making.

3. Morality in a functionally differentiated society

A key distinction in Luhmann's systems theory is that between decision communication and value communication. Decisions are compact communications that state both a choice and the fact that alternatives were possible. Values, by contrast, operate through the binary code of good/bad (Luhmann, 1992, 1996). Within an organisational context, their effect is then to pre-empt decision-making, which – as stated above – is necessary and possible only in the case of Heinz von Foerster's "in principle undecidable questions".

Consider a classic undecidable question: should one marry a pious partner or a rich one? The alternatives are incommensurable because they belong to different value domains (religious versus economic) and—unlike earlier forms of society—modern society offers no canonical hierarchy for deciding which domain's value should prevail. Yet *if* the decision-maker is a devoted Christian, then their value orientation supplies a ready-made preference—choose the pious partner—so that the "decision" is effectively displaced by rule application. Put differently, if one is a religious person, then it is *bad* to prefer an economically *good* partner over a religiously *good* one, and thus the choice between the two options is no longer open. When truly in place, moral values do therefore suspend the need for decision-making altogether, as they prevent the emergence of "in principle undecidable questions" in the first place.

Such undecidable questions were mostly absent in early societies, which exhibited relatively limited demand for polycontextual decision-making. Instead, belonging to a family, tribe, city, or stratum determined what counted as good or bad. One typically considered good what the in-group considered good; conversely, what the higher strata condemned was condemned across the hierarchy. Therefore, morality was tied to one's place in a segmented, centralised, or stratified order. The key was exclusivity: normally, one could not simultaneously belong to two tribes, two strata, or both centre and periphery.

Modern society, however, is marked by functional differentiation, which multiplies rather than divides perspectives and affiliations. One single person now participates in several function systems at once, including law, education, politics, religion, science and others. Even objects, such as a piece of artwork, can now be simultaneously coded or observed in different contexts as an asset, ideological target, or even an act of blasphemy. Duchamp's famous *Fountain* successfully illustrates this transformation and refunctionalisation of an object into "ready-made art". The urinal did not cease to be a urinal, but its successful artistic refunctionalisation also turned it into a potential investment object or political provocation. Functional differentiation, then, does not alter the "essence" of objects but opens opportunities for further transformations, thus endlessly creating and re-creating a polycontextual horizon and permanent need for decision-making.

This multiplication of perspectives applies equally to moral communication. In a polycontextual society, the same issue can appear as good in one system and bad in another. A piece of art may be judged good in artistic and perhaps also economic terms, but bad in political

or religious ones. The crucial point is that there is no pre-given hierarchy of function systems to adjudicate such contradicting value statements, as—unlike in premodern societies—modernity offers no overarching vantage point from which one can determine which function system ought to prevail.

Therefore, in a functionally differentiated society, absolute value statements are meaningless. Every moral claim is relative to the perspective of a particular function system. Attempts to impose a hierarchy—whether by totalitarian politicians, scientific technocrats, or religious extremists—are themselves expressions of functional partiality, not universal authority. Morality persists as an important mode of communication, particularly in crises (Luhmann, 1989), but it no longer provides the integrative foundation of society (Wheeler *et al.*, 2019). Instead, morality operates as one voice among others in a polyphonic environment where incommensurability is the rule rather than the exception.

4. The multifunctional tetralemma

If we now combine the elements and ideas established in Sections 2 and 3, we can demonstrate in the form of Table 2.

Table 2 lists ten function systems along the horizontal axis: politics (POL), economy (ECO), science (SCI), religion (REL), art (ART), law (LAW), sport (SPO), health (HEA), education (EDU) and the mass media (MED). On the vertical axis, the table distinguishes between the value statements of good ($+$) and bad ($-$). The cells indicate whether a value statement is made (1) or not made (0) from the perspective of the respective function system.

Take the political column as an example: the entry "1" in the "$+$" row and "0" in the "-" row shows that the issue at stake is considered politically good and not politically bad. The same configuration applies to the economic column. In contrast, the scientific column registers the issue as both good and bad, while religion codes it as bad but not good and art treats the issue as neither good nor bad, i.e. with indifference.

As highlighted by the black box around the economy, science, religion and art columns, the table thus contains all four logical states of the tetralemma: either good ($+1$, -0), or bad ($+0$, -1), both ($+1$, -1) and neither ($+0$, -0). This demonstrates how the classical tetralemma can be expanded into a multifunctional tetralemma, which maps moral statements or issues across different function systems.

The implication of this approach is straightforward yet far-reaching. One and the same issue may appear as morally positive, morally negative, morally ambiguous, or morally indifferent depending on the functional system through which it is observed. This perspective not only helps to understand the variability of moral judgements but also provides a tool to challenge absolute moral claims in diverse contexts. In this way, the multifunctional tetralemma may serve as an instrument to reclaim or defend alternativity and decidability wherever and whenever these are threatened.

5. Theoretical and practical implications

Building on the conceptual foundations of Sections 2–4, this section turns to the practical relevance of the multifunctional tetralemma. We outline several domains of business and

Table 2. A multifunctional tetralemma approach to moral statements

	POL	ECO	SCI	REL	ART	LAW	SPO	HEA	EDU	MED
$+$	1	1	1	0	0	0	0	0	0	0
-	0	0	1	1	0	0	1	1	1	1

Source(s): Authors' own work

management where the framework can be applied and highlight how it may reshape established approaches to ESG, stakeholder theory, investment behaviour and business model innovation.

5.1 Beyond narrow ESG reporting and integration strategies
Often, modern society's paradoxical problems arise during environmental, social, or governance (ESG)-related decisions, which have seemingly been pre-decided by rule application. In other words, ESG programmes ignore functionally differentiated systems by collapsing open-ended decisions and thus exclude the potential for competing and worthy alternatives. Placing ESG alone on a moral pedestal indirectly eliminates many important organisational dimensions of business existence and may overlook important stakeholders from marginalised groups related to science, religion and others (Edmans, 2023).

The use of the tetralemma framework may reopen the decision-making process and afford organisations a more diverse and representative array of decision options "beyond conventional dichotomies" (Roth and Valentinov, 2025). For instance, support of ESG ideas and programmes has emerged as an illegitimate sign of moral superiority and worse, non-support may falsely represent a hyperbolic moral atrocity. By re-analysing the moral statements inherent in ESG programmes, we can begin to challenge the limitations, barriers, exclusions and claims with which they are associated.

ESG programmes use of tripartite metrics is far too narrow (Clement *et al.*, 2022) to adequately represent multiple perspectives that compose a truly diverse post-modern world that thrives on information. The tetralemma can help organisations communicate their moral positions and beliefs beyond current ESG boundaries. For the first time, businesses may have the ability to highlight or express their relative moral claims and value statements from a position that is not subject to an obsolete, overarching vantage point.

This decision expansion using the tetralemma model will ensure that society's moral considerations remain relevant and dynamic instead of forced and static in tripartite metrics. The current tripartite reporting process for companies creates a general resistance and uneasiness (Chopra *et al.*, 2024), which may be reduced by using a tetralemma decision-making technique that allows for expanded perspectives. Businesses could more clearly and succinctly describe their multi-functional moral and value positions or profiles through a tetralemma framework instead of oversimplifying their operational value by forcing yearly reports that tightly squeeze into the current ESG categories. The results will be a richer understanding of corporate behaviour and recognition of contradictions and uncertainty hidden within current evaluation methods. Eventually, lower organisational resistance will lead to increased operational transparency (Paridhi *et al.*, 2024) and a deeper understanding of firms that currently do not fit into traditional ESG moulds.

5.2 New stakeholder models and issues of stakeholder diversity and alignment
Not unlike ESG's constricting framework, prevailing stakeholder models may appear as too functionally biased (Antonacopoulou and Méric, 2005; Roth and Sales, 2025; Valentinov, 2019).

Figure 1 highlights the functional bias inherent in conventional stakeholder models, which tend to privilege political and economic actors. In contrast, a multifunctional perspective brings into view stakeholders that are often neglected, such as scientific communities, religious organisations, or artistic avant-gardes.

Thus, existing stakeholder models could be dramatically improved by applying a multifunctional perspective combined with a multifunctional tetralemma decision process. A new stakeholder model, without the attempted use of absolute value statements, may more clearly define roles and responsibilities of stakeholders. More importantly, a muti-functional tetralemma approach can map moral issues across functional systems. This means that
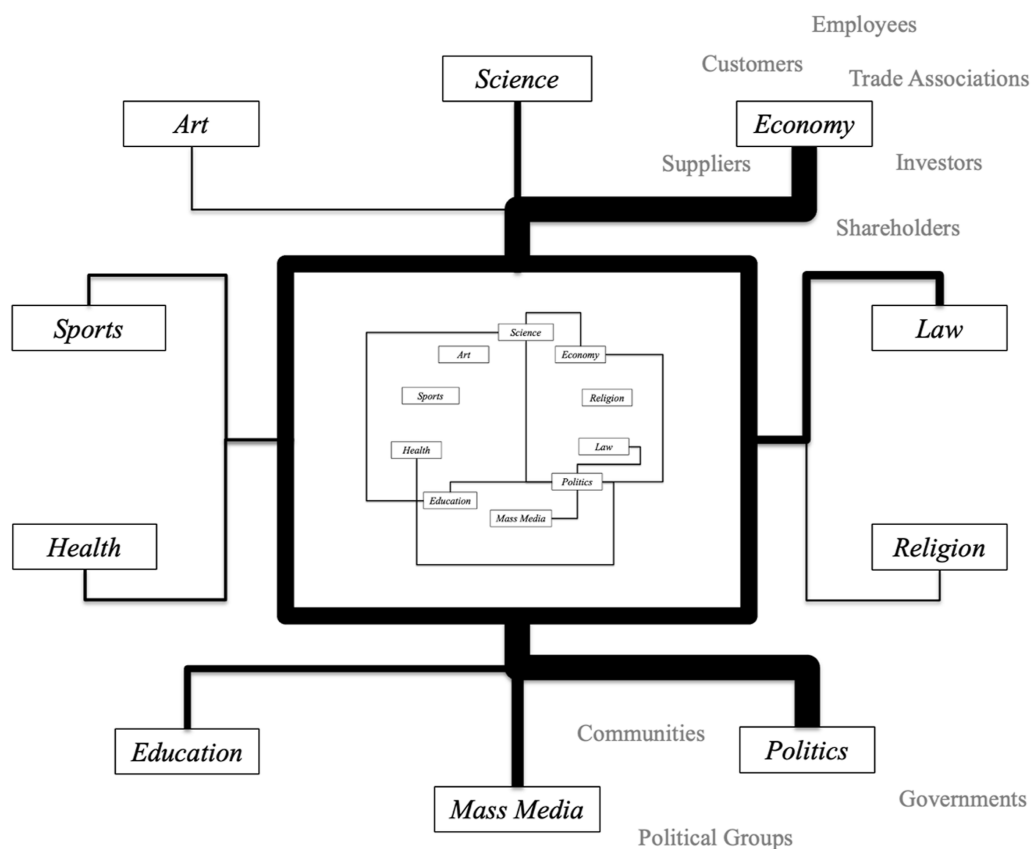
Figure 1. The political-economic bias of dominant stakeholder salience models. Source: Roth and Sales, 2025, p. 8

organisations and their leaders will be able to evaluate and compare the positions of stakeholders more easily and in more detail.

In a polycontextural environment, details define perspective and the more details organisational leaders have, the better they can understand the potential value (or non-value) stakeholders offer (Raha and Kazemi, 2025). Since the same event appears differently to different stakeholders, mapping becomes a tool to observe moral coding and subsequently helps highlight stakeholder alignment. If moral codes can be uncovered through the tetralemma, then organisations can reduce the number of stakeholders that do not align with objectives and adjust business strategies accordingly. Currently, without a mapping tool, organisations may be inadvertently dealing with illegitimate stakeholders whose undiscovered or previously collapsed perspectives run contrary to business success and weaken stakeholder alignment.

5.3 New definitions of what can or should be desirable personal or institutional investment behaviour

For decades, investor behaviour has been guided by modern portfolio theory implemented by investment advisors in both personal and institutional settings. Through modern portfolio theory, investors look to maximise economic performance (Markowitz, 1959), while current ESG investing operates as a risk filter to avoid reputational or regulatory backlash or to provide ethical cover (Parfitt, 2024). More recently, many institutional investment advisors integrated the ESG framework as a superseding decision factor influencing investment strategy. This

investment decision behaviour could be unfolded and exposed with a tetralemma mapping tool to re-introduce viable investment options and strategies instead of utilising the collapsed morality-based decisions inherent to ESG itself.

Additionally, the multifunctional tetralemma approach can provide a deeper understanding of company values, which, in turn, affords investment advisors a better opportunity to evaluate the portfolio worthiness of specific investments and adjust investment behaviour as needed. Many investments do not fit neatly into ESG categories because natural dualities exist and can be perceived as both useful and harmful simultaneously. Through mapping, investment behaviour will develop that better represents the underlying moral convictions of investors, as compared to the superficial rigidity of tripartite metrics.

The bottom line is that a tetralemma approach with awareness, dialogue, communication and multiple perspectives is a better fit with capitalism and efficient markets than the current simplified version of ESG's restrictive ethical framing. Portfolios deemed inefficient under traditional capitalist criteria can be enhanced by identifying and reconsidering previously excluded investment alternatives. Investment advisors can reframe unchosen alternatives as newly viable, though initially eliminated by prior decisions. In this manner, the tetralemma approach can help redefine and guide investor behaviour to account for multiple, coexisting, conflicting circumstances. Eventually, investment behaviour will reflect issues experienced across different function systems, and the result may be maximised investment performance and transparency.

5.4 New business model innovation strategies and formulations

Business model innovation has been relegated to an all-or-none activity within organisations. Often, it is a linear process (Andreini et al., 2022) consisting of multiple binary decisions built upon simplified perspectives, often focused solely on potentially contradictory outcomes (e.g. profit vs. sustainability).

Additionally, there are functional differences within organisations that can multiply perspectives (Roth et al., 2018; Will et al., 2018), making traditional linear or binary decision-making ineffective. By using a multifunctional tetralemma approach, business leaders can unfold and re-frame typical either/or logic decisions to address paradoxes (and potential opportunities) within their organisations. This process may uncover previously unseen or undiscovered strengths or weaknesses and may unlock opportunities for organisational transformations or, more importantly, business model innovation.

The tetralemma map forces recognition of contradictory perspectives and truths, which encourages imagination and the development of new or hybrid models. Within organisations, the validation of individual arguments encourages co-existence and reduces psychological resistance to change (Hubbart, 2023). Instead of choosing between alternatives, the tetralemma provides the framework for reimagining potential desired outcomes, which sets the foundation for real innovation.

6. Conclusions and outlook

The multifunctional tetralemma provides organisations with a structured means of unfolding and reframing dilemmas that arise in polycontextural environments. By mapping moral statements across function systems, it allows for richer recognition of plurality, sharper observation of stakeholder positions and the recovery of alternatives that might otherwise be foreclosed by narrow frameworks such as ESG or conventional stakeholder models. The main benefit lies in enabling organisations to challenge absolute claims and to preserve decidability in situations where competing values collide.

In the political domain, moral framing is frequently deployed as a weapon to delegitimise opposing views, programmes, or actors. In such contexts, the multifunctional tetralemma can serve as a veritable deframing strategy—an instrument to reopen possibilities and to safeguard

alternativity. This is not a minor achievement, for alternativity is the very hallmark of modern society: decisions can be made precisely because outcomes are not predetermined by moral frames and absolute values.

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