

AUDITING | RESEARCH ARTICLE

# Opportunity Cost from The Perspective of Lontarak Kotika: A Review of Bugis Makassar Local Wisdom

Aswad Syam<sup>1</sup>, Muh. Akob Kadir<sup>2</sup>, Lusiana Kanji<sup>3</sup>

<sup>1,2,3</sup> Postgraduate Program of Accounting, STIEM Bongaya, Makassar, Indonesia. Email: [aswadfajar@gmail.com](mailto:aswadfajar@gmail.com)<sup>1</sup>, [akob.kadir@stiem-bongaya.ac.id](mailto:akob.kadir@stiem-bongaya.ac.id)<sup>2</sup>, [lusiana.kanji@stiem-bongaya.ac.id](mailto:lusiana.kanji@stiem-bongaya.ac.id)<sup>3</sup>

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## ABSTRACT

This research aims to examine the concept of opportunity cost from the perspective of Bugis-Makassar local wisdom through the manuscript Lontarak Kotika. As a traditional text containing cosmological knowledge of auspicious and inauspicious days, Lontarak Kotika has long guided the Bugis-Makassar people in making crucial decisions, such as farming, sailing, trading, and performing customary rituals. Using a qualitative approach with an interpretive paradigm and ethnomethodology, this study explores the meanings and practices of opportunity cost manifested in local traditions. The research informants consist of community elders, farmers, fishermen, traders, and cultural experts in Bone and Takalar. Data were collected through in-depth interviews, participant observation, and document studies of Lontarak Kotika. The findings reveal that the Bugis-Makassar community interprets opportunity cost not only within the framework of formal economics but also within cosmological and spiritual horizons. For instance, postponing rice planting on days deemed inauspicious is considered a short-term sacrifice to avoid greater losses, both material and social. In this sense, opportunity cost encompasses not only forgone harvests and time but also cultural legitimacy. This study contributes to academic discourse by enriching interdisciplinary literature, particularly the intersection between economics and cultural anthropology. Practically, it offers a model of understanding opportunity cost grounded in local wisdom as a reference in economic decision-making. Culturally, it reaffirms the relevance of Lontarak Kotika as a traditional compass that remains adaptive in navigating modernity.

**Keywords:** Opportunity Cost, Lontarak Kotika, Bugis-Makassar, Local Wisdom, Ethnomethodology.

**JEL Code:** B31, Z13, O12

## I. Introduction

In the global landscape of human civilization, decision-making lies at the core of economic life. From the management of household finances to the strategies of multinational corporations, scarcity remains a fundamental and inescapable problem. Limited resources confront unlimited human desires, forcing individuals, families, and nations alike to make choices and face their consequences (Hajar, 2026). Economics, as defined by Sowell (2004), is essentially the study of how human beings make decisions in the face of scarcity—how they allocate resources, evaluate alternatives, and deal with trade-offs in pursuit of welfare. At



the heart of economic reasoning lies the principle of opportunity cost, a concept that explains the value of the best alternative forgone when a choice is made (Bastiat, 19th century; Wieser, 1891). Opportunity cost functions as both a moral and analytical compass, reminding us that every choice has a hidden price and that time, once passed, never returns. Mankiw (2021) emphasizes that opportunity cost represents the value of the next best alternative that must be sacrificed when a decision is made. It teaches that no decision is truly free: every step forward entails leaving something behind, whether in terms of money, time, satisfaction, or potential outcomes.

Rational decision-making, therefore, is not merely a matter of maximizing profit but also of understanding the cost of what is foregone. Wulan Damayanti (2019) extends this reasoning by asserting that opportunity cost applies not only to financial or business contexts but also to managerial, personal, and domestic decisions—each embedded with hidden consequences. Choosing one path means abandoning others, and this act of choosing reflects a compromise among rationality, values, and circumstances. Similarly, Adam Smith (1776) reminds us that rational economic behavior is driven by the need to use limited resources efficiently to satisfy diverse human needs. From Peter F. Drucker (1967) to Buchanan and Tullock (1962), scholars have argued that the quality of decisions determines the effectiveness of planning and the success of institutions. Rational decision-making demands both empirical data and moral awareness, balancing the mind and the conscience. Yet not all human decisions follow a purely rational or quantitative logic; emotions, traditions, interpersonal relations, and environmental factors also shape the choices people make. This interplay between rationality and tradition becomes particularly intriguing when examined in societies where spiritual or cosmological considerations are inseparable from economic reasoning.

In contemporary economic thought, opportunity cost serves as a key framework for understanding trade-offs in investments, resource allocation, and personal decisions. Yet beyond the formal boundaries of modern economics, there exist other systems of reasoning—local and cultural rationalities—that guide decision-making processes in non-market societies. These systems often combine empirical observation, cosmological belief, and collective experience into coherent worldviews. Within the Bugis-Makassar civilization of South Sulawesi, Indonesia, such reasoning is embodied in a traditional manuscript known as *Lontarak Kotika*. This manuscript is one of the most significant written heritages of the Bugis-Makassar people, containing cosmological knowledge of time that divides days into categories of auspicious (*mallise'*) and inauspicious (*wuju'*, *maddara*, *polebola*) periods. For centuries, it has served as a guide for determining the right time for crucial activities such as farming, sailing, trading, and performing rituals. As Pelras (1996) observes, in the daily life of the Bugis-Makassar community, decisions are not determined solely by the logic of profit and loss but also by a broader concern for harmony with the universe. This reflects a distinct kind of rationality—cosmological rationality—where economic behavior is intertwined with spiritual and environmental considerations.

Historically, *Lontarak Kotika* was compiled from generations of empirical observation. The ancestors of the Bugis-Makassar recorded recurring correlations between natural events and human outcomes—between time, climate, and harvests. When crops failed or fishing trips ended in disaster, these experiences were meticulously noted and transmitted orally before being written on *lontar* leaves (Rahman, 2003; Zainal Abidin, 1982). The term *lontarak* itself derives from *lontar* (*Borassus flabellifer*), the palm leaf used as a writing medium, while *urupu sulapa' eppa'* refers to the square-shaped script distinctive to the Bugis-Makassar writing system. Over time, *Lontarak Kotika* evolved into an integrated system of time reckoning, known as *Appamulang Eppo*, which classifies each day based on recurring patterns of fortune and misfortune. The categories are not arbitrary; they emerge from centuries of collective observation. For instance, *mallise'* signifies a day of abundance and positive energy, *wuju'* symbolizes death or loss, *maddara* represents blood and danger, while *polebola* indicates neutrality—neither auspicious nor harmful (Nurazizah et al., 2022). This classification reflects the Bugis-Makassar worldview that every event unfolds in cyclical harmony with cosmic time.

When a Bugis farmer delays planting rice because the day is considered *wuju'*, that decision entails an opportunity cost—the potential loss of an earlier harvest or income. Yet from the local perspective, such a

choice is not a loss but a form of risk mitigation based on ancestral experience. It reflects a rational strategy to avoid greater harm, whether material, social, or spiritual. Thus, *Lontarak Kotika* functions simultaneously as a cultural compass and a tool of economic reasoning within its own epistemological framework. The manuscript bridges two domains that are often perceived as separate: modern economics and traditional cosmology. Both systems are concerned with evaluating alternatives and anticipating consequences, albeit through different lenses. Modern economics frames decision-making through numerical calculation, while *Lontarak Kotika* does so through symbolic and experiential classification. The former is grounded in abstract models, while the latter is based on intergenerational empirical wisdom. Both, however, share the same intellectual foundation—the act of weighing one choice against another.

This intersection challenges the dichotomy often drawn between “rational” and “traditional” societies. It suggests that indigenous systems of knowledge, such as *Lontarak Kotika*, are not irrational or superstitious, but rather represent an alternative form of rationality—rooted in collective observation, ecological awareness, and spiritual ethics. As scholars of cultural economics and anthropology have increasingly recognized (Geertz, 1973; Gudeman, 1986), economic behavior is always embedded in cultural meanings and social relations. In this light, the study of *Lontarak Kotika* offers an invaluable case for understanding how local wisdom shapes economic decision-making. From the standpoint of formal economic theory, opportunity cost measures the value of what is foregone when a specific choice is made (Samuelson, 1948). Yet within the Bugis-Makassar worldview, opportunity cost extends beyond material calculations. It encompasses social legitimacy, moral balance, and cosmological harmony. Postponing agricultural activities or ceremonies on certain days is seen as a short-term sacrifice to ensure long-term well-being. In this sense, the notion of cost includes not only forgone income but also the potential disruption of moral and cosmic equilibrium.

This understanding aligns with Buchanan and Tullock’s (1962) idea that rational decisions involve accountability and justification—individuals must be able to explain their choices in light of alternatives. In Bugis-Makassar culture, justification does not come through formal accounting, but through adherence to inherited wisdom that has proven reliable across generations. The elders, as custodians of *Lontarak Kotika*, serve as interpreters of this wisdom, guiding the community to make prudent choices that respect both economic logic and moral order. As a form of *al-urf*, a customary practice recognized in Islamic jurisprudence, *Lontarak Kotika* can be categorized as *urf shahih* (valid custom) when used as a guide for appropriate timing without contradicting Islamic principles (Az-Zuhaili, 1986). It becomes *urf fasid* (corrupt custom) only if one attributes divine power to the text itself rather than to God. This interpretive flexibility has allowed *Lontarak Kotika* to survive and adapt within the spiritual landscape of Muslim Bugis-Makassar society, demonstrating its dynamic interplay between tradition, religion, and practical reason.

The empirical dimension of *Lontarak Kotika* is evident in how it integrates ecological and biological knowledge. Oral traditions recount that a kingdom in Bone once ignored the guidance of *Kotika* when scheduling planting seasons, resulting in severe crop failure and pest infestation. Modern ecological studies (Sudarmaji, 2019) confirm that timing indeed influences pest behavior; rat populations, for instance, synchronize their breeding cycles with environmental conditions. When farmers plant during periods unfavorable to pest control, they risk devastating losses. Such empirical alignment suggests that *Lontarak Kotika* was not a mystical text but a sophisticated early model of environmental adaptation derived from observation and pattern recognition. Through this lens, *Lontarak Kotika* embodies what can be called a temporal technology of survival—a localized method for optimizing decisions amid uncertainty. The classification of time into categories of auspiciousness mirrors modern probabilistic reasoning, though expressed through cultural symbols. Just as economic models use data to predict outcomes, *Kotika* uses cultural codes to guide choices. The difference lies not in rationality itself, but in the epistemological foundation that legitimizes knowledge.

Despite the rapid modernization and digitalization of contemporary life, the Bugis-Makassar people continue to preserve *Lontarak Kotika* as part of their living heritage. In a world dominated by algorithms and instantaneous decision-making, *Kotika* offers a contrasting rhythm—one that values reflection, patience, and

harmony with natural cycles. The persistence of this practice underscores a critical point: rationality does not belong exclusively to modern science. Traditional knowledge systems such as *Kotika* offer complementary ways of understanding risk, time, and cost—dimensions that modern economics often abstracts or overlooks. Recognizing this epistemic plurality is crucial in reimagining economic thought. It challenges the notion that rationality must always be utilitarian or profit-driven, suggesting instead that decision-making can be both ethical and spiritual. As Indonesia continues to pursue development grounded in local wisdom, revisiting manuscripts like *Lontarak Kotika* becomes not only a cultural act but also an intellectual necessity. It invites economists, anthropologists, and policymakers alike to rethink the foundations of value, efficiency, and sustainability.

The central problem addressed in this study concerns the intersection between *Lontarak Kotika* and the economic concept of opportunity cost. The research seeks to understand how the Bugis-Makassar people apply *Lontarak Kotika* in making economic decisions, and how the selection of auspicious and inauspicious days reflects their understanding of trade-offs and risk. What forms of rationality—economic, moral, or cosmological—inform these decisions, and how might such knowledge broaden the theoretical boundaries of economics itself? Accordingly, this research aims to describe how *Lontarak Kotika* is utilized in the everyday economic practices of the Bugis-Makassar community, and to analyze the relationship between temporal selection based on *Lontarak Kotika* and the concept of opportunity cost as formulated in modern economic theory. Employing a qualitative, interpretive, and ethnomethodological approach, this study explores not mere data but meaning—the lived logic behind every decision, as narrated by farmers, traders, fishermen, and cultural elders in Bone and Takalar Regencies.

Academically, this study contributes to the growing body of interdisciplinary research linking economics with cultural anthropology. It expands the scope of opportunity cost beyond its classical formulation, demonstrating how economic reasoning is culturally constructed and contextually situated. Practically, the findings offer insights for policymakers and community leaders seeking to integrate local wisdom into sustainable decision-making frameworks. Culturally, this study reaffirms *Lontarak Kotika* as more than an artifact of the past—it is a living system of thought that continues to guide human behavior in navigating uncertainty. Ultimately, this research argues that not all that is rational must be modern, and not all that is traditional is irrational. The *Lontarak Kotika* of the Bugis-Makassar exemplifies a form of wisdom where economic prudence, ecological awareness, and spiritual harmony converge. Understanding opportunity cost through this lens allows us to uncover the hidden costs of modernity itself—the loss of balance, community, and meaning in the relentless pursuit of efficiency.

## II. Literature Review and Hypothesis Development

The study of *Lontarak Kotika* as a traditional manuscript of the Bugis-Makassar people opens a fascinating dialogue between cultural knowledge and economic reasoning. This literature review synthesizes several dimensions: the origin and typology of *Lontarak*, the epistemology of *Lontarak Kotika*, the concept of opportunity cost in modern economics, and the meeting point between traditional and modern rationality through anthropological economics.

### 2.1. The Origins of Lontarak: Writing Knowledge on Palm Leaves

The term *lontarak* derives from the *lontar* tree (*Borassus flabellifer*), whose dried leaves served as writing material for the Bugis and Makassar peoples. Early writings recorded daily chronicles, genealogies, moral teachings, agricultural knowledge, and cosmological beliefs. Andi Zainal Abidin (1982) classifies *lontarak* into several types: *Lontarak Bilang* (chronicles), *Lontarak Attoriolong* (historical genealogies), *Lontarak Ade'* (moral and legal codes), *Lontarak Laongruma* (agricultural calendars), and *Lontarak Kotika* (cosmological and temporal texts). Each reflects a domain of indigenous science—ethics, governance, agriculture, or metaphysics—encoded in *urupu sulapa' eppa'*, the distinctive four-cornered Bugis script.

Among them, *Lontarak Kotika* stands out as a “temporal compass” guiding when to act and when to wait. It functioned as a pragmatic manual for determining auspicious times for farming, trading, sailing, or holding ceremonies. Unlike the mythic *Sure’* or poetic *La Galigo*, *Kotika* embodies a rational system that classifies time into meaningful categories based on natural and social patterns observed across generations.

## 2.2. Lontarak Kotika: Weaving Time and Life

Hadrawi (2015) describes *Lontarak Kotika* as a bridge between humans and the cosmos—between the rhythm of nature and the rhythm of action. It records not only the visible cycles of stars and seasons but also the moral and spiritual implications of time. Days are coded through four core symbols (Nurazizah et al., 2022):

- a. Mallise’ – symbol of fullness and blessing, signaling auspicious beginnings such as planting or marriage.
- b. Wuju’ – symbol of death, advising restraint and postponement.
- c. Maddara – symbol of blood, warning of potential loss or conflict.
- d. Polebola – symbol of journey or return, representing neutrality and balance.

These symbols form the interpretive code of *Appamulang Ezzo*, the Bugis system of time reckoning comparable to an astronomical or zodiacal calendar. Ulfa (2021) interprets them as both “text and prayer,” embodying semiotic and spiritual communication with nature. The *Kotika* thus operates as a living epistemology—an “ethno-epistemology” derived from empirical observation, cosmological symbolism, and ritual interpretation. *Lontarak Kotika* functions simultaneously as (1) a traditional knowledge system, guiding daily decisions such as farming and travel; (2) a semiotic text, encoded in symbols requiring hermeneutic interpretation; (3) an instrument of power, historically used by Bugis-Makassar elites to determine royal coronations or war timing; and (4) a literary cosmology, part of the wider corpus of *Lontara* literature that narrates the harmony between the natural and moral order (Rahman, 2003; Hadrawi, 2015).

WAKTU	ELE PAGI (6.00 - 9.00)	ABUENG SIANG (9.00 - 11.00)	TENGAESSO TENGAH HARI (11.00 - 12.00)	LORO DUHUR (2.00 - 15.00)	ASSARA ASHAR (15.00 - 18.00)
HARI					
JUMA JUMAT	LOBBANG KOSONG	ULU MATI	TUO HIDUP	POLEBOLA IMPAS	MALLISE BERSI
SATTU SABTU	LOBBANG KOSONG	POLEBOLA IMPAS	MALLISE BERSI	ULU MATI	TUO HIDUP
MINGGU MINGGU	MALLISE BERSI	POLEBOLA IMPAS	ULU MATI	LOBBANG KOSONG	TUO HIDUP
SENING SENIN	MALLISE BERSI	POLEBOLA IMPAS	ULU MATI	TUO HIDUP	LOBBANG KOSONG
SALASA SELASA	LOBBANG KOSONG	ULU MATI	POLEBOLA IMPAS	MALLISE BERSI	TUO HIDUP
ARABA RABU	MALLISE BERSI	POLEBOLA IMPAS	ULU MATI	LOBBANG KOSONG	TUO HIDUP
KAMISI KAMIS	LOBBANG KOSONG	ULU MATI	TUO HIDUP	POLEBOLA IMPAS	MALLISE BERSI

Figure 1. Symbolic Structure of Lontarak Kotika

## 2.3. Opportunity Cost: The Hidden Price of Choice

In classical economic theory, *opportunity cost* refers to the value of the best alternative forgone when a decision is made (Wieser, 1891; Samuelson, 1948; Mankiw, 2021). It emphasizes that every choice carries a

trade-off—nothing is truly free. While Sukirno (2006) defines cost as the total sacrifice necessary to produce goods or services, *opportunity cost* extends this understanding beyond accounting: it represents what must be relinquished to pursue a chosen option. In modern managerial and personal decision-making, opportunity cost serves as a tool to assess alternatives and rationalize actions (Wulan Damayanti, 2019). It is both quantitative (e.g., forgone income, resources) and qualitative (e.g., lost satisfaction, legitimacy, or time). As Buchanan and Tullock (1962) assert, rational choices require justification through consideration of alternatives, making opportunity cost not merely a numerical measure but an ethical framework for accountability.

However, when applied to the Bugis-Makassar worldview, the notion of cost takes on expanded meaning. Postponing rice planting on a “bad day” may incur economic loss, but it avoids greater harm—pest infestations, social disapproval, or cosmic imbalance. Thus, the concept of opportunity cost transcends its economic definition to include moral and cosmological costs. The short-term sacrifice of time is viewed as an investment in long-term harmony. In this cultural context, *Lontarak Kotika* acts as a non-monetary decision-making model, where the “price” of a wrong choice includes disrupted balance with nature and the unseen world. Consequently, the Bugis-Makassar interpretation of opportunity cost encompasses the value of legitimacy, safety, and cosmic order, not just measurable financial outcomes.

**Figure 2. Conceptual Integration of Opportunity Cost and Lontarak Kotika**

2.4. Traditional and Modern Rationalities

The dialogue between *Lontarak Kotika* and economic theory reflects two rationalities: cosmological rationality and economic rationality. Adam Smith (1776) defined rationality in economics as the pursuit of maximum benefit under resource constraints, while Clifford Geertz (1973) argued that rationality in traditional societies is inseparable from value, symbol, and belief. For the Bugis-Makassar, deferring action on an

inauspicious day is not irrational waste but a culturally encoded strategy of efficiency—“to avoid misfortune is a form of prudence” (Hadrawi, 2015).

This perspective undermines the false dichotomy between modernity and tradition. In the Bugis cosmology, rationality includes ethical and emotional intelligence, respect for nature, and sensitivity to social norms. Hence, economic decisions are embedded in cultural logic, representing what Karl Polanyi (1944) calls *embeddedness*—the idea that economic activity is never autonomous but always intertwined with social and moral relations. The meeting of these rationalities produces a hybrid model: decisions are made through careful reflection, considering both material gain and spiritual balance. The Bugis farmer who follows *Lontarak Kotika* does not reject rational economics; rather, they practice a contextual rationality that integrates empirical knowledge (weather, pests, soil) with metaphysical insight (symbols, taboos, prayers).

## 2.5. Decision-Making as Cultural and Economic Process

Terry (1953) defines decision-making as the foundation of planning—the process of choosing one alternative over another to achieve defined goals. Effective decisions require data, analysis, and managerial judgment. In organizational contexts, rationality is assessed by efficiency and clarity of objectives. However, in traditional contexts, decision-making also serves as a moral act guided by collective wisdom. The Bugis decision-maker—whether farmer, sailor, or merchant—acts not merely as an economic agent but as a custodian of balance. Decisions are informed by observation (facts), interpretation (analysis), and intuition (judgment), mirroring Terry’s triadic model yet rooted in communal experience rather than managerial authority. This parallel suggests that traditional decision-making models can enrich modern theories of behavioral economics and cultural management.

## 2.6. Anthropological Economics: Culture in the Breath of Economy

The final theoretical lens is anthropological economics, particularly Polanyi’s (1944) view that economic behavior is *embedded* in culture and social relations. Economy, he argued, is never neutral; it carries within it values, rituals, and power structures. In this framework, *Lontarak Kotika* represents the “cultural coding” of economic logic—where time, action, and outcome are interpreted through moral and cosmological lenses. The Bugis-Makassar economic worldview exemplifies what Gudeman (1986) calls the “economy of sharing” or “community economy,” where value is measured not only in profit but in social and spiritual well-being. Every action—planting, trading, or traveling—is an act of maintaining relational balance with others and with the cosmos. Thus, *Lontarak Kotika* can be understood as both a cosmological text and an early model of sustainable economic rationality. In the broader anthropological discourse, this integration reinforces the argument that economic decision-making cannot be reduced to mathematical abstraction. Instead, it must account for cultural meanings, historical experiences, and ethical commitments that shape people’s perceptions of cost and value. For the Bugis-Makassar, “profit” may mean safety, harmony, and divine favor; “loss” may mean disconnection from ancestral order.

## 2.7. Synthesis and Theoretical Framework

In summary, previous studies show that *Lontarak Kotika* operates as a temporal, cosmological, and epistemological framework for decision-making, intertwining with the modern economic notion of opportunity cost. Both share a fundamental logic: every choice carries a consequence. Yet they differ in emphasis—modern economics quantifies loss, while *Lontarak Kotika* interprets it symbolically and ethically. Bridging these perspectives allows for an expanded understanding of rationality that acknowledges the coexistence of material and spiritual dimensions in human behavior.

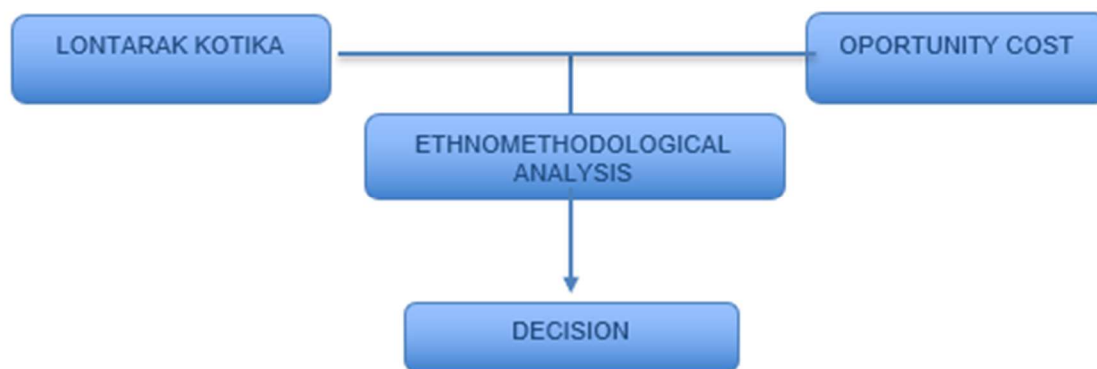


Figure 3. Theoretical Framework

### III. Research Method

This study employs a qualitative research design grounded in an interpretive paradigm with an ethnomethodological approach to explore how the concept of *opportunity cost* is understood and practiced through *Lontarak Kotika* within Bugis-Makassar culture. The research emphasizes understanding meaning rather than measuring variables, positioning the researcher as the main instrument who engages deeply with the field through dialogue, empathy, and contextual interpretation. Data are collected through in-depth interviews, participant observation, and document studies of *Lontarak Kotika* manuscripts, supported by focus group discussions involving cultural elders, traditional economic actors (farmers, fishermen, traders), and local scholars. Informants are selected purposively based on their knowledge and lived experience of *Lontarak Kotika* as both a cultural text and a guide for economic decision-making. Data analysis follows an interpretive-inductive process through the principles of indexicality (interpreting meaning within cultural context) and reflexivity (examining how actors construct meaning in practice). The credibility of findings is ensured through triangulation of sources, member checking, and prolonged engagement in the field, while dependability, confirmability, and transferability are maintained through audit trails, reflexive documentation, and thick cultural description. This methodological path aims not to generalize, but to reveal how local wisdom and cosmological rationality embodied in *Lontarak Kotika* shape economic reasoning and decision-making among the Bugis-Makassar people.

### IV. Results and Discussion

#### 4.1. The Traces of Time in *Lontarak Kotika*: Reading Opportunity Cost as a Path of Decision-Making

The study reveals that the Bugis-Makassar people interpret the concept of opportunity cost not merely as an economic calculation but as a moral, social, and cosmological principle grounded in the local wisdom of *Lontarak Kotika*. This manuscript functions as a traditional timekeeping and decision-making guide that divides days into *mallise'* (auspicious) and *wuju'/maddara/polebola* (inauspicious) categories. For centuries, these temporal codes have guided major life and economic activities—farming, sailing, trading, and marriage. Within this framework, delaying an action is not viewed as inefficiency or loss but rather as a cosmological investment to prevent larger harm, such as crop failure, storms, or social disharmony. In this sense, *Lontarak Kotika* acts as a traditional risk management system that harmonizes economic rationality with cultural and spiritual logic.

The findings further show that Bugis-Makassar decision-making embodies double rationality, echoing Weber's framework:

- a. Instrumental rationality, focused on efficiency and outcomes (e.g., avoiding harvest loss).
- b. Value rationality, rooted in harmony with nature, ancestral wisdom, and moral order. Decisions are often reached through communal dialogue involving elders, *sanro* (traditional experts), and family members, reflecting Habermas's communicative rationality—where rational decisions are legitimized through social consensus. Viewed through an ethnomethodological lens, these practices are *indexical*; their meanings are valid only within Bugis-Makassar cosmology. What appears inefficient to outsiders is entirely rational within local logic. Ultimately, *Lontarak Kotika* embodies the philosophy that “to lose a little is to save much,” showing that economic prudence and cosmic balance coexist as inseparable dimensions of decision-making.

The diagram visualizes how *Lontarak Kotika* mediates decision-making among the Bugis-Makassar. Choices are made by weighing two types of returns—economic benefit and cosmological harmony. Opportunity cost is not confined to measurable loss but extends to moral and environmental consequences. Hence, *Lontarak Kotika* serves as a dual compass: an economic instrument of efficiency and a spiritual safeguard against imbalance. In the worldview of *Lontarak Kotika*, opportunity cost is a *dual-layered cost*—the economic sacrifice and the cosmological risk intertwined. Every choice carries implications not only for material outcomes but also for the maintenance of cosmic and social harmony. The Bugis-Makassar understanding of opportunity cost thus broadens the classical economic concept into a culturally grounded framework of decision-making, one that integrates ethics, spirituality, and risk consciousness. It redefines rationality as context-bound, communicative, and preventive—revealing that traditional wisdom remains profoundly relevant for navigating uncertainty in the modern world.

#### 4.2. The Double Sails of Rationality: Opportunity Cost Between Economy and Cosmology

For the Bugis–Makassar people, the sea symbolizes both livelihood and cosmic order. Every decision—like setting sail—requires reading the wind, tides, and stars. This metaphor reflects their understanding of opportunity cost as a balance between economic logic and cosmological wisdom, guided by *Lontara Kotika*. While modern economics defines opportunity cost as *the value of the best alternative forgone* (Mankiw, 2021), the Bugis view it through dual rationality. A farmer who delays planting on an “unfavorable day” loses time (economic cost) but safeguards harmony with nature (cosmic value). Drawing from Weber (1978) and Sen (1999), this worldview integrates instrumental reasoning and moral values. As ethnomethodology (Garfinkel, 1967) suggests, such actions are contextual—rational only within the local cosmology. Thus, *Lontara Kotika* operates as a cultural compass steering human life toward harmony rather than mere efficiency.

##### a. Dual Rationality in Economic Decisions

Bugis–Makassar decisions intertwine economic rationality—maximizing gain and reducing loss—with cosmological rationality—maintaining equilibrium with the universe. A fisherman's remark, “*If the star hasn't appeared, don't sail—you'll lose twice: your catch and your strength*,” illustrates this synthesis. What appears as inefficiency to outsiders is, in context, preventive rationality—avoiding greater loss by honoring cosmic timing. *Lontara Kotika* embodies this dual logic:

- 1) Economic rationality focuses on profit, yield, and time.
- 2) Cosmological rationality upholds harmony, blessing, and safety. Together, they form a *double-sail system*—economic calculation and spiritual prudence navigating side by side.

b. Opportunity Cost as a Cultural Practice

In Bugis cosmology, time is sacred, not neutral. Each day bears moral and cosmic qualities. To act on the wrong day is to risk imbalance. The Bugis treat opportunity cost as a social and spiritual process, involving four intertwined aspects:

- 1) *Cosmology* – interpreting celestial signs and seasons.
- 2) *Custom* – aligning with moral and ancestral codes.
- 3) *Economy* – evaluating material consequences.
- 4) *Community* – sustaining trust and collective harmony.

Thus, “sacrifice” is not loss but an investment in equilibrium. Delaying, reducing, or adapting action signifies wisdom—a reflexive negotiation between tradition and necessity.

c. Opportunity Cost as Cosmic Investment

In the Bugis worldview, postponement on “unlucky days” is not inefficiency but cosmic investment—a strategic restraint that prevents greater misfortune. This aligns with Sen’s (1999) *capability approach* and Simon’s (1957) *bounded rationality*: humans act within limits of knowledge, guided by cultural systems like *Lontara Kotika*. Each choice, like a weaver selecting threads, maintains the pattern of life’s fabric. Some options must be released to preserve the design. Hence, opportunity cost becomes a moral economy, binding human decisions to cosmic continuity.

d. Social Harmony and Collective Rationality

Economic behavior among the Bugis–Makassar is socially embedded (Polanyi, 1944). A trader’s decision to delay opening a shop on a “bad day” protects both personal fortune and community trust. In this way, opportunity cost functions as a mechanism of solidarity (Durkheim, 1912)—sacrifice by one strengthens the collective. Such restraint, negotiated through discussion with elders and peers, illustrates communicative rationality (Habermas, 1984). Every choice preserves the social “garden,” where harmony outweighs short-term gain.

e. Reading the Sky, Weaving the Earth

Ultimately, opportunity cost in the *Lontara Kotika* worldview is the art of timing and balance—reading the sky while weaving the earth. Every action is a dialogue between efficiency and faith, calculation and devotion.

- 1) As dual rationality: combining material pragmatism with cosmic ethics.
- 2) As social practice: embedded in community values and rituals.
- 3) As contextual logic: rational only within the Bugis cultural meaning.

To “lose a little” today is to “preserve much” tomorrow. Opportunity cost, in this light, is not a loss—it is a sacred equilibrium that sustains life, order, and harmony. This model visualizes the *double sails of rationality*: one guided by economic efficiency, the other by cosmic wisdom. Together, they steer the Bugis–Makassar worldview—where every decision is a negotiation between prosperity and balance, earth and sky.

#### 4.3. Weaving the Threads of Value: Opportunity Cost as Ethical and Cultural Heritage

This chapter examines the ethical and normative aspects of opportunity cost within the Bugis–Makassar worldview, particularly as reflected in *Lontara Kotika*. Whereas previous chapters examined cosmological and empirical aspects, this section highlights how values, norms, and ethics guide economic and social decisions. In–Makassar culture, decision-making is never detached from moral, spiritual, and

communal considerations. Rationality here transcends material efficiency and reflects substantive rationality (Weber, 1978)—a logic rooted in goodness, harmony, and sustainability. Thus, opportunity cost is not merely the loss of financial gain but also the loss of balance with the cosmos, ancestors, and community. Building on Polanyi's (1944) notion of embedded economy and Geertz's (1973) idea of local knowledge, the Bugis–Makassar demonstrate how economy, morality, and cosmology intertwine. Through ethnomethodology (Garfinkel, 1967), everyday acts—choosing planting days, sailing times, or trading schedules—reveal rationality that is contextual, reflexive, and deeply moral.

a. Values as the Binding Threads of Decision

Every decision is seen as part of a larger weave of life, linking the economic, social, and cosmic realms. *Lontara Kotika* functions as the guiding thread, ensuring harmony with nature and society. A farmer delaying planting due to an inauspicious day sacrifices short-term efficiency for long-term safety—economically, socially, and cosmologically. As one farmer put it:

*"If we choose the wrong day, we lose twice—our harvest and our time." (Dg. Mangung, 2025)*

This reflects reflexivity—decisions are reasoned interpretations, not blind traditions. Economic outcomes are weighed alongside peace of mind and social legitimacy. Thus, local values act as the moral fabric that legitimizes choices, ensuring that even less "efficient" actions remain meaningful and secure.

b. Social Norms as the Compass of Choice

Social norms (*ade*) serve as the unwritten rules connecting individuals to community and cosmos.

*"If we go to sea on a bad day, we may lose not only our catch but also our lives." (Firmansyah Demma, 2025)*

Here, "bad day" gains meaning only within Bugis maritime cosmology—an example of indexicality in ethnomethodology. What appears as an economic loss is actually social compliance and collective protection. Norms function as safety mechanisms preserving balance between individual gain and community wellbeing.

f. Religious Dimension: Faith as Economic Ethics

In Bugis–Makassar life, Islamic faith merges with daily economic actions. Closing one's shop during Friday prayer may incur material loss but brings spiritual peace and moral legitimacy.

*"If I leave prayer for profit, my heart is restless. God blesses honest work." (Bahtiar Parenrengi, 2025)*

This embodies religious rationality, where opportunity cost includes the sacrifice of short-term income for long-term *barakah* (divine blessing). The decision reflects moral trade-offs between worldly profit and spiritual fulfillment.

g. Social Solidarity as Economic Compass

The principle of *siri' na pacce* (dignity and empathy) guides collective decisions. Sharing harvests or fish may reduce personal gain but strengthen trust and unity.

*"If I get a lot of fish, I can't eat alone. I must share, or people will say I have no pace." (Firmansyah Demma, 2025)*

This is a social opportunity cost—sacrificing profit to sustain relationships. As Bourdieu (1977) notes, such acts build social capital, ensuring long-term reciprocity and security.

h. Moral and Ethical Threads

Ethics, like invisible threads, hold the social fabric together. The Bugis weigh decisions through *siri* (honor) and *pacce* (compassion).

*"If someone asks for help, I can't refuse, even if I need the money. My peace matters more." (Prof. Muhlis Hadrawi, 2025)*

Here, the moral opportunity cost lies not in money lost but in dignity and conscience preserved. As Parsons (1951) and Sen (1977) suggest, moral reasoning integrates economics with empathy and justice.

i. Ecological Dimension of Opportunity Cost

Nature is not a backdrop but a living partner. Economic actions carry ecological trade-offs—to exploit now or preserve for tomorrow.

*"If we use small nets, fish vanish fast. Better to wait so our children can still live from the sea." (Firmansyah Demma, 2025)*

This reflects ecological opportunity cost: sacrificing short-term profit for long-term sustainability. It echoes deep ecology (Naess, 1973) and sustainable development (Brundtland, 1987)—values long embedded in Bugis ecological ethics.

j. Philosophical Reflection

The Bugis embody *phronesis* (practical wisdom)—choosing not for maximal gain but for a balanced life. Economic restraint becomes moral foresight; environmental care becomes social duty. In their worldview, to harm nature is not just a miscalculation—it is a spiritual transgression. Opportunity cost in *Lontara Kotika* transcends numbers—it is a cosmological logic of balance. Economic choices are acts of moral negotiation among self, society, and the universe.

- 1) Economic rationality: efficiency and material alternatives.
- 2) Cultural–cosmological rationality: harmony, ethics, and sustainability.

This dual rationality serves as a bridge between economics and local wisdom, suggesting that true prosperity arises when human decisions align with cosmic order. Like the Pinisi ship that reaches its destination only when wind, sail, and stars harmonize, Bugis–Makassar life teaches that every choice—economic or moral—must move with the rhythm of the universe, not against it.

## V. Conclusion

This research concludes that the concept of *opportunity cost* within the worldview of *Lontara Kotika* among the Bugis–Makassar people transcends its classical economic definition as a quantifiable loss of choices. Rather, it reflects a complex web of social, moral, ecological, and cosmological considerations that form an integrated and holistic framework of decision-making. The study reveals that for the Bugis–Makassar, every economic decision—whether in farming, fishing, or trading—is not solely a matter of efficiency but a reflection of harmony with the cosmos, adherence to ancestral ethics, and maintenance of social cohesion. Through the interpretive and ethnomethodological lens, *Lontara Kotika* is understood as a living text that structures rationality beyond instrumental calculation. It functions as a cosmological compass that guides behavior through contextual and reflexive meanings, in which postponing an activity on an “unfavorable day” or limiting the exploitation of natural resources is not viewed as inefficiency but as a form of moral and ecological prudence. In this sense, opportunity cost becomes a moral economy—an act of conscious sacrifice

that preserves balance among human, nature, and the spiritual order. The study, therefore, demonstrates that traditional knowledge systems like *Lontara Kotika* embody an alternative rationality: one that harmonizes material logic with ethical and cosmological insight, bridging the boundaries between economy and culture.

From a theoretical perspective, this research extends the scope of economic and accounting thought by embedding *opportunity cost* within the paradigms of substantive rationality, embedded economy, and local epistemology. It challenges the reductionism of neoclassical economics by revealing that economic behavior cannot be separated from its social and cultural matrix. In doing so, the study aligns with Weber's notion of *Wertrationalität* and Polanyi's embeddedness, while enriching contemporary discourse in sustainability and environmental accounting. The ethnomethodological approach employed here contributes to the development of interpretive accounting theory by demonstrating that financial concepts such as cost and sacrifice possess culturally specific meanings that are expressed through language, ritual, and communal practice. The findings encourage a rethinking of accounting as not merely a technical system of recording financial data, but as a moral and symbolic practice that captures the invisible costs of social dissonance, ecological degradation, and spiritual imbalance. Hence, this study proposes that the concept of opportunity cost in *Lontara Kotika* serves as a foundational model for developing a *culturally grounded accounting framework*—one that integrates economic rationality with social, ethical, and ecological accountability. Theoretically, it offers a bridge between economic anthropology, sustainability studies, and the philosophy of accounting by positioning local wisdom as a valid epistemic source for modern financial thought.

Managerially, the implications of this research are far-reaching, especially for policymakers, development planners, and practitioners of accounting and management in multicultural contexts. The findings suggest that decision-making processes—whether in public finance, community development, or corporate sustainability—must move beyond the narrow focus on short-term profitability toward a multidimensional assessment that includes cultural legitimacy, ecological sustainability, and social harmony. For government institutions, incorporating *ecological and cultural opportunity costs* into planning instruments could prevent policies that damage long-standing social and environmental equilibria. For organizations and managers, integrating indigenous frameworks like *Lontara Kotika* into sustainability and risk management strategies can strengthen ethical accountability, enhance community trust, and ensure the resilience of operations across generations. Furthermore, for local communities, the continued practice of cosmological rationality serves not as resistance to modernization but as a form of adaptive wisdom—ensuring that economic growth remains aligned with moral and environmental integrity. Thus, the research calls for a managerial paradigm that recognizes wisdom as a strategic asset: one that views decisions as part of a living tapestry woven with economic, cultural, and cosmic threads. In essence, opportunity cost—as understood through *Lontara Kotika*—is no longer merely the science of foregone alternatives, but the art of sustaining equilibrium between material progress and the sacred order of life.

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