JEMBA: Journal of Development Economics, Management and Business, Accounting
Volume 5. No. 2 (September 2025) / e-journal.upr.ac.id

From traditional livestock exchange to modern trade systems: The transformation of Dayak economic practices

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ARTICLE HISTORY	ABSTRACT
Received: July 31st, 2025 *Revised*: August 15th, 2025 *Accepted*: September 25th, 2025 **Keywords :** Dayak Desa Traditional trade Livestock economy Renti system Economic transformation	*This study explores the transformation of the Dayak Desa livestock trading system in Sintang Regency, West Kalimantan, from a traditional barter-based exchange to a modern market-oriented economy. Historically, economic life in the Dayak Desa community was embedded within cultural norms and social relations, reflecting Polanyi's (2014) concept of the embedded economy. Barter served as the dominant system, with livestock such as pigs and chickens functioning both as food sources and social capital. The renti—a local, body-based measurement unit—was used to determine the value and size of pigs, representing an indigenous knowledge system transmitted through generations. Using a qualitative ethnographic-historical approach, the study draws upon interviews, participant observation, and documentation involving customary leaders and traders. Findings reveal that barter practices reflected social reciprocity rather than profit motives, while the gradual integration of money introduced a hybrid economic system combining traditional and market logics. The conversion of renti to metric kilograms (1 renti ≈ 15–40 kg) illustrates the community's adaptive response to market modernization while retaining cultural integrity. The persistence of traditional valuation mechanisms signifies the resilience of indigenous economic institutions amid external economic pressures. The study concludes that the Dayak Desa trade system embodies a form of institutional layering, balancing customary governance with modern efficiency. It emphasizes the need to document, preserve, and integrate traditional measurement systems into contemporary market practices to ensure sustainable, culturally grounded economic development. By aligning indigenous economic heritage with modernization, the Dayak Desa community demonstrates that cultural continuity and economic progress can coexist harmoniously.*

INTRODUCTION

The Dayak Desa people of Sintang Regency, West Kalimantan, embody a distinctive cultural and economic system rooted in close interaction with the natural environment. Their worldview integrates ecological balance, social solidarity, and communal harmony, which are reflected in their longhouse settlements, customary traditions, and collective agricultural practices. These features represent not only material arrangements but also a form of moral economy, where social relations and spiritual beliefs intertwine with subsistence production. Within this system, the Dayak Desa have developed a sophisticated local knowledge of land management, animal husbandry, and social exchange that has sustained their livelihoods for generations.

In the past, the economic life of the Dayak Desa was dominated by barter-based exchange, where goods were traded according to mutual needs rather than through monetary value. Agricultural products such as upland rice and vegetables were cultivated primarily for household consumption, while forest and river resources served as complementary sources of livelihood. Rice, considered sacred and spiritually significant, was rarely traded and symbolized the connection between economy, ecology, and cosmology. Such characteristics exemplify Polanyi's (2014) concept of an embedded economy, in which economic behavior is inseparable from cultural and social institutions. The Dayak Desa economy thus cannot be understood merely as a system of production and exchange but as a social institution deeply integrated within community life.

Livestock played a particularly central role within this structure. Animals such as pigs, chickens, ducks, and dogs were not only sources of food but also functioned as living capital—a form of savings and wealth that could be converted into cash when needed. Livestock were essential in ritual exchanges, marriage payments, and community feasts, functioning simultaneously as economic assets and symbols of social prestige. As noted by Allerton (2019), livestock in Southeast Asian indigenous communities often serve as both economic commodities and markers of social identity. Among the Dayak Desa, the sale or exchange of livestock represented a flexible mechanism to bridge subsistence needs with emergent cash-based transactions.

The introduction of money as a medium of exchange gradually transformed these dynamics. While traditional agriculture remained subsistence-oriented, livestock trading began to operate as the primary means of accessing the monetary economy. This transformation illustrates the coexistence of two economic systems, subsistence and market-oriented, mirroring Boeke's (2016) notion of dual economy. Within this dual system, traditional norms continued to regulate local trade, while market principles began influencing pricing and demand. The transition from barter to mixed exchange systems marks a critical juncture in the economic evolution of the Dayak Desa, where customary values interact with modern economic rationality.

In the absence of standardized units of measurement, the Dayak Desa devised its own methods to determine the value of livestock. Pricing relied on qualitative assessments such as body size, health, and utility, and was negotiated through social consensus rather than fixed monetary terms. Transactions were overseen by customary leaders (adat authorities) to ensure fairness and uphold social harmony. This informal institutional structure corresponds to North's (2018) theory of institutional economics, which recognizes the vital role of social norms and unwritten rules in regulating economic exchange. Hence, the traditional trading practices of the Dayak Desa represent an adaptive institutional framework capable of maintaining both economic efficiency and cultural integrity.

As modernization and market expansion reach rural Kalimantan, traditional trade systems such as those of the Dayak Desa are increasingly exposed to structural change. The penetration of formal markets, standardized pricing systems, and cash-based transactions has gradually marginalized informal exchange mechanisms. Yet, these traditional economic systems hold significant cultural and developmental value. They embody indigenous wisdom, sustainability principles, and community-based ethics that modern economies often overlook. Dove (2020) emphasizes that indigenous economic practices in Borneo represent a living heritage and an essential foundation for sustainable rural transformation.

Given these dynamics, the study raises several key questions: How were livestock trading patterns organized in the traditional Dayak Desa economy? What local measurement and valuation systems were used in transactions? How have these practices evolved or been converted into modern market systems? And what relevance do traditional trade patterns retain within contemporary economic life? Addressing these questions provides insights into how traditional knowledge adapts to the pressures of modernization while preserving local identity.

Theoretically, this research contributes to broader debates in economic anthropology and development studies by examining the interface between cultural institutions and market mechanisms. It supports the embedded economy framework advanced by Hann and Hart (2018), which asserts that economic behavior remains inseparable from social relations, even in the context of globalization. Practically, this study provides valuable implications for policy and community empowerment. By integrating traditional economic principles into modern systems, rural communities such as the Dayak Desa can strengthen their economic resilience without compromising cultural continuity. Sachs (2019) argues that inclusive and sustainable development requires the integration of economic, social, and cultural dimensions. In this sense, the transformation of Dayak Desa livestock trade is not merely an economic adjustment but a form of cultural innovation and a pathway toward sustainable indigenous development.

LITERATURE REVIEW

Polanyi (2014) provides one of the most influential foundations for understanding pre-modern economic systems through his concept of the embedded economy. He argues that in traditional societies, trade and production were not governed by market mechanisms, but rather embedded within social and cultural relations. Economic exchange functioned as part of a moral and social order where reciprocity, redistribution, and community welfare took precedence over profit maximization. This framework is clearly reflected in the Dayak Desa community, where the barter system was not merely a means of exchanging goods but a social contract rooted in trust, kinship, and communal norms. Transactions were negotiated through shared values, reinforcing social harmony rather than economic competition.

The evolution from such embedded systems to market-based exchange can be explained through Boeke's (2016) theory of economic dualism, which posits the coexistence of traditional and modern economic structures within a single society. According to Boeke, the persistence of traditional exchange practices alongside the introduction of monetary trade represents a structural duality that allows communities to adapt to modernization without fully abandoning cultural norms. Among the Dayak Desa, this dualism manifests in the parallel operation of barter and cash economies, livestock continues to be traded through customary valuation even as formal market interactions increase. This coexistence demonstrates the transitional character of indigenous economies, where traditional norms and modern mechanisms interact dynamically rather than replace each other.

Institutional theories further help explain how these hybrid systems endure. Ostrom (2015) emphasizes the significance of local institutional arrangements in governing collective resources, arguing that informal rules can be as effective as formal regulations when rooted in community trust. In the Dayak Desa context, customary institutions (adat) play a vital role in maintaining fairness and transparency within livestock trade. Local valuation standards, such as the use of renti for pigs, illustrate how indigenous systems operate as community-based governance tools. North (2018) extends this argument by noting that institutional change occurs through gradual adaptation to environmental and economic pressures. As external trade and monetary systems entered rural Kalimantan, the Dayak Desa responded not by abandoning their traditions, but by modifying them, developing hybrid mechanisms that integrated cash transactions with customary oversight. These insights reveal that institutional flexibility is key to the survival of indigenous economic practices.

Anthropological perspectives complement these institutional approaches by emphasizing the cultural dimensions of exchange. Hann and Hart (2018) stress that traditional economies are embedded within moral and symbolic systems, and cannot be analyzed purely through economic rationality. Among the Dayak Desa, livestock trading is not only a material transaction but also a social event that reinforces kinship, affirms status, and fulfills ritual obligations. This supports the notion that economic behavior in indigenous communities embodies both utilitarian and symbolic functions. Janowski (2019) similarly explores how Dayak communities maintain an intricate relationship with their natural environment, balancing hunting, farming, and animal husbandry to sustain livelihoods. Livestock particularly pigs carry dual significance as both commercial goods and ritual symbols, reflecting the fusion of material and spiritual life.

Allerton (2019) deepens this view by highlighting the human-animal relationship in Southeast Asia, where animals are woven into social networks and kin-based exchanges. In such settings, livestock often transcend their economic value to become vehicles of reciprocity and identity. This perspective helps explain the high bargaining and social value of animals like pigs and chickens in the Dayak Desa economy, which simultaneously serve as trade commodities and instruments of cultural continuity. Taken together, these anthropological insights reaffirm that the Dayak livestock trade is an expression of social solidarity, not merely an economic pursuit.

From a development standpoint, integrating traditional knowledge into modern systems is essential for sustainability. Sachs (2019) emphasizes that inclusive development must combine economic efficiency with cultural and ecological values. Traditional trading patterns, such as those of the Dayak Desa, exemplify a cultural economy capable of supporting community resilience and local innovation. Preserving such systems contributes to both cultural sustainability and rural competitiveness. UNESCO (2020) reinforces this argument by recognizing traditional trade practices and local measurement systems as part of the intangible cultural heritage that defines a community's identity. The renti system, for example, is not only a mode of valuation but also an embodiment of collective memory and social order. Documenting and preserving these practices ensures that indigenous economic knowledge remains a living resource for future generations.

Finally, the World Bank (2021) highlights the importance of integrating local economies into broader market frameworks while respecting their institutional uniqueness. Rural adaptation often involves translating indigenous units and valuation systems into standardized market formats to facilitate broader participation. In the Dayak Desa context, converting the renti and other local units into metric equivalents allows traditional traders to interact with formal markets while retaining the essence of their cultural practices. This adaptive integration exemplifies how traditional and modern systems can coexist, producing not a rupture but a negotiated balance between heritage and progress.

METHODS

This study employed a qualitative approach using an ethnographic-historical method. This approach was chosen to explore in depth the traditional economic practices, cultural values, and the transformation of trading patterns from the past to the present. According to Creswell and Poth (2018), ethnographic research seeks to interpret the social and symbolic meanings within a particular community through direct engagement by the researcher. In this study, the historical dimension was integrated to reconstruct the evolution of traditional trade systems among the Dayak Desa community through collective memory, oral narratives, and supporting documents. The combination of ethnographic and historical approaches allows for a comprehensive understanding of both the existing economic practices and the sociocultural transformations that have shaped them over time.

The research was conducted in the settlement area of the Dayak Desa ethnic group located in Sintang Regency, West Kalimantan. This site was selected purposively because it still preserves traditional economic systems, particularly in the trading of livestock such as pigs and chickens, which hold both social and ritual significance. The presence of customary leaders, local traders, and community members actively engaged in trading activities provided a valuable context for data collection. Informants were determined using a purposive sampling technique, in which participants were selected based on their knowledge, experience, and direct involvement in the studied phenomenon.

Data were collected through in-depth interviews, participant observation, and documentation. In-depth interviews were conducted with customary leaders, livestock breeders, and local traders to obtain narratives about the history of trade, the use of local measurement units such as renti, and the community's gradual adaptation toward monetary exchange. Participant observation was carried out during livestock trading activities in village markets as well as in customary events to understand social interactions and the symbolic meanings embedded in trade practices. Documentation complemented these methods by providing written records, local archives, research reports, and relevant academic literature that enriched the contextual understanding of the findings.

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña (2018), consisting of three main stages: data reduction, data display, and conclusion drawing or verification. During the data reduction stage, information from interviews, observations, and documents was selected, categorized, and focused according to research objectives. The data display stage involved organizing findings into thematic categories and descriptive narratives that reflected traditional trade patterns and their transformation. Finally, the conclusion and verification stage entailed synthesizing interpretations to construct a coherent explanation of the economic transition of the Dayak Desa community.

To ensure data validity, this study employed source and method triangulation. Triangulation was achieved by comparing data obtained from interviews, observations, and documents to verify consistency and reliability. This multi-method strategy strengthened the credibility of the research findings and enhanced the depth of understanding of traditional economic practices in the Dayak Desa community.

RESULT AND DISCUSSION

The findings of this study demonstrate that the traditional trade practices of the Dayak Desa community embody a dynamic and culturally embedded form of exchange that transcends the boundaries of conventional economic rationality. Rooted in reciprocity and communal trust, their trading system represents what Polanyi (2014) described as an embedded economy, where exchange is governed more by social obligations than by price mechanisms. In the Dayak Desa case, livestock such as pigs and chickens are not merely commodities but are imbued with moral and ritual significance. This aligns with the anthropological argument of Hann and Hart (2018), who assert that in many indigenous societies, economic transactions are deeply intertwined with social identity and cultural cohesion.

In pre-modern contexts, the barter economy of the Dayak Desa reflects the coexistence of two economic logics as explained in Boeke's (2016) dual economy theory. The persistence of barter systems and traditional units of measurement alongside the growing adoption of monetary systems illustrates the gradual shift from subsistence-based to exchange-based economic practices. This finding is consistent with the observations of Damayanty and Kadir (2021), who noted that indigenous economies in Kalimantan are characterized by dual structures where customary value systems coexist with market-driven trade.

At the heart of Dayak Desa trade lies the traditional unit known as renti, a bodily-referenced measurement used to assess the size and value of pigs. The renti system exemplifies what Ostrom (2015) refers to as local institutional governance, where communal rules and practices regulate the sustainable management of shared economic resources. Through oral transmission and collective participation, this system ensures fairness and transparency in trade without relying on external enforcement mechanisms (Arsyad et al., 2020; Rahmadani & Diah, 2023). Moreover, such indigenous valuation systems foster social cohesion and reduce conflict by embedding trade within shared moral frameworks (Nugroho & Widodo, 2022).

North's (2018) institutional change theory helps explain how the Dayak Desa community adapted the renti system in response to increasing engagement with external markets. Economic modernization—driven by access to urban markets, the introduction of monetary exchange, and technological tools—has encouraged the community to calibrate renti into modern units such as kilograms. This institutional adaptation exemplifies what Ferguson (2018) terms moral adaptation, where traditional economies selectively integrate market instruments while retaining their normative underpinnings.

Field data reveal that the renti measurement operates as a localized, embodied knowledge system. A rope encircling an adult's head and extended by a fist-length thumb defines one renti, which is then wrapped around the pig's body to estimate girth. This tactile measurement is a form of experiential empiricism (Lestari et al., 2024), ensuring that valuation remains accessible even in remote areas without weighing devices. The system functions as both an economic and epistemological tool, reinforcing intergenerational knowledge transmission (Kurniawan, 2021; Irawan et al., 2023).

As shown below, the traditional-to-modern conversion of renti values allows the Dayak Desa people to participate in hybrid market structures while maintaining cultural continuity.

Table 1. Conversion of Renti to Kilograms (Estimated Live Weight of Pigs)

Number of Renti	Estimated Weight Range (kg)	Average Weight (kg)	Description
1 Renti	15–40	27.5	Young pig
2 Renti	40–60	50	Young adult pig
3 Renti	60–90	75	Fully grown adult pig
2 Times Renti	90–120	105	Large pig for ritual trade

Empirical calibration indicates that one renti corresponds roughly to 15–40 kilograms of live pig weight, depending on age and fat composition. This approximation has been formalized through repeated weighing and observation during village markets (Hartono & Sari, 2021; Fitriana & Prasetyo, 2024). Such adaptation mirrors the findings of Mulyadi (2020) and Wibisono et al. (2020), who noted that the integration of indigenous valuation with market standards allows rural communities to access broader trade networks without eroding their traditional identity.

From a theoretical standpoint, this transformation reflects a hybrid economy (Tsing & Li, 2022), in which traditional institutions coexist and interact with capitalist structures. The persistence of renti alongside the metric system demonstrates how indigenous economies are capable of institutional layering, the process by which new norms and practices are added to, rather than replacing, existing systems (Hasan et al., 2022). In this sense, the Dayak Desa experience supports North's argument that institutional evolution occurs incrementally and is shaped by both cultural inertia and functional necessity.

The social significance of livestock in Dayak Desa culture further reinforces the non-economic dimensions of trade. Pigs, for instance, serve not only as market commodities but also as symbols of status, reciprocity, and religious offering (Setiawan et al., 2022; Janowski, 2019). This aligns with Allerton's (2019) findings in Southeast Asia, which highlight that human–animal relations are frequently mediated through cultural rather than purely economic logic. Similarly, Sachs (2019) and UNESCO (2020) emphasize that local trading systems represent intangible cultural heritage essential to sustainable development. The preservation of renti thus contributes not only to economic diversity but also to cultural resilience.

Modernization, however, has introduced both opportunities and challenges. While metric conversion has facilitated market transparency and integration, it has also introduced pressures toward commodification, potentially weakening the moral foundations of traditional exchange (Fauzi & Santoso, 2021; Yuliana, 2022). Nevertheless, as Prakoso (2024) argues, hybridization rather than replacement provides the most sustainable path for indigenous economic systems to engage global markets.

The findings resonate with recent research emphasizing that cultural continuity within market adaptation is a key factor for rural economic resilience (Mursid & Pertiwi, 2023; Damayanty & Kadir, 2021; Suharto et al., 2020). Local economies that retain cultural governance mechanisms often achieve more stable participation in external trade networks, as trust and reciprocity act as informal institutional capital (Miles et al., 2019; Saldaña, 2020). Hence, the transformation of the renti system into a dual measurement practice represents not a loss of tradition but a deliberate adaptation process that bridges symbolic and instrumental rationalities. This aligns with the embedded transformation model proposed by Ferguson (2018) and validated by contemporary ethnographic analyses of mixed economies in Southeast Asia (Tsing & Li, 2022; Hasan et al., 2022).

Ultimately, the Dayak Desa trading model demonstrates that cultural embeddedness and economic modernization are not contradictory but mutually reinforcing when mediated through participatory local institutions. Their experience offers valuable insight into how indigenous economic systems can sustain cultural integrity while engaging with global market mechanisms a lesson highly relevant to sustainable development frameworks across the Global South.

CONCLUSION

This study reveals that the trading patterns of the Dayak Desa community in the past were built upon a simple barter system that embodied profound social values. Similar goods were exchanged directly, while livestock held higher bargaining power due to their economic and ritual significance. Chickens and pigs emerged as the main commodities, each with distinct trading units: chickens were sold per head, whereas pigs were measured using the traditional unit *renti*. This system illustrates the community's indigenous creativity in developing transactional mechanisms without formal standards. Over time, the Dayak Desa gradually transitioned toward a cash-based trade system. While agricultural products such as rice and vegetables remained primarily for household consumption, livestock became the main source of monetary income. The conversion of traditional units into modern measurements demonstrates a process of adaptation to broader economic transformations while maintaining inherited cultural values. Thus, livestock trading among the Dayak Desa people represents not only an economic activity but also a vital cultural legacy relevant to contemporary society. However, this research faces several limitations, including a heavy reliance on oral traditions that may introduce subjective bias, limited written records for historical verification, and a focus primarily on chickens and pigs, excluding other livestock. Furthermore, the conversion of traditional units into metric equivalents remains estimative, based on field information. The findings are specific to certain Dayak Desa communities and cannot be generalized across all Dayak subgroups in Kalimantan. Future efforts should prioritize the documentation of traditional units such as *renti* to prevent their disappearance amid modernization. Local governments and customary leaders are encouraged to integrate traditional trading systems into the modern rural economy through community empowerment programs. Moreover, further studies should explore culturally rooted local economic potentials to ensure that the Dayak Desa people can preserve their cultural identity while enhancing their welfare. Such efforts would allow traditional economic heritage to serve as a foundation for sustainable development grounded in local wisdom.

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