



Building the Financial Performance Capability of Seasonal Rice Farms amid Market Change: A Grounded Theory Study of Intertemporal Cash Flow Management

Membangun Kapabilitas Kinerja Keuangan Pertanian Padi Musiman di Tengah Perubahan Pasar: Studi Teori Berbasis Data tentang Manajemen Arus Kas Antarwaktu

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Abstract

This study aims to build a theoretical model explaining how seasonal rice farms build and maintain their financial performance amid market changes that encompass price fluctuation, shifting demand and quality standards, supply chain change, and competitive pressure. The study employs a grounded theory approach in the Straussian tradition, with dynamic capabilities and financial resilience serving as sensitizing concepts that guide inquiry without being imposed on the data. Data were gathered through in-depth interviews, observation, and documentation among rice farmers in Lolu Village, Sigi Regency, Central Sulawesi, and were analyzed through constant comparison across open, axial, and selective coding. The analysis yields a core category, namely the capability to manage cash flow across time under pressures that arrive simultaneously, when cash needs peak just as the selling price bottoms and input costs rise. This core category links six layered strategies, ranging from separating and setting aside capital as the foundation, the capability to withhold harvest, buffering diversification, market sensing, and adaptive learning, to the use of networks and institutions as external reinforcement. The arrangement is formulated as the Agricultural Financial Performance Capability Model. The model unites the process side explained by dynamic capabilities and the outcome side explained by financial resilience on a single axis of cash flow timing, while also explaining the unequal financial capability between owner and tenant farmers. The study contributes the understanding that farm financial performance rests on the timing of cash flow, and affirms that financial phenomena at the smallholder level deserve theory development.

Keywords: dynamic capabilities; farm financial performance; financial resilience; grounded theory; intertemporal cash flow.

Abstrak

Penelitian ini bertujuan membangun model teoretis yang menjelaskan cara usaha tani padi musiman membangun dan mempertahankan kinerja keuangannya di tengah perubahan pasar yang meliputi fluktuasi harga, pergeseran permintaan dan mutu, perubahan rantai pasok, serta tekanan persaingan. Penelitian menggunakan pendekatan *grounded theory* aliran Strauss dan Corbin, dengan kemampuan dinamis dan *resiliensi* keuangan sebagai konsep pemandu yang tidak dipaksakan pada data. Data dikumpulkan melalui wawancara mendalam, observasi, dan

dokumentasi pada petani padi musiman di Desa Lolu, Kabupaten Sigi, Sulawesi Tengah, lalu dianalisis dengan perbandingan konstan melalui pengkodean terbuka, *aksial*, dan selektif. Analisis menghasilkan kategori inti berupa kemampuan mengatur arus kas lintas waktu di bawah tekanan yang datang serentak, yaitu ketika kebutuhan tunai memuncak persis pada saat harga jual terendah dan biaya *input* meningkat. Kategori inti itu menautkan enam strategi yang tersusun bertingkat, mulai dari pemisahan dan pendahuluan modal sebagai fondasi, kemampuan menahan hasil, diversifikasi penyangga, penginderaan pasar, dan pembelajaran adaptif, hingga pemanfaatan jaringan dan kelembagaan sebagai penguat eksternal. Rangkaian itu dirumuskan sebagai *Agricultural Financial Performance Capability Model*. Model ini menyatukan sisi proses yang diterangkan dengan kemampuan dinamis dan sisi hasil yang diterangkan dengan *resiliensi* keuangan pada satu poros pengaturan waktu arus kas, sekaligus menjelaskan ketidaksetaraan kemampuan finansial antara petani pemilik dan penyewa. Penelitian menyumbang pada pemahaman bahwa kinerja keuangan usaha tani ditentukan oleh pengaturan waktu arus kas, dan menegaskan bahwa fenomena finansial di tingkat petani kecil layak menjadi lahan pengembangan teori.

Keywords: kemampuan dinamis; kinerja keuangan usaha tani; ketahanan keuangan; teori berbasis data; arus kas lintas waktu.

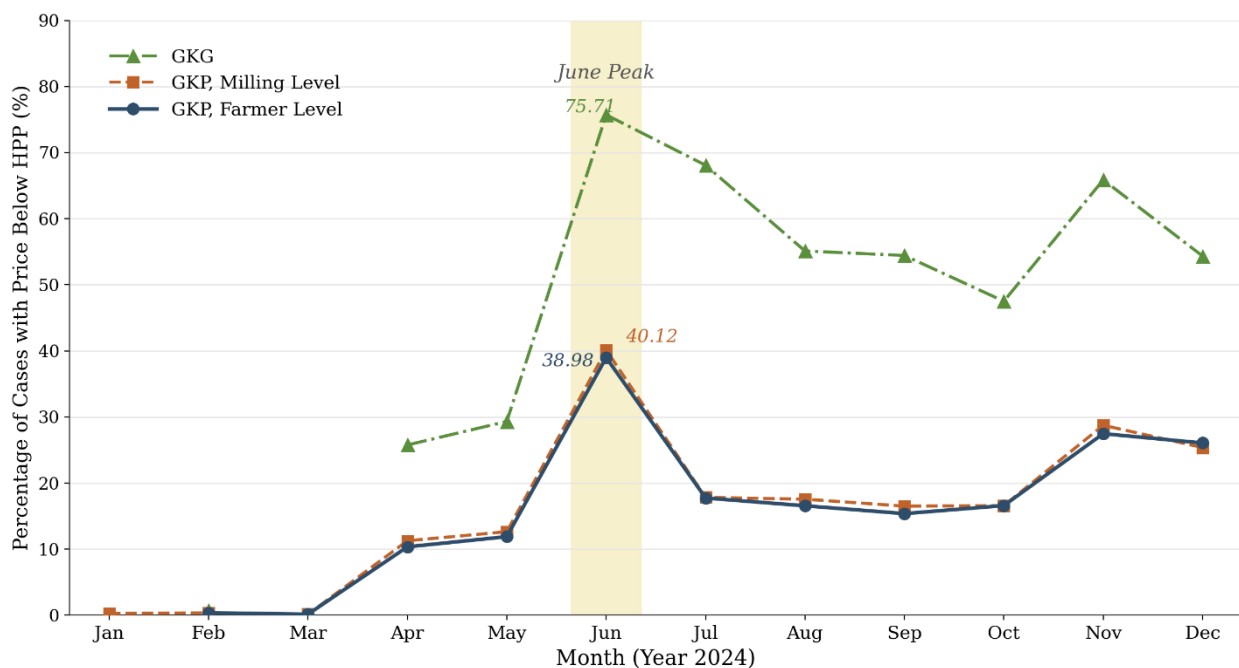
1. Introduction

The agricultural sector occupies a paradoxical position in the Indonesian economy. Although it underpins national food security and provides a livelihood for millions of households, most farm enterprises remain financially vulnerable whenever commodity prices, production costs, or market demand shift. This condition shows that the sustainability of a farm enterprise is determined not only by productivity but also by the enterprise's capability to build and maintain its financial performance amid market dynamics. To understand why some farm enterprises manage to sustain their financial performance while others do not, one must first grasp the character of the market change they face.

In this article, market pressure is understood as change in economic mechanisms that directly affects a farm enterprise's ability to obtain and maintain income. Such change does not occur in a single aspect alone but emerges through four interacting dimensions. Prior research notes that commodity price fluctuation makes farm revenue difficult to predict from one season to the next (Bastian-Pinto et al., 2025; Pellegrino et al., 2020). At the same time, shifts in demand and quality standards require farmers to keep adjusting the quality of their output in order to retain market access (Parkhomenko et al., 2026; Schweringi et al., 2022). Beyond that, changes in supply chain structure alter distribution patterns, transaction costs, and the farm's relationships with other market actors (Monteiro & Barata, 2021; Sun et al., 2023), while competitive pressure forces the farm enterprise to defend its position as more actors compete for the same market (Bauman et al., 2018; de Roest et al., 2018).

Among these forms of market change, the fluctuation of rough rice (*gabah*) prices is the pressure most tangibly felt by rice farmers. The phenomenon of rough rice (*gabah*) prices falling during the main harvest is not a momentary event but a pattern that recurs almost every planting season. Although the government has set the Government Purchase Price (*Harga Pembelian Pemerintah*, HPP) as a price protection instrument, in practice some farmers still sell their rough rice (*gabah*) below the HPP, particularly when supply rises all at once, and the need to repay debt promptly drives the sale. As a result, a farmer's ability to sustain farm revenue depends heavily on how financial and marketing decisions are managed under market pressure.

Figure 1. Percentage of cases in which rough rice (*gabah*) prices fell below the Government Purchase Price (HPP), by month and rough rice (*gabah*) type, Indonesia, 2024.



Source: BPS, *Producer Price Survey for Unhusked Rice (SHPG)*, processed

Although market pressure is structural and affects nearly every seasonal rice farmer, its financial consequences on the ground are far from uniform. Within the same production area, farmers with comparable harvests can arrive at different financial fates, since some manage to set aside capital for the coming season while others fall into a recurring pattern of distress selling that steadily erodes their working capital. This difference constitutes an empirical gap that the literature has not yet explained adequately, because most studies of agricultural financial performance concentrate on measuring final outcomes without tracing the process that produces the unequal financial capability observed across farm enterprises. At the theoretical level, the available frameworks are not yet able to explain this empirical gap in an integrative way. Studies of financial resilience and supply chains generally operate at the level of listed firms or macro supply networks (Hamidu et al., 2022; Queiroz et al., 2024; Zhang & Cornell, 2026), the concept of dynamic capabilities is attached to large-scale organizations

(Braunscheidel & Suresh, 2018; Zhang & Cornell, 2026), and farm risk management is discussed separately from both (Kyire et al., 2023; Van Asseldonk et al., 2016). These three lines run on their own without connecting to one another, so no theoretical model yet explains the formation of a farm's financial capability as a single coherent sequence that runs from how the capability is built, to how it is maintained, to why its outcome differs across farm enterprises.

This theoretical gap is compounded by a methodological limitation. The systematic review by Smith dan Hayden (2025) concludes that research on the economic sustainability of farm enterprises is still marked by a scarcity of qualitative studies and scant attention to small and micro enterprises, because research tends to concentrate on large organizations and to rely on quantitative survey approaches. In the Indonesian context, existing studies likewise focus more on large agricultural firms (Ika et al., 2023), on micro and small enterprises and policy (Evinita et al., 2025; Lisa et al., 2025), or on the technical aspects of mechanization (Arsyad & Azis, 2025). No qualitative study has yet specifically examined the building of financial performance capability among seasonal rice farms in Central Sulawesi. Taken together, then, three mutually reinforcing gaps emerge, namely an empirical gap concerning the unexplained difference in financial capability across farm enterprises, a theoretical gap concerning the absence of a process model that integrates dynamic capabilities, financial resilience, and farm risk management within a single framework, and a methodological gap concerning the scarcity of qualitative approaches to small-scale farm enterprises. The novelty of this study lies in addressing these three gaps simultaneously.

Proceeding from these three gaps, this study aims to build a theoretical model, the Agricultural Financial Performance Capability Model (AFPCM), that explains how seasonal rice farms build and maintain their financial performance under changing market conditions. For the purpose of building theory, the study adopts a grounded theory approach in the Straussian tradition, chosen for its capacity to generate theory from field data rather than merely describing symptoms. The concepts of dynamic capabilities and financial resilience are positioned as sensitizing concepts, that is, they guide inquiry without imposing findings, consistent with the principles of grounded theory. The study takes as its locus the seasonal rice farmers of Lolu Village, Sigi Regency, Central Sulawesi, a setting that faces all four dimensions of market change repeatedly in every planting cycle. Through the construction of the AFPCM, this article is expected to make a theoretical contribution to the understanding of farm financial performance while also addressing the scarcity of qualitative studies identified in the literature.

2. Research Method

This study uses a qualitative approach with a grounded theory design in the tradition of Strauss and Corbin. This design was chosen because the aim of the study is to build a substantive theory, the Agricultural Financial Performance Capability Model

(AFPCM), drawn directly from field data rather than to test a pre-existing theory. A grounded theory design is appropriate when the available theoretical explanations are not yet adequate to answer how a given process unfolds, in this case how farmers build and maintain the financial performance of their enterprises amid market change. The theories of dynamic capabilities and financial resilience are not positioned as frameworks to be tested but as sensitizing concepts that sharpen the researcher's theoretical sensitivity during data collection and analysis, without imposing particular categories on the field findings.

The study was conducted in Lolu Village, Sigi Regency, Central Sulawesi Province. This site was selected purposively on the consideration that the area is a center of seasonal crop farming, particularly rice, whose financial receipts are highly exposed to market dynamics, namely rough rice (*gabah*) price fluctuation, shifts in demand and quality standards, changes in the marketing chain, and competition among farmers and across regions. The short-cycle character of seasonal farming means that market pressure affects cash flow quickly and repeatedly, so the process of building financial capability can be observed more clearly.

Informants were determined by purposive sampling in the initial stage, namely rice farmers who had run their farm for at least five years and had passed through at least one period of market shock, for example a collapse in rough rice (*gabah*) prices or difficulty marketing their output. Subsequently, the selection of informants developed according to the principle of theoretical sampling, in which the choice of the next informants and data was guided by the categories emerging from prior analysis, in order to develop and densify the properties and dimensions of those categories. One expression of theoretical sampling appears in the informant coded P06, who was deliberately traced across four different institutional positions, namely active administrator, active member, sympathizer, and farmer outside the farmer group. The selection of these position variants was not intended to increase the number of informants but was guided by the emerging category of the use of networks and institutions, so that the properties and dimensions of that category could be developed and densified through comparison within a single code. The four positions were treated as separate incidents in constant comparison, so that variation in institutional closeness could be read as a graduated gradient rather than as an all-or-nothing state. The addition of informants was halted when theoretical saturation was reached, that is, when no new properties or dimensions were found in the categories already formed.

Data were collected through three complementary techniques. First, in-depth semi-structured interviews served as the primary instrument, using a guide that was open-ended and evolved as field findings emerged. The interview guide explored the history of the farm enterprise, experiences of facing market change, the financial decisions and strategies taken, sources of capital, cash flow management, and the actors' reflections on

the capabilities that kept their enterprises viable. Second, observation of on-the-ground farm management practices. Third, documentation in the form of farm records, production and sales records, and available transaction and loan evidence. These three sources were linked through triangulation to connect the financial performance reflected in the documents with the capability-formation process revealed in the informants' narratives.

Data analysis was carried out simultaneously with data collection using the constant comparative method across three coding stages. Before coding began, the researcher first undertook an orientation step toward the interview corpus with the aid of a text query in the form of a word tree. This query was run over a set of files restricted only to informant interview transcripts, kept separate from regulatory documents and observation notes, so that the initial orientation genuinely reflected the farmers' speech and was not mixed with the register of policy or the researcher's own narrative. The word tree was positioned solely as a guide to attention that indicated which portions of speech were dense with events related to farm revenue, costs, and cash flow management. Accordingly, the frequency and proximity of words in the word tree were not treated as findings and were not used as a basis for establishing categories, but only as an entry point that directed the researcher toward incidents worth examining more deeply.

After that orientation, the analysis proper shifted to the incidents recounted by the informants as the unit of analysis. In open coding, the interview transcripts and field notes were read closely, and every real event related to farm financial management was marked as an incident and assigned a code. Each new incident was constantly compared with previously coded incidents to assess the similarity and difference of their properties, so that incidents sharing similar properties could be grouped under a more abstract concept. These concepts were then grouped into categories along with their properties and dimensions. In axial coding, the categories were connected using a coding paradigm covering causal conditions, the core phenomenon, context, intervening conditions, action and interaction strategies, and consequences. It was at this stage that the dimensions of market change were mapped, some as causal conditions such as rough rice (*gabah*) price fluctuation and some as intervening conditions such as supply chain structure and competitive intensity, in accordance with what the data showed. In selective coding, a core category was established that linked all the categories into a single coherent explanation, so that the substantive model, the Agricultural Financial Performance Capability Model, took form. Throughout the analysis, the researcher wrote theoretical memos as a trace of concept and category formation and as a record of the reasoning behind analytic decisions, including the decision to restrict the scope of the text query to the interview corpus.

The trustworthiness of the data was maintained through criteria common in qualitative and grounded theory research. Credibility was pursued through source and technique triangulation as well as member checking. Transferability was supported

through thick description of the farm context. Dependability and confirmability were ensured through an audit trail recorded in the memos and coding notes. The quality of the resulting theory was then assessed according to the criteria of fit with the data, relevance, workability, and modifiability.

3. Results and Discussion

This study involved seasonal rice farmer informants in Lolu Village who were deliberately selected to span a range of conditions in land tenure, capital ties, and institutional closeness. That diversity matters because grounded theory analysis rests on constant comparison across incidents, so variation in the informants' backgrounds actually sharpens the properties of each category formed. A brief profile of the informants is presented in Table 1, while the subsequent discussion sets out the results of open coding, the axial coding paradigm, the core category, and the AFPCM Model that is the culmination of this study.

Table 1
Characteristics of Seasonal Rice Farmer Informants, Lolu Village, Sigi Regency, 2025

Code	Key Characteristics	Relevance to the Analysis
P01	Landowner, renting up to two additional hectares	Practice of separating and setting aside capital
P03	Tenant farmer with differing rental durations	Binding pressure of rental costs
P04	Owner of relatively extensive land with storage	Latitude to withhold harvest
P06	Farmers with differing institutional closeness	Role of networks and institutions
P08	Farmer who had experienced crop failure (pests and floods)	Adaptive learning after a shock
P09	Farmer with a side business (kiosk)	Buffering diversification of income
P10	Farmer dependent on a single collector-trader	Access to capital through the lender relationship

Note: informant codes follow field numbering. Some codes contain several narrative variants treated as separate incidents in the analysis.

Open Coding Results

Open coding was carried out by treating every financial event recounted by an informant as a self-standing incident, then comparing one incident with another to weigh the similarity of their properties. Through this constant comparison, seven provisional categories crystallized. The first category is the capability to withhold harvest, that is, the

latitude to delay selling rough rice (*gabah*) until prices improve. This category appears clearly in the account of an informant who possessed storage facilities.

Because I have a storage place, I do not sell my entire harvest right away. I sell a portion for operating needs and store the rest until prices begin to improve. (P04)

Karena saya memiliki tempat penyimpanan, saya tidak langsung menjual seluruh hasil panen. Saya menjual sebagian untuk kebutuhan operasional, sedangkan sisanya saya simpan sampai harga mulai membaik. (P04)

The properties of this category become sharper precisely through the opposite case, namely when a tenant farmer lacks the same latitude because they are pressed by obligations that are coming due.

I cannot delay the sale because I have to pay the field rent right away. In the end I sell at a low price. (P03)

Saya tidak bisa menunda penjualan karena harus segera membayar biaya sewa sawah. Akhirnya saya menjual dengan harga yang rendah. (P03)

The second category is the separation and setting aside of capital, that is, the act of fencing off part of the receipts for the next season's capital before the remainder is used for family needs. This category is the foundation that enables the capability to withhold harvest, because without capital set aside first, cash flow loses the fulcrum on which it can be stretched.

As soon as the harvest is done I immediately set aside money for the next season's capital. Only the remainder is then used for family needs. (P01)

Kalau selesai panen saya langsung pisahkan uang untuk modal musim berikutnya. Sisanya baru dipakai untuk kebutuhan keluarga. (P01)

The third category is rigid cost pressure, that is, the presence of costs that must still be paid even when receipts decline, such as land rent and debt installments, compounded by rising input prices that are not matched by a rise in selling prices. This category explains why the impulse to sell immediately often arises from the pressure to pay rather than from an optimal profit calculation.

The rent still has to be paid even when the harvest falls. Sometimes I feel I am working only to cover costs. (P03)

Biaya sewa tetap harus dibayar walaupun hasil panen turun. Kadang saya merasa bekerja hanya untuk menutup biaya saja. (P03)

The fourth category is buffering diversification, that is, the spreading of income sources so that household needs do not depend entirely on the harvest, so that the field need not be sold off immediately merely to cover daily needs. The fifth category is market sensing, that is, reading the direction of prices before deciding whether to withhold or sell, although its accuracy depends on the reliability of the information. The sixth category is adaptive learning, that is, the improvement of financial management practices born of correcting past failures. The seventh category is the use of networks and institutions, that is, drawing on social relationships and the farmer group to strengthen

bargaining position and smooth the flow of information. A summary of the seven categories along with their supporting incidents is presented in Table 2.

Table 2
Open Coding Categories and Summary of Supporting Incidents

Category	Summary of Incidents	Informants
Capability to withhold harvest	Delaying sale until prices improve because savings or storage are available	P01, P04, P06
Separation and setting aside of capital	Setting aside next-season capital before family consumption	P01, P04, P06, P08
Rigid cost pressure	Rent and debt remain obligatory even when the harvest falls, while inputs keep rising	P01, P03, P08, P10
Buffering diversification	A kiosk or other work sustains the household while the field has not yet yielded	P06, P09, P10
Market sensing	Gathering and comparing price information before selling	P01, P04, P06, P10
Adaptive learning	Improving financial management after crop failure	P01, P03, P04, P08
Use of networks and institutions	Coordinating collective selling and sharing information among members	P01, P06, P10

Axial Coding Paradigm

In axial coding, the seven categories were no longer left standing alone but were connected through a coding paradigm that shows how the financial performance of the farm enterprise is formed. The most consistently recounted causal condition was the fall in rough rice (*gabah*) prices precisely during the main harvest when supply is abundant, aggravated by a price asymmetry in which the costs of fertilizer and pesticide keep rising while the price of rough rice (*gabah*) does not always follow. This condition meets a shift in demand in the form of tightening quality requirements and changes in the way produce is sold. These four elements are the concrete manifestation of the four dimensions of market change that anchor this study.

The hardest part is the price of fertilizer and pesticide, which keeps rising, while the price of rough rice (gabah) does not always rise with it. (P01)

Yang paling berat itu harga pupuk dan pestisida yang terus naik, sementara harga gabah tidak selalu ikut naik. (P01)

This pressure culminates in the core phenomenon, namely the farm's effort to keep its finances able to sustain the enterprise from one season to the next. This phenomenon is framed by a context that differentiates the form of pressure each farm faces, especially land tenure status, the presence or absence of a side business, ties to a single capital provider, and closeness to the farmer group institution. Between the phenomenon and the strategies lie intervening conditions that soften or aggravate it, namely climate and pest shocks, the reliability of market information, and access to financing and social support. In response to all these pressures and framings, the informants carried out six action and interaction strategies that lead to two possible consequences, namely a farm that survives because next-season capital remains available and a farm that erodes because it is forced to sell at a low price. The full mapping of this paradigm is presented in Table 3.

Table 3
Axial Coding Paradigm of the Farm Financial Performance Capability Model

Paradigm Component	Category and Manifestation in the Data
Causal conditions	Rough rice (<i>gabah</i>) price fluctuation during the main harvest, asymmetry between input and output prices, quality demands, changes in selling channels
Core phenomenon	The effort to keep cash flow able to sustain the enterprise across seasons
Context	Land tenure status, side business, ties to a capital provider, institutional closeness
Intervening conditions	Climate and pest shocks, reliability of market information, access to financing and social support
Action and interaction strategies	Separation and setting aside of capital, capability to withhold harvest, buffering diversification, market sensing, adaptive learning, use of networks and institutions
Consequences	Surviving with next-season capital available, or eroding with capital depleted after selling at a low price

Core Category and The AFPCM Model

Selective coding yielded a single core category that links all the other categories, namely the capability to manage cash flow across time under pressures that arrive simultaneously. This core category was selected because it is present in nearly all the transcripts, is able to link the six strategies without forcing them, and explains why two farms with equivalent harvests can arrive at different financial fates. The heart of the matter the informants describe is not the size of the harvest in a single season but how

receipts that arrive all at once at harvest can be stretched so as to cover obligations coming due now without eroding the capital for the coming season.

The six strategies are arranged in layers around the core category. The separation and setting aside of capital occupies the position of the most basic foundation. Above it stands the capability to withhold harvest, which stretches cash flow forward. When the latitude to withhold is insufficient, buffering diversification stabilizes cash flow from the income side. All these decisions are guided by market sensing, refined by adaptive learning, and reinforced from the outside by the use of networks and institutions. This layered arrangement is summarized as the Agricultural Financial Performance Capability Model, as presented in Figure 2.

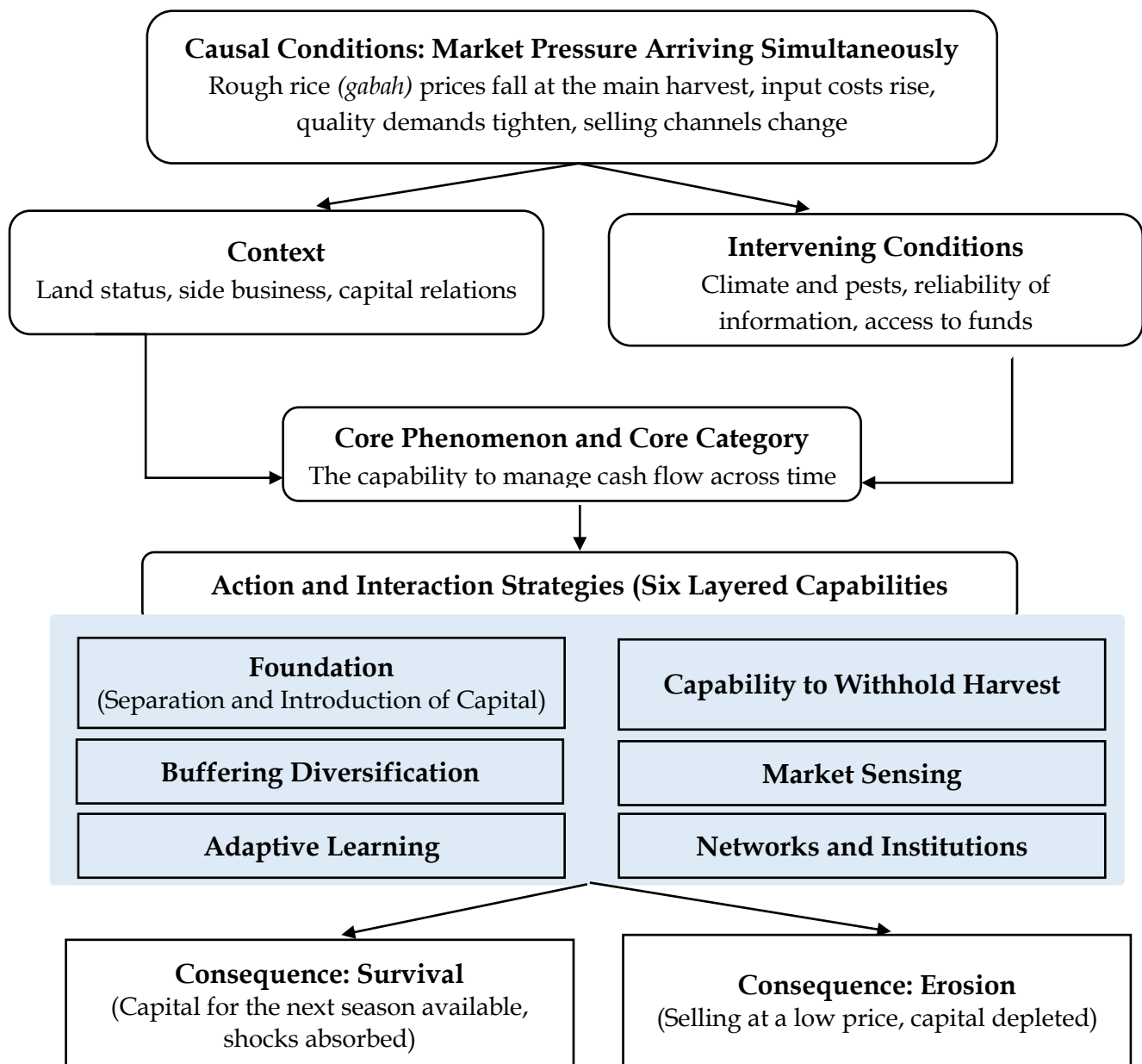


Figure 2. Agricultural Financial Performance Capability Model (AFPCM).

Discussion

These findings answer the central question posed in the introduction, namely why, under similar market pressure, some farms manage to sustain their financial performance while others keep eroding. The AFPCM shows that the answer lies not in the size of the harvest but in the capability to time cash flow when cash needs peak precisely as the selling price hits its lowest point and input costs are rising. Rather than reading each component of the model as agreement with prior work, the discussion below places every component against the existing literature in order to show where that literature reaches its limit and how the AFPCM moves beyond it.

The core category, the capability to manage cash flow across time, intersects directly with studies of liquidity constraints among small farms. Liquidity limitations at planting time help determine the production and marketing decisions of maize farmers in Zambia (Melkani et al., 2025), and sales at the farm level are often driven by liquidity constraints rather than by an optimal price calculation (Ateka et al., 2021). The incident of a tenant farmer forced to sell the entire harvest to pay rent reproduces that pattern. This literature, however, treats liquidity as a static constraint that presses on the farmer from outside, so it can describe the pressure but cannot explain why two farmers facing the same constraint end the season differently. The AFPCM locates that difference in the capability to manage liquidity across time through the separation of capital and the postponement of sales, so that liquidity ceases to be only an obstacle and becomes an object of management that can be built up or worn down. The study therefore does not merely apply the notion of liquidity constraints but converts it from a limiting condition into an explanatory capability, extending the study of small-farm financial management by placing cash flow timing as the axis of financial performance (Omobitan & Khanal, 2022).

On the causal-condition side, the finding that rough rice (*gabah*) prices fall precisely during the main harvest reinforces the long-established literature on seasonal prices. Patterns of intertemporal and seasonal price dispersion depress producer welfare (Kumare et al., 2022), while in the Indonesian context the tendency of farm-gate harvested-dry-paddy prices relative to the reference price policy has drawn attention (Darmawan et al., 2026). What distinguishes this study is that its focus is not on the pattern itself but on how farmers respond to it through market sensing before deciding to sell (Ardiansyah et al., 2026; Mgale & Yunxian, 2021). The prevailing assumption in that strand is that better market information leads to better selling decisions. The present data qualify this assumption in two ways. Market sensing does not always turn out right, as seen in the incident of a farmer who misread price signals, and even accurate sensing yields no advantage when the farmer lacks the latitude to act on it, as with the tenant who reads the price correctly yet must still sell to pay rent. The AFPCM therefore positions market sensing not as an independent driver of financial performance but as a capability whose value is conditional on the foundation of capital separation and the latitude to withhold harvest that sits beneath it.

The finding on adaptive learning after a shock aligns with studies of survival strategies in the face of crop failure. The variety of farmers' strategies for coping with crop failure in the semi-arid north of Ghana has been detailed (Boansi et al., 2023), and livelihood-based coping strategies among flood-affected farm households have also been examined (Ali & Shahbaz, 2025). These studies frame coping largely as livelihood adjustment, such as changes in consumption, labor, or migration, and stop short of the financial routine that a shock leaves behind. The crop-failure incident in this study points precisely to what those accounts leave out, namely that the shock is internalized as a change in financial governance, such as beginning to record costs and set aside reserves, that reshapes decisions in later seasons. Read this way, adaptive learning in the AFPCM is not a one-off response to a single failure but a mechanism that feeds back into the other capabilities, so the study relocates coping from the livelihood level to the level of a durable financial capability.

The buffering diversification category gains strong support from the literature on income diversification. Off-farm work influences farm household income (Anang & Apedo, 2023), and smallholders in Indonesia build diversified livelihoods (Race et al., 2022). That literature measures diversification mainly by its contribution to the level of income. The present data suggest that the level of income is not the decisive property. What matters is timing, because a side income that arrives while the field has not yet yielded is what releases the farmer from the compulsion to sell rough rice (*gabah*) at a bad moment, as the incident of a farmer who keeps kiosk capital available during a lean period shows. The AFPCM therefore recasts diversification from an income supplement into a cash flow buffer, and this recasting also marks a boundary, since diversification that raises annual income but does not fall due when cash is short does little to prevent distress selling.

The category of ties to a capital provider offers the most interesting space for dialogue because it presents an ambivalent side. The relationship between lenders and potato farmers in West Bengal has been examined in depth (Balachandran & Dhal, 2018), and trust can function as collateral in informal financing (Siddiqui, 2026). Much of this literature reads dependence on an informal lender mainly as a form of vulnerability or exploitation. The incident of a farmer dependent on a single collector-trader complicates that reading, because the same dependence that narrows the range of price choices is also what guarantees the availability of capital exactly when it is needed, through a trust relationship the farmer maintains deliberately. Seen through the core category, this is not simply exploitation but a trade in which the farmer gives up price latitude in exchange for security in the timing of cash, a rational bargain for a farmer whose binding problem is when money arrives rather than how much. The AFPCM thus treats informal finance as an ambivalent cash flow strategy rather than a pure vulnerability (Ateka et al., 2021), and this ambivalence is itself the contribution, since a framing that sees only exploitation cannot account for why the farmer chooses to preserve the tie.

The use of networks and institutions category engages the literature on collective action in marketing. Collective action improves the marketing performance of farmer groups (Barham & Chitemi, 2009; Ochieng et al., 2018), and social networks are tied to the market performance of rice farmers (Abdul-Rahaman & Abdulai, 2020). The incident of a farmer group advising its members not to sell all at once so that bargaining position improves is in line with those findings. Where the present study parts company with that literature is in its treatment of membership, which prior work tends to record as a yes-or-no attribute of the farmer. The data resist that binary, and it is this resistance that the next paragraph develops.

A further sharpening of this category is obtained by reading a single informant deliberately traced across four different institutional positions, namely active administrator, active member, sympathizer, and farmer outside the farmer group. Comparison within that code shows that the foundation of financial management, in the form of separating capital and a willingness to withhold part of the harvest, still appears across all positions regardless of the degree of institutional closeness, whereas what changes is the source of support. The closer a farmer is to the institution, the more strongly their capability to manage cash flow is bolstered from the outside through the flow of information and collective action, such as the advice that members not sell on the same day. Conversely, the farther a farmer is from the institution, the greater the role of internal supports in the form of income diversification, personal reserves, and the maturity of experience as a substitute for collective support.

This layered reading refines the literature on collective action, which tends to treat group membership as an all-or-nothing state, since the data show that institutional closeness works as a graduated gradient. The binary view falls short precisely where a farmer sits between full membership and none, because it cannot see that the internal buffers of income diversification, personal reserves, and accumulated experience can substitute for collective support when that support is thin. Accordingly, the use of networks and institutions is properly positioned as an external reinforcement that sharpens market sensing and improves bargaining position, not as a foundation that creates financial capability. When that collective support is unavailable, the farmer patches it with buffers grown from within the enterprise itself, so that the AFPCM remains consistent in placing networks and institutions at the reinforcement layer rather than at the foundation.

The gradient of institutional closeness just described leads the discussion to the theoretical level, since the ability to gauge when external support is available and when internal buffers must be relied upon is essentially a grounded manifestation of dynamic capabilities at the farm scale, namely the capacity to sense, to seize opportunities, and to reconfigure resources. Dynamic capabilities also form in micro and small enterprises in vulnerable contexts (Londoño-Cardozo et al., 2025), consistent with the tracing of the micro foundations of innovation processes in small firms (Barrera et al., 2020). The

original formulation of dynamic capabilities, however, was built for firms that operate in opportunity-rich environments, where sensing and seizing are oriented toward new markets and technologies. At the seasonal rice farm the binding axis is not opportunity but time, since what must be sensed, seized, and reconfigured is the timing of cash against obligations that fall due. The AFPCM extends dynamic capabilities theory by re-specifying its three capacities around cash flow timing rather than around innovation, and this re-specification is what makes the theory usable at a scale where the firm-level vocabulary of opportunity does not fit. The same move sharpens the theory of financial resilience. That literature has largely treated resilience as an outcome or a property that a farm either has or lacks, and the finding of unequal resilience among smallholders in Indonesia is stated at that level (Mardhatilla et al., 2026). The AFPCM does not merely echo that finding but supplies the process behind it, showing that resilience is produced by the capability to manage cash flow across time, which is in turn determined by the foundation of capital separation, the context of land tenure, and the degree of institutional closeness that governs how much external support can be drawn when internal buffers run thin. Resilience, on this account, is not a trait that some farmers happen to possess but the observable outcome of an intertemporal capability that can be built.

Interestingly, the core of this study's finding regarding the capability to manage cash flow across time aligns with guidance long known in the Islamic tradition, namely the account of managing agricultural produce in the time of the Prophet Yusuf (Joseph), peace be upon him, as explained in QS. 12:47-48:

قَالَ تَزْرَعُونَ سَبْعَ سِنِينَ دَأْبًا فَمَا حَصَدْتُمْ فَذَرُوهُ فِي سُنْبُلِهِ إِلَّا قَلِيلًا مِمَّا تَأْكُلُونَ - ثُمَّ يَأْتِي مِنْ بَعْدِ ذَلِكَ سَبْعَ شِدَادٍ يَأْكُلْنَ مَا قَدَّمْتُمْ لَهُنَّ إِلَّا قَلِيلًا مِمَّا تَحْصِنُونَ

Translation: He (Yusuf) said, "You shall sow for seven consecutive years as usual. Then whatever you harvest, leave it in its ears, except for a little that you eat. After that there will come seven hard years that will consume what you have stored for them, except for a little of what you keep in reserve" (Kementerian Agama, 2018).

The verse affirms a principle consistent with the AFPCM, namely that the sustainability of a farm enterprise is determined not by the size of the yield in times of plenty but by the ability to withhold and set aside part of the harvest so as to stretch it through the hard times that are certain to come. The behavior of informants who set aside the next season's capital before meeting other needs, and who withhold rough rice (*gabah*) rather than selling all of it, is essentially a contemporary expression of the same wisdom. Thus the core category, the capability to manage cash flow across time, rests not only on field data and the theory of dynamic capabilities but also accords with normative guidance that places the wise, intertemporal management of produce as the key to resilience in the face of uncertainty.

Taken as a whole, the most important contribution of this study lies in linking process and outcome onto a single axis. The study of dynamic capabilities explains the process side and the study of financial resilience explains the outcome side, but the two have thus far run separately. The AFPCM brings them together on the axis of the capability to manage cash flow across time, so that process and outcome read as a single coherent sequence rather than two literatures placed side by side. The theoretical contribution, then, is twofold, since the model rescales dynamic capabilities from the language of opportunity to the language of cash flow timing and converts financial resilience from a static outcome into the visible product of that timing capability. In doing so the study addresses the scarcity of qualitative studies at the small and micro enterprise level identified in earlier systematic reviews (Smith & Hayden, 2025), while affirming that financial phenomena at the farmer level deserve to be a field for theory development and not merely an object of application. As a substantive, locally grounded theory, the AFPCM remains open to testing and refinement through further research in broader farm contexts.

4. Conclusion

This study set out to build a theoretical model explaining how seasonal rice farms build and maintain their financial performance as markets continually change, and that aim is answered through the formation of the Agricultural Financial Performance Capability Model. The model shows that the key to sustained financial performance lies not in the size of the harvest in a single season but in the capability to manage cash flow across time under pressures that arrive simultaneously, namely when cash needs peak precisely as the selling price sits at its lowest point and input costs are rising. This core capability links six strategies arranged in layers, from the separation and setting aside of capital as the foundation, the capability to withhold harvest that stretches cash flow forward, and buffering diversification that stabilizes income, to market sensing, adaptive learning, and the use of networks and institutions that guide and reinforce financial decisions from within and from without.

The argument of this study advances beyond the available knowledge by bringing together two lines of inquiry that have thus far run separately. The study of dynamic capabilities explains the process side, while the study of financial resilience explains the outcome side, and the AFPCM unites the two on a single axis, the capability to manage cash flow across time, so that process and outcome read as a single coherent sequence. This study also moves the examination of both lines of inquiry, which typically operate at large-scale organizations, down to the level of the seasonal rice farm, thereby addressing the scarcity of qualitative studies on small and micro enterprises identified in earlier systematic reviews. Beyond that, the finding of uneven financial capability between owner and tenant farmers offers a new explanation for the inequality of resilience among smallholders, namely that the difference originates in the latitude to

manage cash flow across time, which is determined by the foundation of capital separation, the context of land tenure, and the degree of institutional closeness that works as a graduated gradient in determining how much support can be drawn from outside.

The AFPCM opens a number of possibilities for application at the level of policy and farm advisory support. Because the compulsion to sell rough rice (*gabah*) at a low price arises more from liquidity pressure than from an optimal profit calculation, strengthening farmers' financial performance requires more than setting a Government Purchase Price, and the model helps specify who needs to do what. Local government can direct its support toward the latitude to withhold harvest by providing drying and storage facilities near production centers and by opening revolving capital schemes timed to the start of the planting season, so that farmers are not forced to sell the moment the harvest arrives. Agricultural extension officers can broaden their remit from agronomy to financial governance, cultivating the habit of setting aside next-season capital before other needs and of recording enterprise costs, with this advisory directed first at tenant farmers who are most exposed to rigid cost pressure. The farmer group association (*gapoktan*) can strengthen collective action so that members do not all sell on the same day, coordinating staggered sales and collective bargaining while serving as an information channel that sharpens members' market sensing. Banks and rural financial institutions can design start-of-season credit whose repayment schedule follows the harvest calendar rather than a fixed monthly cycle, so that the financing itself does not become a fresh trigger for distress selling. BULOG can make the Government Purchase Price an effective floor rather than a nominal one by absorbing harvest promptly at peak supply and operating buying points that are genuinely reachable from production centers. Off-takers and buyers, for their part, can offer forward or contract arrangements and quality-based pricing that give farmers predictable cash timing and reward quality improvement, thereby loosening the dependence on a single collector-trader. Read together, these measures are not a scatter of separate programs but a coordinated support system arranged around one axis, namely the capability to manage cash flow across time.

As a substantive theory grown from the local context of seasonal rice farming in Lolu Village, the AFPCM remains limited to a single locus and a single commodity, so its generalization should be treated with care. Further research is recommended to test and refine this model in more diverse farm contexts, whether in other commodities or in regions with different market and institutional structures, including through quantitative approaches that measure the strength of the relationships among the model's components. Such testing will reveal the extent to which the capability to manage cash flow across time can explain farm financial performance more broadly, while also opening the way to refining the model so that it becomes increasingly applicable to the range of conditions that smallholders face.

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