

Upscaling Liquid Phonska Fertilizer Sales through Direct Selling: A Qualitative Study of Building Farmer Interest in Gresik, East Java

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Abstract

Purpose: This study explores how direct selling can be used to upscale the sales of liquid Phonska fertilizer and, in doing so, to build farmer interest in adopting a relatively new agricultural input in Gresik Regency, East Java.

Design/methodology/approach: An exploratory qualitative design was adopted. In-depth, semi-structured interviews were conducted with eight informants selected through purposive sampling fertilizer sales agents, a sub-distributor, a company field-marketing officer, farmer-group leaders, an extension facilitator, and farmers with different adoption profiles. Data were examined through iterative thematic analysis, supported by field observation, triangulation, and member checking.

Findings: Direct selling upscales liquid Phonska sales primarily by converting a transaction into a relationship. Face-to-face credibility, on-farm demonstration, and the embedding of selling within existing farmer-group (kelompok tani) networks reduce perceived risk and generate trust, which in turn precedes interest, trial, and adoption. Digital tools such as WhatsApp groups sustain the relationship after the first purchase. Counterfeit competition, rural logistics, and uneven agent competence constrain scaling.

Practical implications: Fertilizer principals and distributors can upscale sales by recruiting locally respected agents, investing in demonstration plots, offering flexible payment terms, and combining offline relationships with lightweight digital follow-up rather than competing on price alone.

Originality/value: The paper extends direct-selling research dominated by analytical channel modelling and studies of multi-level marketing in developed markets to the under-examined case of agricultural inputs in a developing-country smallholder setting, and proposes a relational upscaling pathway.

Paper type: empirical

Keywords: direct selling, liquid fertilizer, farmer interest, short supply chain, qualitative research

1. Introduction

Fertilizer sits at the centre of smallholder productivity and food security in Indonesia, yet the way fertilizer actually reaches farmers the distribution channel has received far less scholarly attention than the chemistry of the product itself. Phonska, a compound NPK fertilizer, is among the most widely used inputs in Indonesian rice and horticulture systems. Its newer liquid formulation promises easier application, faster nutrient uptake, and a lower dose per hectare. These advantages, however, are only realised if farmers can be persuaded to try a product that departs from the granular fertilizer they have trusted for decades. The core problem is therefore less technical than managerial: how is interest created at the point where a seller and a farmer meet?

Across agrarian economies, direct selling the sale of goods away from a fixed retail location, typically through interpersonal interaction has emerged as a powerful way to reach buyers who are geographically dispersed, price-sensitive, and heavily reliant on trust (Rocchi et al., 2020; Nguyen Brémaud et al., 2025). Rocchi et al. (2020) show that the diffusion of farmer direct selling is a localised process of social innovation grounded in knowledge sharing among actors, while Nguyen Brémaud et al. (2025) find that producers valorise output through direct sales and short chains as a route to autonomy. In the food domain, evidence from farmers' markets and short food supply chains

indicates that direct interaction, rather than price alone, shapes perceptions of quality, satisfaction, and loyalty (Hassanein et al., 2025; Polita & Madureira, 2021).

Despite these insights, direct selling of agricultural inputs as opposed to agricultural outputs remains strikingly under-examined. The dominant strand of channel research is analytical and game-theoretic, modelling manufacturer encroachment and dual-channel design for manufactured, fashion, or green consumer goods, and treating direct selling largely as a cost-and-price optimisation problem (Wang & Liu, 2023; Hu et al., 2023; Wang et al., 2024; Zhang et al., 2023; Sun et al., 2025). A second strand is behavioural, concentrating on multi-level marketing and independent consultants in developed markets (Dixon et al., 2023; Wrenn, 2023; Schunck et al., 2023; Wadlewski, 2022). Neither strand explains how an individual field agent builds a hesitant smallholder's interest in an unfamiliar input, nor how such selling might be scaled.

This study addresses that gap in the context of Gresik Regency, East Java an agrarian district where rice and horticulture dominate and where farmers are organised into *kelompok tani* (farmer groups). In this setting, liquid Phonska is a comparatively new offering that competes against entrenched granular products, subsidised alternatives, and, at times, counterfeit goods. The setting thus offers a revealing case for observing how direct selling operates when a product is new, buyers are cautious, and trust is scarce.

Accordingly, the study is guided by three questions. RQ1: How is direct selling practised to market liquid Phonska fertilizer to farmers in Gresik? RQ2: Through what mechanisms does direct selling build farmer interest in and adoption of the product? RQ3: What factors enable or constrain the upscaling of these sales? The study is deliberately exploratory and qualitative, prioritising the meanings that sellers and farmers themselves attach to their interactions.

The contribution is twofold. Theoretically, the paper extends direct-selling scholarship beyond consumer goods and developed-market multi-level marketing to agricultural inputs in a developing-country smallholder economy, and it reframes upscaling as a relational rather than purely transactional or cost-driven process. Practically, it offers fertilizer principals, distributors, and field agents an evidence-informed pathway for growing sales without relying on price competition. The remainder of the paper reviews the relevant literature, describes the qualitative method, presents and discusses the findings, and concludes with implications, limitations, and directions for future research.

2. Literature Review

This section synthesises prior work on direct selling across four streams channel strategy, agriculture and short supply chains, the human and relational dimension, and digital enablement and then articulates the research gap that motivates the present study.

2.1 *Direct selling as a channel strategy*

A substantial body of operations and marketing research frames direct selling as a channel-design decision in which a manufacturer sells straight to buyers instead of, or alongside, an intermediary. Much of this work is analytical. Wang and Liu (2023) show that a manufacturer prefers a direct channel when the direct-selling cost is low, whereas Hu et al. (2023) demonstrate that the choice between direct and agent selling for green products hinges jointly on direct-selling cost and consumer preference. Wang et al. (2024) examine manufacturer encroachment and quality investment, and Zhang et al. (2023) find that a manufacturer direct-selling mode is frequently superior for the manufacturer and the wider system, even where it disadvantages the retailer.

Related studies extend the logic to platforms and information. Sun et al. (2025) analyse selling-mode choices in the presence of a third-party marketplace and argue that a dual channel is often best when direct-selling cost is moderate; Wang et al. (2024, Sustainability) show that demand-information sharing benefits members of a retailer-led green supply chain regardless of whether a direct online channel is opened; and Zhang et al. (2024) explore blockchain adoption to support a supplier's direct channel among risk-averse sellers. Wang, Liao, and Shen (2023) add that implementing anti-counterfeiting within a direct-selling structure is the most effective configuration for manufacturers.

Collectively, these studies treat direct selling as an optimisation problem in cost, price, and quality, and rarely engage the interpersonal micro-processes through which a sale is actually secured.

2.2 Direct selling in agriculture and short supply chains

A second stream situates direct selling within agriculture. Rocchi et al. (2020), using micro-data on the entire Italian farm population, establish that the decision to sell directly is geographically clustered and behaves as a localised process of social innovation built on knowledge sharing. Polita and Madureira (2021) trace how short-food-supply-chain innovations in North-West Portugal are anchored to the local socio-technical regime through collective action, albeit with weak institutional buy-in. Nguyen Brémaud et al. (2025) find that underutilised-crop farmers in France pursue autonomy and local contribution, valorising output through direct sales and short chains. On the demand side, Hassanein et al. (2025) show that convenience, variety, quality, price, and service at farmers' markets significantly shape customer satisfaction and subsequent loyalty.

These studies confirm that direct selling is deeply embedded in place, social networks, and trust. Yet they focus almost exclusively on the sale of farm output to consumers. The mirror-image question how firms and agents sell inputs to farmers has attracted little qualitative attention, even though the input transaction carries its own risks of adoption, technical uncertainty, and credibility.

2.3 The human and relational dimension of direct selling

A third stream foregrounds the seller. Schunck et al. (2023) apply expectancy theory to show that consultant satisfaction, sales management, and channel tools drive the effort, performance, and outcomes of independent direct sellers. Canziani et al. (2020) reveal cultural and linguistic heterogeneity among Hispanic direct sellers that shapes satisfaction and performance, underscoring the situated, communicative nature of the role. Dixon et al. (2023) analyse the psychology of attraction to multi-level marketing, while Wrenn (2023) critiques multi-level marketing as a neoliberal institution that offloads retail overhead onto individual distributors, and Wadlewski (2022) documents generational differences in how such models are perceived. Medeiros et al. (2021) further remind us that direct-selling firms live or die by logistics, because thousands of dispersed customers and daily deliveries create real operational complexity.

This literature establishes that direct selling is enacted by people whose motivation, communication, and credibility matter, and that the model imposes distinctive logistical and ethical burdens. However, it is drawn largely from consumer-cosmetics and network-marketing contexts in the Americas and Europe, leaving open how these relational dynamics play out among agricultural agents and smallholders in Southeast Asia.

2.4 Digitally enabled direct selling

A fourth, fast-growing stream examines how digital tools reshape direct selling. Bawack et al. (2023) use uses-and-gratifications theory to show that social-media live streams drive purchase intention by satisfying needs for value, social identification, and medium attributes. Ballerini et al. (2023) find that, for manufacturing SMEs, direct selling through owned websites actualises consumer-knowledge generation and internationalisation. Together these studies suggest that digital channels do not simply replace interpersonal selling; they can extend and sustain relationships that begin offline an insight directly relevant to rural markets where smartphones and messaging apps are now ubiquitous.

2.5 Research gap and research questions

Reading across the four streams reveals a clear gap. The channel-strategy literature explains when firms should sell directly but abstracts away the human act of persuasion; the agricultural literature richly documents direct selling of output but not of inputs; the relational literature centres on consumer goods and network marketing in developed markets; and the digital literature is only beginning to connect online tools to offline trust. No study, to our knowledge, examines qualitatively how direct selling is used to upscale a specific agricultural input liquid Phonska fertilizer and to build farmer interest in a developing-country smallholder economy.

This study therefore treats upscaling not merely as a cost or pricing outcome, as in the analytical channel models, but as a relational achievement that unfolds through trust, demonstration, and social networks. Guided by RQ1–RQ3, it seeks to surface the mechanisms and boundary conditions of that achievement, and to organise them into a transferable framework.

3. Research Method

This study employed an exploratory qualitative design with an interpretive orientation, appropriate because the research seeks to understand meanings, practices, and mechanisms rather than to test predefined hypotheses. The unit of analysis was the direct-selling interaction through which liquid Phonska fertilizer is offered to, and evaluated by, farmers.

3.1 Research setting

The research was conducted in Gresik Regency, East Java, across several rice- and horticulture-producing sub-districts where farming is organised through *kelompok tani* and where liquid Phonska competes with established granular fertilizers. The district was selected purposively as an information-rich site in which a relatively new input is being introduced through a mix of company agents, sub-distributors, and agricultural kiosks.

3.2 Informants and sampling

Eight informants were selected using purposive sampling, guided by criteria of direct experience with either selling or purchasing liquid Phonska, diversity of roles across the channel, and willingness to speak candidly. The composition deliberately spanned the supply and demand sides so that convergent and divergent perspectives could be compared. Table 1 summarises the informant profile.

Table 1. Profile of informants

Code	Role in the channel	Segment	Experience
I1	Independent fertilizer sales agent	Supply side	≈ 4 years
I2	Sub-distributor / agricultural kiosk owner	Supply side	≈ 8 years
I3	Company field-marketing officer	Supply side	≈ 6 years
I4	Chairman of a rice farmer group (<i>kelompok tani</i>)	Bridge	≈ 10 years
I5	Agricultural extension facilitator (PPL)	Bridge	≈ 7 years
I6	Rice farmer, early adopter	Demand side	≈ 3 seasons
I7	Horticulture farmer, active user	Demand side	≈ 4 seasons
I8	Rice farmer, late adopter / initially sceptical	Demand side	≈ 1 season

Source(s): Authors' own creation

3.3 Data collection

Primary data were gathered through in-depth, semi-structured interviews lasting approximately 45–75 minutes each, conducted in Bahasa Indonesia and, where preferred, in Javanese, then transcribed and translated. An interview guide covered how the product is offered, how farmers evaluate it, what builds or erodes interest, and what limits wider adoption. Interviews were complemented by non-participant observation of selling encounters and farmer-group meetings, and by documentary material such as product leaflets and price lists. Data collection continued until additional interviews yielded no substantially new themes, indicating thematic saturation.

3.4 Data analysis and trustworthiness

Transcripts were analysed thematically through iterative coding. The process moved from open coding of meaningful segments, to grouping codes into categories, to the development of higher-order themes that answered the research questions. Coding was conducted collaboratively by the research team, with disagreements resolved through discussion. Trustworthiness was pursued through four established qualitative criteria: credibility, via triangulation across roles, prolonged engagement, and member checking of interpretations with informants; transferability, via thick description of the setting; dependability, via an auditable coding trail; and confirmability, via reflexive attention to researcher assumptions. Ethical consent was obtained, and informants were anonymised using the codes in Table 1.

4. Result and Discussion

Analysis produced six interrelated themes. The first five describe how direct selling builds interest and adoption; the sixth captures the frictions that constrain upscaling. Themes are presented with representative evidence from informants and are discussed in relation to prior literature. Illustrative informant statements are paraphrased and coded (I1–I8).

4.1 *Trust as the entry point*

Across both sides of the channel, informants framed the first sale as an act of trust rather than of price. Sellers reported that farmers rarely buy liquid Phonska on technical specification alone; they buy from a person they know or whose reputation is vouched for locally. I1 explained that a farmer's first question is seldom about nitrogen content but about who else in the village has used the product and whether the agent will still be around next season. I8, initially sceptical, admitted that he only tried the product because the agent was a neighbour whose word carried weight. This positions the agent's credibility as the gateway to interest. The finding resonates with Rocchi et al. (2020), who characterise direct selling as a localised process of social innovation grounded in knowledge sharing, and with Schunck et al. (2023) and Canziani et al. (2020), who show that the seller's communicative competence and situated relationships drive performance. It also qualifies the analytical channel models (Wang & Liu, 2023; Hu et al., 2023): here the pivotal variable is not direct-selling cost but interpersonal trust.

4.2 *Seeing is believing: demonstration as proof*

Interest hardened into willingness to try only when farmers could see results. Informants repeatedly described demonstration plots (demplot) and side-by-side comparisons as decisive. I3 noted that the company's most productive tactic was not advertising but leaving a small quantity for a farmer to trial on part of a paddy, so the difference in vigour could be observed directly. I6, an early adopter, said the visible greening and healthier tillering on the trial strip convinced him more than any leaflet. This experiential mechanism reduces the perceived risk of an unfamiliar input and mirrors the farmers'-market evidence of Hassanein et al. (2025), where directly observable quality shapes satisfaction, and Nguyen Brémaud et al. (2025), where on-farm practices and direct valorisation build confidence. Demonstration converts an abstract product claim into locally witnessed evidence.

4.3 *Selling through the group: kelompok tani as social infrastructure*

Direct selling in Gresik was rarely one-to-one; it was one-to-network. Agents deliberately worked through kelompok tani meetings, where a single credible endorsement could diffuse to many members. I4, a group chairman, described how a product discussed and trialled collectively spreads faster because members compare notes and share results. I5, an extension facilitator, acted as a trusted broker who could legitimise a product without appearing to sell it. This collective mechanism echoes Polita and Madureira (2021), who show that short-supply-chain innovation is anchored through collective action, and Rocchi et al. (2020), for whom social networks drive the localised diffusion of direct selling. The group is thus not merely an audience but an amplifier that accelerates upscaling.

4.4 *Value beyond price: agronomic results, efficiency, and flexible terms*

While price mattered, informants consistently reframed value in broader terms yield response, ease and speed of application, lower dosage, and, crucially, payment flexibility. I2, the sub-distributor, observed that offering seasonal payment aligned to harvest did more to unlock adoption than a discount, because it matched farmers' cash-flow reality. I7 valued the reduced labour of liquid application over granular spreading. This relational construction of value contrasts with the price-and-cost focus of the analytical channel literature (Wang & Liu, 2023; Zhang et al., 2023) and aligns with Hassanein et al. (2025), for whom convenience, quality, and service jointly determine satisfaction. It suggests that upscaling is better served by a compelling total value proposition than by price competition alone.

4.5 *Keeping the relationship alive: digital augmentation*

The relationship did not end at the sale. Agents used WhatsApp groups and social media to share application tips, answer questions, post photographs of results, and remind farmers ahead of the next planting. I1 described a group chat as a low-cost way to stay present between visits, while I3 noted that short video clips of healthy crops circulated among farmers more persuasively than formal marketing. This hybrid, offline-to-online pattern reflects Bawack et al. (2023), who show that social media satisfies needs for value and social identification and thereby lifts purchase intention, and Ballerini et al. (2023), who find that direct digital channels generate consumer knowledge. Digital tools here extend rather than replace interpersonal trust, sustaining loyalty and repeat purchase.

4.6 Frictions to scale: counterfeits, logistics, and uneven agents

Informants were candid about what limits upscaling. First, counterfeit and look-alike products erode trust and force honest agents to spend effort proving authenticity consistent with Wang, Liao, and Shen (2023), who identify anti-counterfeiting as a strategic concern in direct-selling structures. Second, rural logistics and last-mile delivery raise cost and cause stockouts at critical planting windows, echoing Medeiros et al. (2021) on the operational complexity of direct-selling firms. Third, agent quality is uneven: I4 and I5 warned that an over-aggressive or poorly informed seller can permanently damage a group's trust, a risk resonant with critiques of incentive-driven selling (Wrenn, 2023; Dixon et al., 2023). Managing these frictions is a precondition for scaling, not an afterthought.

4.7 A relational upscaling pathway

Synthesising the themes, the study proposes that direct selling upscales liquid Phonska sales through a sequential yet reinforcing pathway. Access to farmers is gained through locally credible agents and farmer groups; trust is established through interpersonal credibility; interest is aroused through demonstration and a broad value proposition; trial is enabled through small-quantity testing and flexible terms; adoption follows observed results; and advocacy farmers persuading other farmers feeds back to widen access. Digital tools operate across the pathway to sustain the relationship, while counterfeits, logistics, and agent quality act as friction points that can stall progression at any stage. This pathway reframes upscaling as a relational and social process, complementing the cost-and-price logic of prior channel research (Sun et al., 2025; Wang et al., 2024; Zhang et al., 2023).

Figure 1. Relational upscaling pathway for liquid Phonska fertilizer through direct selling

Access → Trust → Interest → Trial → Adoption → Advocacy (sustained throughout by digital follow-up; constrained by counterfeits, logistics, and agent quality)

Source(s): Authors' own creation

5. Conclusion

This qualitative study set out to understand how direct selling can upscale the sales of liquid Phonska fertilizer and build farmer interest in Gresik, East Java. It finds that direct selling succeeds by transforming a transaction into a relationship: credible agents open the door, demonstration provides proof, farmer groups amplify diffusion, a value proposition broader than price sustains attention, and digital follow-up keeps the relationship alive. Upscaling is therefore best understood as a relational pathway from access through trust, interest, trial, and adoption to farmer-to-farmer advocacy.

The study offers two contributions. Theoretically, it extends direct-selling research beyond consumer goods and developed-market network marketing to agricultural inputs in a smallholder economy, and it reframes upscaling as a social achievement rather than a purely cost-driven channel outcome. Practically, it advises fertilizer principals and distributors to recruit locally respected agents, invest in demonstration plots, design flexible harvest-aligned payment terms, combine offline relationships with lightweight digital engagement, and treat authenticity assurance and reliable rural logistics as strategic priorities rather than operational details.

Several limitations should be acknowledged. The study is confined to one regency and eight informants, so the findings are analytically rather than statistically generalisable; the reliance on self-reported accounts may introduce recall and social-desirability effects; and the cross-sectional design captures perceptions at a single point in the adoption cycle. Future research could test the proposed

upscaling pathway quantitatively across regions, compare liquid and granular fertilizer channels, examine the role of subsidy policy, and track the same farmers longitudinally to observe how trust and advocacy evolve over multiple seasons.

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