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VOLUME GAINS, MARGIN COSTS: PANEL EVIDENCE ON THE COMPOSITION EFFECTS OF A UNIFORM SALES INCENTIVE IN B2B LIGHTING DISTRIBUTION

PENINGKATAN VOLUME, BIAYA MARGIN: BUKTI PANEL TENTANG EFEK KOMPOSISI INSENTIF PENJUALAN SERAGAM DALAM DISTRIBUSI PENCAHAYAAN B2B

Syarippudin[1*], Imanuddin Hasbi[2], Agus Maolana Hidayat[3]
[1*] Telkom University, Email: syarippudin@student.telkomuniversity.ac.id
[2] Telkom University, Email: imanhasbi@telkomuniversity.ac.id
[3] Telkom University, Email: agusmh@telkomuniversity.ac.id

*email koresponden: syarippudin@student.telkomuniversity.ac.id

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Abstract

Direct incentive programs from a brand manufacturer to a distributor's sales force are uncommon in the Indonesian B2B lighting sector, and their consequences for portfolio composition and distributor profitability have not been empirically tested. This study examines whether a flat 3 percent quarterly bonus, applied uniformly across a portfolio of more than three hundred products spanning a 600-fold price range, produces unintended consequences beyond its stated goal of volume growth. A sequential explanatory mixed-methods design is used. The quantitative phase analyses 781 product-quarter observations covering 326 products over eleven quarters from mid-2023 through end-2025. The qualitative phase uses confirmatory interviews with seventeen informants from distributor management and sales teams. The incentive program successfully drives all four sales performance dimensions measured in the study, covering volume growth, revenue share, transaction frequency, and a cumulative growth index, all of which are statistically significant. However, higher-priced products attract significantly fewer transactions per quarter and grow more slowly over time. Seven of eight hypotheses are supported. Qualitative findings confirm that the incentive effect adds to total selling activity rather than redirecting it, but transaction attention consistently concentrates on lower-priced products across the eleven-quarter period. The study extends agency theory to a three-party setting and provides the first panel-level evidence of composition effects from a uniform sales incentive in Indonesian B2B distribution.

Keywords : Sales Incentives, B2B Distribution, Panel Data, Agency Theory, Sales Composition, Mixed Methods.

Abstrak

Program insentif langsung dari produsen merek kepada tenaga penjualan distributor jarang ditemukan di sektor pencahayaan B2B Indonesia, dan konsekuensinya terhadap komposisi portofolio dan profitabilitas distributor belum diuji secara empiris. Studi ini meneliti apakah bonus triwulanan sebesar 3 persen, yang diterapkan secara seragam di seluruh portofolio lebih dari tiga ratus produk yang mencakup rentang harga 600 kali lipat, menghasilkan konsekuensi yang tidak diinginkan di luar tujuan yang dinyatakan yaitu pertumbuhan volume. Desain metode campuran eksploratif sekuensial digunakan. Fase kuantitatif menganalisis 781 observasi produk-kuartal yang mencakup 326 produk

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selama sebelas kuartal dari pertengahan 2023 hingga akhir 2025. Fase kualitatif menggunakan wawancara konfirmasi dengan tujuh belas informan dari manajemen distributor dan tim penjualan. Program insentif berhasil mendorong keempat dimensi kinerja penjualan yang diukur dalam studi ini, meliputi pertumbuhan volume, pangsa pendapatan, frekuensi transaksi, dan indeks pertumbuhan kumulatif, yang semuanya signifikan secara statistik. Namun, produk dengan harga lebih tinggi menarik transaksi yang jauh lebih sedikit per kuartal dan tumbuh lebih lambat dari waktu ke waktu. Tujuh dari delapan hipotesis didukung. Temuan kualitatif mengkonfirmasi bahwa efek insentif menambah total aktivitas penjualan daripada mengalihkannya, tetapi perhatian transaksi secara konsisten terkonsentrasi pada produk dengan harga lebih rendah selama periode sebelas kuartal. Studi ini memperluas teori keagenan ke pengaturan tiga pihak dan memberikan bukti tingkat panel pertama tentang efek komposisi dari insentif penjualan seragam dalam distribusi B2B Indonesia.

Kata Kunci : Insentif Penjualan, Distribusi B2B, Data Panel, Teori Keagenan, Komposisi Penjualan, Metode Campuran.

1. INTRODUCTION

A salesperson carrying more than three hundred lighting products and a flat 3 percent quarterly bonus is, in effect, receiving the message that every sale is equally valuable to the program's designer. For the distributor paying the bonus, that is not true. A high-performance industrial luminaire contributes far more to the bottom line per unit than a commodity fluorescent lamp, and a bonus that treats them identically creates an implicit pressure toward whichever product closes fastest.

Indonesia's lighting import market reached approximately Rp 3.3 to 3.4 trillion per year in 2023 and 2024 based on UN Comtrade data. Within this market, the project channel, serving contractors, developers, and building managers, depends on sales representatives who decide every day which products to prioritise with customers. When a manufacturer wants more of those conversations to go their way, a direct incentive to the distributor's sales force is a natural tool. The problem, observed by Kerr in 1975, is that incentives designed around one objective can quietly undermine another. This study tests whether that pattern holds across eleven quarters of transaction data from a single distributor.

The study proposes eight hypotheses.

H1. Nominal incentive value has a positive effect on volume growth.
H2. Nominal incentive value has a positive effect on revenue share.
H3. Nominal incentive value has a positive effect on transaction frequency.
H4. Nominal incentive value has a positive effect on the cumulative growth index.
H5. Product purchase price has a positive effect on revenue share.
H6. Product purchase price has a negative effect on transaction frequency.
H7. Product purchase price has a negative effect on the cumulative growth index.
H8. Product purchase price does not have a significant effect on volume growth.

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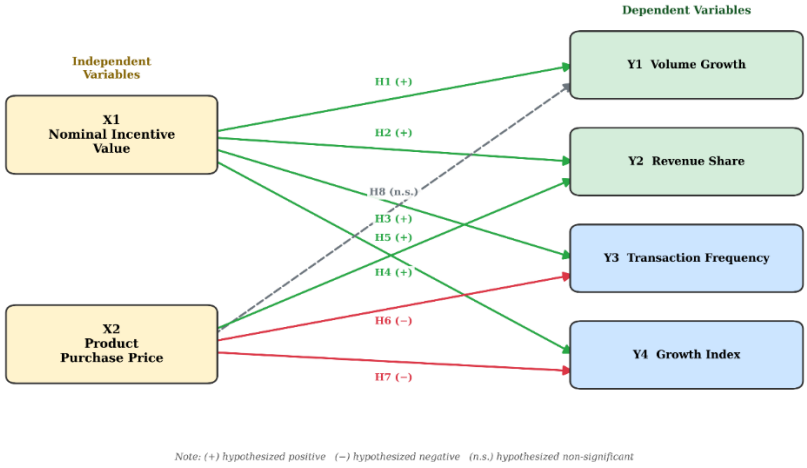

Figure 1 Research model. Source : Developed by author (2026)

LITERATURE REVIEW

Agency Theory and the Three-Party Problem

Jensen and Meckling's agency theory explains why people acting on behalf of someone else do not always act as that person would prefer [6]. The classic solution is outcome-based compensation. In B2B lighting distribution, the situation is more complex: there are three parties. The manufacturer designs the bonus rate; the distributor pays it and absorbs any margin consequences; and the salesperson decides which products to sell based on the reward they will actually receive. When manufacturer and distributor priorities diverge, the salesperson is caught between two principals [7]. This three-party arrangement is the structural source of the composition effects studied here.

Expectancy Theory and the Value of the Reward

Vroom holds that motivation is the product of three beliefs: that effort leads to performance, that performance leads to a reward, and that the reward is worth having [9]. In a flat-rate program, the third element varies directly with product price. A sales representative selling a high bay luminaire earns a larger absolute bonus than one selling a commodity lamp, but the effort required may not differ proportionally. Kahneman and Tversky add that people evaluate outcomes against reference points, not in absolute terms [1], and Thaler notes that bonus rupiah is evaluated separately from base salary [2]. Together, these frameworks predict that salespeople will evaluate the incentive per unit of selling effort rather than per percentage point of revenue. Work motivation has been consistently linked to individual performance outcomes in Indonesian organizational settings [28, 31], supporting the expectancy-theoretic prediction applied in this study.

Attention as a Scarce Resource

Ocasio argues that organisational outcomes depend on where decision-makers direct their attention, which is limited and cannot be spread evenly across hundreds of choices [12]. Incentive programs function as attention signals. When a flat rate generates a larger absolute bonus for products that are also easier to sell, those products will appear more often in customer conversations and generate more transactions per quarter.

Research Gap

Prior work confirms that incentive programs drive salesperson effort [3,20,21], that the three-party manufacturer-distributor-salesperson structure matters [20], and that incentive effects vary across products and individuals [8]. What has not been tested empirically is whether a uniform rate applied to a heterogeneous portfolio shifts the composition of what gets sold, not just the total volume. This study addresses that gap using eleven quarters of transaction-level panel data.

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2. RESEARCH METHOD

Research Design

A sequential explanatory mixed-methods design is applied: quantitative analysis first, then confirmatory interviews to explain what the numbers alone cannot reveal [4,5].

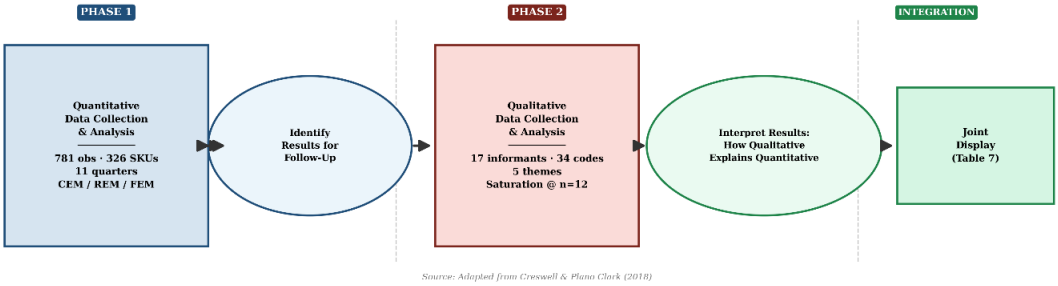

Figure 1 Sequential Explanatory

The researcher designed the incentive program being studied; this insider position is documented through a reflective memo and addressed through reflexive bracketing [15].

Data and Setting

TELU distributes X-Lighting products across eight Indonesian cities with a 55-person sales force.

Figure 2 TELU Coverage Map

The 3 percent quarterly bonus has been operating since the second quarter of 2023. Eleven quarterly claim files, administrative records used for actual bonus payments, were merged with two price lists to yield 326 active products observed over eleven quarters, producing 781 product-quarter observations. For volume growth, 436 observations are available after removing first-quarter baselines and containing outliers through standard winsorising. Data assembly used VLOOKUP formulas and pivot tables in Microsoft Excel.

Variables

Table 1 defines the six study variables.

Table 1. Operational Variable Definitions

Var.	Name	Definition / Formula	Scale	Basis
X1	Nominal Incentive	Quarterly bonus per product = 3% × quarterly revenue. Range Rp 708 – Rp 14,998,500.	Ratio	Expectancy [9]

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X2	Purchase Price	Distributor unit cost = EUP × (1 − discount). Range Rp 11,850 – Rp 7,200,000.	Ratio	Prospect Theory [1]
Y1	Volume Growth	Quarter-on-quarter % change in units. Winsorised p1–p99. N=436.	Ratio %	Agency [6]
Y2	Revenue Share	Product revenue / total quarterly revenue.	Ratio %	Sales mix [8]
Y3	Transaction Freq.	Unique invoice count per product per quarter.	Count	ABV [12]
Y4	Growth Index	Cumulative volume vs first quarter (baseline=100).	Index	Panel [13,14]

Source: Developed by authors (2026).

Estimation Strategy

The Chow–Hausman testing sequence was applied separately to each dependent variable to select between Common Effect, Fixed Effect, and Random Effect models [13,14]. Volume growth fitted best with a Common Effect Model; revenue share with a Random Effect Model; transaction frequency and the growth index with Fixed Effect Models. Fixed Effect specifications use White cross-section robust standard errors throughout. Estimation was carried out in EViews. Fixed effects panel regression with robust standard errors has been employed in recent Indonesian panel studies to address unobserved heterogeneity [29], consistent with the approach applied here.

Qualitative Phase

Seventeen informants were selected purposively across seven functional positions: the distributor director, three branch division heads, one technical support officer, one purchasing administrator, and ten salespeople grouped by participation intensity. Interviews averaged 45 minutes. All interviews were conducted in Bahasa Indonesia; all quotations in this article are translations by the authors. Coding combined predefined variable-linked codes with inductively derived codes. Data saturation was reached after the twelfth informant [16,17]. Trustworthiness was established through source triangulation, negative case analysis of the low-activity subgroup, and reflexive bracketing.

3. RESULT AND DISCCUSSION

RESULTS

Descriptive Statistics

Table 2 summarises the variables. The incentive variable (X1) ranges from under Rp 1,000 to over Rp 14 million per product per quarter, a 20,000-fold spread produced by applying one flat rate to a portfolio with equally wide price variation. This range is the operational core of the study's argument. A uniform rate does not produce a uniform incentive.

Table 2. Descriptive Statistics

Variable	N	Mean	Median	Std.Dev.	Min.	Max.
X1, Incentive (Rp)	781	500,709	121,560	1,237,759	708	14,998,500
X2, Purchase Price (Rp)	781	422,699	116,250	702,972	11,850	7,200,000

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Y1, Volume Growth (%)	436	266.09	0.00	761.31	−98.55	4,630.00
Y2, Revenue Share (%)	781	1.41	0.33	3.02	0.00	32.41
Y3, Transaction Freq.	781	2.52	1.00	3.39	1.00	40.00
Y4, Growth Index	781	307.82	100.00	890.48	0.83	11,350.00

Source: EViews output, processed by authors (2026). The median is far below the mean for most variables, confirming a right-skewed distribution typical of sales transaction data.

Model Validity Checks

Table 3 reports four standard diagnostic tests applied to each model before interpreting results.

Table 3. Classical Assumption Test Summary

Test	Y1	Y2	Y3	Y4	Interpretation
Multicollinearity, VIF	1.09	1.11	1.09	1.10	No issue. All values are well below the threshold of 10.
Autocorrelation, Durbin–Watson	2.59	1.49	2.29	4.02	Y1, Y2, Y3: no concern. Y4 value of 4.02 reflects natural oscillation in a cumulative index and is noted as a study limitation.
Heteroscedasticity, Glejser (p-value)	0.00	0.00	0.00	0.00	Detected across all models. Addressed using White cross-section robust standard errors throughout.
Normality, Jarque–Bera (p-value)	0.00	0.00	0.00	0.00	Residuals are non-normal. With 781 observations, this is acceptable under the Central Limit Theorem.

Source: EViews output, processed by authors (2026).

Regression Results

Table 4 presents the regression estimates.

Table 4. Panel Regression Results, Coefficient (p-value in parentheses)

Variable	Y1, CEM	Y2, REM	Y3, FEM	Y4, FEM
Constant	221.702 (0.0000)	0.318 (0.1300)	3.554 (0.0000)	476.544 (0.0354)
X1, Incentive Value	positive*** (p=0.0016)	positive*** (p=0.0000)	positive*** (p=0.0013)	positive*** (p=0.0000)
X2, Purchase Price	negative (p=0.1071, n.s.)	positive (p=0.1358, n.s.)	negative** (p=0.0283)	negative** (p=0.0401)
Adjusted R-squared	0.054	0.814	0.571	0.342

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Overall model (F-test)	significant p=0.000	significant p=0.000	significant p=0.000	significant p=0.000
N	436	781	781	781

Source: EViews. *** p<0.01; ** p<0.05; n.s. = not significant. Full coefficient values are available from the corresponding author on request. The revenue share model (Y2) explains over 81 percent of the variation in the data, the highest fit of the four models, indicating that incentive value and purchase price together are strong predictors of how revenue distributes across the portfolio.

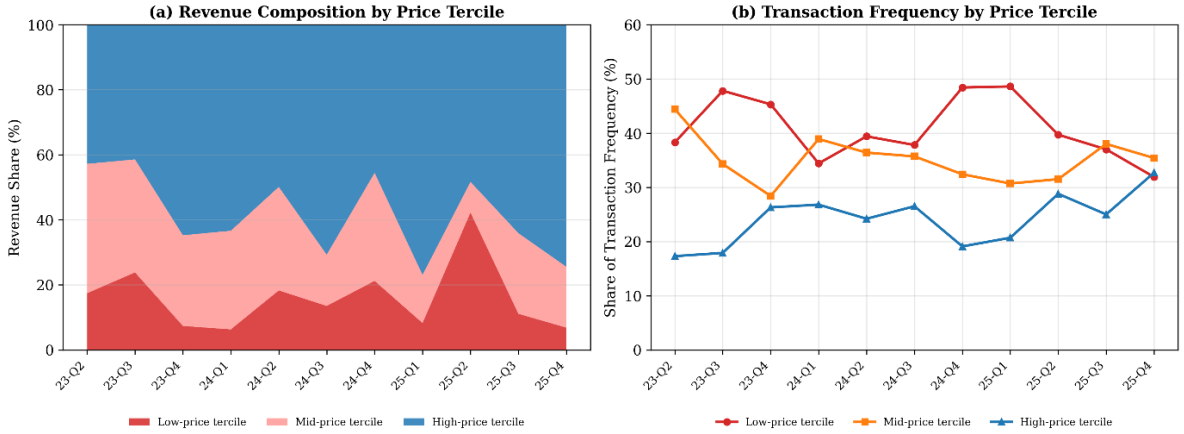

Figure 3 Sales composition by product price tercile, Q2 2023–Q4 2025. Panel (a) displays revenue share; panel (b) displays transaction frequency share. Source: Panel data analysis, author compilation (2026).

Figure 2 illustrates the core compositional paradox of this research. Panel (a) demonstrates that high-margin products dominate revenue generation, while panel (b) consistently shows that low-cost products dominate transaction frequency across all eleven quarters. This bidirectional pattern visualizes the trade-off between Revenue Share and Transaction Frequency, a finding confirmed by the opposing directional coefficients of X2 reported in Table 4.

Table 5 maps the regression results to the eight hypotheses.

Table 5. Hypothesis Testing Summary

H	Relationship Tested	Direction	Significance	Decision
H1	Incentive value → Volume Growth	Positive	p < 0.01	Supported
H2	Incentive value → Revenue Share	Positive	p < 0.01	Supported
H3	Incentive value → Transaction Frequency	Positive	p < 0.01	Supported
H4	Incentive value → Growth Index	Positive	p < 0.01	Supported
H5	Purchase Price → Revenue Share (predicted positive)	Positive	Not significant	**Not Supported**
H6	Purchase Price → Transaction Frequency (predicted negative)	Negative	p < 0.05	Supported
H7	Purchase Price → Growth Index (predicted negative)	Negative	p < 0.05	Supported

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H8	Purchase Price → Volume Growth (predicted non-significant)	Negative	Not significant	Supported

Source: Processed by authors (2026). H8 was hypothesised to produce a non-significant result; the outcome confirms it. Full coefficient values and standard errors are reported in Table 4.

Reading Table 5 as a whole, two patterns stand out. The first is straightforward: the incentive program works. In every model and for every dependent variable, a higher quarterly bonus in rupiah predicts better sales performance, and the effect is significant at the highest level of confidence. H1 through H4 are all supported. This confirms that it is the absolute rupiah amount, not the flat rate, that drives salesperson behaviour, consistent with expectancy theory's prediction that motivation scales with the value of the reward.

The second pattern is the more important finding for distributor management. Higher purchase price predicts fewer transactions per quarter and slower long-run growth, H6 and H7 are both supported. This means that as the incentive program drives overall portfolio activity upward, that activity concentrates disproportionately on the lower-priced products. The program grows the total pie, but the slices being added are the thinner-margin ones.

The one hypothesis that is not supported, H5, requires explanation beyond the regression table. Why does higher product price not predict a larger revenue share? The qualitative phase answers this question in the next section.

Qualitative Findings

All interviews were conducted in Bahasa Indonesia; all quotations below are translations by the authors. Thematic analysis of 17 informant transcripts, using 34 codes, produced five themes that confirm and extend the quantitative findings. Table 6 shows how frequently each theme appeared across subgroups.

Table 6. Theme Frequency by Subgroup

Theme	N/17	Hypothesis Link	Subgroups	Result	Function
Incentive motivates selling (INS-01)	17/17	H1, H2, H3, H4	All	✓	Confirm
Customer need drives product choice (PROD-01)	9/17	H6, H8	C1,C2,B2,B3	✓	Explain
Low-price products dominate daily POs (PROD-04)	8/17	H6	C1,C2,B2	✓	Confirm
Premium revenue is project-driven (PROD-02/03)	5/17	H5 null	B1,B2,B3,B4	✓	Explain
Trial-rollout growth pattern (MECH-02)	3/17	H4	B2,C1	✓	Expand
C3 structural barriers (HAMB codes)	4–6/17	Boundary of H1–H4	C3,C2	▲	Deepen

Note. Confirm = directly supports quantitative result. Explain = provides mechanism for null or negative result. Expand = adds mechanism not visible in regression alone. Deepen = reveals boundary condition of the quantitative finding.

Theme 1: The Incentive Motivates Universally (N = 17/17)

Every informant confirmed that the three percent program increased their motivation to sell. This unanimity holds across all functional positions: the director, three division heads, purchasing

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staff, technical support, and salespeople at every activity level. The finding is the most unambiguous result of the qualitative phase and provides direct behavioral grounding for the positive and significant coefficients of X1 across all four dependent variables.

The mechanism is not a general feeling of appreciation. Informants described active calculation. B2-03 recalled working out early in the program how much the quarterly bonus could accumulate, and that arithmetic changed how they approached customer visits.

"As soon as the program started, I calculated how much I could get per quarter. That figure was enough to change how I work. I hope the program never ends, because it is what every salesperson is looking for." (B2-03, personal communication, 2026)

The same pattern appeared independently in B2-01, B2-02, and C1-04, each of whom described starting customer conversations with the highest-priced product in the range in order to maximize the nominal bonus per transaction. For these informants, the incentive structure and the product offering strategy had become inseparable.

Even the three informants in subgroup C3, who had the lowest claim frequencies across the eleven quarters, found the program motivating. C3-01 described the program as quite attractive, C3-02 said it made them more focused, and C3-04 expressed enthusiasm about its continuation. This means the low activity of subgroup C3 cannot be attributed to weak incentive design. The explanation lies in Theme 5.

Theme 2: Low-Price Products Dominate Daily Transactions Because Markets Demand Them (N = 9/17 customer-driven; 7/17 low-price frequency)

Nine informants stated that their product choices follow customer requirements rather than their own preferences, and seven independently confirmed that low-priced commodity products generate the majority of daily purchase orders. These two observations together provide the qualitative mechanism behind the negative and significant coefficient of purchase price on transaction frequency in the Fixed Effect Model.

The most structurally independent confirmation comes from B4, who administers every inbound purchase order without participating in sales decisions. B4 reported that orders for commodity lighting products arrive daily, sometimes in large volumes.

"Every day there are purchase orders coming in, sometimes a lot of them at once. I even feel stressed during the final weeks of each quarter. But I am also motivated, because I know the salespeople are working hard out there." (B4, personal communication, 2026)

C1-13, who serves customers in the food-and-beverage sector, provided the clearest statement of the demand-side mechanism.

"It is not our choice to offer the cheaper ones first. It is just that the customers in this segment use more of those types of products." (C1-13, personal communication, 2026)

The same logic appeared in C2-01, C2-04, and B2-03, all of whom described situations where customer budget constraints or facility requirements determined the product composition regardless of salesperson preference. The pattern is structural, not motivational.

Theme 3: Premium Revenue Share Is Structurally Determined by Project Demand (N = 5/17)

Five informants, drawn primarily from management and senior sales positions, explained why H5 was not supported statistically. The revenue share held by premium products is not driven by marginal pricing decisions made during individual sales conversations. It is driven by project demand that operates on a different logic.

B1 stated directly that the company's primary market is project-based, and that premium products are ordered because facilities require them technically, not because salespeople persuade customers to upgrade.

"Our target is indeed in projects. High bay, flood light, and similar products, those are the expensive ones, because that is where we aim." (B1, personal communication, 2026)

B4 independently confirmed from the order record that high bay products are frequent and large in value. When the researcher presented transaction data showing high bay at approximately 28 percent

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of portfolio volume, B4 confirmed it as consistent with operational experience. B2-02 added that across every factory account, premium products are considered mandatory rather than discretionary, a view echoed by C1-04 and C1-13, both of whom associated their highest-value transactions with project work.

This structural determination of revenue share is precisely what the Random Effects Model captures in the regression. Product-level random effects absorb the variation attributable to project demand across quarters, leaving purchase price with no additional marginal variation to explain at the coefficient level.

Theme 4: Growth Compounds Through a Trial-to-Rollout Mechanism (N = 3/17)

Three informants described a growth pattern specific to project-channel sales that helps explain why the cumulative growth index captures dynamics that quarter-on-quarter volume growth misses. The pattern involves an initial trial installation followed by progressive expansion within the same customer account.

C1-13 described the sequence most precisely.

"We do a trial first. Once the customer is satisfied, the remaining rooms and sections all get replaced using the same product." (C1-13, personal communication, 2026)

A single successful installation can therefore generate compounding volume across three or four quarters following the initial transaction, a trajectory that a period-on-period growth measure records only as a series of modest increments rather than as a single causal event.

B2-03 described the same mechanism at the organizational level, with initial entry into one division of a customer account followed by expansion into adjacent divisions as satisfaction is established.

"We start in one division, then once they see the quality, the other divisions follow." (B2-03, personal communication, 2026)

Together these accounts suggest that the positive coefficient of X1 on the growth index reflects not only increased transactional effort within a quarter but also the compounding effect of trust established through initial project placements, a dynamic that operates on a longer horizon than the quarterly observation window used in the panel regression.

Theme 5: Structural Barriers Define the Program's Ceiling (N = 4 to 6/17)

Because all seventeen informants described the incentive as motivating, the consistently low claim activity of subgroup C3 requires an explanation that does not rest on motivation. The interviews with C3-01, C3-02, and C3-04 identified three distinct structural barriers, each operating independently of salesperson effort or incentive design.

The first barrier is product unavailability and specification mismatch. C3-01 reported that the products covered by the program were frequently discontinued or lacked the technical specifications that their customer required.

"Every time I try to sell, the product turns out to be discontinued, or it does not meet the specifications my customer needs." (C3-01, personal communication, 2026)

The second barrier is territory exclusion. C3-01 serves a single large institutional customer whose account for this product range is already served by a competing distributor.

"If I were given more room to sell, it would be different. But my scope here is restricted to sales from my own office." (C3-01, personal communication, 2026)

The third barrier is the all-or-nothing threshold structure of the program. The program pays out only when quarterly claims exceed Rp 10 million per salesperson. C3-02 proposed a tiered alternative that would make the program accessible to salespeople who sell actively but serve smaller or more restricted accounts.

"If the target were set at five million with a proportional rate, and fifteen million for the full three percent, more people could participate. Right now, if you reach nine million you get nothing." (C3-02, personal communication, 2026)

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C3-04 identified a complementary dimension: a price gap of approximately Rp 200,000 per unit relative to competitor products made certain premium items commercially unviable in their market, removing them from the sellable range regardless of bonus incentive.

"The product I was selling was priced at around 2.2 million. Then a competitor came in at 1.8 million. The gap is two hundred thousand rupiah per unit. I cannot compete with that." (C3-04, personal communication, 2026)

These three barriers reveal what the panel regression cannot: the positive average effect of the incentive on all four performance variables conceals a bimodal pattern across the salesforce. For salespeople with broad customer access, adequate product availability, and accounts with sufficient volume to clear the threshold, the program works as designed. For salespeople facing structural market exclusions, the incentive registers as motivating in interview but remains unreachable in practice. Closing this gap requires design changes at the program level rather than behavioral changes at the individual level.

Table 7. Joint Display, Quantitative Results and Qualitative Confirmation

Hypothesis	Quantitative Result	Qualitative Pattern (N)	Supporting Statement (source)	Integration Type
H1 ✓	X1 → Y1 Positive $p < 0.01$ CEM	17/17 informants confirmed the incentive increased selling motivation, across all roles including management, purchasing, and low-activity salespeople.	*"As soon as the program started, I calculated how much I could get per quarter. That figure was enough to change how I work."* *(B2-03)*	Unanimous confirmation across all subgroups
H2 ✓	X1 → Y2 Positive $p < 0.01$ REM	5/17 informants described explicitly prioritising high-value products to maximise nominal incentive per transaction.	*"We always start by offering the highest specification first, because the more expensive the product, the larger the bonus they can receive."* *(B2-01)*	Mechanism confirmed: incentive directs attention toward premium range
H3 ✓	X1 → Y3 Positive $p < 0.01$ FEM	B4 (purchasing), operating independently of the sales function, confirmed a measurable surge in daily purchase order volume attributable to the program.	*"Every day there are purchase orders coming in, sometimes a lot of them at once. I even feel stressed during the final weeks of each quarter."* *(B4)*	Multi-source confirmation: sales and operations independently consistent
H4 ✓	X1 → Y4 Positive $p < 0.01$ FEM	3/17 informants described a trial-to-rollout compounding mechanism specific to project-	*"We do a trial first. Once the customer is satisfied, the remaining rooms and sections all get replaced using the same product."* *(C1-13)*	Mechanism expansion: qualitative identifies compounding trajectory not

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		channel sales that generates multi-quarter growth from a single initial placement.		visible in period-on-period regression
H5 ✗	X2 → Y2 Positive p = 0.136 REM (not sig.)	5/17 management-level informants explained that premium product revenue is determined by project pipeline demand, not by marginal pricing decisions within the sales conversation.	*"Our target is indeed in projects. Highbay, flood light, and similar products are the expensive ones, because that is where we aim." (B1)*	Null result explained: project demand absorbed by product-level random effects in REM
H6 ✓	X2 → Y3 Negative p < 0.05 FEM	9/17 reported customer-driven product selection; 7/17 confirmed low-price commodity products dominate daily order frequency due to structural demand, not salesperson preference.	*"It is not our choice to offer the cheaper ones first. It is just that customers in this segment use more of those types of products." (C1-13)*	Mechanism confirmed: demand structure, not salesperson incentive optimization, drives frequency composition
H7 ✓	X2 → Y4 Negative p < 0.05 FEM	C3-04 provided concrete evidence of a price gap that removes high-price products from the practically sellable range in certain market segments, suppressing cumulative growth.	*"The product I was selling was priced at around 2.2 million. Then a competitor came in at 1.8 million. The gap is two hundred thousand rupiah per unit. I cannot compete with that." (C3-04)*	Mechanism confirmed: competitive price gap structurally limits growth index for high-price products
H8 ✓ (null predicted)	X2 → Y1 Negative p = 0.107 CEM (not sig.)	9/17 informants confirmed that periodic volume growth follows customer urgency, project availability, and stock conditions rather than a	*"Whichever product the customer needs most urgently is what we prioritise first, regardless of the price." (C1-12)*	Null confirmed: volume growth driven by situational demand factors, consistent with non-significant coefficient

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		product-price hierarchy.		

Source: Processed by authors (2026). All quotations translated from Bahasa Indonesia by the authors. ✓ = supported; ✗ = not supported.

DISCUSSION

The core finding is a paradox familiar to anyone who has managed a sales force with a uniform commission structure: the program achieves what it promises and, in doing so, creates a problem it never announced.

The incentive works. Every salesperson interviewed confirmed that the bonus changed how they sell, consistent with Vroom's [9] expectancy mechanism in which a calculable, credible reward shifts both effort and attention. The regression confirms this across four different measures of sales performance over eleven quarters: volume growth, revenue share, transaction frequency, and the cumulative growth index are all positively and significantly associated with incentive value. For the manufacturer, this is the outcome the program was designed to produce.

What the manufacturer did not design for, and what the distributor now bears, is the composition consequence. Higher-priced products, which contribute more margin per unit, generate significantly fewer transactions per quarter and grow more slowly over time. This is precisely the dynamic Kerr [18] described as rewarding A while hoping for B: the program rewards volume without distinguishing between high-margin and low-margin volume. The program does not push salespeople away from expensive products; interviews show they actually lead customer conversations with the most expensive options, consistent with the attention-based prediction that salient rewards orient behaviour toward the high end of the range [12]. The problem is that cheaper products are ordered routinely and in volume by customers whose own needs determine the product mix. The incentive amplifies existing market patterns rather than reshaping them.

The non-significant result for H5 is the most strategically important finding. Distributing more bonus money toward expensive products would not shift revenue share, because premium product revenue is determined by project pipelines, not by salesperson activity. The random effects model captures this: product-level variation in project demand is absorbed at the random-effect level, leaving purchase price with no residual marginal effect on revenue share. The implication is that incentive programs targeting composition, not just volume, need to work at the level of project pipeline development, not individual product bonuses.

The C3 negative case adds a practical dimension that the regression cannot reveal. Because all seventeen informants described the incentive as motivating, the low activity of subgroup C3 demands structural rather than motivational explanation. Three barriers were identified: product discontinuation, territory exclusivity, and the all-or-nothing Rp 10 million threshold. The last of these is a design choice with a straightforward remedy: a tiered threshold, proposed directly by one of the C3 informants, would expand the program's reach without increasing total cost to the manufacturer.

In agency theory terms [6,7], the manufacturer who designed this program and the distributor who pays it share an interest in volume but diverge on composition. Magnotta, Murtha, and Challagalla [20] showed that manufacturer programs affect distributor salesperson effort, but left open how that effort translates into portfolio composition. The present study fills that gap. In this three-party structure, the distributor bears the composition cost invisibly, through thinner margins on a portfolio that grows in volume but shifts toward its lower end. Making this cost visible through the four-metric diagnostic approach applied here is the first step toward renegotiating a program that works better for both parties.

Profitability outcomes in Indonesian business contexts are shaped by multiple structural and governance factors [30], of which incentive program design is one dimension that prior work has not examined at the product-portfolio level.

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4. CONCLUSION

Seven of eight hypotheses are supported. A uniform 3 percent quarterly bonus positively and significantly drives volume growth, revenue share, transaction frequency, and the cumulative growth index across all four panel models ($p < 0.01$). Product purchase price negatively and significantly predicts transaction frequency ($p < 0.05$, FEM) and the cumulative growth index ($p < 0.05$, FEM), confirming a systematic concentration of transaction activity on lower-priced products. The one unsupported hypothesis, H5, predicts that higher purchase prices would claim a larger revenue share; the Random Effect Model shows this variation is absorbed by product-level random effects associated with project demand, leaving no significant marginal effect at the coefficient level. The program grows total portfolio activity; it does not grow it evenly.

Beyond confirming that uniform incentives drive volume, the study contributes in three ways. First, it extends agency theory [6] to a three-party principal-distributor-salesperson setting and demonstrates empirically that the distributor, not the manufacturer, bears the composition cost of a uniform rate, extending the direction established by Magnotta et al. [20]. Second, it operates at the product level over eleven quarters, revealing composition effects that individual-level surveys or cross-sectional designs cannot detect. Third, the sequential explanatory qualitative phase [4] uncovers two mechanisms that remain invisible in the regression coefficients: the trial-rollout growth pattern that compounds cumulative performance across quarters, and the structural exclusion of a subset of salespeople who are motivated but architecturally prevented from reaching the payment threshold.

For practitioners, the findings point to three changes. Distributors should monitor portfolio composition quarterly using the four metrics introduced in this study, not total revenue alone, because volume growth and margin contribution can diverge significantly under a uniform rate. Manufacturers should evaluate whether a flat rate serves their distributor partner's margin structure, and should explore tiered or margin-weighted alternatives that reward composition, not just volume. The all-or-nothing payment threshold should be replaced with a tiered structure, as proposed by the informants themselves, to bring structurally excluded salespeople into the program's reach without increasing total program cost.

Limitations include single-distributor, single-brand scope, which constrains generalisability; the use of purchase price as a proxy for distributor margin, which assumes price-margin correspondence that may not hold uniformly across product lines; the oscillating growth index behaviour in the Y4 model reflected in the Durbin-Watson value of 4.02, which suggests the cumulative index specification captures noise alongside signal and is noted as a boundary on model precision; and the panel model's structural blindness to sales effort that falls below the payment threshold and therefore generates no claim record. Additionally, the researcher designed the incentive program under study; this insider position introduces potential confirmation bias that was mitigated through reflexive bracketing and the deliberate inclusion of disconfirming evidence [15]. Future research should replicate across multiple distributors and brands, apply quasi-experimental rate variation to test the causal direction of composition effects, and develop individual-level measures of the structural access barriers identified here.

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