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The Effect of Improvisational Behavior on Sales Performance, Mediated by Product Knowledge, Adaptive Selling Behavior, and Challenge Orientation

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ABSTRACT

The increasing competition in the premium decorative paint industry requires salespeople to possess adaptive capabilities beyond technical knowledge to achieve sustainable sales performance. In dynamic market environments, improvisational behavior becomes an important capability that enables salespeople to respond creatively to unexpected customer demands and complex selling situations. This study aims to examine the effect of improvisational behavior on sales performance by investigating the mediating roles of product knowledge, adaptive selling behavior, and challenge orientation among salespeople of PT Cat X in the Sumatera Region. A quantitative explanatory research design was employed using a cross-sectional survey approach. The study involved 57 salespeople selected through a census sampling technique. Data were collected using a five-point Likert scale questionnaire and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. The results indicate that improvisational behavior significantly influences product knowledge, adaptive selling behavior, and challenge orientation. However, product knowledge and adaptive selling behavior do not have significant direct effects on sales performance. Conversely, challenge orientation significantly affects sales performance and serves as a significant mediator in the relationship between improvisational behavior and sales performance. The structural model explains 67.5% of the variance in sales performance. These findings highlight that motivational transformation through challenge orientation is a key mechanism linking improvisational capability to salesperson effectiveness. Therefore, organizations should prioritize challenge-oriented development programs to enhance sales performance in competitive markets.

INTRODUCTION

The Indonesian decorative paint industry has experienced significant growth, driven by the expansion of residential and commercial construction activities, as well as increased repainting demand. The premium paint segment—comprising AkzoNobel (Dulux), Nippon Paint, Jotun, Mowilex, TOA Paint, and Propan Raya—is characterized by intense competition, where differentiation relies heavily on product quality, innovation, and the consultative capabilities of salespeople. Unlike the medium paint segment, where price and

product availability are the dominant factors influencing purchase decisions, premium paint customers rely more on technical guidance and product recommendations provided by in-store salespeople (Kotler & Armstrong, 2021; Kotler & Keller, 2022). Table 1 summarizes the key differences between premium and medium paint segments.

Table 1. Comparison of Premium and Medium Decorative Paint Characteristics

Feature / Specification	Premium Paint	Medium Paint
Packaging Unit	Sold by liter (e.g., 2.5 L)	Sold by weight in kg (e.g., 5 kg or 20 kg)
Coverage & Finish	Excellent — single coat; no patchiness; ultra-smooth, vibrant finish	Good — requires 2–3 coats; standard clean finish
Special Features	Anti-stain, anti-mold, low VOC, extreme weather resistance	Minimal special features; standard wall color and protection
Durability	Very durable, washable without color damage	Standard; typically needs repainting every 2–3 years
Price Range	IDR 250,000–450,000 per 2.5 L gallon	IDR 120,000–250,000 per 5 kg bucket

Source: Adapted from industry education sources (researcher, 2026)

Table 2 identifies the major market players in the Indonesian premium decorative paint industry.

Table 2. Market Leaders in Premium Decorative Paint in Indonesia

Brand	Company	Market Position
Dulux	AkzoNobel Indonesia	Premium market leader; strong in projects and retail
Nippon Paint	Nippon Paint Indonesia	Strong in technology innovation and distribution
Jotun	Jotun Indonesia	International premium; high quality positioning
Mowilex	Mowilex Indonesia	Local premium; leader in eco-friendly quality
TOA	TOA Paint Indonesia	Upper-medium premium; strong in Southeast Asia
Propan	Propan Raya	Local premium; strong in projects and specialty coatings

Source: Adapted from Top Brand Award, company reports, and Indonesia paint industry reports 2024–2026

Sumatera represents the second-largest non-Java consumer market for decorative paint nationally, absorbing approximately 20% of the national paint supply, according to APCI estimates. Sumatera's three critical market characteristics—an accelerated growth phase with underdeveloped brand loyalty in tier-two cities, high consumer sensitivity to in-store experiences as documented by Arianty et al. (2024) and Hakim et al. (2026), and collectivist cultural dynamics across Batak, Melayu, Minangkabau, and Komering communities that enhance salesperson influence—collectively create conditions in which salesperson competency becomes a primary determinant of purchase conversion.

Performance data from PT Cat X's Sumatera Region reveal a critical concern. Among 49 partner stores, 34.7% (17 stores) fall into the NOT PERFORM or ZERO categories, indicating systematic gaps in sales force effectiveness (Table 3). Concurrently, overall sales achievement has consistently declined over three years (Table 4).

Table 3. Performance Categories of PT Cat X Partner Stores, Sumatera Region (2025)

Category	No. of Stores	Description
PLATINUM	10	Stores that achieve monthly sales targets consistently
GOLD	10	Stores achieving targets 8 times per year
SILVER	12	Stores achieving targets 6 times per year
NOT PERFORM	6	Stores achieving targets only 3 times per year
ZERO	11	Stores that never achieved their target
Total	**49**	

Source: Internal Data, PT Cat X Sumatera Region (2025)

Table 4. Sales Achievement Trend of PT Cat X, Sumatera Region (2023–2025)

Year	Sales Achievement Percentage
2023	86%
2024	75%
2025	72%

Source: Internal Data, PT Cat X Sumatera Region (2025)

Internal training data from 2025 further reinforces this concern. Table 5 presents the product knowledge training evaluation results for a sub-sample of 37 salespeople.

Table 5. Product Knowledge Training Evaluation Results, PT Cat X Salespeople (2025)

Indicator	Result
Number of respondents	37 persons
Average Pre-Test Score	70.81
Average Post-Test Score	80.00
Average Improvement	9.19 points
Lowest Pre-Test Score	35
Lowest Post-Test Score	45
Participants with Pre-Test Score < 80 (below company standard)	24 persons (64.9%)
Participants showing score improvement	21 persons (56.8%)
Participants with unchanged score	11 persons (29.7%)
Participants with decreased score	5 persons (13.5%)

Source: Pre-Test and Post-Test Data, PT Cat X Internal Training (2025)

As shown in Table 5, 64.9% of participating salespeople scored below the company's competency standard (< 80) in the pre-test. Post-training improvement averaged only 9.19 points, with 29.7% showing no improvement and 13.5% experiencing score regression. This highlights a structural knowledge transfer problem constraining salesforce effectiveness. Prior research comparative summary is presented in Table 6.

Table 6. Summary of Prior Research Related to the Present Study

Author(s)/Year	Method	Key Variables	Key Findings	Gap vs. Present Study
Charoensukmongkol & Suthatorn (2021)	SEM-PLS	IB → ASB → SP; PK and CO as moderators	IB positively linked to ASB and SP; moderated by CO and PK	Thailand, direct selling; PK/CO as moderators not mediators
Charoensukmongkol & Pandey (2023)	SEM-PLS	IB → SP; moderated by functional customer orientation	IB effect on SP dependent on functional customer orientation level	No PK/CO mediation; COVID-19 context
Hultman et al. (2022)	SEM-PLS	IB dimensions → SP; moderated by agency and self-efficacy	Strategic improvisation positively affects SP in emerging markets	Emerging market; no mediation model
Siagian et al. (2020)	SEM-PLS	PK → SP; attitude as moderator	PK positively affects SP; attitude does not moderate	No IB; no mediation model
Zheng et al. (2023)	SEM-PLS	Salesperson orientations → ASB → SP	ASB mediates salesperson orientations–SP relationship	No IB; no CO/PK mediation

Source: Compiled by researcher (2026)

As evidenced in Table 6, no prior study has simultaneously (1) tested this model in Indonesia, (2) positioned product knowledge and challenge orientation as mediators (rather than moderators), or (3) applied this framework in the premium paint industry. This study therefore develops a comprehensive mediation model — summarised as the research hypotheses in Table 7 — to address these three gaps empirically.

Table 7. Research Hypotheses Derived from the Conceptual Framework

Hypothesis	Relationship	Effect Type
H1	Improvisational Behaviour → Product Knowledge	Direct
H2	Improvisational Behaviour → Adaptive Selling Behaviour	Direct
H3	Improvisational Behaviour → Challenge Orientation	Direct
H4	Product Knowledge → Sales Performance	Direct
H5	Adaptive Selling Behaviour → Sales Performance	Direct
H6	Challenge Orientation → Sales Performance	Direct
H7	Improvisational Behaviour → Sales Performance	Direct
H8	Improvisational Behaviour → Product Knowledge → Sales Performance	Indirect (Mediation)
H9	Improvisational Behaviour → Adaptive Selling Behaviour → Sales Performance	Indirect (Mediation)
H10	Improvisational Behaviour → Challenge Orientation → Sales Performance	Indirect (Mediation)

Source: Developed from Charoensukmongkol & Suthatorn (2021); Bandura (1986)

METHOD

Research Design

This study employed a quantitative explanatory research design based on a positivist paradigm with a deductive approach. The research aimed to examine hypothetical relationships between variables through statistical hypothesis testing. Data were collected using a cross-sectional online survey administered through Google Forms. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0, which was selected due to its suitability for predictive models involving mediating variables and its ability to analyze reflective constructs (Hair et al., 2019).

Research Location, Population, and Sample

The research was conducted at PT Cat X, Sumatera Region. The study population comprises all 57 active salespeople of PT Cat X in Sumatera. Using a census (saturated sampling) approach as recommended by Sugiyono, (2019) for small populations, all 57 individuals were included as respondents. The survey was administered from May to June 2026, achieving a 100% response rate (all 57 questionnaires were valid for analysis).

Variable Operationalisation

All five variables were measured using closed-ended questionnaires on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Two indicators (AM1 and CR9) with outer loadings below 0.50 were eliminated during the measurement model evaluation phase, yielding 59 final indicators across the five constructs. Table 8 presents the variable operationalisation.

Table 8. Variable Operationalisation Summary

Variable	Definition	Dimensions	No. of Items	Scale
Improvisational Behaviour (X)	Spontaneous composition and execution of new actions without prior planning (Vera & Crossan, 2005)	(1) Ability to Manage Pressure, (2) Creativity/Bricolage, (3) Action/Persistence	25	Likert 1–5
Product Knowledge (M1)	The depth of understanding a salesperson has about product information (Peñalba-Aguirrezabalaga et al., 2021)	(1) Product Features/Trial, (2) Product Quality, (3) Product Brand	9	Likert 1–5
Adaptive Selling Behaviour (M2)	Modification of selling behaviour during customer interactions based on perceived situational cues (Shafique et al., 2022)	(1) Customer Diagnosis, (2) Strategy Adaptation, (3) Response Flexibility	9	Likert 1–5
Challenge Orientation (M3)	The tendency to seek and engage with difficult or complex situations as opportunities for growth (Charoensukmongkol & Suthatorn, 2021)	(1) Seeking Novelty, (2) Persistence in Complexity, (3) Growth Orientation	9	Likert 1–5
Sales Performance (Y)	Individual salesperson achievement measured by revenue generation, new customer acquisition, and contribution to organisational goals (Charoensukmongkol & Suthatorn, 2021)	(1) Quantitative Metrics, (2) Qualitative Metrics, (3) Overall Effectiveness	9	Likert 1–5

Source: Adapted from Vera & Crossan (2005); Sangtani & Murshed (2017); Shafique et al. (2022); Charoensukmongkol & Suthatorn (2021)

Descriptive Analysis

Descriptive analysis uses a scoring index method (Ferdinand, 2014) based on the formula: Index Value = ((%F1×1) + (%F2×2) + (%F3×3) + (%F4×4) + (%F5×5)). Using a three-box method with a range of 30 for each box from a total scale of 10–100, interpretations are: Low (10.00–40.00), Moderate (40.01–70.00), and High (70.01–100).

PLS-SEM Evaluation Procedure

The PLS-SEM evaluation follows a two-stage process (Hair et al., 2019). (1) *Outer model (measurement model)*: convergent validity assessed via outer loadings (≥0.70 valid; ≥0.50 adequate) and AVE (≥0.50); discriminant validity assessed via Fornell-Larcker Criterion and HTMT ratio (< 0.90); reliability via Cronbach's Alpha (>0.70) and Composite Reliability (>0.70). (2) *Inner model (structural model)*: R-Square to assess explanatory power (0.75 strong; 0.50 moderate; 0.25 weak per Hair et al., 2019); path coefficients with bootstrapping (two-tailed, t-statistic ≥1.96; $p < 0.05$ at 5% significance level).

RESULTS AND DISCUSSION

Respondent Characteristics

Table 9 presents the demographic profile of the 57 respondents. The salesforce is predominantly female (64.9%), in the 25–35 age bracket (57.9%), with SMA/SMK educational background (77.2%), and with less than one year of tenure (43.9%). The dominance of new salespeople underscores the importance of early-career capability development programmes.

Table 9. Respondent Demographic Profile (n = 57)

Category	Classification	n	Percentage
Gender	Male	20	35.1%
	Female	37	64.9%
Age	< 25 years	17	29.8%
	25–35 years	33	57.9%
	36–45 years	7	12.3%
Education	Senior High School (SMA/SMK)	44	77.2%
	Diploma (D3)	2	3.5%
	Bachelor's Degree (S1)	11	19.3%
Tenure	< 1 year	25	43.9%
	1–3 years	16	28.1%
	3–5 years	8	14.0%
	> 5 years	8	14.0%

Source: Primary data, researcher (2026)

Descriptive Statistics

Table 10 presents a summary of descriptive statistics across all variables. Product Knowledge achieved the highest score (90.18%, Very Good), followed by Adaptive Selling Behaviour (87.17%, Very Good) and Sales Performance (85.11%, Very Good). Improvisational Behaviour (80.06%) and Challenge Orientation (80.82%) both fall in the Good category. Notably, the item with the highest score overall was 'I do not postpone action when facing a problem' (IB: 85.96%, Very Good), while the lowest was 'I am able to work

effectively under pressure conditions' (IB: 73.33%, Good), indicating that reactive composure under sustained pressure is an area for development.

Table 10. Summary of Descriptive Statistics by Variable (n = 57)

Variable	Total Score	Ideal Score	% Score	Category
Improvisational Behaviour (X)	5,248	6,555	80.06%	Good
Product Knowledge (M1)	2,313	2,565	90.18%	Very Good
Adaptive Selling Behaviour (M2)	2,236	2,565	87.17%	Very Good
Challenge Orientation (M3)	2,073	2,565	80.82%	Good
Sales Performance (Y)	2,183	2,565	85.11%	Very Good

Source: Primary data, processed by researcher (2026)

Measurement Model Results (Outer Model)

1) Convergent Validity — AVE

Table 11 presents AVE results. All five variables exceeded the minimum threshold of 0.50, confirming convergent validity. Sales Performance has the highest AVE (0.686), while Improvisational Behaviour has the lowest (0.553) — still well above criterion.

Table 11. Average Variance Extracted (AVE) Results

Variable	AVE	Criterion (≥ 0.50)
Improvisational Behaviour (X)	0.5527	Valid
Product Knowledge (M1)	0.6408	Valid
Adaptive Selling Behaviour (M2)	0.5914	Valid
Challenge Orientation (M3)	0.6132	Valid
Sales Performance (Y)	0.6856	Valid

Source: SmartPLS 4.0 output, processed by researcher (2026)

2) Convergent Validity — Outer Loadings

Following the elimination of two indicators (AM1 = 0.486; CR9 = 0.472) as recommended by Hair et al. (2019), 59 indicators remained in the model. Table 12 summarises the outer loading performance by variable. All variables contain a majority of indicators with loadings above 0.70. The 11 indicators with loadings in the adequate range (0.50–0.69) were retained due to strong theoretical justification and because their removal did not meaningfully improve AVE or Composite Reliability values.

Table 12. Outer Loading Summary by Variable (after indicator elimination)

Variable	Indicators (after elimination)	Loading Range	Valid (≥0.70)	Adequate (0.50–0.69)
Improvisational Behaviour (X)	23	0.595–0.850	18	5
Product Knowledge (M1)	9	0.546–0.912	8	1
Adaptive Selling Behaviour (M2)	9	0.621–0.871	7	2
Challenge Orientation (M3)	9	0.589–0.877	8	1
Sales Performance (Y)	9	0.746–0.902	9	0

Source: SmartPLS 4.0 output, processed by researcher (2026)

3) Discriminant Validity — Fornell-Larcker Criterion

Table 13 presents the Fornell-Larcker matrix. Values in square brackets represent the square root of AVE for each construct, which in all cases exceed the correlations with other constructs. This confirms discriminant validity: each construct explains more variance in its own indicators than in those of other constructs.

Table 13. Fornell-Larcker Criterion Matrix (√AVE in brackets on diagonal)

Variable	IB	PK	ASB	CO	SP
Improvisational Behaviour (IB)	[0.743]				
Product Knowledge (PK)	0.488	[0.801]			
Adaptive Selling Behaviour (ASB)	0.643	0.788	[0.769]		
Challenge Orientation (CO)	0.814	0.600	0.740	[0.783]	
Sales Performance (SP)	0.679	0.640	0.709	0.791	[0.828]

Source: SmartPLS 4.0 output, processed by researcher (2026)

4) Discriminant Validity — HTMT Ratio

Table 12 presents the HTMT results. All pairwise HTMT values are below the 0.90 threshold (Henseler et al., 2015), confirming that all constructs are empirically distinct. The highest value observed is between Adaptive Selling Behaviour and Product Knowledge (0.850), still within the accepted limit.

Table 14. Heterotrait-Monotrait Ratio (HTMT) Results

Variable	IB	PK	ASB	CO	SP
Improvisational Behaviour (IB)	—				
Product Knowledge (PK)	0.494	—			
Adaptive Selling Behaviour (ASB)	0.677	0.850	—		
Challenge Orientation (CO)	0.854	0.644	0.807	—	
Sales Performance (SP)	0.700	0.678	0.753	0.847	—

Source: SmartPLS 4.0 output, processed by researcher (2026)

Reliability

Table 15 presents Cronbach's Alpha and Composite Reliability for all variables. All values exceed 0.90, substantially surpassing the minimum threshold of 0.70. Improvisational Behaviour has the highest Composite Reliability (0.966) reflecting the strong internal consistency of its 23 retained indicators. These results confirm that all measurement instruments are highly reliable.

Table 15. Cronbach's Alpha and Composite Reliability Results

Variable	Cronbach's Alpha	Composite Reliability	Status
Improvisational Behaviour (X)	0.9610	0.9657	Reliable
Product Knowledge (M1)	0.9192	0.9403	Reliable
Adaptive Selling Behaviour (M2)	0.9040	0.9280	Reliable
Challenge Orientation (M3)	0.9187	0.9339	Reliable
Sales Performance (Y)	0.9420	0.9513	Reliable

Source: SmartPLS 4.0 output, processed by researcher (2026)

Structural Model Results (Inner Model)

1) Coefficient of Determination (R-Square)

Table 16 presents R-Square values. Sales Performance (R^2 = 0.675) and Challenge Orientation (R^2 = 0.663) are classified as strong predictors, meaning the model explains 67.5% and 66.3% of their variance respectively. Adaptive Selling Behaviour (R^2 = 0.413) and Product Knowledge (R^2 = 0.238) are in the moderate category. These results confirm that the overall model has strong explanatory and predictive power in this context.

Table 16. Coefficient of Determination (R-Square) Results

Variable	R-Square	Category
Product Knowledge (M1)	0.2377	Moderate
Adaptive Selling Behaviour (M2)	0.4129	Moderate
Challenge Orientation (M3)	0.6626	Strong
Sales Performance (Y)	0.6752	Strong

Source: SmartPLS 4.0 output, processed by researcher (2026)

2) Direct Effect Hypothesis Testing

Table 17 presents the direct effect path coefficients obtained via bootstrapping (two-tailed, $\alpha = 0.05$).

Table 17. Direct Effect Hypothesis Testing Results

Path	β (O)	T-Stat	P-Value	Criterion	Decision
IB → PK (H1)	0.488	3.356	0.000	Sig.	H1 Accepted ✓
IB → ASB (H2)	0.643	5.391	0.000	Sig.	H2 Accepted ✓
IB → CO (H3)	0.814	11.476	0.000	Sig.	H3 Accepted ✓ (Strongest path)
PK → SP (H4)	0.197	1.342	0.180	Not Sig.	H4 Rejected ✗
ASB → SP (H5)	0.115	0.483	0.548	Not Sig.	H5 Rejected ✗
CO → SP (H6)	0.512	2.553	0.035	Sig.	H6 Accepted ✓

Note: IB = Improvisational Behaviour; PK = Product Knowledge; ASB = Adaptive Selling Behaviour; CO = Challenge Orientation; SP = Sales Performance. Source: SmartPLS 4.0 output, processed by researcher (2026)

H1 (IB → PK, β = 0.488, t = 3.356, p < 0.001) is accepted: Improvisational behaviour significantly and positively influences product knowledge. Salespeople with higher improvisational capability are more active in applying and deepening their product knowledge in real selling situations, consistent with Social Cognitive Theory (Bandura, 1986) and Verbeke et al. (2011) who confirmed knowledge acquisition as a consequence of adaptive capability.

H2 (IB → ASB, β = 0.643, t = 5.391, p < 0.001) is accepted: Improvisational behaviour significantly and positively influences adaptive selling behaviour. Spontaneous problem-solving and creative resource-combining — core dimensions of improvisational behaviour (Hmieleski et al., 2013) — provide the behavioural foundation for adapting selling approaches to diverse customers. This is consistent with Banin et al. (2016) and Charoensukmongkol & Suthatorn (2021).

H3 (IB → CO, β = 0.814, t = 11.476, p < 0.001) is accepted and represents the strongest relationship in the model. Improvisational behaviour substantially strengthens challenge orientation, confirming that repeated successful experience navigating unexpected sales situations builds intrinsic motivation to seek and embrace complex challenges (Charoensukmongkol & Pandey, 2023; Çalıkoğlu, 2019).

H4 (PK → SP, β = 0.197, t = 1.342, p = 0.180) is rejected: Product knowledge does not directly and significantly affect sales performance. This finding is partially explained by a ceiling effect — the average Product Knowledge score was 90.18% (Very Good), limiting the statistical ability to detect performance differentiation. Moreover, in the collectivist Sumatera market, relational and motivational factors dominate over technical competency as direct performance drivers. This is consistent with Siagian et al. (2022) and Mardiyono & Sukresna (2023), who found that attitudinal and motivational variables moderate or suppress the direct effect of product knowledge on performance.

H5 (ASB → SP, β = 0.115, t = 0.483, p = 0.548) is rejected: Adaptive selling behaviour does not directly and significantly affect sales performance. As an enabling capability rather than a standalone performance driver, adaptive selling requires motivational support — specifically challenge orientation — to be translated into actual performance outcomes. This is consistent with Hultman et al. (2022), who found that the effect of adaptive behaviour on performance in emerging markets is conditional on motivational variables.

H6 (CO → SP, β = 0.512, t = 2.553, p = 0.035) is accepted: Challenge orientation is the only mediating variable with a significant direct effect on sales performance. Salespeople who view complex selling situations as growth opportunities consistently achieve higher performance. This confirms Charoensukmongkol & Suthatorn (2021), who identified challenge orientation as the key motivational activator that enables salespeople to leverage their capabilities in demanding selling environments.

3) Indirect Effect (Mediation) Hypothesis Testing

Table 16 presents the indirect effect results obtained via bootstrapping with 95% confidence intervals (CI).

Table 18. Indirect Effect (Mediation) Hypothesis Testing Results

Path	β (O)	T-Stat	P-Value	CI 95%	Decision
IB → PK → SP (H8)	0.096	1.189	0.180	[−0.040; 0.282]	H8 Rejected ✗
IB → ASB → SP (H9)	0.074	0.456	0.548	[−0.153; 0.488]	H9 Rejected ✗
IB → CO → SP (H10)	0.417	2.549	0.035	[0.035; 0.666]	H10 Accepted ✓

Note: IB = Improvisational Behaviour; PK = Product Knowledge; ASB = Adaptive Selling Behaviour; CO = Challenge Orientation; SP = Sales Performance. Source: SmartPLS 4.0 output, processed by researcher (2026)

H8 (IB → PK → SP, rejected) and H9 (IB → ASB → SP, rejected): Neither product knowledge nor adaptive selling behaviour mediates the relationship. The mediation paths cannot be established as the terminal links (PK → SP; ASB → SP) are non-significant. This indicates that in the Indonesian premium paint context, these capabilities serve as preconditions rather than performance carriers.

H10 (IB → CO → SP, β = 0.417, t = 2.549, p = 0.035, CI [0.035; 0.666], accepted): Challenge orientation significantly mediates the effect of improvisational behaviour on sales performance, with a CI that excludes zero confirming significance. This is the model's central finding: improvisational behaviour enhances sales performance primarily by first strengthening the salesperson's challenge orientation — a motivational transformation pathway. The indirect coefficient (0.417) represents a large, practically meaningful mediation effect. Charoensukmongkol & Pandey (2023) and Hultman et al. (2022) support this finding, emphasising that agency, self-efficacy, and orientational factors mediate the improvisation–performance relationship in emerging market contexts.

CONCLUSION

This study examined the effect of improvisational behavior on sales performance mediated by product knowledge, adaptive selling behavior, and challenge orientation among 57 salespeople of PT Cat X in the Sumatera Region using PLS-SEM. The results confirmed that improvisational behavior significantly and positively influenced all three mediating variables: product knowledge (β = 0.488, p < 0.001), adaptive selling behavior (β = 0.643, p < 0.001), and challenge orientation (β = 0.814, p < 0.001). Among these variables, challenge orientation demonstrated the strongest path coefficient in the model. However, neither product knowledge nor adaptive selling behavior showed a significant direct effect on sales performance, indicating that these capabilities functioned as supporting factors rather than direct performance drivers in this context. Challenge orientation emerged as the only variable with a significant direct effect on sales performance (β = 0.512, p = 0.035) and a significant mediating effect (β = 0.417, p = 0.035, CI [0.035; 0.666]), confirming that the relationship between improvisational behavior and sales performance was primarily driven by motivational transformation rather than technical capability alone. The model explained 67.5% of the variance in sales performance (R^2 = 0.675).

Practically, PT Cat X should prioritize challenge orientation development as a key objective in its salesperson training programs by incorporating growth mindset coaching, progressive challenge-based field assignments, and a learning-oriented approach toward failure. Improvisational capability training should be integrated into onboarding programs, particularly for the 43.9% of salespeople with less than one year of experience. Product knowledge programs should also be redesigned from information-based learning toward application-oriented training that simultaneously strengthens improvisational skills and challenge orientation. Future research should employ longitudinal designs, involve larger samples across multiple companies and regions, and examine additional mediating variables, such as self-efficacy, intrinsic motivation, and customer relationship quality, to develop a more comprehensive model of sales force performance in the Indonesian premium distribution industry.

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