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Analysis of Training and Development, Employee Experience on Performance (Study at PT. Bumi Hijau Motor – Haka Auto Jakarta)

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Abstract

PT Bumi Hijau Motor (HAKA Auto) is an authorized dealer of BYD electric vehicles in Indonesia, operating in the rapidly growing battery electric vehicle (BEV) industry. BEVs are high-involvement products characterized by advanced technologies, digital integration, and intelligent vehicle systems, requiring specialized employee competencies in sales and customer service. The transition toward electric mobility has transformed human resource requirements, particularly at the dealership and showroom levels, where employees must possess adequate technical knowledge, professional skills, and practical experience. However, competency gaps in BEV technology remain a challenge for automotive dealership personnel. Consequently, companies must prioritize human resource development alongside marketing strategies to maintain competitiveness and improve employee performance. This study aimed to examine the relationships among training and development, work experience, and employee performance, with work experience serving as a mediating variable. A quantitative research approach was employed using cluster random sampling, involving 90 respondents. Data were analyzed using descriptive statistics and partial least squares structural equation modeling (PLS-SEM). The findings indicated that training and development were not directly associated with a statistically significant improvement in employee performance. However, training and development demonstrated a positive and significant association with work experience, which, in turn, was strongly associated with employee performance. Furthermore, work experience significantly mediated the relationship between training and development and employee performance. These findings highlight the importance of integrating structured training programs with practical workplace experience to strengthen employee competencies and enhance performance in BEV dealerships.

INTRODUCTION

The transition from conventional internal combustion engine vehicles to battery electric vehicles (BEVs) has significantly transformed human resource (HR) requirements, particularly in automotive retail, dealerships, and showrooms. BEVs incorporate advanced digital technologies, intelligent vehicle systems, and innovative mobility solutions, requiring

employees to develop specialized technical knowledge alongside competencies in digital marketing, consumer behavior analysis, and customer relationship management. As high-involvement, technology-intensive products, electric vehicles require knowledgeable and skilled personnel capable of communicating complex product features, addressing customer concerns, and supporting organizational objectives (Dessler, 2017). This workforce transformation has also been observed among global automotive manufacturers transitioning toward electric mobility, where cross-functional collaboration and specialized technical competencies have become increasingly important (Alkhamaiesh & Cavanaugh, 2024; Liao et al., 2025).

Knoedler et al. (2020) estimated that approximately 16% of the global automotive workforce would require retraining or upskilling by 2030. A survey conducted by Microsoft (2023), involving 31,000 full-time employees across 31 countries, indicated that more than half of the respondents recognized the need to develop relevant professional skills, while more than 80% of employers expected employees to acquire new competencies. Challenges in filling positions due to workforce skill shortages were also reported by the Society for Human Resource Management (2019) and LinkedIn (2021). Similarly, Deloitte (2020) reported that approximately one-quarter of its survey respondents had not received training in emerging technologies. Furthermore, the European automotive industry reportedly allocated approximately €60 billion annually to research and development, representing a substantial proportion of its annual investment expenditure (McKinsey & Company, 2023). These developments underscore the growing importance of continuous employee training and professional development in supporting technological adaptation and organizational competitiveness.

Previous studies have identified several challenges associated with BEV adoption and sales. Limited knowledge of battery lifespan, charging infrastructure, and charging procedures has been identified as a barrier to effective consumer understanding (Wicki et al., 2022). Concerns regarding vehicle resale value, range anxiety, and residential electricity capacity have also influenced potential buyers' purchasing decisions (Mesquita et al., 2025). Other studies have highlighted limited consumer knowledge and insufficient trust in emerging automotive technologies (Iogansen et al., 2026). At the dealership level, insufficient employee product knowledge and limited proactive customer engagement have been identified as obstacles to effective BEV sales (Zarazua de Rubens et al., 2018). Inconsistent government incentives, regulatory policies, and after-sales support may further complicate consumer purchasing decisions (Goel et al., 2021). Additionally, employee training programs may struggle to keep pace with rapid technological developments and frequent product launches, potentially reducing workforce preparedness (Elnaga & Imran, 2013). Therefore, BEV dealerships require employees who can integrate technical expertise, interpersonal skills, and continuous learning to provide accurate product information and effective customer service (Liao et al., 2025). Adequate knowledge of BEV technology and charging infrastructure is particularly important for supporting consumer confidence and facilitating the broader adoption of electric mobility (Alkhamaiesh & Cavanaugh, 2024).

Training and development are essential components of contemporary human resource management because they strengthen employee competencies, improve organizational

adaptability, and support individual and organizational performance (Armstrong & Taylor, 2020; Noe, 2020). However, the effectiveness of training may depend on employees' opportunities to apply acquired knowledge in practical workplace situations. Work experience can contribute to employee performance by improving problem-solving abilities, reducing operational errors, strengthening customer relationships, and enhancing professional judgment. In automotive sales, employees with extensive and relevant experience may be better equipped to explain technical product characteristics, address consumer objections, and provide appropriate purchasing recommendations. Accordingly, work experience may serve as a mediating mechanism through which training and development are associated with improved employee performance (Borman & Motowidlo, 1997).

This study was conducted at PT Bumi Hijau Motor (HAKA Auto) in the Jakarta metropolitan area, covering six electric vehicle showrooms located in Kebon Jeruk, Pejaten, Bintaro, Cibubur, Pluit, and Pondok Indah. Although previous research has extensively examined the relationship between employee training and performance, limited attention has been given to the mediating role of work experience in the relationship between training and development and employee performance, particularly within BEV dealerships. Furthermore, work experience has frequently been conceptualized in terms of employment tenure rather than the breadth, depth, and practical application of accumulated professional experience. Addressing this research gap, the present study aimed to assess employee performance, training and development, and work experience; examine the relationship between training and development and employee performance; investigate the relationship between training and development and work experience; and evaluate the mediating role of work experience in the relationship between training and development and employee performance at PT Bumi Hijau Motor (HAKA Auto). The study was expected to contribute to human resource management literature by providing empirical insights into the role of practical work experience in translating employee development initiatives into performance outcomes within the rapidly evolving electric vehicle retail industry.

METHOD

This study employed a descriptive and explanatory quantitative approach supplemented by qualitative data, using a descriptive-explanatory survey design (Effendi & Tukiran, 2014). Primary data were collected through a structured questionnaire using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), supplemented by in-depth interviews with senior executives and management personnel. Secondary data were obtained from company documents, automotive industry publications, and scientific literature. The research was conducted at six HAKA Auto showrooms in the Jakarta metropolitan area.

The study population comprised 329 employees of HAKA Auto involved in showroom operations, management, customer service, and BYD and Denza electric vehicle sales (Effendi & Tukiran, 2014). The sample size was determined using Slovin's formula with a 9% margin of error. Cluster random sampling was employed to select 90 respondents distributed proportionally across the six showrooms, as presented in Table 2. The respondents included managerial personnel, showroom support staff, sales consultants, sales team members, and service personnel.

Table 1. Population, sample allocation, and actual respondents by showroom

Showroom	Population (N)	Proportion (%)	Sample allocation (n)	Actual respondents	Percentage (%)
BYD Kebon Jeruk	55	16,7	15	15	16,7
BYD Pejaten	54	16,4	15	15	16,7
BYD Bintaro	72	21,9	20	21	23,3
BYD Cibubur	65	19,8	18	18	20,0
Denza Pluit	41	12,5	11	11	12,2
Denza Pondok Indah	42	12,8	11	10	11,1
Total	329	100,0	90	90	100,0

Source: Data Processed by Researchers, 2026

This study consists of a independent variable of training and development (X), a mediator variable of work experience (Y), and a dependent variable of HR performance effectiveness (Z). Each variable is measured by four dimensions with five indicators per dimension (Table 3).

Table 2. Operationalization of research variables, dimensions, and indicators

Variable	Dimensions	Indicator
Training and Development (X)	X1 Quality of the training program	Instructor mastery, clarity and ease of material, cutting-edge modules, easy-to-apply material
	X2 Frequency of training sessions	Ideal number of sessions, adequate duration, regularity, attendance, repeat sessions
	X3 Relevance of training to job roles	Alignment with job description, closing competency gaps, immediate application, work efficiency, readiness for role changes
	X4 Availability of career development opportunities	Career path clarity, fair and objective promotion, constructive encouragement, *mentoring/coaching*, certification support
Work Experience (Y)	Y1 Time and relevance of experience	Field-specific tenure, frequency of handling, suitability of task description, suitability of technical domain, complexity of responsibility
	Y2 Product knowledge accuracy	Specification and feature accuracy, price and condition compliance, benefit and solution suitability, product limitation awareness
	Y3 Interaction quality	Attitudes and behaviors, communication skills and empathy, responsiveness and readiness
	Y4 Adaptation and learning	New procedure adjustments, innovation openness, self-development initiatives, feedback seeking, adaptability
HR Performance Effectiveness (Z)	Z1 Professional Capabilities	Communication and coordination, customer data management, complaint handling, explanation of vehicle functions, *closing*
	Z2 Professional knowledge	Product advantages, insurance, maintenance, after-sales, operation of digital features
	Z3 Professional attitude	Work attitude, learning attitude, service attitude

Variable	Dimensions	Indicator
	Z4 Professional character	Emotion management, time management, communication and expression

Source: Processed Research, 2026; all indicators measured on a Likert scale of 1–5

Ordinal data is transformed into an index (Puspitawati & Herawati, 2013) with the formula:

Index = (Σ score achieved − Σ lowest score) / (Σ highest score − Σ lowest score) × 100%

The descriptive analysis used percentages, average scores, and total average scores with the following categories of ranges: very poor (scale 1.80; < 36%), poor (2.60; 37–52%), poor (3.40; 53–68%), good (4.20; 70–84%), and very good (5.00; 85–100%). Qualitative data were analyzed through data reduction, data presentation, and verification.

Inferential analysis uses *Structural Equation Modeling – Partial Least Squares* (SEM-PLS) with SmartPLS because it does not require normally distributed data, can be used on a limited sample, and is suitable for hierarchical models and mediated analyses (Ghozali & Latan, 2015; Hair et al., 2014; Hair et al., 2019). The model is specified as *a hierarchical component of* a reflective–reflective model, i.e. indicators reflect dimensions (first order) and dimensions reflect constructs (second order). A sample size of 90 meets the rule of 10 times because the most paths leading to one construct are only two (Hair et al., 2017). The model evaluation criteria are presented in Table 4. Hypotheses are tested through *bootstrapping*; hypotheses are accepted when the p-value is < 0.05 or the t-statistic > 1.96.

Table 3. Evaluation criteria for measurement models and structural models

Evaluation aspects	Parameters	Criteria
Convergent validity	*Outer loading*	≥ 0.70
	Average variance extracted (AVE)	> 0.50
Reliability	*Cronbach's alpha* (CA)	> 0.70
	Composite reliability (CR)	> 0.70 (ideally ≤ 0.95)
Discriminatory validity	*Cross loading*	Loading on the largest self-construct
	Fornell–Larcker Criteria	AVE root > interconstruct correlation
Structural model	VIVID	< 5
	R^2	0.75 strong; 0.50 moderate; 0.25 weak (Hair et al., 2017); ≥ 0.26 high (Cohen, 1992)
	f^2	0.02 weak; 0.15 moderate; 0.35 strong
	Q^2	> 0 has predictive relevance
	Goodness of Fit (GoF)	0.10 small; 0.25 medium; 0.38 large

Source: Please verify the original data source with the author.
Sources: Hair et al. (2017, 2019); Fornell & Larcker (1981); Cohen (1992); Tenenhaus et al. (2005); Yamin & Kurniawan (2011)

RESULTS AND DISCUSSION

Overview of Research Objects

PT Bumi Hijau Motor – Haka Auto is a mega BYD dealer company in Indonesia that was established on October 10, 2023 and is headquartered in South Jakarta. The company's vision is to become the leading automotive business group in Indonesia through continuous product excellence, service, and innovation. The company already has 25 *dealer outlets* in 12 cities in eight provinces, with 3S+ (*Sales, Service, Spare Parts, EV Charging Station*) facilities. This research is focused on six *dealers* in Jakarta with 329 employees occupying various roles, ranging from *Sales Executive*, *Service Advisor*, *Mechanic*, *In-House Trainer*, to *Branch Manager*. Based on the organizational structure (Figure 2), the responsibility for implementing training and development is under *the Chief Operating Officer* who oversees five divisions.



Figure 2. Organizational structure of BYD Haka Head Office in 2026 PT Bumi Hijau Motor

Source: Data Processed by Researchers, 2026

Respondent Characteristics

Respondents were dominated by men (76.7%), with an average age of 31.67 years (standard deviation of 5.99; median 32), and 84.4% aged 35 years or less, thus classified as productive age. This composition is important because BEV products demand the speed of learning technology (Liao et al., 2025). The dominance of the male workforce is prevalent in similar industries (Muslim et al., 2025). The majority are Diploma/S1 educated (78.9%), and the largest group of positions are sales workers (48.9%) and after-sales services and workshops (18.9%).

Respondents' work experience is still relatively short (Table 6). As many as 67.8% of respondents have worked for two years or less at *dealerships/showrooms*, and 78.9% have only handled EVs for two years or less; only 4.4% have EV experience for more than five years. This pattern is natural because the BEV market in Indonesia is relatively new, and is in line with the findings of Hagman and Janhager Stier (2022) that EV sellers often lack training and product experience, as well as Karwa's (2016) note regarding the high turnover of dealer sales staff.

Table 4. Distribution of respondents by total working time and working time on EV products

Long working time	Total at the dealer (people)	%	EV products (people) only	%
< 1 year	24	26,7	28	31,1
1–2 years	37	41,1	43	47,8

Long working time	Total at the dealer (people)	%	EV products (people) only	%
3–4 years	17	18,9	15	16,7
5–6 years	4	4,4	2	2,2
> 7 years old	8	8,9	2	2,2
Total	90	100,0	90	100,0

Note: six respondents (6.7%) reported that the length of service on an EV was higher than the total length of service; the fill was analyzed as reported. Source: Data Processed by Researcher, 2026

The composition of EV experience differs between *showrooms* (Table 7). BYD Cibubur (50.0%) and BYD Pejaten (46.7%) have the highest proportion of respondents with EV experience under one year, while the greatest experience of three years or more is found in BYD Kebon Jeruk (26.7%), Denza Pluit (27.3%), and Denza Pondok Indah (30.0%). This shows that the need for new HR assistance is not the same in each *showroom*.

Table 5. Old working composition on EV products by showroom, person (%)

Showroom	< 1 year	1–2 years	3–4 years	5–6 years	> 7 years old
BYD Kebon Jeruk (n=15)	3 (20,0)	8 (53,3)	4 (26,7)	0 (0,0)	0 (0,0)
BYD Pejaten (n=15)	7 (46,7)	5 (33,3)	2 (13,3)	0 (0,0)	1 (6,7)
BYD Bintaro (n=21)	4 (19,0)	13 (61,9)	3 (14,3)	1 (4,8)	0 (0,0)
BYD Cibubur (n=18)	9 (50,0)	7 (38,9)	2 (11,1)	0 (0,0)	0 (0,0)
Denza Pluit (n=11)	3 (27,3)	5 (45,5)	3 (27,3)	0 (0,0)	0 (0,0)
Denza Pondok Indah (n=10)	2 (20,0)	5 (50,0)	1 (10,0)	1 (10,0)	1 (10,0)

Source: Researcher-Processed Data, 2026 (converted from old composition graphs working on EVs)

The average respondent served 43.03 EV prospects per month (median 30; standard deviation 43.74; maximum 250), accompanied 13.78 test *drive* sessions (median 10), and handled 10.59 technical questions or complaints (median 10). Averages larger than the median indicate a distribution extending to the right, so the median more accurately reflects typical values.

Respondents with longer EV experience had a higher activity intensity (Table 8). The average lead increased from 33.6 (< 1 year) to 40.8 (1–2 years) and 62.7 (3–4 years), while the *3*–4 year group test drive assistance (26.2) was more than double that of the junior group. The 5–6 years and > 7 years group consisted of only two respondents so it could not be generalized. This pattern illustrates that the EV experience goes hand in hand with more intensive engagement with consumers (Fu, 2009; Matsuo & Kusumi, 2002), although it is descriptive.

Table 6. Average monthly EV-related activity by length of work on EV products

Long working on EVs	EV prospects/consumers	Test *drive assistance*	Technical questions/complaints
< 1 year (n=28)	33,6	10,9	8,7
1–2 years (n=43)	40,8	10,7	10,8
3–4 years (n=15)	62,7	26,2	12,2
5–6 years (n=2)	52,5	23,8	23,0
> 7 years (n=2)	67,5	18,0	7,5
All respondents (n=90): average (median)	43,03 (30)	13,78 (10)	10,59 (10)

Source: Researcher-Generated Data, 2026 (converted from monthly activity average graph)

Description of Research Variables

Training and development obtained an average score of 4.34 and was included in the good category (Table 9). The quality dimension of the training program obtained the highest score (4.47; 89.38%), especially on the mastery of the material by the instructor (4.53), while the frequency of training sessions obtained the lowest score (4.21; 84.27%), especially on the presence of employees in all sessions without schedule constraints (4.12). The relevance of training to job roles (4.34; 86.89%) and the availability of career development opportunities (4.32; 86.44%) were also in the good category.

Table 7. Average score of training and development variables (X)

Dimensions (score; index)	Indicator (score)
X1 Quality of training programs (4.47; 89.38%)	Instructors master the material in depth and professionally (4.53); Training materials are clear and structured (4.48); Training materials are easy to understand (4.47); Modules and teaching materials are up-to-date, complete, and informative (4.41); Easy to apply and solve problems (4.46)
X2 Frequency of training sessions (4.21; 84.27%)	The amount of training is ideal enough to master the material (4.24); The duration of each session is adequate and not rushed (4.23); Regular and consistent execution of sessions (4.19); Employees attend all sessions without schedule constraints (4.12); Repetition sessions are available when needed (4.28)
X3 Relevance of training to job roles (4.34; 86.89%)	Aligns with the main job description (4.36); Addresses the required competency gap (4.36); Can be applied practically without complicated adjustments (4.33); Improves time efficiency and reduces work errors (4.38); Adequate to deal with future role changes (4.30)
X4 Availability of career development opportunities (4.32; 86.44%)	Career path is clear and understood by every employee (4.32); Fair and objective promotion based on merit (4.34); Constructive encouragement and advice for career development (4.37); *Mentoring/coaching* for career readiness (4.29); Training/certification support for job promotion (4.29)
Mean variable X	4,34

Source: Researcher-Processed Data, 2026 (converted from measurement result graph)

Work experience obtained an average of 4.47 and was included in the good category (Table 10). The quality of interaction obtained the highest score (4.52; 90.36%), especially the

ability to convey technical specifications and safety features correctly and easily understood (4.62), followed by the accuracy of product knowledge (4.50; 89.91%). The time and relevance of the experience (4.46; 89.20%) as well as adaptation and learning (4.46; 89.11%) were also in the good category.

Table 8. Average score of work experience variables (Y)

Dimensions (score; index)	Indicator (score)
Y1 Time and relevance of experience (4.46; 89.20%)	Describe the product due to the accumulation of sufficient working time (4.49); The frequency of similar tasks in the past constitutes job readiness (4.42); Past responsibilities are in line with current tasks (4.44); Past technical skills are relevant to this position (4.38); Difficulties of past problems are equivalent to current challenges (4.57)
Y2 Product knowledge accuracy (4.50; 89.91%)	Precise technical specifications according to official company standards (4.58); Explain the functions of all features in detail and correctly (4.50); Recommend products according to customer needs (4.44); Guide customers to use products correctly (4.50); Accurately inform product limits (4.46)
Y3 Interaction quality (4.52; 90.36%)	Proactively greeting and approaching new customers (4.52); Patient, calm, and polite (4.43); Empathize and actively listen (4.49); Communicate safety specifications and features clearly (4.52); Communicate safety specifications and features correctly and easily understandable (4.62)
Y4 Adaptation and learning (4.46; 89.11%)	Initiatives to participate in digital competency certification (4.43); Openness to innovation in electric vehicle features (4.50); PPE compliance and EV safety checklist (4.46); Self-learning in EV *e-learning* modules (4.46); Adjusting *the procedure for connected car* applications and account activation (4.43)
Variable Average Y	4,47

Source: Researcher-Processed Data, 2026 (converted from measurement result graph)

The effectiveness of HR performance obtained an average of 4.50 and was rated good to very good by 90.07% of respondents (Table 11). The highest score was found in professional skills (4.54), especially the ability to explain charging, *regenerative braking*, and connectivity applications (4.62) and respond to customer complaints (4.61). The lowest indicator scores were found in the explanation of the basic EV maintenance and technical handling schedule (4.36) and the discipline of completing work on time (4.40).

Table 9. Average score of HR performance effectiveness variables (Z)

Dimensions (score; index)	Indicator (score)
Z1 Professional Ability (4.54)	Communication and coordination for smooth processes (4.54); Recording and updating customer data in the CRM system (4.46); Responding to and following up on customer complaints (4.61); Explaining charging, *regenerative braking*, and connectivity applications (4.62); *Closing rate* meeting or exceeding targets (4.46)

Dimensions (score; index)	Indicator (score)
Z2 Professional knowledge (4.48)	Explain the advantages of design, performance, and ADAS (4.56); Explain after-sales service/battery warranty (4.47); Educate electric vehicle insurance protection (4.44); Explain the basic maintenance and technical handling schedule of EVs (4.36); Guide the operation of digital features and connectivity (4.59)
Z3 Professional attitude (4.52)	Complying and consistently implementing *showroom administration SOPs* (4.47); Realizing the need for EV knowledge updates (4.51); Actively practicing new features in demo *cars* (4.51); Empathy to ease buyers' anxiety regarding batteries (4.54); Carefully accompanying *test drives* and application activation during *handover* (4.52)
Z4 Professional character (4.51)	Receiving customer criticism and feedback (4.56); Receiving supervisor evaluations (4.53); Discipline and completing work on time (4.40); Friendly body language and smiling expressions (4.48); Adjusting tone of voice during interactions and empathy (4.59)
Average variable Z	4,50

Source: Researcher-Processed Data, 2026 (converted from measurement result graph)

Evaluation of Measurement Models (*Outer Model*)

Initial testing of 60 indicators showed that five indicators had *an outer load* below 0.70, namely X1.1 (0.555), X2.2 (0.554), Y4.5 (0.682), Z3.1 (0.678), and Z4.3 (0.695). All five indicators were eliminated and the model was reestimated (Ghozali & Latan, 2015). The reduction did not eliminate the dimensions because each dimension remained represented by four or five indicators, leaving 55 indicators (X = 18, Y = 19, Z = 18). All final indicators have *an outer loading* between 0.729 (X3.5) and 0.930 (Y2.4) (Table 12).

Table 10. Outer loading indicator after reduction (55 indicators)

Dimensions	Ind. 1	Ind. 2	Ind. 3	Ind. 4	Ind. 5
X1 Program quality	X1.2 (0.798)	X1.3 (0.835)	X1.4 (0.868)	X1.5 (0.885)	–
X2 Session frequency	X2.1 (0.813)	X2.3 (0.836)	X2.4 (0.861)	X2.5 (0.813)	–
X3 Training relevance	X3.1 (0.785)	X3.2 (0.816)	X3.3 (0.880)	X3.4 (0.836)	X3.5 (0.729)
X4 Career opportunities	X4.1 (0.853)	X4.2 (0.851)	X4.3 (0.806)	X4.4 (0.842)	X4.5 (0.799)
Y1 Timing and relevance	Y1.1 (0.801)	Y1.2 (0.908)	Y1.3 (0.758)	Y1.4 (0.873)	Y1.5 (0.829)
Y2 Knowledge accuracy	Y2.1 (0.864)	Y2.2 (0.897)	Y2.3 (0.912)	Y2.4 (0.930)	Y2.5 (0.903)
Y3 Interaction quality	Y3.1 (0.834)	Y3.2 (0.900)	Y3.3 (0.867)	Y3.4 (0.884)	Y3.5 (0.856)
Y4 Adaptation and learning	Y4.1 (0.817)	Y4.2 (0.847)	Y4.3 (0.816)	Y4.4 (0.884)	–
Z1 Professional Capabilities	Z1.1 (0.833)	Z1.2 (0.767)	Z1.3 (0.812)	Z1.4 (0.840)	Z1.5 (0.774)

Dimensions	Ind. 1	Ind. 2	Ind. 3	Ind. 4	Ind. 5
Z2 Professional knowledge	Z2.1 (0.868)	Z2.2 (0.890)	Z2.3 (0.812)	Z2.4 (0.790)	Z2.5 (0.739)
Z3 Professional attitude	Z3.2 (0.739)	Z3.3 (0.876)	Z3.4 (0.826)	Z3.5 (0.811)	–
Z4 Professional character	Z4.1 (0.879)	Z4.2 (0.911)	Z4.4 (0.819)	Z4.5 (0.835)	–

Note: the number in parentheses is the outer loading value; the "–" sign indicates the indicator has been eliminated. Source: Data Processed by Researchers, 2026

The AVE values of the entire dimension ranged from 0.649 (Z1) to 0.813 (Y2), *Cronbach's alpha* 0.829–0.942, and *composite reliability* 0.887–0.956, so that all dimensions were convergently valid and reliably (Table 13). *The composite reliability* of second-order constructs X, Y, and Z was 0.946; 0.967; and 0.956, respectively. Values above 0.95 may indicate indicator redundancy (Hair et al., 2019), but it is still tolerable because the main criteria are met. All dimensions reflect second-order constructs with *loads* of 0.796–0.928 ($p < 0.001$). In construct X, the strongest reflections are the relevance of training (0.885) and career opportunities (0.875); in Y is the accuracy of product knowledge (0.928) and quality of interaction (0.926), while the time and relevance of experience (0.858) are the least. These findings support the argument that work experience in EV sales needs to be understood as the depth and quality of experience, not simply the length of the service life.

Cross loading *tests* showed that each indicator had the highest loading on its own dimensions, with the smallest difference at Y4.2 (0.847 on Y4 and 0.838 on Z3). At the dimension level, the Fornell–Larcker (Fornell & Larcker, 1981) criteria are presented in Table 14; most of the dimension pairs meet the criteria, while the Y4–Z2 (0.829) and Y4–Z3 (0.845) correlations are around the root boundary of the associated dimension AVE. Overall, the measurement model was declared feasible to proceed with the evaluation of the structural model.

Table 11. Discriminatory validity of the Fornell–Larcker criteria

	X1	X2	X3	X4	Y1	Y2	Y3	Y4	Z1	Z2	Z3	Z4
X1	0,847											
X2	0,522	0,831										
X3	0,635	0,682	0,811									
X4	0,666	0,575	0,668	0,831								
Y1	0,669	0,470	0,515	0,657	0,836							
Y2	0,591	0,360	0,600	0,661	0,694	0,901						
Y3	0,661	0,540	0,619	0,640	0,754	0,802	0,869					
Y4	0,697	0,383	0,668	0,728	0,661	0,823	0,762	0,841				
Z1	0,660	0,466	0,575	0,651	0,705	0,769	0,785	0,736	0,806			
Z2	0,608	0,417	0,712	0,695	0,718	0,751	0,747	0,829	0,766	0,832		
Z3	0,611	0,364	0,508	0,561	0,730	0,763	0,760	0,845	0,788	0,771	0,855	
Z4	0,580	0,442	0,415	0,521	0,698	0,746	0,804	0,795	0,694	0,672	0,791	0,862

Note: the bold number on the diagonal is the root of AVE; the AVE roots are Z2 (0.822) and Z3 (0.815) when recalculated from the AVE value in Table 13. Source: Data Processed by Researcher, 2026

Evaluation of Structural Models (*Inner Model*)

The VIF values of the X → Z and Y → Z pathways were 2.569 and the other lines were 1,000, all of which were below 5 so that there were no serious collinearity problems (Table 15). The R^2 value of work experience was 0.611 (moderate) and the effectiveness of HR performance was 0.875 (substantial); according to the criteria of Cohen (1992) both were relatively high. This means that 61.1% of the variation in work experience was explained by training and development, and 87.5% of the variation in the effectiveness of HR performance was explained together by training and development as well as work experience; the rest were explained by other factors such as leadership, incentives, compensation, and work discipline (Hardi & Harsono, 2025). The effect sizes of X → Y (1.571) and Y → Z (≈ 2.68) were relatively strong, while X → Z were close to zero. The value of $Q^2 = 1 - (1 - 0.875)(1 - 0.611) = 0.951$ showed excellent predictive relevance (Ghozali & Latan, 2015; Hair et al., 2017), and GoF = $\sqrt{(0.923 \times 0.743)} = 0.828$ (or 0.724 using average AVE) were in the large category (Tenenhaus et al., 2005; Yamin & Kurniawan, 2011). The final model is presented in Figure 3.

Table 12. Summary of structural model evaluation

Parameters/paths	Value	Remarks
VIF: X → Z	2,569	< 5
VIF: Y → Z	2,569	< 5
VIF: X → Y; Second-order construct → dimensions	1,000	< 5
R^2 Work Experience (Y)	0,611	Moderate
R^2 HR Performance Effectiveness (Z)	0,875	Substantial (strong)
f^2: X → Y	1,571	Strong
f^2: Y → Z	≈ 2.68	Strong
f^2: X → Z	≈ 0.00	Negligible
$Q^2 = 1 - (1 - 0.875)(1 - 0.611)$	0,951	Excellent predictive relevance
Average *composite reliability* (15 units)	0,923	–
Average R^2	0,743	–
GoF = $\sqrt{(0.923 \times 0.743)}$	0,828	Large

Note: f^2 is calculated from the coefficient of the path and R^2 of the model, $f^2 = (R^2\text{inclusion} - R^2\text{exclusion})/(1 - R^2\text{inclusion})$.
Source: Data Processed by Researchers, 2026

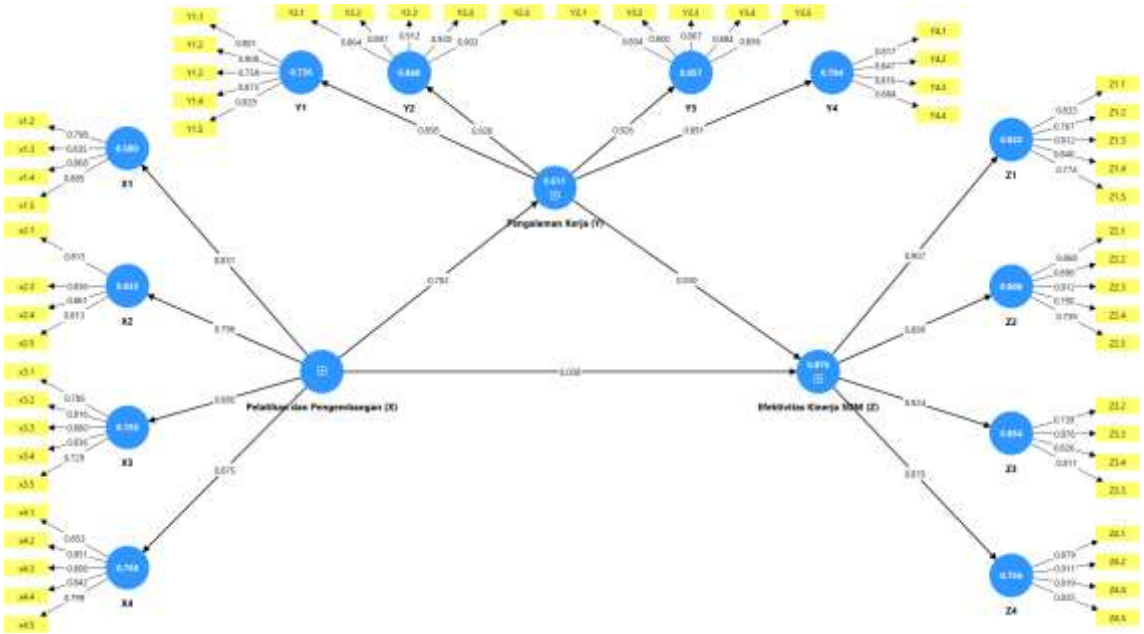

Figure 3. Final model of SEM-PLS after indicator reduction (55 indicators; outer loading and path coefficient)

Source: Data Processed by Researchers, 2026

Hypothesis Testing

The results *of bootstrapping* are presented in Table 16 and the decomposition of the influence in Table 17. The indirect influence of X → Y → Z was obtained from a multiplication of 0.782 × 0.930 = 0.727; together with the direct effect of 0.008, the total influence of X on Z was 0.735. The proportion of mediated influence (*variance accounted for*/VAF) was 98.9%, above the threshold of 80% which was categorized as full mediation (Hair et al., 2017).

Table 13. Recapitulation of hypothesis test results

Hip.	Pathway	Koef. (β)	Simp. Smash	T-Statistics	p-value	Verdict
H1	Training and Development (X) → HR Performance Effectiveness (Z)	0,008	0,068	0,110	0,912	Rejected
H2	Training and Development (X) → Work Experience (Y)	0,782	0,046	16,944	0,000	Accepted
H3	X → Y → Z (indirect influence)	0,727	0,067	10,883	0,000	Accepted
–	Work Experience (Y) → HR Performance Effectiveness (Z)	0,930	0,062	15,076	0,000	Significant

Note: significant at α = 0.05. Source: Data Processed by Researchers, 2026

Table 14. Decomposition of the effect of training and development (X) on the effectiveness of HR performance (Z)

Components of influence	Value	Remarks
Direct influence (X → Z)	0,008	Insignificant
Indirect influence (X → Y → Z = 0.782 × 0.930)	0,727	Significant
Total Impact	0,735	–
VAF (indirect/total)	98,9%	Full mediation

Source: Data Processed by Researchers, 2026

The Effect of Training and Development on the Effectiveness of Human Resources Performance (H1)

The coefficient of the X → Z path was 0.008 with a t-statistic of 0.110 and a p-value of 0.912, so that H1 was rejected: there was no significant direct influence of training and development on the effectiveness of HR performance. The 95% confidence interval (approximately −0.125 to 0.141) included zero. The contribution of training was not lost, but channeled through work experience. These findings are in line with Muslim et al. (2025) and Alvarezy et al. (2025) who found that training only affects performance through competence, Jonathans et al. (2026) on dealer salespeople in Bogor and Depok, and Putri et al. (2024) on health center employees. In contrast, Sari and Jaelani (2025), Hamid et al. (2024), Andani et al. (2026), and Febriadi et al. (2025) reported significant direct influences, and Saleh and Ainiah's systematic review (2024) confirmed the role of training in the automotive industry. This difference can be explained by the model: in the study, mediators such as experience or competence were generally not modeled simultaneously.

The insignificance of the direct pathway can be explained by: (1) training as an investment in human capital whose value is only realized after it has accumulated into experience (Barney et al., 2001; Becker, 1964); (2) 78.9% of respondents have EV experience of two years or less; (3) the likelihood of homogeneity of training experience within one company; and (4) the high correlation of training and work experience (β = 0.782; VIF 2.569) so that the common variance is absorbed by the mediation pathway.

The Effect of Training and Development on Work Experience (H2)

The coefficient of the X → Y path was 0.782 with a t-statistic of 16.944 and a p-value below 0.001, so that H2 was accepted: training and development had a positive and significant effect on work experience, explaining 61.1% of the variation with a strong effect ($f^2 = 1.571$). Training that is relevant to the task and accompanied by clarity of career path seems to be most related to the increase in the accuracy of EV product explanations and the quality of interaction with consumers. These results are consistent with Febriadi et al. (2025) in bank employees, Pratiwi et al. (2026) in hospital employees, and Lusi et al. (2024) in salespeople who place work experience as a variable that is reinforced by training. Training, *mentoring*, and *coaching* improve salesperson learning and knowledge transfer (Bradford et al., 2017), and continuous training improves technology efficacy and sales efforts (Rayburn et al., 2021). In the context of EVs, seller limitations are associated with a lack of product training and experience (Hagman & Janhager Stier, 2022) as well as erroneous specification information at dealers (Zarazua de Rubens et al., 2018). In contrast, Putri et al. (2024) reported the effect of training on insignificant competencies, likely because the training was general or administrative. The strength of the coefficient of 0.782 may also partially reflect the proximity of the measurement content so it needs to be confirmed with a longitudinal design.

The Role of Mediation Work Experience (H3)

The indirect influence of X → Y → Z was 0.727 with a t-statistic of 10.883 and a p-value below 0.001, so that H3 was accepted: work experience mediated the effect of training and development on the effectiveness of HR performance. Because the direct influence was insignificant while the indirect influence was significant, the type of mediation was full mediation (VAF 98.9%). Work experience itself had a very strong effect on the effectiveness of HR performance (β = 0.930; $p < 0.001$). These findings are in line with Pratiwi et al. (2026),

Lusi et al. (2024), Febriadi et al. (2025), and Kartika et al. (2022) who show that employability mediates the relationship between training, work experience, and performance. The strong relationship between experience and performance is consistent with Matsuo and Kusumi (2002) on car sellers in Japan, Fu (2009) on the performance trajectory of new products, Feng et al. (2021) on service life and sales performance, and Sawitri and Thamrin (2025) on learning orientation and product knowledge. The competencies of knowledge, abilities, and professional attitudes identified by Liao et al. (2025) as the core competencies of BEV sellers are also in accordance with the performance dimensions in this study.

Andani et al. (2026) found that new experiences have an impact if they are supported by work attitudes and motivations. This is in line with the framework of this study which views experience as a quality of capacity, not limited to length of work, as reflected in the dimension of time and relevance of experience which is the weakest reflection of the work experience construct. Two cautionary notes need to be made: there is a conceptual wedge between work experience and performance effectiveness (Y4–Z3 correlation 0.845 and Y4–Z2 0.829), and the data are *cross-sectional*, perceptual, and come from one company so that shared method bias cannot be ruled out. Therefore, these findings are seen as empirical support for the training path → experience → performance, not final causal evidence.

Managerial Implications

Overall, the findings support RBV and the human capital theory that human capital investment only produces advantages when the skills of the training result accumulate into inherent capabilities (Barney, 1991; Becker, 1964). Implication, HAKA Auto needs to design training that immediately continues to be field experience through *test drive assistance*, simulation of handling consumer objections, *shadowing* of seniors, and post-training evaluation; prioritizing EV materials that are immediately used (battery, mileage, *home charging*, warranty, and promotion) as well as career path clarity; monitor the accuracy of product knowledge and the quality of interaction through periodic certifications, *mystery shopping*, and customer feedback; provide special assistance to BYD Cibubur and BYD Pejaten; and implement retention strategies considering the high turnover of dealer sales staff (Karwa, 2016).

CONCLUSIONS AND SUGGESTIONS

This study concluded that the workforce at PT Bumi Hijau Motor (HAKA Auto Jakarta) was predominantly male (76.7%), relatively young (mean age: 31.67 years), and educated at the diploma or bachelor's degree level (78.9%). Most employees worked in sales and after-sales service functions (67.8%), while 78.9% had two years or less of experience with electric vehicle (EV) products. Longer professional experience was generally associated with more frequent customer interactions. Training and development (4.34), work experience (4.47), and employee performance (4.50) were rated favorably. The findings indicated that training and development were not directly associated with employee performance ($\beta = 0.008$; $p = 0.912$) but demonstrated a positive and statistically significant association with work experience ($\beta = 0.782$; $p < 0.001$). Work experience, in turn, exhibited a strong positive association with employee performance ($\beta = 0.930$) and fully mediated the relationship between training and development and employee performance (indirect effect = 0.727; variance accounted for

[VAF] = 98.9%). These findings suggested that practical work experience played a central role in the relationship between employee development initiatives and performance outcomes. Accordingly, HAKA Auto management should integrate structured training with practical workplace assignments and encourage employee participation in designing development programs that address operational challenges. Targeted mentoring programs should be coordinated by the Chief Operating Officer, particularly at BYD Cibubur and BYD Pejaten, where 50.0% and 46.7% of employees, respectively, had less than one year of EV-related experience. Furthermore, participatory communication strategies should be strengthened to equip employees with accurate information and effective approaches for addressing consumer concerns regarding battery waste management, charging infrastructure availability, and battery maintenance and replacement costs.

Future research should employ longitudinal designs to examine changes in employee competencies, work experience, and performance over time. Further refinement of questionnaire items is also recommended to improve construct validity and discriminant validity, particularly by minimizing conceptual overlap between work experience and employee performance. Expanding the research to multiple automotive dealerships and incorporating objective performance indicators, such as sales conversion rates, customer satisfaction, and service quality, could provide a more comprehensive assessment of employee performance and improve the generalizability of the findings.

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CONFLICT OF INTEREST

The authors declare that this research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

AUTHOR CONTRIBUTIONS

All authors contributed to the preparation and writing of this article.

STATEMENT ON THE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE

In the preparation of this manuscript, the authors utilized Artificial Intelligence (AI) solely for the purposes of improving grammar and checking language usage.

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