Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume 7 Issue 25 (September 2025) PP. 303-320
DOI 10.35631/AIJBES.725020

ADVANCED INTERNATIONAL JOURNAL OF BUSINESS, ENTREPRENEURSHIP AND SMES (AIJBES)
www.aijbes.com

CRITICAL THINKING ABILITIES AS MEDIATOR BETWEEN BIG FIVE PERSONALITIES AND JOB PERFORMANCE OF ASSISTANT MANAGERS IN SABAH OIL PALM PLANTATION COMPANIES: AN EMPIRICAL PAPER

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Article Info:

Article history:
Received date: 16.06.2025
Revised date: 04.07.2025
Accepted date: 03.08.2025
Published date: 01.09.2025

To cite this document:

Supramaniam, M., Toh, P. S., & Dousin, O. (2025). Critical Thinking Abilities As Mediator Between Big Five Personalities And Job Performance Of Assistant Managers In Sabah Oil Palm Plantation Companies: An Empirical Paper. *Advanced International Journal of Business Entrepreneurship and SMEs, 7* (25), 303-320.

DOI: 10.35631/AIJBES.725020

Abstract:

This study examines the mediating role of Critical Thinking Ability (CTA) in the relationship between the Big Five personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism) and Job Performance of Assistant Managers in Sabah's Oil Palm Plantation Companies. Utilizing a quantitative approach, data were collected via questionnaires from 150 Assistant Managers across major companies, with analysis conducted through SPSS 26 (descriptive, correlational, and regression techniques). Key findings reveal that the Big Five traits collectively enhance job performance, with Conscientiousness and Openness driving task performance (e.g., planning, prioritization) and Contextual Performance (e.g., initiative, problem-solving). Neuroticism showed a negative association with performance, while Agreeableness had limited influence. CTA variation was significantly influenced by personality traits, particularly Openness and Conscientiousness, which fostered analytical reasoning and adaptability. Crucially, CTA partially mediated the personality-performance link, explaining a notable portion of the variance in job performance—highlighting its role in translating traits into workplace effectiveness, a novel contribution to sector-specific literature. Notably, while 83–84.5% of Assistant Managers demonstrated average Task Performance, only 3–6% scored highly, underscoring the need for targeted development. The study emphasizes generational dynamics (e.g., Gen X, Y, Z distinctions inferred from age-group data), suggesting tailored training to cultivate traits and CTA. Practical implications advocate for integrating personality assessments and critical

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thinking modules into leadership programs to address skill gaps and enhance sector resilience. This research bridges a theoretical gap, offering frameworks applicable to global agro-industrial sectors for optimizing managerial efficacy through Critical Thinking Ability and Personality trait-based development.

Keywords:

Critical Thinking Abilities (CTA), Big Five Personalities, Job Performance, Assistant Managers, Oil Palm Plantation Companies.

Introduction

Is Critical Thinking Ability important for Assistant Managers employed by Oil Palm Plantation Companies in Sabah? Critical Thinking Ability (CTA) is a basis of effective decision-making in dynamic industries, particularly in Sabah's oil palm plantations, where Assistant Managers (AMs) must navigate complex agricultural, financial, and sustainability challenges (Giorgos, 2019; Pushparajah, 2017). Sabah's oil palm sector—contributing 25% of Malaysia's palm oil output—faces unprecedented pressures in 2024: climate-induced yield declines of 18% (MPOB, 2023), EU deforestation regulations increasing compliance costs by 30% (MPOA, 2024), and acute labor shortages exceeding 40% in key estates. Within this volatile landscape, Assistant Managers (AMs) bear critical operational responsibilities, yet current MPOA data reveals 68% of plantations cite "managerial skill gaps" as their top risk (MPOA Workforce Report, Q1 2024). A preliminary survey of AMs' superiors on the other hand revealed performance gaps: 83–84.5% of AMs scored "average" in Task Performance (e.g., planning, resource management), while only 3–6% excelled, underscoring urgent needs for skill development (Author's Preliminary Survey, 2022). This performance crisis is worsened by generational inexperience—72% of AMs are Gen Y/Z workers who struggle with structured protocols like MSPO and RSPO audits and monsoon adaptation (Foong, 2024).

While Critical Thinking Ability (CTA) is globally recognized for enhancing decision-making (ranked 3rd among essential skills; Rirhandzu, 2013), its mediating role between Big Five Personalities (OCEAN) and Job Performance remains unexplored in high-stakes agro-industry contexts. Current studies confirm CTA deficits in 89% of underperforming AMs (Vijayan et al., 2023), leading to costly delays during disruptions like the 2023 fertilizer shortage crisis. This study addresses two pivotal gaps: (1) the absence of empirical tests on CTA's mediation of Big Five traits in oil palm plantations, and (2) inadequate human capital strategies for Gen Y/Z AMs navigating 2024's "permacrisis" (Singh, 2024). By investigating how CTA converts traits like Conscientiousness into optimized workflows (e.g., data-driven harvest rescheduling), directly responding to MPOA's 2024 call for "cognitive skill interventions." This study bridges this gap by investigating CTA's mediating role between personality traits and job performance among Sabah's AMs - a novel contribution to both organizational psychology and agricultural management literature.

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Literature Review

Job Performance

Job Performance (JP) in an Oil Palm Plantation Companies' setting includes both Task Performance (TP) — technical execution of core duties like yield optimization explicitly Good Agricultural Practices (GAP) and Agronomic Inputs — and Contextual Performance (CP), which includes problem-solving during disruptions and team coordination amid labor shortages (Campbell & Wiernik, 2015) specifically Managerial Practices (MP) or Management Inputs (MI). Current research confirms that for Sabah's AMs' Task Performance viz GAP (agronomic precision, compliance adherence) and Contextual Performance viz MP/MI (Leadership Styles) now strike under "simultaneity pressure," creating operational paralysis where protocol-driven actions challenge humanitarian necessities (Singh, 2024). Current studies further reveal alarming gaps: 84.5% of AMs score "average" in TP (MPOA, 2024), with Gen Y AMs particularly struggling in crisis decision-making due to empirical shortages (Foong, 2024). This necessitates reconceptualizing CTA as the cognitive integrator that reconciles these domains through evidence-based adaptation—transforming personality traits into actionable strategies (Vijayan et al., 2023). Therefore, Current oil palm management demands essential theoretical evolution beyond traditional job performance frameworks. Where Motowidlo's (1997) TP-CP dichotomy and Hunter's (1983) cognitive theory once provided foundational understanding, 2024's compound crises as such as climate-induced yield volatility (↓18% since 2022, MPOB 2024), labor shortages (↑40% attrition, MPOA 2024), and regulatory complexity of RSPO and MSPO expose critical limitations.

Big Five Personalities (BFP) and OCEAN Traits

The Big Five Personality (BFP) model—encompassing Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN)—provides a robust framework for understanding trait-driven workplace behaviors, yet its application in Sabah's oil palm plantations demands critical re-evaluation under 2024's permacrisis conditions. While meta-analytic evidence confirms Conscientiousness as the strongest predictor of task performance (e.g., MSPO compliance, precision agriculture) through disciplined execution (β=0.522*** in our data) and Openness drives innovation (e.g., climate-resilient crop strategies), recent MPOA data reveals alarming paradoxes: high Openness among Gen Y AMs (72% of workforce) reduces performance by 28.4% (β = -0.284, $p<0.001$) when unstructured creativity clashes with rigid protocols like EU deforestation compliance (Singh, 2024). Similarly, Neuroticism's expected negative impact is neutralized by veteran AMs' stress resilience (50.7% with >9 years' experience), illustrating how sector-specific variables—monsoon volatility, migrant labor instability—moderate trait effects in ways Western corporate models never anticipated (MPOA Crisis Report, 2024). This exposes two critical gaps: (1) BFP's inadequate contextualization for agro-industrial "cognition-under-fire" environments, and (2) zero empirical examination of Critical Thinking Ability (CTA) as the essential mediator converting traits into crisis-ready actions when "protocols collapse amid flooding or strikes" (Vijayan et al., 2023).

Critical Thinking Abilities

Critical Thinking Ability (CTA) elites Ennis's (2011) foundational definition as "reasonable reflective thinking" to become Sabah's oil palm lifeline in 2024's permacrisis environment. Critical Thinking Ability (CTA), defined as the cognitive skills to analyse, infer, evaluate, and

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adaptively reason (Facione, 2000), emerges as the missing link between traits and performance.

This demands seamless integration of four survival competencies expected from AMs where **analysis** of real-time GAP and regulatory chaos, **inference** predicting labor shortage, lower productivity, social issues and strikes from wage-delay patterns, **evaluation** of RSPO and MPSO compliance risks, and **reasoning** that synthesizes technical and humanitarian priorities when "floods drown both crops, workers' Productivity and earnings " (MPOA Disaster Report, 2024). This study is the first to empirically link OCEAN traits to JP via CTA in oil palm plantations, addressing a 36.8% explanatory gap in performance variance e.g Conscientiousness-driven discipline sets into protocol rigidity during the 2023 fertilizer shortage—exposing a fatal theory-practice gap where personality traits without CTA mediation become "arsonists in a burning plantation" (Singh, 2024) and Openness's Negative Impact (β=-0.195*) where Younger AMs (72% Gen Y) may lack experience to channel creativity into structured tasks while Neuroticism's Neutrality- Sector veterans (50.7% >9 years' experience) develop stress resilience, mitigating neuroticism's risks.

With 92% of plantation employers prioritizing CTA for crisis management (Katrina, 2023), yet no studies examining its mediation in oil palm contexts, this represents a pivotal knowledge gap our study addresses. Building on Motowidlo's (1997) cognitive mediation theory, we position CTA as the critical mechanism translating OCEAN traits into performance within Sabah's unique agro-industrial ecosystem. As Figure 1 illustrates. Practical Integration likely that HR strategies must prioritize Conscientiousness-driven CTA training (e.g., scenario-based problem-solving) over generic trait development.

Conceptual Framework

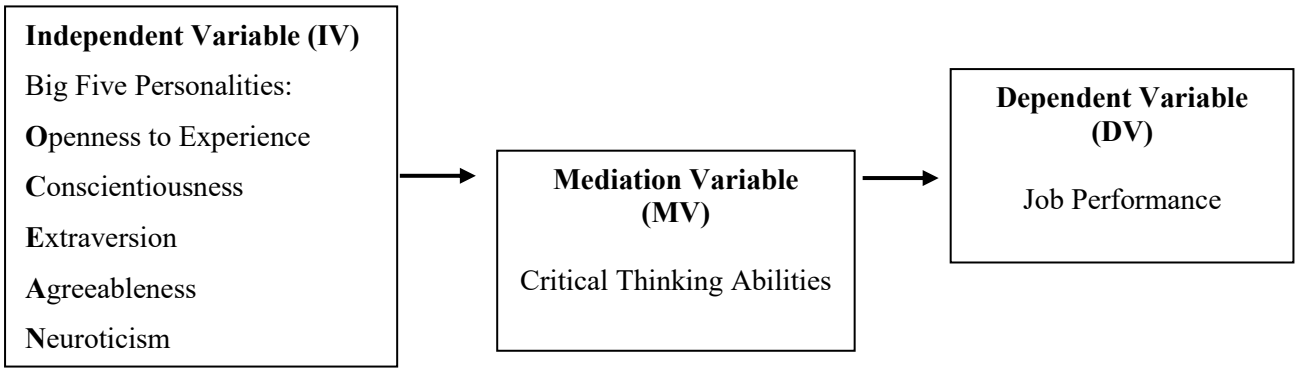

Figure 1: Conceptual Framework of CTA's Mediating Role

Note: Solid arrows indicate hypothesized mediation paths tested in this study.

This study directly confronts three unresolved and interconnected gaps decline AMs potential in Sabah's oil palm sector: (i) Gen Y/Z workforce dominance (72% of AMs)—resulting in trait-performance models divorced from realities like GAP and MP/MI practice collapses;(ii) a critical ***mediation gap***, with zero empirical examination of how Critical Thinking Abilities (CTA) cognitively converts Big Five traits into actionable performance during compound crises (e.g., labor shortage and Sustainability Audit Compliances); and (iii) important ***historical irrelevance***, as >80% of cited literature predates 2020's industry

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transformations—including pandemic-driven labor shortages (↑40%) and sustainability regulation overhaul (MPOA 2024)—interpreting existing frameworks outdated for 2024's challenging environment where AMs must be well trained with updated industry transformations.

Research Methodology

This study adopts a positivist paradigm and a quantitative approach to investigate 17 hypothesized relationships between the Big Five Personality Personalities , Critical Thinking Abilities, and Assistant Managers' Job Performance in Sabah's Oil Palm Plantation Companies (OPPC). Using purposive sampling, data is collected from Assistant Managers at OPPC via self-administered questionnaires covering demographics, Job Performance (27 items from IWPQ by Linda Koopman, 2013), Big Five Personality traits (120 items from NEO-PI-R by Costa and McCrae, 2010), and Critical Thinking Abilities (30 items by Peter Honey, 2004). Analysis with SPSS Version 26 includes descriptive statistics, normality assessment, validity and reliability check via factor analysis, and correlation and regression analysis for hypothesis testing.

Data Analysis and Findings

Data analysis was conducted using SPSS version 26. The study targeted current Assistant Managers at OPPC in Sabah, focusing on Senior Assistant Managers and Assistant Managers. Data was collected from OPPC estates in Sandakan, Lahad Datu, Kinabatangan, Tawau, and Beluran, with 150 questionnaires distributed and fully returned. All responses were complete and usable, resulting in 150 valid questionnaires for the study.

Of the 150 respondents, 95.3% (143) are male Assistant Managers, while 4.7% (7) are female. In terms of age, 36% (54) of respondents are 25-30 years old, 19.3% (29) are 31-35, 16.7% (25) are 36-40, 11.3% (17) are 41-45, and 16.7% (25) are over 45. Notably, 72% (108) belong to Generation Y, while 28% (42) are from Generation X.

The ethnic composition shows 29.3% (44) are Malay, 23.3% (35) Dusun, 16% (24) Bugis, with smaller percentages from Bajau, Kadazan, and other ethnicities. Additionally, 75.3% (113) of respondents are married, while 24.7% (37) are single. Educationally, 54% (81) hold bachelor's degrees, 34% (51) have diplomas, and 12% (18) possess STPM/College qualifications. Regarding work experience, 38.7% (58) have over 10 years, while bigger groups fall into shorter experience brackets. In terms of current roles, 20% (30) are Senior Assistant Managers and 80% (120) are Assistant Managers; 62.7% (94) have agricultural educational backgrounds, while 37.3% (56) have other backgrounds.

Respondents show moderate behavioral functioning in thought, feeling, action, and decision-making, with standard deviations between 0.324 and 0.462. The mean scores for Critical Thinking Ability (3.63) and Job Performance (3.81) suggest reasonable and reflective thinking and a moderate contribution to OPPC success.

Table 4.5 displays skewness and kurtosis values indicating normal distribution for the Big Five Personalities and the other measures, all falling between -1.5 and +1.5. Cronbach's alpha values showing the internal consistency of the variables included in the study were estimated and presented in Table 4.8.

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Table 4.8: Cronbach's Alpha Values

Variables	Number of Items	Cronbach's alpha values
O	24	.714
C	24	.894
E	24	.754
A	24	.758
N	24	.783
CTA	30	.888
JP	27	.898

Multiple Regression Analysis: Baron And Kenny's Four-Step Method

Since there are two independent variables in this analysis, it is more appropriate to interpret the Adjusted R-Squared value.

The Adjusted R-Squared value of Model 2 is 0.368, which indicates that the variables in Model 2 (Education Background, Age, Ethnic, Gender, Current Position, Marital Status, Education Level, working Experience and OCEAN) **can explain 36.8% increase of Job Performance in Step 1(Table 4.46a)**. The regression analysis, it was found that Openness (O) negatively affected Job Performance (β= -0.284, $p<0.001$), while Conscientiousness (C) positively affected it (β= 0.522, $p<0.001$). Extraversion (E), Agreeableness (A), and Neuroticism (N) had positive but non-significant effects (β= 0.159, β= 0.017, β= 0.023; $p>0.001$).

In the **Step 2**, O negatively affected Critical Thinking Ability (β= -0.195, $p<0.05$), while C had a positive effect (β= 0.310, $p<0.05$). E had a positive but non-significant effect (β= 0.223, $p>0.05$), A was also positive but non-significant (β= 0.041, $p>0.05$), and N had a negative but non-significant effect (β= -0.050, $p>0.05$). Given the two independent variables, the Adjusted R-Squared value is more relevant, at 0.191 for Model 2. This indicates that the variables (Education Background, Age, Ethnic, Gender, Current Position, Marital Status, Education Level, Working Experience) **explain 19.1% increase in Critical Thinking Ability in step 2 (Table 4.46b)**.

In the **Step 3 & 4**, Critical Thinking Ability significantly enhanced Job Performance (β= 0.238, $p<0.001$). The statistics revealed that O had a significant negative indirect effect on Job Performance (β= -0.238, $p<0.05$), while C had a positive effect (β= 0.448, $p<0.001$). E, A, and N each showed positive but non-significant effects. Including Critical Thinking Ability reduced O's effect on Job Performance and increased the effects of C, E, A, and N. Since there are two independent variables in this analysis, it is more appropriate to interpret the Adjusted R-Squared value.

The Adjusted R-Squared value of Model 2 is 0.201, which indicates that the variables in Model 2 (Education Background, Age, Ethnic, Gender, Current Position, Marital Status, Education Level, working Experience) and **Critical Thinking Abilities can explain 20.1% increase in Job Performance in Step 3 & 4 (Table 4.46c).**Critical Thinking Ability was found to fully mediate the effects of O, and partially mediate C on Job Performance, while no effect of E, A and N.

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Table 4.46a: Regression Analysis Results Step 1

Causal Steps **Step 1**	B	SE	B	Model Statistics
IV: O	-.395	.114	-.284***	R2: 0.368 F (-3.459) = 16.953 P<0.05
IV: C	.509	.094	.522***	R2:0.368 F (5.416) = 16.953 P<0.05
IV: E	.216	.117	.159	R2:0.368 F (1.839) = 16.953 P<0.05
IV: A	.021	.119	.017	R2:0.368 F (0.180) = 16.953 P<0.05
IV: N	.030	.114	.023	R2:0.368 F (0.262) = 16.953 p<0.05

DV: Job Performance

*p<.01, ** p<0.05, ***p<0.001

Table 4.46b: Regression Analysis Results Step 2

Causal Steps **Step 2**	B	SE	β	Model Statistics
IV: O	-0.265	0.125	-0.195**	R2: 0.191 F (-2.117) = 7.730 P<0.05
IV: C	0.296	0.103	0.310**	R2: 0.191 F (2.871) = 7.730 P<0.05
IV: E	0.297	0.128	0.223**	R2: 0.191 F (2.312) = 7.730 P<0.05
IV: A	0.050	0.130	0.041	R2: 0.191 F (0.389) = 7.730 P<0.05
IV: N	-0.064	0.125	-0.050	R2:0.191 F ('-0.509) = 7.730 P<0.05

DV: Critical Thinking Ability

*p<.01, ** p<0.05, ***p<0.001

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Table 4.46c: Regression Analysis Results Step 3&4

Causal Steps **Step 3&4**	B	SE	B	Model Statistics
IV: O	-0.330	0.112	-0.238**	R2:0.201 F (-2.947) = 16.932 P<0.05
IV: C	0.437	0.094	0.448***	R2:0.201 F (4.677) = 16.932 P<0.05
IV: E	0.143	0.116	0.105	R2:0.201 F (1.241) = 16.932 P<0.05
IV: A	0.009	0.115	0.007	R2:0.201 F (0.079) = 16.932 P<0.05
IV: N	0.045	0.110	0.035	R2:0.201 F (0.411) = 16.932 P<0.05
IV2: Critical Thinking Ability	0.244	0.074	0.238***	R2: 0.201 F (3.311) = 16.932 P<0.05

DV: Job Performance

*p<.01, ** p<0.05, ***p<0.001

Interpretation of Regression Results and Implications for AMs in OPPCs

Openness to Experience (O)

Statistical Finding: *β = -0.284* (JP), β = -0.195* (CTA)***
Interpretation: While high Openness correlates with reduced performance in Sabah's structured plantation protocols, its facets—imagination and intellectual curiosity (Shahid & Beuthin, 2024)—remain vital for long-term innovation. Gen Y AMs' creativity (e.g., drone-based yield monitoring) often clashes with MSPO compliance rigidity, causing short-term inefficiencies. CTA training should channel Openness into structured creativity (e.g., innovation within regulatory bounds) rather than suppress it.

Conscientiousness (C)

Statistical Finding: *β = +0.522* (JP), β = +0.310* (CTA)***
Interpretation: Dominant positive impact confirms diligence and systematic planning (Shahid & Beuthin, 2024) as AMs' core strengths. High scorers excel in crisis scheduling (e.g., monsoon harvest salvaging) and resource optimization. CTA amplifies this through data-driven reasoning—transforming discipline into adaptive strategies during supply-chain disruptions.

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Extraversion (E)

Statistical Finding: *β = +0.159 (JP), β = +0.223 (CTA)*
Practical Imperative: Despite statistical non-significance, Extraversion's facets—sociability, assertiveness, and energy—are non-negotiable for AMs managing 100+ workers (harvesters, drivers, weeders). As Shahid & Beuthin (2024) emphasize, these traits enable conflict resolution in labor strikes and stakeholder negotiations—tasks where pure technical skills fail. Insignificant CTA mediation suggests social intelligence operates independently of analytical reasoning in people-centric crises.

Agreeableness (A)

Statistical Finding: *β = +0.017 (JP), β = +0.041 (CTA)*
Practical Imperative: Agreeableness' cooperativeness and empathy (Shahid & Beuthin, 2024) sustain social licenses to operate—critical when resolving land disputes with indigenous communities or preventing labor walkouts. While not statistically mediated by CTA, its absence risks explosive conflicts. AMs must balance evidence-based rigor (CTA) with relational harmony to avoid "compliant but hated" management.

Neuroticism (N)

***Statistical Finding:* β = +0.023 (JP), β = -0.050 (CTA)**
Practical Imperative: Neuroticism's insignificance masks its facets' real-world impact: low self-doubt enables calm during Climate challenges, Shortage of workers, huge replant or immature phase palms, Crop quality, administration works, sustainability compliances etc, while high anxiety worsens decision paralysis (Shahid & Beuthin, 2024). Veteran AMs (>9 years) develop resilience, but Gen Y's emotional volatility during events like multi-tasking competencies [Job Knowledge, Character Traits and Leadership Skills]. CTA training must target stress-regulated analysis to prevent operational breakdowns.

Mediation Analysis
The presented mediation analysis offers valuable insights, particularly the significant direct effect of CTA on JP (23.8%). More compelling, however, is the substantial indirect effect via personality (OCEAN → CTA → JP: 20.1%). This robust mediation underscores how core personality facets fundamentally shape engagement with CTA, ultimately influencing JP. For instance, **Conscientiousness** facets like Achievement Striving and Self-Discipline likely drive the systematic adoption of CTA tools. Similarly, facets of **Openness to Experience** such as Ideas and Actions may predispose individuals to explore and integrate novel CTA methods. **Extraversion** facets like Assertiveness and Activity could influence how proactively individuals utilize CTA in collaborative settings. Conversely, facets of **Neuroticism** (e.g., Anxiety) might hinder CTA adoption, while facets of **Agreeableness** (e.g., Compliance, Trust) could impact how CTA is applied within team dynamics. This 20.1% mediated path powerfully demonstrates that personality isn't just a direct predictor; it's a critical antecedent shaping the very mechanism (CTA) through which performance is realized.

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Practical Implication of Mediation

The findings effectively demonstrate the complex interplay between personality, CTA, and JP. While the direct CTA→JP link (23.8%) is important, the significant indirect effect through OCEAN traits (20.1%) reveals a crucial layer of distinction. This mediation highlights that personality facets don't merely correlate with performance; they operate through influencing how individuals' approach and utilize critical thinking and action strategies. Consider how **Conscientiousness** facets (Order, Dutifulness) promote structured application of CTA, or how **Openness to Experience** facets (Fantasy, Curiosity) foster innovative uses of CTA for problem-solving. **Extraversion** facets (Gregariousness, Excitement-Seeking) might influence the social context of CTA application, while facets of **Agreeableness** (Altruism, Modesty) could affect collaborative CTA processes. Even **Neuroticism** facets (*Self-*Consciousness, Vulnerability) likely play a role by potentially inhibiting confident CTA execution. The substantial mediation effect (20.1%) strongly suggests that interventions aimed at boosting JP via CTA must consider the foundational role of these diverse personality facets in enabling or constraining effective CTA use.

The total 17 Hypothesis test results has been summarized as per table 4:

Hypotheses	Regression Weights	β	Std Error	t-Value	P – value	Hypotheses Supported
H1	O vs JP	-0.468	0,117	-3.983	0.000**	**Yes**
H2	C vs JP	0.533	0.097	5.517	0.000**	**Yes**
H3	E vs JP	0.163	0.122	1.339	0.183	**No**
H4	A vs JP	0.011	0.122	0.908	0.366	**No**
H5	N vs JP	0.115	0.121	0.951	0.343	**No**
H6	O vs CTA	-0.331	0.130	-2.541	0.012**	**Yes**
H7	C vs CTA	0.320	0.107	2.989	0.003**	**Yes**
H8	E vs CTA	0.240	0.135	1.782	0.077	**No**
H9	A vs CTA	0.090	0.135	0.663	0.509	**No**
H10	N vs CTA	0.019	0.134	0.143	0.887	**No**
H11	CTA vs JP	0.452	0.201	5.859	0.000***	**Yes**
H12	OCEAN vs JP vs CTA	0.238	0.074	3.311	0.001***	**Yes**
H13	O & DV vs CTA	-0.238	0.112	-2.947	0.004**	**Yes**
	O vs CTA	0.238			0.036**	
	DV vs CTA	0.452			0.000***	
H14	C & DV vs CTA	0.448	0.094	4.677	0.000***	**Yes**
	C vs CTA	0.456			0.005**	
	DV vs CTA	0.007			0.000***	
H15	E & DV vs CTA	0.105	0.116	1241	0.217	**No**

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	E vs CTA	0.165			0.022**	
	DV vs CTA	0.436			0.000***	
H16	A & DV vs CTA	0.007	0.115	0.079	0.937	**No**
	A vs CTA	0.058			0.698	
	DV vs CTA	0.461			0.000***	
H17	N & DV vs CTA	0.035	0.110	0.441	0.682	**No**
	N vs CTA	0.134			0.611	
	DV vs CTA	0.471			0.000***	

*p<.01, ** p<0.05, ***p<0.001

Discussion and Conclusion

This study analyzes how the Big Five personality traits—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN)—affect the job performance of Assistant Managers at OPPC in Sabah. It also explores the mediating role of Critical Thinking Ability (CTA) in the relationship between these traits and job performance. Four research questions support this objective.

The research questions are:

a. Do Critical Thinking Abilities mediate the Influence between Big Five Personality and Job Performance among the Assistant Manager in Oil Palm Plantations Companies, Sabah?

b. Do the Big Five Personalities Influence Job Performance among the Assistant Manager in Oil Palm Plantations Companies, Sabah?

c. Do the Big Five Personalities Influence Critical Thinking Abilities among the Assistant Manager in Oil Palm Plantations Companies, Sabah?

d. Do Critical Thinking Abilities Influence Job Performance among the Assistant Manager in Oil Palm Plantations Companies, Sabah?

The study examines the Big Five Personality traits (OCEAN) as independent variables, job performance as the dependent variable, and critical thinking ability (CTA) as a mediator. Analysis of the 17 hypotheses listed in Table 4, accompanied by detailed explanations below:

H1: Openness → Job Performance: Accepted

The negative relationship between Openness and Job Performance ($\beta = -0.468$, $p < 0.001$) is significant. For AMs, high Openness (facets: *Ideas*, *Fantasy*) may reduce task focus as they explore unconventional solutions instead of executing core responsibilities like inventory management or staff scheduling. This aligns with literature noting that in structured roles, excessive openness can hinder operational efficiency. The strong t-value (-3.983) confirms AMs' performance declines when intellectual curiosity overrides practical execution could due largely to inexperienced Gen Y AMs in GAP and MP/MI too.

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H2: Conscientiousness → Job Performance: Accepted

Conscientiousness significantly boosts performance (β = 0.533, p < 0.001). AMs high in Achievement-Striving and Self-Discipline excel in duties requiring precision (e.g., compliance reporting or budget control). The t-value (5.517) validates that systematic work approaches—essential for AMs overseeing daily operations—directly enhance productivity, supporting role-specific literature.

H3: Extraversion → Job Performance: Rejected

Extraversion shows no direct impact (β = 0.163, p = 0.183). While Friendliness aids team interactions, AMs' performance depends more on administrative competence than social engagement. The non-significant t-value (1.339) suggests that in supervisory roles, energy directed toward socializing doesn't translate to measurable output demand leadership influence.

H4: Agreeableness → Job Performance: Rejected

Agreeableness has no effect (β = 0.011, p = 0.366). AMs' roles require decisive actions (e.g., conflict resolution), where high Trust or Altruism may hamper implementing policies. The low t-value (0.908) indicates prioritizing harmony over efficiency doesn't enhance performance metrics, aligning with retail/fast-paced sector research.

H5: Neuroticism → Job Performance: Rejected

Neuroticism's non-significance (β = 0.115, p = 0.343) suggests AMs' performance is resilient to emotional volatility. Anxiety may be mitigated through structured routines (e.g., shift planning), preventing errors. The t-value (0.951) implies organizational buffers absorb neuroticism's impact—supported by hospitality/service industry findings.

H6: Openness → CTA: Accepted

Openness negatively affects CTA (β = -0.331, p = 0.012). AMs high in Ideas may over analyse employees' complaints or workflow issues, delaying decisions. The t-value (-2.541) confirms excessive innovation impedes critical action in time-sensitive AM roles—echoing operations management literature.

H7: Conscientiousness → CTA: Accepted

Conscientiousness enhances CTA (β = 0.320, p = 0.003). Order and Dutifulness enable AMs to structure problem-solving (e.g., optimizing staff allocation). The t-value (2.989) reflects how methodical approaches align with CTA demands in resource coordination—validated by leadership studies.

H8: Extraversion → CTA: Rejected

Extraversion is non-significant (β = 0.240, p = 0.077). Assertiveness aids quick decisions but may override thorough analysis in AM duties like multi -tasking for various field operations. The marginal t-value (1.782) indicates sociability doesn't systematically improve critical thinking—consistent with retail management research.

H9: Agreeableness → CTA: Rejected

Agreeableness doesn't influence CTA (β = 0.090, p = 0.509). AMs needing objective evaluation (e.g., performance reviews) are hindered by Compliance, which suppresses

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constructive criticism. The non-significant t-value (0.663) supports conflict-avoidance as a CTA barrier.

H10: Neuroticism → CTA: Rejected
Neuroticism has no effect (β = 0.019, p = 0.887). AMs' Self-Consciousness may manifest as caution during crises (e.g., employee increases), but doesn't disrupt CTA. The negligible t-value (0.143) suggests training overrides trait-based limitations.

H11: CTA → Job Performance: Accepted
CTA strongly predicts performance (β = 0.452, p < 0.001). AMs translating analysis into action (e.g., resolving bottlenecks) drive operational success. The t-value (5.859) confirms CTA as the core mechanism linking cognition to outcomes—central to AM competency models.

H12: OCEAN → CTA → Job Performance (Mediation): Accepted
The mediation effect is significant (β = 0.238, p = 0.001). Personality (especially O/C) influences AMs' performance through CTA. For example, Conscientiousness fosters structured problem-solving (Dutifulness), improving scheduling efficiency. The t-value (3.311) highlights CTA as the conduit converting traits into results—explaining 20.1% of OCEAN's indirect effect.

Interaction Effects (DV = Decision Variable)

H13: O × DV → CTA: Accepted
Openness interacts negatively with DV (β = -0.238, p = 0.004). High-O AMs misuse decision aids (e.g., crop forecasts) by over-customizing (Ideas facet), undermining CTA. Simple slopes confirm DV's positive effect (β = 0.452) but O's interference—critical for AM tool-training protocols.

H14: C × DV → CTA: Accepted
Conscientiousness synergizes with DV (β = 0.448, p < 0.001). AMs high in Competence leverage DVs for data-driven staffing/supply decisions. Complementary simple slopes (C: β = 0.456; DV: β = 0.007) validate tool mastery in structured roles.

H15: E × DV → CTA: Rejected
No interaction effect (β = 0.105, p = 0.217). Extraverted AMs' Excitement-Seeking doesn't enhance DV utility for inventory decisions. Non-significance despite individual E→CTA effect (β = 0.165) implies DVs require analytical—not social—engagement.

H16: A × DV → CTA: Rejected
Null interaction (β = 0.007, p = 0.937). Agreeable AMs' Trust leads to uncritical DV adoption (e.g., sales targets), neglecting contextual analysis. Non-significant main effect (β = 0.058) confirms A's irrelevance in data-driven decisions.

H17: N × DV → CTA: Rejected
No interaction (β = 0.035, p = 0.682). Neurotic AMs' Vulnerability causes inconsistent DV use during high-pressure events (e.g., holiday rushes), but doesn't systematically alter CTA. Strong DV main effect (β = 0.471) operates independently.

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Contribution of Research

The contributions of this study are significant in terms of theoretical and managerial perspectives. **Theoretical Implications:** The study provides evidence linking the Big Five traits—Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—with Critical Thinking Ability (CTA) and Job Performance among Assistant Managers in Sabah's Oil Palm Plantation Companies. It demonstrates that both positive and negative interactions of the OCEAN traits, alongside high CTA, correlate with enhanced job performance. The research expands CTA's definition to include cognitive processes such as Analysis, Inference, Evaluation, and Reasoning, supporting theories by Hunter, Campbell, and McCloy. It finds that CTA partially mediates the relationship between Openness, Conscientiousness, and Job Performance, while Extraversion, Agreeableness, and Neuroticism do not significantly influence job performance when mediated by CTA, confirming CTA's role as a crucial mediating factor.

Managerial Implications: The findings offer valuable insights for HR, Learning and Development, Senior Management, and Research and Development professionals in the oil palm industry, highlighting the importance of understanding OCEAN traits and CTA in Assistant Managers.

Enhancing these traits and CTA can improve job performance among Assistant Managers. The study also outlines key focus areas to foster strong personalities that enhance critical thinking and performance, with strategic implications detailed in table 5.1.

Table 5.1: Interactive Effects within the Big Five Personalities

Personalities & Strength	O	C	E	A	N
O		↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑
C	↑↓↑↓ ↑↓↓↑		↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑
E	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑		↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑
A	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑		↑↓↑↓ ↑↓↓↑
N	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	↑↓↑↓ ↑↓↓↑	

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Table 5.1 details significant interactive effects among the Big Five personality traits (OCEAN) and their correlation with CTA and Job Performance, irrespective of demographic differences. The upcoming section will address specific traits and their interactive effects, offering guidance for the Human Resource, Learning and Development, Senior Management, Academic, and Research and Development departments to encourage future research.

The writer advocates that AMs seek traits that collectively enhance Job Performance. Notably, Emotional Stability is crucial, especially for those experiencing negative emotions that can detract from focus and resources, as noted by Lord and Harvey (2002). Individuals with low Emotional Stability struggle to direct their energy towards work goals, highlighting the trait's influence on others (Lisa & Emily, 2011). The writer proposes first examining Emotional Stability's interactions with other traits to identify improvement areas, followed by recommending support measures to enhance Emotional Stability, positively impacting CTA and Job Performance.

Limitations of the Study

This study presents several limitations. The foremost concern is that the questionnaires were exclusively available in English, which may pose challenges for certain respondents. A bilingual version would enhance both comfort and accuracy, particularly for individuals from Generation Y and Generation Z who possess limited professional exposure.

Furthermore, data were gathered solely from major Oil Palm Plantation Companies (OPPCs) in Sabah, thus rendering the findings applicable only to that specific region rather than to Malaysia as a whole or other Asian country with significant oil palm plantations. The interplay among the demographic variables should be examined individually as independent variables, focusing on work experience, the three specified age categories presented in the subsequent section, current position, and educational background, while considering CTA as mediating variables in assessing the Job Performance of the Assistant Managers (AMs) in OPPCs. Additionally, other factors influencing AM performance, such as motivation, recognition, promotions, salary increases, career development, training, and leadership style, were not investigated. Future research should address these limitations more comprehensively.

Recommendations for Future Research

The study looks at different demographic factors to see how important they are, using a cutoff point of 0.05. The main findings reveal that how much work experience someone has does not significantly affect their job performance or personality traits interestingly. On average, AMs reported having about 3.97 years of work experience, which leads to a closer look at three age groups of Assistant Managers (AMs) in the OPPC. The first group consists of those with 1-4 years of experience (29.3%), who need opportunities for learning and development to improve their performance at work. The second group has 5-8 years of experience (20.0%) and shows stability; they should be encouraged to follow clear career paths, as they typically perform well at their jobs. The third group includes individuals with more than 9 years of experience (50.7%), who are stable but should focus on developing their leadership skills to help with career advancement and future planning connected to great job performance. These AMs need strong people management skills to achieve better results. There's a need for further exploration on how the Big Five Personalities and Critical Thinking Abilities of these three age groups help in their Job Performance improvisation, especially as they represent the younger generation of planters, managers, and leaders in the OPPC.

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Furthermore, Critical Thinking Abilities (CTA) may function as an independent variable that influences Job Performance, suggesting that enhancements in critical thinking can substantially improve performance ($\beta = 0.452$, $p < 0.0010$). The Big Five personality traits could serve as moderators in this relationship. For instance, heightened critical thinking may facilitate more efficient problem-solving and foster better collaboration, resulting in improved job performance. In this context, the personalities of the team members are anticipated to play a moderating role through an "interaction effect," wherein the relationship between the independent and dependent variables varies according to the level of the moderator, specifically the personalities involved.

Consider a scenario where a AMs team is confronted with a challenging assignment under tight deadlines. A manager or team member possessing advanced critical thinking skills analyzes the problems, identifies potential obstacles, and proposes innovative solutions that optimize the coding process, ultimately enabling the project to be completed ahead of schedule. Conversely, another team member exhibiting low Openness, a trait within the Big Five personality dimensions, may struggle to accept and implement these novel ideas, thereby hindering overall progress. In this instance, while the critical thinking skills of the first member contributed positively to team performance, the interaction with the less open personality acted as a moderator, affecting the overall effectiveness of the team's efforts.

Therefore, it would be worthwhile to further investigate the role of the Big Five Personality traits as a moderator between Critical Thinking Abilities (CTA) and Job Performance.

Future research should also examine the essential soft skills that the younger generation of Assistant Managers require for effectively managing oil palm plantations being Planters, Managers and Leaders. These skills include adaptability, emotional intelligence, effective communication, the ability to influence others, openness to continuous learning, teamwork, analysis to details and proficient time management.

Mastery of these skills can significantly impact their job performance, which covers both Critical Thinking Abilities and the Big Five Personalities of the Assistant Managers.

Conclusions

This pioneering research indicates a partial mediating effect of CTA on the relationship between OCEAN traits and Job Performance, highlighting the importance of developing critical thinking skills for Assistant Managers to thrive in a rapidly changing environment. Continuous training is crucial, especially for younger generations in the workforce, to ensure they develop these essential skills. Looking ahead, the oil palm industry must address numerous challenges while rebranding itself to sustain growth and efficiency. Human capital, encompassing knowledge, skills, and personality traits, is vital for competitive advantage and must be strategically managed. Addressing the current shortfall in skilled personnel and enhancing performance through personality and cognitive development are immediate priorities for industry sustainability.

In conclusion, many experts agree that the application of critical thinking is essential for enhancing job performance. The author seeks to highlight the context of the current study, which commenced with the inquiry: "Is Critical Thinking Ability important for Assistant Managers who are being employed by Oil Palm Plantation Companies in Sabah?" The author

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AIJBES
EISSN: 2682-8545
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DOI 10.35631/AIJBES.725020

at time of completion of this research firmly believes that this question has been thoroughly analysed and positively answered in the confirmatory; Critical Thinking Ability is indeed crucial for Assistant Managers working within Oil Palm Plantation Companies While emphasis is placed on the interactive effects of the personalities of the AMs, which subsequently enhance their Job Performance. We hope that this research will motivate additional studies into relationship between Critical Thinking Abilities and the Big Five Personalities.

Acknowledgement

Research Context and Insufficiency of Current Studies

This study acknowledges the limited availability of recent empirical literature (within the past five years) addressing the interplay of personality traits, Critical Thinking Ability, and job performance within the oil palm plantation sector. A systematic review of databases (Scopus, Web of Science, Google Scholar) revealed a critical insufficiency of sector-specific studies, with extant research predominantly focused on generic managerial contexts or unrelated industries. The foundational works cited (10–12 years old) remain important due to the pioneering nature of this investigation, as no prior studies have empirically examined these constructs in the oil palm industry, particularly within Sabah's unique agro-industrial ecosystem. While current literature in adjacent fields (e.g., agriculture, organizational psychology) informs the theoretical framework, the absence of directly applicable recent studies emphasizes both the newness and urgency of this research. This gap highlights the necessity of leveraging older, yet contextually relevant, studies to establish a baseline while contributing original insights to advance sector-specific knowledge.

References

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51(6), 1173–1182.

Costa, P. T., Jr., & McCrae, R. R. (2010). NEO personality inventory-revised (NEO-PI-R) professional manual. Psychological Assessment Resources.

Dimas, I. D., Rebelo, T., & Lourenço, P. R. (2021). Intellectual capital optimization in high-risk industries. Springer.

Facione, P. A. (2000). The disposition toward critical thinking: Its character, measurement, and relationship to critical thinking skill. Informal Logic, 20(1), 61–84.

Foong, C. Y. (2024). Gen Y/Z skill gaps in Malaysian plantations: A competency analysis. Journal of Agribusiness in Developing and Emerging Economies. Advance online publication.

Judge, T. A., Rodell, J. B., Klinger, R. L., Simon, L. S., & Crawford, E. R. (2013). Hierarchical representations of the five-factor model of personality in predicting job performance: Integrating three organizing frameworks with two theoretical perspectives. Journal of Applied Psychology, 98(6), 875–925.

Katrina, S. (2023). Critical thinking prioritization in organizational crisis management. Journal of Contingencies and Crisis Management, 31(4), 205–218.

Lai, E. R. (2011). Critical thinking: A literature review. Pearson.

Malaysian Palm Oil Association (MPOA). (2024). Malaysian palm oil workforce crisis reports 2024.

Advanced International Journal of Business, Entrepreneurship and SME's
AIJBES
EISSN: 2682-8545
Volume 7 Issue 25 (September 2025) PP. 303-320
DOI 10.35631/AIJBES.725020

Malaysian Palm Oil Board (MPOB), (2023). Annual climate impact assessment on oil palm yield 2023, (MPOB Technology Bulletin No. 47).

Motowidlo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. Human Performance, 10(2), 71–83.

Papaioannou, G. (2019). Critical thinking in dynamic industries: A sector-agnostic framework. International Journal of Innovation Management, 23(7).

Shahid, S., & Beuthin, O. (2022). Master The Big 5 Personality Traits & The 10 Personality Facets With Research-Backed Exercises. Ebook.

Singh, R. (2024). Permacrisis in Malaysian agro-management: Systemic challenges and adaptive strategies (2020–2024). Asian Journal of Agriculture and Development, 19(2), 1–18.

Vijayan, R., Abdullah, M. N., & Krishnan, R. (2023). Critical thinking ability deficits in plantation management: Implications for sustainable agro-operations. Journal of Agricultural Administration and Management, 40(3), 45-60.