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The Influence of Green Human Capital and Green Creativity on Business Performance with Green Environmental Commitment as Moderation

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Abstract: The pursuit of enhanced business performance highlights the scarcity of green human capital among traditional market traders. This study explores the relationship between green human capital, green creativity, and environmental commitment, examining their collective impact on business performance within traditional markets. With a focus on 242 respondents, the research conducts validity and reliability assessments, utilizing a robust model to scrutinize the direct effects of green human capital and green creativity on business performance. Additionally, it analyzes the moderating influence of environmental commitment. The findings underscore the significantly positive contributions of green human capital and green creativity to business performance within traditional markets. Moreover, integrating environmental commitment as a moderating factor amplifies these positive effects, emphasizing potential synergies among these elements for enhancing business outcomes. The implications are profound, calling for deeper academic research on environmental education intensity, proactive measures from market managers to enhance sustainability, and persistent green practices by traders. These insights advocate for collaborative efforts to bolster environmental sustainability while concurrently elevating business performance within traditional markets.

Keywords: Sustainable Workforce; Corporate Environmental Performance; Green Human Resources; Eco-Friendly Business Practices; Organizational Environmental Responsibility

1. Introduction

The marketplace, acting as a pivotal arena for economic transactions, demands secure, comfortable, and clean conditions to instill public confidence and engagement [1]. However, challenges emerged in 2019 in Indonesia, with over 200 markets experiencing losses due to fire incidents caused by electrical short circuits.

Establishing a green market environment entails minimizing adverse environmental impacts by efficiently managing waste, water, electricity, and space [2]. Using environmentally friendly construction

materials and adopting energy-efficient practices are critical components. An internal commitment to an eco-friendly market environment prevents pollution and safeguards business performance [3], [4].

Research conducted in Europe and America underscores the significance of green human capital, urging further exploration in Asia [5]. Recognized for its role in innovative planning and sustainable outcomes, green human capital enhances intellectual capital and managerial efficiency [6], [7]. Intellectual capital, rooted in individual knowledge, significantly influences organizational functions [7], fostering creativity and environmental preservation.

Previous studies [7], [8] emphasize the positive correlation between optimized intellectual capital and organizational performance, underscoring the pivotal role of green human capital in achieving organizational objectives and enhancing management efficiency through innovation and creativity.

Green creativity embodies innovation to reduce negative environmental impacts from consumption and production activities [9], [10]. It encompasses technological innovations for energy savings, pollution prevention, waste recycling, green product design, and environmental management [11]. Eco-innovation involves new products or processes benefiting customers and businesses while significantly reducing environmental impact [12].

Cco-innovation extends to new production, assimilation, or exploitation methods that minimize environmental risks and negative impacts compared to alternatives[12]. Environmental innovation is any positive change benefiting the environment[13], encompassing organizational efforts to reduce environmental impact [10] as a commitment to environmental preservation.

Commitment to a green environment is crucial in green building applications, but success is unlikely without consistency and strong determination[14]. Indonesia, like Turkey and India, has struggled to consistently implement green practices, as noted in a survey [15], despite recent efforts by the Indonesian government to promote sustainable investment. Implementing green building practices necessitates strategies such as media publications, education, training programs, and supportive regulations [1], [15].

Previous studies [16]–[18] highlight the importance of strong environmental commitment in realizing eco-friendly objectives and fostering positive outcomes in the community. Collaboration between government institutions and public support is crucial in implementing green building initiatives alongside relevant regulations.

Environmental sensitivity integrates the risk of environmental hazards with the vulnerability of natural resources in an area, often focused on oil and gas exploration [19]. Assessing environmental sensitivity involves mapping and ranking components for oil pollution possibilities to prioritize protection strategies. Research on environmental sensitivity [19], [20] underscores the necessity of technology and knowledge in mitigating pollution risks caused by traditional development methods.

This study examines green human capital among traditional market traders and its influence on business performance. Observations were conducted in Jakarta's Pasar Jaya and Sinar Mas Group markets, revealing gaps in evaluating business performance due to insufficient expertise. The study aims to address four key questions regarding the impact of green human capital, green creativity, and environmental commitment on business performance. It endeavors to analyze and moderate the relationships between these variables. The study's significance lies in contributing to theoretical

development and market improvement, focusing on creating healthy, safe, and environmentally friendly market spaces. It expands on environmental impact measurement[21], introducing three new dimensions and 13 indicators to refine the commitment to a green environment. This enhanced measurement framework aims to advance the effectiveness of green market implementation.

2. Literature Review

2.1. Environmental Theory

The Environmental Theory, anchored in the Knowledge-Based View (KBV) specific to the environment, underscores the pivotal role of knowledge and information in molding a company's competitive advantage [22]. This theoretical framework serves as the cornerstone for our study, guiding the investigation into how Green Human Capital and Green Creativity influence Business Performance.

Moreover, the theory introduces the ethical dimensions encapsulated in Organizational Identity and Environmental Leadership, which benefit stakeholders [20], [23].

2.2. Stakeholder Theory

Stakeholder Theory, a foundational perspective in our research, accentuates the intricate interconnectedness of stakeholder interests, particularly emphasizing moral considerations [24]. This theoretical framework delves deep into the dynamics of balancing competing interests while prioritizing ethical considerations, underscoring its fundamental role in fostering sustainable competitiveness. The central tenet of Stakeholder Theory is that an organization's success is intricately linked to its ability to navigate and address its stakeholders' diverse interests and ethical concerns.

It underscores that the effective management of stakeholder relationships is ethically imperative and strategically crucial for developing intellectual capital within an organization [7].

The theory recognizes that stakeholder relationships extend beyond the organization's boundaries and have implications for broader societal objectives and service provision, particularly in the context of governmental initiatives [7].

2.3. Legitimacy Theory

Legitimacy Theory, a pivotal framework in our study, strongly emphasizes an organization's adherence to societal norms and values[25]. This theory asserts that an organization must align its actions with prevailing social norms and values to maintain legitimacy in the eyes of its stakeholders and the broader society. Adherence to these norms is crucial for an organization's long-term success and acceptance.

One of the central tenets of Legitimacy Theory is the necessity for effective communication to achieve and sustain legitimacy. Organizations must conform to societal expectations and actively communicate their commitment to these expectations to stakeholders [25].

Furthermore, the Legitimacy Theory aligns with governmental obligations towards environmental stewardship [26].

Legitimacy Theory informs the exploration of environmental consciousness and its impact on governmental actions and service quality enhancement [27].

2.4. Business Performance

Business Performance is a multidimensional construct often measured through various indicators encapsulating financial and non-financial dimensions. This comprehensive evaluation offers a holistic understanding of an organization's effectiveness and success in achieving its objectives[6], [9], [28].

As a key component, financial performance involves metrics such as income, profit, margins, and market share. These indicators quantitatively assessan organization's economic viability and success. They serve as crucial benchmarks for stakeholders, including investors and creditors, to gauge the financial health and sustainability of the business.

Non-financial Performance, on the other hand, extends the evaluation beyond monetary metrics. It encompasses dimensions such as customer loyalty, image, and reputation enhancement. These aspects recognize the significance of intangible assets and relational aspects in contributing to an organization's overall success and sustainability. A positive reputation and strong customer loyalty, for example, contribute to the long-term viability of the business and its ability to weather challenges.

Operational Performance, as a specific dimension of Business Performance, further delves into the efficiency and effectiveness of internal processes. It includes flexibility, delivery, quality, and cost management. This operational lens aligns with contemporary management perspectives that recognize the importance of operational excellence in achieving overall business success. Green supply chain management, highlighted in our interpretation, emerges as a strategic component that enhances operational performance by reducing costs and risks and aligns with sustainable practices, reflecting a commitment to environmental responsibility.

2.5. Green Human Capital

Green Human Capital represents a distinctive facet of intellectual capital that extends beyond traditional human resource considerations[10], [29], [30]. As a component of intellectual capital, Green Human Capital encapsulates the knowledge and skills possessed by employees, contributing significantly to an organization's competitive advantage and creativity [29]. This perspective recognizes that the human element within an organization is not merely a resource but a source of valuable intellectual assets that can drive innovation and enhance the organization's overall capacity to adapt and thrive in a dynamic environment.

This concept further delves into individuals' skills, beliefs, values, and experiences, shaping an organizational culture that fosters innovation capacity [30]. It emphasizes the intangible qualities of individuals that go beyond technical skills, encompassing the broader spectrum of their contributions to creativity and innovation.

Structural capital, another facet of intellectual capital, is intricately linked to Green Human Capital. It contributes to innovation by providing the necessary information, organizational culture, and systems to utilize human capital for creative endeavors effectively. This recognition aligns with contemporary management perspectives that emphasize the importance of organizational structures and processes in leveraging human potential for innovation.

Research on intellectual capital underscores the contribution of Green Human Capital to management development, particularly human and relational capital[10]. This emphasizes the pivotal role of human capital in achieving organizational objectives through quality performance and innovation. The

emphasis on human and relational capital highlights the social and collaborative dimensions of Green Human Capital, emphasizing the importance of effective teamwork and relationships in driving organizational success.

2.6. Green Creativity

Green Creativity plays a transformative role in shaping business performance by fostering environmentally friendly ideas and practices[10]. Insights from [31] and [32] contribute to our understanding of its positive impact on organizational performance.

The core concept of Green Creativity involves the generation of innovative ideas that not only contribute positively to products, services, and processes but prioritize environmental friendliness [32]. This perspective recognizes that creativity catalyzes organizational success and environmental preservation when channelled towards sustainable solutions. The intertwining of creativity and environmental consciousness underscores the potential for businesses to drive positive change through innovative practices.

Encouraging employees through green human resource management is keyto enhancing a company's environmental creativity by aligning environmental strategies with human resource practices. This alignment recognizes the role of organizational culture and HR policies in fostering a conducive environment for creative thinking that integrates environmental considerations. The synergy between human resource practices and environmental strategies underscores the interconnectedness of people-centric approaches and sustainable business practices.

Green Creativity is operationalized through six indicators[15]: generating new environmentally enhancing ideas, implementing solutions, planning for green ideas, advocating for green initiatives, evaluating the effectiveness of these ideas, and devising new methods to achieve environmental protection. These indicators provide a practical framework for assessing the depth and breadth of an organization's commitment to green creativity. They go beyond mere ideation, extending into the implementation, evaluation, and continuous improvement phases, reflecting a comprehensive approach to integrating environmental considerations into the creative process.

2.7. Measuring Commitment to the Green Environment

Commitment to the green environment signifies dedicated actions toward fostering an environmentally friendly setting. However, research on measuring green commitment remains relatively scarce, with Singh et al. [21] presenting a commitment model for exploring and evaluating such commitments. Commitment to environmental preservation is fundamental, representing a dedication to purposeful actions to achieve a sustainable and environmentally friendly world. The commitment to going green measurements was initially limited to environmental impact assessment, focusing solely on environmental impact indicators. Modification now includes three new dimensions: green behavior, green attitude, and limitations to applying green habits, each with their respective indicators. The green behavior dimension introduces a broader scope by assessing individual or group behaviors related to lifestyle, identity, ideology, morals, ethics, responsibility for the quality of life, and health issues[18]. It links consumer behavior with green commitment, emphasizing how cultural and economic influences shape environmental values.

However, certain indicators were omitted or modified to suit the context of traditional markets. For instance, indicators like lifestyle, ethics, responsibility for the quality of the environment, and health issues were removed or altered due to their lack of relevance to the studied area. Attitude in going green aims to reduce pollution, waste, and energy consumption while encouraging others to adopt environmentally friendly practices. This dimension underscores the influence of consistent attitudes on applying green principles effectively. Using environmentally friendly habits addresses the need for regulations, waste management facilities, social campaigns, and information availability. This dimension underscores the importance of support systems and regulations for successful green practice implementation. Moreover, sensitivity to pollution highlights the repercussions for institutions that lack adequate environmental information disclosure. Institutions may face community backlash or environmental risks due to insufficient transparency, making it crucial to engage with environmental concerns responsibly.

2.8. Previous Studies

Aboramadan[16] explored the relationship between green management accounting and business performance, finding that it enhances performance. Bag and Gupta [6] focused on integrated reporting, green intellectual capital, and innovation, noting that green innovation strengthens competitive advantage and positively impacts business commitment and performance. Widhiastuti&Muafi[10] investigated environmental commitment, green creativity, and circular economy implementation, concluding that they positively affect business performance, though circular economy implementation didn't mediate their influence. Haanpaä[18] found lifestyle differences more explanatory of green commitment than socio-economic backgrounds in traditional markets. Moreover, Haanpaä highlighted how firm size, industry membership, and sensitivity to pollution affect environmental disclosure positively. Sokolov and Zavyalova [7] uncovered several positive relationships and mediations between Green Human Resource Management (GHRM), Environmental Management (EM), Green Product Innovation (GPI), Environmental Commitment (EC), and Business Performance (BP). Additionally, Addy et al. [1], Aeknarajindawat and Jermsittiparsert [31], Bag and Gupta [6], Chen and Chang [11], and Aeknarajindawat and Jermsittiparsert [33] contributed insights into barriers, factors influencing profitability, market development obstacles, energy efficiency in green buildings, strategies, and case studies on environmental management at commercial sites. Collectively, these studies offer comprehensive insights into the multifaceted aspects impacting green market building and sustainability practices across different sectors.

2.9. Conceptual Framework

The conceptual framework emphasizes the pivotal roles of green human capital, creativity, and commitment in fostering business performance in environmental sustainability. Green human capital, comprising intangible assets like knowledge, skills, and experiences, is instrumental in driving organizational breakthroughs and innovations, enhancing the quality of life, and creating environmentally friendly market structures. This is supported by literature suggesting that intellectual capital significantly influences an organization's innovation capability and market effectiveness. Green creativity can drive innovation and contribute to societal welfare [11]. It is essential in fostering innovation and organizational success within environmental sustainability. Green creativity is often rooted in a conducive, environmentally friendly environment; green creativity influences business performance, as previous studies [32] significantly underscored the importance of fostering a green creative environment within organizations as a vital factor in achieving business success. The green

commitment represents consistent behavior to achieve environmentally friendly goals and principles. Research suggests that commitment to environmentally friendly behaviors, attitudes, and habits positively influences the success of implementing environmental initiatives and achieving sustainability goals [2], [16]. Green commitment fosters consistency in environmentally friendly actions and attitudes.

Hence, this study puts forth the following hypothesis:

Hypothesis 1 (H1): Green human capital positively impacts business performance.

Hypothesis 2 (H2): Green creativity positively impacts business performance.

Hypothesis 3 (H3): Green commitment strengthens the positive influence of green human capital on business performance.

Hypothesis 4 (H4): Green commitment reinforces the positive impact of green creativity on business performance.

The conceptual framework highlights the intertwined relationships among green human capital, green creativity, green commitment, and business performance, highlighting their significant roles in achieving environmental sustainability and organizational success.

3. Results Method

3.1. Study Design

This study adopts a quantitative approach, aiming to establish causal relationships through primary data collection via questionnaires. The central focus is exploring the influence of green human capital and creativity on business performance while examining the moderating impact of green commitment among traders in traditional and modern markets within the DKI Jakarta area. Statistical tests and the Smart PLS application will be employed to test hypotheses and construct robust models, shedding light on the interplay of these variables.

3.2. Population, Sample, and Data Collection Methods

The population comprises traders in the DKI Jakarta province, covering 153 PD Pasar Jaya locations and five modern markets: Intermodal BSD City, Banjar Wijaya, BSD City, Grand Wisata, and Kota Wisata. The sample includes all PD Pasar Jaya traders and traders in traditional and modern markets in DKI Province. The minimum sample size, estimated based on Hair Jr. et al. (2021) using SEM PLS statistical tools, is a minimum of 240 samples. Questionnaires were distributed to traders actively engaged for at least five successive years.

3.3. Key Variables

1) Dependent Variable: Business Performance

   Signifying an institution's superiority in various domains, encompassing environmental, financial, competitive, and reputational aspects, business performance provides insights into an institution's strategic positioning against competitors.

2) Independent Variables:

a. Green Human Capital: Embodies individuals possessing knowledge crucial for competitive enhancement and strategic value creation.
b. Green Creativity Environment: Denotes integrating innovative elements into eco-friendly solutions across products, services, and processes.

3) Moderating Variable: Green Commitment

Elucidates individuals' consistent application of environmentally friendly principles rooted in conscientious behavior.

4) Control Variable: Sensitivity to Pollution

Reflects the community's reactions to visible environmental issues, impacting an institution's standing based on the adequacy of environmental disclosure.

3.4. Data Analysis

The data analysis method utilized in the study follows a structured approach employing SEM-PLS 3.0 software, guided by the sequential stages [34] for evaluation and model determination.

1) Outer Model Evaluation
   - Convergent Validity: Assessed through loading factors and Average Variance Extracted (AVE), aiming for values exceeding 0.70 for confirmatory research.
   - Discriminant Validity: Examined through cross-loading, necessitating values surpassing 0.70 for each variable.
   - Reliability: Assessed through Cronbach's Alpha and Composite Reliability, targeted values greater than 0.70.
2) Inner Model Evaluation
   - Structural Integrity: Assessed through R-square values to determine predictability.
   - Effect Size: Discerned using effect size f2 calculations to understand the magnitude of predictors' influence on latent variables.
   - Predictive Relevance: Estimated using Q2 to gauge the model's predictive capability.
   - Goodness of Fit: Determined based on SRMR and NFI, with thresholds for acceptable model fit.
3) Factor Analysis
   - Assessing the strength of individual indicators using KMO and Bartlett's criteria.
4) Statistical Analysis
   - Descriptive Statistics: Utilized to depict the demographics or current state of the data.
   - Hypothesis Testing and Multiple Regression Analysis: Formulating a regression equation to establish estimated relationships between variables.
   - Variable Moderation: Employing pure moderation to strengthen or weaken relationships between independent and dependent variables.
   - Sensitivity Testing: Evaluating the robustness of measurement variables and the model's predictive power.
   - Expansion Testing: Exploring the ability of variables to explain business performance within different respondent groups.

These comprehensive analyses and tests contribute to a thorough understanding of variable relationships and their impact on business performance across distinct market segments.

4. Results and Discussion

4.1. Research Objects

This study's respondents included traders from modern and traditional markets in Jakarta. Of the 564 respondents who completed the questionnaires, 338 met the criteria, representing a 60% inclusion rate after eliminating incomplete or non-compliant responses. The minimum sample size required for this study is 240, based on the tenfold multiplication of the highest number of indicators within each variable's dimension[35]. With 338 processed data points, this criterion has been fulfilled.

Table 1. Research Sample

No.	Criteria	Amount	Percentage
1	Respondents who filled in the questionnaire	564	100%
2	(-) Respondents who did not meet the criteria and provided incomplete answers	226	40%
3	Respondents included in the sample based on specified criteria	338	60%

Source: Primary Data Processed, 2023

Table 2. Respondents by Gender

No.	Gender	Amount	Percentage
1	Male	179	53%
2	Female	159	47%
Total		**338**	**100%**

Source: Primary Data Processed, 2023

Table 3. Respondent by Age

No.	Age	Amount	Percentage
1	Aged < 30 Years	100	30%
2	Aged 30 - 40 Years	98	29%
3	Aged 41 – 50 Years	63	18%
4	Aged > 50 Years	77	23%
Total		**338**	**100%**

Source: Primary Data Processed, 2023

In terms of the age distribution among respondents, as depicted in Table 3, individuals under 30 years old constituted 30%, followed by respondents aged 30-40 (29%), 41-50 (18%), and those above 50 years old (23%). Regarding business location, 72% of respondents operated in traditional markets, whereas only 28% were from modern markets, as illustrated in Table 4.

Table 4. Demographic Profile of Respondents Based on Market Type

No.	Market Type	Amount	Percentage

1	Modern market	96	28%
2	Traditional market	241	72%
Total		**338**	**100%**

Source: Primary Data Processed, 2023

Responses to statements within the questionnaire across different variables indicated business performance, with an average score of 5.15 or an 86% implementation level, suggesting scope for a 14% improvement in maximizing business performance. Green human capital scored an average of 5.23 (87% implementation), implying a potential 13% improvement. Green creativity, environmental commitment, and pollution sensitivity also showed room for enhancement, scoring 87%, 88%, and 87%, respectively.

4.2. Analysis of Research Results

The validity tests aimed to evaluate the questionnaire's instrument. Indicators were considered valid if their loading factor scores exceeded 0.5. A higher score, surpassing 0.7, indicated a better fit for representing the variables [35]. Individual loading factor scores for each indicator variable were examined, confirming that all indicators were valid and appropriately represented their respective variables.

Validity was also collectively tested for indicator variables using the Average Variance Extracted (AVE) criterion. AVE values above 0.5 [36] were observed across all variables, signifying good validity for each indicator representing its respective variable.

Table 5. Average Variance Extracted (AVE) Values

Variable Study	AVE Average	Conclusion
Business Performance	0.660	Valid
Green Human Capital	0.682	Valid
Green creativity Environment	0.705	Valid
Commitment Green Environment	0.704	Valid
Sensitivity Pollution	0.696	Valid

Source: Primary Data Processed, 2023

Loading factors of indicators within each dimension were examined. Both the business performance and environmental commitment life variables encompassed dimensions. The loading factors for indicators within these dimensions met the criteria (>0.5), validating the questionnaire statements (Hair Jr. et al., 2021).

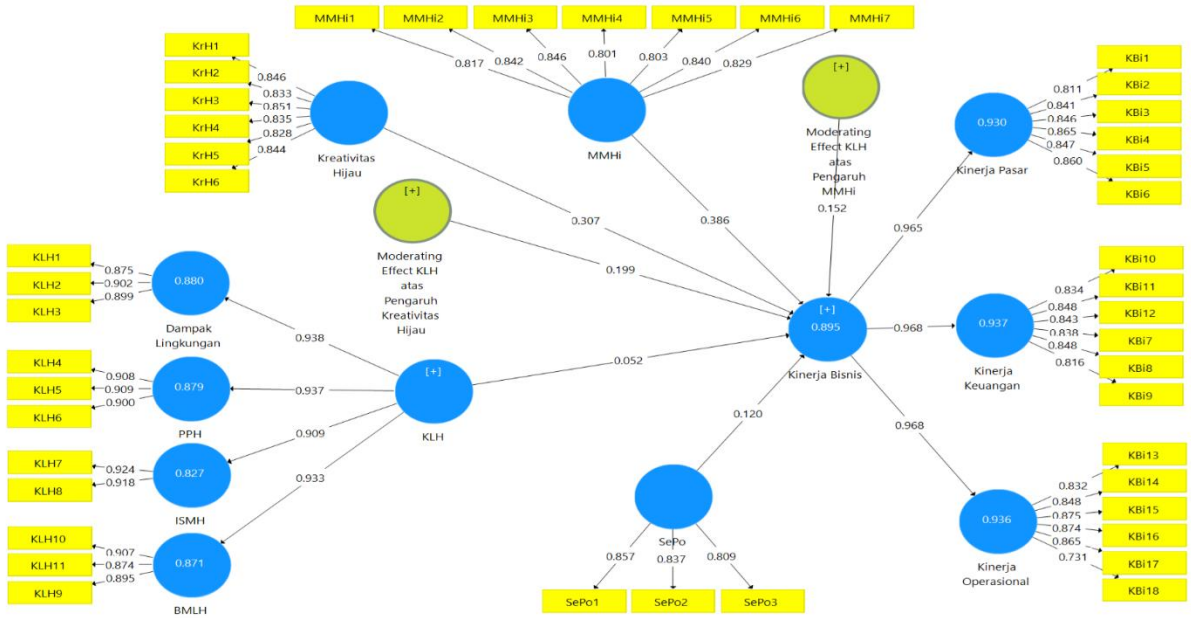

Figure 1. Loading Factors in Smart PLS

Smart PLS Data Processing Results, 2023

Reliability tests aimed to assess the consistency of respondents' answers, ensuring that the selected respondents were suitable for the study. Scores above 0.7 (Table 6) for Cronbach's alpha, rho, and composite reliability indicated consistent responses, affirming the suitability of the respondents for the questionnaire [34].

Table 6. Results of Reliability Testing

Variable Study	Cronbach Alpha	Rho	Composite Reliability	Conclusion
Business Performance	0.970	0.970	0.972	Reliable
Green Human Capital	0.922	0.923	0.937	Reliable
Green Creativity	0.916	0.917	0.935	Reliable
Commitment Green Environment	0.958	0.958	0.963	Reliable
Sensitivity Pollution	0.782	0.783	0.873	Reliable

Source: Primary Data Processed, 2023

The coefficient of determination (R-Square) of 89.5% indicates that the combined effects of green human capital, green creativity, environmental commitment moderation, and the control variable sensitivity to pollution explain 89.5% of the variation in business performance. This high value categorizes the research model as "Good" according to the established criteria [34].

Table 7. R-Square Value

Variable	R-Square	Adj. R-Square
Business Performance	0.895	0.893

Source: Primary Data Processed, 2023

The F-square results indicated that all variables significantly contributed to business performance. However, the green environmental commitment, a pure moderating variable, exhibited a very small effect size due to its indirect influence on business performance.

Table 8. F-Square Value

Variable Study	F-Square	Influence
Business Performance	-	-
Green Human Capital	0.142	Small
Green Creativity	0.106	Small
Commitment Green Environment	0.002	Very small
Moderating KLH* MMHi	0.027	Small
Moderating KLH* Green Creativity	0.077	Small
Sensitivity Pollution	0.035	Small

Source: Primary Data Processed, 2023

The Q-Square value of 0.585 indicated good predictive relevance for the research model, affirming its efficacy in predicting business performance with the included variables as independent and moderating variables.

Table 9. Q-Square Value

Variable Study	Q-Square
Business Performance	0.585

Source: Primary Data Processed, 2023

Goodness-of-fit tests using SRMR and NFI demonstrated that the research model fits well. The placement of variables in the model—green human capital and creativity as independent, environmental commitment as moderating, and sensitivity to pollution as a control—was appropriate for studying their effects on business performance.

Table 10. Fit Models

Fit Models	Results	Conclusion
SRMR	0.049	Fit Models
NFI	0.771	Fit Models

Source: Primary Data Processed, 2023

4.3. Factor Analysis

The factor analysis conducted for each variable using KMO and Bartlett's tests showed strong correlations between indicators and their respective variables, confirming the relevance and strength of each indicator in representing its dimensions and variables within the study.

Hypothesis testing within the research model provided comprehensive insight into the coefficients influencing each variable, as presented in the subsequent table. The statistical T values were examined to ascertain the significance of the independent variables on business performance. T Statistics with values exceeding 1.96 or P-values less than 0.05 indicated a significant influence, supporting the acceptance of the respective hypotheses [37].

Additionally, the statistical T values were depicted in an image, demonstrating the significance of each variable's impact on business performance. Values surpassing 1.96 signified a substantial influence, reinforcing the acceptance of the hypotheses regarding the relationship between independent variables and business performance.

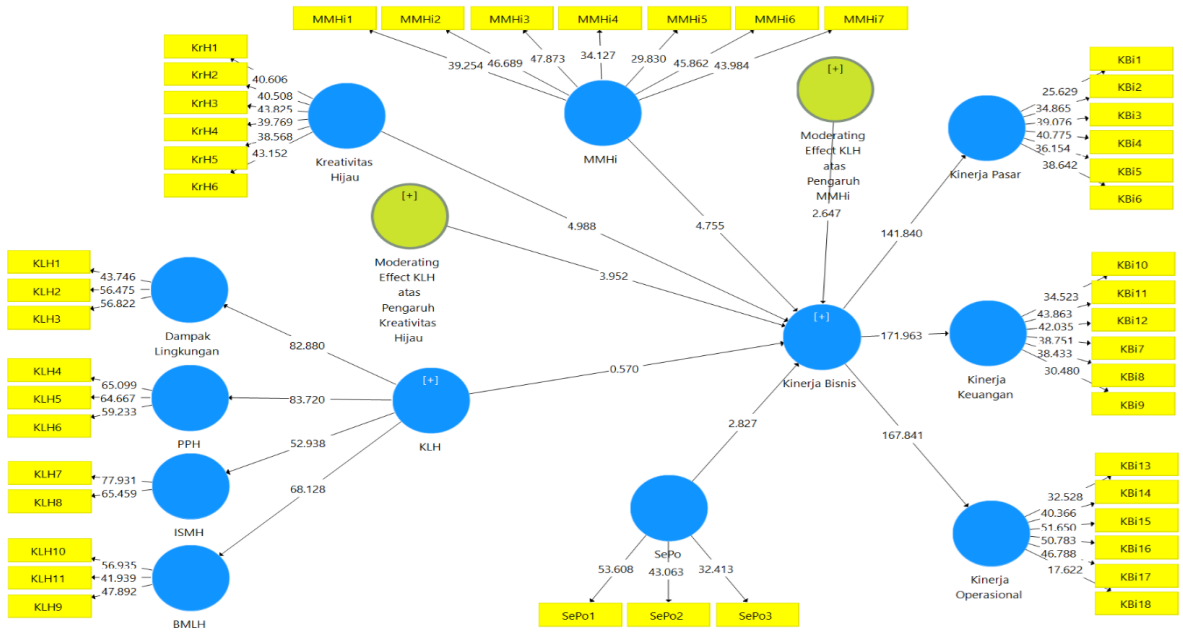

Figure 2. Statistical T Value in Smart PLS

Smart PLS Data Processing Results, 2023

The study verifies that green human capital substantially and positively impacts business performance. The statistical analysis revealed a T Statistics value of 4.755 (P Values 0.00 < 0.05), indicating the acceptance of the hypothesis. The coefficient value of 0.386 signifies a positive influence. This suggests that a 100% increase in green human capital leads to a 38.6% increase in business performance. Among the tested factors, green human capital showed the highest coefficient compared to green creativity and sensitivity pollution, positioning it as the primary factor for enhancing business performance.

Similarly, green creativity demonstrated a significant and positive impact on business performance. The T Statistics value of 4.988 (P Values 0.00 < 0.05) supported the acceptance of the hypothesis, with a coefficient value of 0.307. A 100% increase in green creativity corresponds to a 30.7% increase in business performance. Although it had a lower coefficient score than green human capital, it remains a crucial strategic priority after human capital for improving business performance.

The study validated that green commitment effectively moderates the influence of green human capital and green creativity on business performance. For green human capital, commitment to green interaction led to a 15.2% increase in business performance. Meanwhile, the interaction between commitment to green and green creativity resulted in a 19.9% increase. While commitment to green's impact was lower than the individual influences of human capital and creativity, it proved its significance in reinforcing their positive effects on business performance.

These findings underscore the importance of human capital and creativity aligned with environmental commitments for enhancing business performance across various dimensions—market performance, financial aspects, and operational efficiency. Green human capital and green creativity emerged as pivotal factors for business success. Integrating environmental knowledge and employee well-being with environmental consciousness contributes significantly to organizational innovation and success.

4.3.1. Green Creativity Influence on Business Performance

The study verifies that green creativity significantly and positively impacts business performance. Businesses can enhance market performance, financial aspects, and operational efficiency by implementing creativity in six forms - such as developing environmentally friendly products, promoting new environmentally conscious ideas, and finding innovative solutions to environmental problems. This aligns with the theory that utilizing environmental knowledge and fostering creativity in a green context leads to sustained business advantages.

4.3.2. Green Commitment's Moderation Influence

- On Green Human Capital: Collaboration between green commitment and human capital positively and significantly impacts business performance. The stronger the collaboration, the more potent the enhancement in business performance. Commitment to environmental responsibility, green behavior, and compliance with environmental regulations amplifies the influence of human capital on various performance aspects. This underscores the importance of consistent environmentally friendly behavior in augmenting the effect of human capital on market performance, finances, and operations.
- On Green Creativity: Similar to human capital, green commitment collaborates with green creativity to impact business performance positively. Their combined intensity enhances business performance significantly. Commitment to green practices and regulations magnifies the influence of creativity on market performance, finances, and operational efficiency. This highlights the importance of aligning green behaviors and complying with environmental regulations to augment the positive impact of creativity on business performance.

4.3.3. Traditional Market Expansion

The traditional market expansion test demonstrated robust validity and reliability through various statistical analyses. The loading factors of all indicators to their respective dimensions were deemed valid as they scored > 0.5 [35]. Additionally, the Average Variance Extracted (AVE) scores exceeding 0.5 affirmed the validity of the questionnaire statements [36].

Reliability tests, including Cronbach's alpha, rho, and composite reliability, surpassing 0.7, underscored the reliability of the data used in the traditional market expansion test [34]. These dependable data facilitated hypothesis testing, confirming all hypothesesand replicating the main model's results. The T statistics values (> 1.96) and P Values (< 0.05) supported the significance of the hypotheses [37].

The resulting regression equation, Business Performance = 0.368 MMHi + 0.373 KH + 0.211 KLH* MMHi + 0.148 KLH*KH + e, depicted the substantial impact of green human capital and green creativity on business performance. A 100% increase in human capital or green creativity corresponded to significant performance improvements (36.8% and 37.3%, respectively). Similarly, enhanced collaboration between commitment to the environment and human capital or green creativity indicated notable performance gains (21.1% and 14.8%, respectively), emphasizing the synergy's positive influence on business outcomes.

Correlation tests revealed strong associations between green factors and business performance dimensions, reinforcing established literature [31]. Statistical T-tests underscored the significant impact of these variables within the expanded traditional market sample [37].

The outcomes align with existing research [10], [20] emphasizing environmental commitment [23] and innovation (green creativity) alongside human capital investment for business growth [31]. Regression equations quantified these relationships, emphasizing the substantial influence of human capital creativity and environmental commitment on enhancing traditional market business performance [9], [10].

The study's limitations reveal gaps in understanding due to a lack of data on PD Pasar Jaya DKI Jakarta's efforts to educate traders about green practices. This absence hampers the assessment of the distinct impacts of green human capital, creativity, and environmental commitment. The study highlights the significance of enhancing business performance, especially with new dimensions added to environmental commitment. Practically, the study emphasizes the influential roles of green human capital and creativity in business, with creativity having the greatest impact. Collaboration with environmental commitment amplifies their contributions.

Further research should explore green education and rule implementation, potentially strengthening the model's explanatory power. Recommendations for PD Pasar Jaya include enhancing green education and creating eco-friendly spaces, aligning with the study's findings to bolster environmental sustainability. Traders are encouraged to maintain green practices, enhance creative, environmentally-friendly trading, and uphold environmental commitment for improved market, financial, and operational business performance.

5. Conclusion

The findings underscore the pivotal roles of green human capital and creativity in augmenting business performance. Both factors wield direct and substantial impacts, affirming their strategic relevance in enhancing overall outcomes. Furthermore, integrating environmental preservation commitment as a moderating variable within the research model proves fitting, amplifying the positive influence of green human capital and creativity on business performance. Green human capital notably positively impacts business performance, emphasizing its strategic significance as a viable choice for overall enhancement.

Similarly, green creativity significantly contributes to business performance, underscoring its crucial role as a source of innovation for improved business outcomes.

Additionally, commitment to the environment emerges as a catalyst, augmenting the positive influence of green human capital and green creativity on business performance, highlighting the potential collaboration between green human capital and environmental commitment. Ultimately, these findings validate the solutions to the research problem, demonstrating a positive impact of green human capital, green creativity, and environmental commitment on business performance. They underscore the potential benefits of integrating these factors to drive positive business outcomes. They also advocate for a collaborative approach among academic researchers, market managers, and traders to promote holistic growth within traditional markets. This collaborative effort, coupled with proactive measures such as intensified socialization, creation of green spaces, and educational initiatives, can foster sustainability and boost merchants' business performance, aligning economic progress with ecological responsibility.

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