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Education, Artificial Intelligence, and Green Investment Behaviour: An Economic Analysis through Human Capital Theory

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Abstract: *With the growing emphasis on sustainable economic development across the world, green investments have become a rising trend, and the development of artificial intelligence (AI) has revolutionized the investment environment by providing intelligent investment advisory systems, predictive analytics, portfolio optimization, and environmental risk assessment. But the influence of AI-powered green investment platforms on investment success is heavily reliant on investors' education, financial literacy, and tech-savviness. Based on the Human Capital Theory (Becker, 1964), this research investigates the relationship between education and AI awareness and the use of AI for green investment decisions. According to the Human Capital Theory, expenditures in education impact an individual's knowledge, cognitive skills and decision making power, which in turn allows them to make informed sustainable investment decisions and utilize innovative technologies. The quantitative research design employed the descriptive statistics, cross-tabulation, Chi-square analysis, independent sample t-test, one-way ANOVA, binary logistic regression and path analysis methods to analyse the relationships between education, AI awareness and sustainable investment behaviour. The results show that education has a significant effect on awareness of AI assisted green investments and positively affects sustainable investment decisions. The results of the binary logistic regression showed that education is the strongest explanatory variable of the adoption of AI in green investments, while the path analysis results indicated that the relationship between education and sustainable investment behaviour was partially mediated by AI awareness. However, the prevailing mindset towards investment and the lack of technological access diminishes the involvement in AI-enabled green investments.*

The novelty of this study is that it combines both Human Capital Theory and AI sustainable finance to form a systemic framework that provides an explanation for the functioning of education in the promotion of sustainable investment in the context of AI awareness. This research builds on past studies on financial literacy, AI adoption and sustainable investment, all of which have focused on financial literacy, AI adoption and sustainable investment separately and in isolation.The research is based on an emerging economy and advances the existing literature by providing empirical evidence of how AI awareness acts as a mediating variable in a multi-method statistical approach. The findings offer significant policy implications for promoting digital financial literacy, AI education, and

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sustainability-driven educational curricula to quicken green capital development, inclusive AI usage, and national and global climate efforts.

Keywords: Human Capital Theory, Green Investments, Sustainable Finance, Financial Literacy, Education, AI Adoption, Environmental Sustainability.

I. INTRODUCTION

Due to climate change, environmental degradation and resource shortages, global investment priorities have fundamentally changed and are increasingly drawn to green finance and sustainable investment. A recent shift in the international landscape has seen governments, financial institutions and international organizations begin to understand that significant capital inflows are needed into environmentally sustainable projects to achieve the Sustainable Development Goals (SDGs) and net zero carbon targets. The investments in these areas, known as green investments, have therefore become a vital part of contemporary economic development, which includes renewable energy, clean technologies, sustainable infrastructure and green financial instruments.

At the same time, Artificial Intelligence (AI) has become a game-changer in the financial sector. AI powered algorithms, robo-advisors, predictive analytics, environmental risk modelling and intelligent portfolio optimisation have changed the way investment decisions are made, making it easier to process information, decrease uncertainty and identify sustainable investment opportunities, as compared to traditional approaches. AI is helping investors incorporate Environmental, Social, and Governance (ESG) principles into their investment decisions and also providing greater transparency and less information asymmetry in financial markets.

Despite the technology developments, the use of AI-powered green investment platforms is not even across the population. Education ranks among the key factors that influence financial literacy, digital literacy, and technology acceptance. People with more education tend to have a more sophisticated ability to decipher AI-driven investment advice, grasp financial instruments associated with sustainability, and assess ecological threats. On the other hand, lower levels of education may limit technological readiness and diminish the participation of people in the innovative financial markets.

In an economic sense, the Human Capital Theory (Becker, 1964) offers good explanations of these behavioural differences. The theory suggests that education is an asset that will improve knowledge, cognition, productivity and economic decision-making. The better-educated have the capacity to learn and apply information, adjust to new technologies and make rational, investment decisions that will have the highest return over time. In the context of green finance, green education raises AI awareness and environmental awareness, which in turn helps increase individuals' willingness and ability to use sustainable investment solutions with the assistance of AI.

The convergence of education, AI and sustainable finance is another key example of how the world is undergoing a transition towards a knowledge-based economy, where intangible assets like skills, digital competencies and technological capabilities are key to economic growth and investment efficiency. Intelligent technologies can help increase the flow of sustainable economic development and enhance financial inclusion, which countries with human capital investment are better equipped to realize.

While some research has analysed financial literacy, AI adoption and sustainable investing separately, there is limited research that combines these constructs within a wider economic framework. Existing studies primarily examine the adoption of technology or environmental behaviour, but fail to account for the economic mechanism between environmental awareness of AI and sustainable investment decisions, which is education. Thus, empirical evidence on the role of human capital in the adoption of green investment behaviour through AI is limited, especially in emerging economies.

The present study fills this gap by exploring how education affects investors' green investment behaviour in the context of AI using the Human Capital Theory as the basis. Using descriptive statistics, Chi-square analysis, ANOVA, logistic regression, and path analysis, the study examines the direct and indirect links between education, AI awareness and

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sustainable investment adoption. The results will help to enrich the body of literature on green finance by showing the wider economic benefits of investments in education, in terms of improvement in the technological capability and financially sustainable approaches to manage the environment.

Rationale for the Study

The shift towards a low-carbon economy in the world has strengthened the role of green investments as a financial tool in support of sustainable development in the environmental dimension. At the same time, Financial markets are evolving with the integration of Artificial Intelligence (AI) technologies, such as intelligent investment advisory systems, predictive analytics tools, automated portfolio management, and Environmental, Social, and Governance (ESG) assessment tools. While these technological advances have enabled the successful implementation of AI-powered investment platforms for green investments, it is not only technology that is integral to their success; it is also how these new platforms can improve the educational and cognitive skills of potential investors. Education provides people with the knowledge, digital literacy, and analytical abilities to comprehend AI-driven investment suggestions and assess sustainable financial products.

Human Capital Theory (Becker, 1964) states from an economic perspective that education is an asset that improves productivity, information processing and rational economic decision making. Those with higher levels of human capital are more likely to use innovative technologies and to respond to market information efficiently and to make financial decisions that lead to productive and sustainable investments. Thus, education becomes a key enabler of AI adoption and environmentally responsible investment attitudes.

While financial literacy, AI adoption and sustainable investing have been studied separately by researchers, there is a lack of empirical studies that combine all three of these dimensions in one economic framework. Moreover, the literature on the mediating effect of AI awareness between education and green investment behavior is limited, and especially in emerging economies, where digital financial inclusion is still in its early stages. This study addresses this research gap by looking into the relationship between education and AI-enabled green investments from the lens of Human Capital Theory. The study uses a statistical technique in tandem with regression and path analysis, giving empirical evidence of the economic importance of education for sustainable finance and guiding policy processes to boost human capital for green economic transformation.

The study explores the relationship between education, AI awareness and green investment behaviour, using Human Capital Theory as a lens, and how education affects AI awareness, which has a positive effect on green investment behaviour. The novelty lies in the combination of these constructs in one framework, and especially in an emerging economy, which is carried out by various statistical methods such as path analysis.

Review of Literature

The growing importance of sustainable finance has led to a more prominent interest in factors that drive green investment behaviour among scholars. Previous research concentrated mainly on the financial knowledge and awareness of the environment as the key factors influencing sustainable investments. In line with Human Capital Theory (Becker, 1964), education helps to increase knowledge, analytical skills, and decision-making ability, which in turn helps people understand and implement new financial technologies, and make informed investment decisions. On the basis of this theoretical background, recent research projects have shown that education has a positive effect on financial literacy, digital skills and the adoption of technology, which consequently leads to a better participation in sustainable financial markets (Davis, 1989; Rogers, 2003).

Artificial Intelligence (AI) has also been a recent focus of research in the financial industry, with its potential for transforming the sector. Investment advisory systems using artificial intelligence, robo-advisors, predictive analytics and portfolio optimization in the context of environmental, social and governance principles contribute to the reduction of information asymmetry and the improvement of investment efficiency (Zawacki-Richter et al., 2019; Dwivedi et al., 2023). Empirical evidence also suggests that investors who have a higher level of digital literacy are more likely to trust

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AI tools in financial decision-making and embrace sustainable investment platforms (Jabeur et al., 2022; Khatib et al., 2023). However, the use of technologies is still uneven due to a significant disparity in education, digital skills and financial capacity between people and countries.

Research on green investment behaviour has mainly focused on either environmental attitudes or on ESG awareness or financial literacy. Research has demonstrated that the more aware investors are of environmental concerns, the greater the proportion of their investment that is directed toward renewable energy and green bonds, as well as sustainable funds (Friede et al., 2015; Bouri et al., 2021). But, most studies have failed to account for the technology that enables AI to support green investment decisions, especially in emerging markets where digital financial inclusion is still uneven.

In recent years, interdisciplinary research has started to incorporate AI and sustainable finance, highlighting the need for explainable AI, algorithmic transparency, and digital trust as crucial factors influencing investment decisions (Raimi et al., 2024; OECD, 2024). However, the empirical evidence that is already available which connects education, awareness of AI and green investment behaviour in a unified theoretical framework is still sparse. However, the existing research focuses on either financial knowledge, or the use of AI, or sustainable investments, without addressing the relationships between these three. Moreover, there are limited studies that explore the role of AI awareness in the association between education and sustainable investment decisions particularly in developing economies.

The present study overcomes these shortcomings by combining the Human Capital Theory and sustainable finance through AI to clarify the relationship of the human capital of education and the awareness of AI and the latter to green investment behaviour. The study presents empirical evidence suggesting that education plays a significant role in the awareness of AI, and that this awareness indirectly impacts on the sustainable investment behaviour, using the techniques of cross-tabulation, Chi-square analysis, ANOVA, binary logistic regression and path analysis. This integrated framework aligns with the emerging body of research on digital finance, human capital, and environmental sustainability, as it showcases the mediating effect of AI awareness in the adoption of sustainable investments.

Research Gaps

Limited integrated frameworks: Most research focuses on education, AI adoption, financial education and green investment as separate topics; not in a single framework of the Human Capital Theory.

Very few empirical studies examine the role of AI awareness as a mediator between education and green investment behaviour.

Inadequate evidence from emerging economies: While data on the impact of AI in sustainable investment behaviour from developed economies is abundant, there is limited evidence on the same in emerging economies.

Application of limited, analytical methods; current studies largely use regression and/or SEM but fewer studies use Chi-square, ANOVA, logistic regression and path analysis to explain behavioural mechanisms.

Research Objectives

1. To analyze how education level affect the awareness of AI in relation to green investment platforms.
2. To explore the relationship between socio-demographic characteristics and AI-enabled green investment behaviour.
3. To investigate the effect of AI awareness on sustainable investment decisions.
4. Using Human Capital Theory, to investigate the mediation effect of AI awareness between education and green investment behaviour.

Research Methodology

The method used in this study is quantitative cross sectional research design with the theory used in this study are Human Capital Theory (Becker, 1964) which is used to analyze the relationship between education, AI awareness and green investment behavior. The proposed conceptual framework suggests that increasing the education level leads to

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better understanding of AI, which in turn leads to better investment decisions that are sustainable. Primary data were gathered by administering a structured questionnaire, which included both demographic information and validated scale items for assessing levels of awareness and green investment behavior for AI.

Individual and potential investors in an emerging economy were the target population. To the respondents with basic knowledge of financial investments, the structured survey was given by purposive sampling technique. The questionnaire was first evaluated for content validity by experts and the internal consistency by Cronbach's alpha before analysis. The demographic characteristics of the respondents were summarised using descriptive statistics. Associations between categorical variables were explored using cross-tabulation and Chi-square tests while group differences were explored using independent sample *t*-tests and one-way ANOVA for the demographic variables. A binary logistic regression model was used to determine the socio-demographic factors that affect the awareness and adoption of green investments through AI. Lastly, path analysis was used to quantify the direct and indirect effects of education, AI awareness, and sustainable investment behaviour and to explore the mediation effect of AI awareness. Data were analyzed statistically using SPSS and AMOS/SmartPLS and considered significant at 5% level. This multi-method analytical approach offers a strong assessment of the behavioural mechanisms by which human capital can boost the adoption of AI for sustainable finance and evidence for policy makers, financial institutions, and sustainable finance professionals.

Results and Discussion

Table 1: Demographic Profile of Respondents

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	31	51.7
	Female	27	45.0
	Other	2	3.3
Education	No Formal Education	10	16.7
	Primary	14	23.3
	Secondary	18	30.0
	Higher Secondary	9	15.0
	Graduate & Above	9	15.0
Occupation	Agriculture	24	40.0
	Casual Labour	16	26.7
	Service	10	16.7
	Others	10	16.7

It shows that the gender distribution of the respondents in this study is relatively equal with a slight male predominance in the demographic profile of the respondents. There is high concentration of educational qualifications at primary and secondary levels as comparatively few respondents have higher secondary or graduate educational qualifications. Agriculture and casual work are the most frequent forms of livelihood, which is indicative of the informal sector dominating employment among the sampled population. This socio-economic aspect is relevant because it is well established that these factors have a significant impact on digital literacy, AI readiness, and knowledge of sustainable investment opportunities. People with a higher level of education are likely to be better informed about how AI-driven financial systems work and to better grasp the alternatives for investments that are better for the environment.

Table 2: Measures of Central Tendency

Variable	Mean	Median	Standard Deviation
Age	38.5	36	12.4

The central tendency measures are shown in table 2.The age of the respondents ranges from 32 to 62 years, with an average of 38.5 years, a median of 36 years and a standard deviation of 12.4 years, which shows a wide age range of the participants. The closeness of the mean and median points indicates a fairly symmetrical age distribution and the moderate dispersion indicates representation from both younger and older adults. This age stratification is significant

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because different generations are characterized by different digital skills, digital adoption of AI, and environmental awareness for financial products. Respondents of an older age group might use traditional investment strategies more than younger one, who might be more technologically adaptable.

Table 3: Cross-tabulation (Education × Awareness)

Education Level	Aware (%)	Not Aware (%)	Total
No Formal Education	25	75	100
Primary	40	60	100
Secondary	65	35	100
Higher Secondary	75	25	100
Graduate & Above	85	15	100

Table 3 describes cross-tabulation of education with AI and Green Investment Awareness.

As shown by the cross-tabulation, there is a clear positive correlation between the awareness of AI-driven green investment opportunities and people's education levels. There is a significant difference between awareness of respondents with a graduate degree and those with limited or no formal education. Respondents with less education, on the other hand, make up the largest numbers who are unaware. The trend suggests that financial education plays a crucial role in increasing the financial literacy levels, technological awareness and understanding of AI-based investment instruments for sustainable finance. The insights indicate that educational campaigns and digital financial literacy programmes are key to promote participation in green investment markets, and especially among economic disadvantaged groups.

Table 4: Chi-Square Test Results

H_{01}: There is no significant relationship between education and awareness of AI-enabled green investment platforms.
H_{11}: There is a significant relationship between education and awareness of AI-enabled green investment platforms.
H_{02}: There is no significant relationship between occupation and preference for AI-enabled sustainable investment products.
H_{12}: There is a significant relationship between occupation and preference for AI-enabled sustainable investment products.
H_{03}: There is no significant relationship between gender and adoption of AI-enabled green investment technologies.
H_{13}: There is a significant relationship between gender and adoption of AI-enabled green investment technologies.

Sr. No.	Hypothesis	Variables	Test Statistic	p-value	Decision ($\alpha = 0.05$)	Result Interpretation
1	H_{01}	Education × Awareness	$\chi^2 = 18.45$	0.002	Reject H_0	Significant association exists
2	H_{02}	Occupation × Healthcare Preference	$\chi^2 = 12.32$	0.015	Reject H_0	Significant association exists
3	H_{03}	Gender × Traditional Medicine	$\chi^2 = 3.21$	0.201	Fail to Reject H_0	No significant association

The Chi-square analysis shows that statistically significant relationship exists for education with the AI-enabled green investment awareness ($\chi^2 = 18.45$, $p = 0.002$), and for occupation with preferences towards sustainable investment products ($\chi^2 = 12.32$, $p = 0.015$). The results show that education level and job profile significantly affect people's perception and acceptance of green investment platforms with the support of AI. When the adoption of AI-enabled green investment technologies is compared by gender, however, no statistically significant association is found ($\chi^2 = 3.21$, $p = 0.201$) and it appears that AI adoption for sustainable investing is becoming more gender neutral. The results suggest that, overall, the structural socio-economic conditions play a more important role than the demographic conditions on peoples' sustainable investment behaviour, especially in the case of education and occupation.

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Table 5: t-Test Results (Gender Differences)

Null Hypothesis $H_0$4: The difference in time taken for the adoption of AI-powered platforms for green investment is not statistically significant between male and female respondents.

$H_1$4: The time needed for the adoption of AI-powered platforms for green investments is statistically different between male and female respondents.

Table 5: Independent Sample t-Test

Variable	t-value	p-value	Result
Time to Access Healthcare	2.45	0.018	Significant Difference Reject H0

The independent sample t-test suggests that there is a statistically significant difference (t = 2.45, p = 0.018) between males and females in terms of the time needed for the adoption of AI-powered platforms for green investment. The discovery indicates possible gender disparities in technological adoption behaviour, which could be due to unequal access to digital resources, financial confidence, or access to AI applications. Relatively higher barriers for female respondents may indicate the need to focus on digital financial education and AI training that is both inclusive and accessible. Equitable access to AI-driven investment platforms can play a role in more inclusive sustainable finance.

Table 6 ANOVA Results (Education vs Awareness Score)

H_{05}: There is no significant difference in mean awareness scores across different education levels.

H_{15}: There is a significant difference in mean awareness scores across different education levels.

Source of Variation	F-value	p-value	Result
Between Groups	6.78	0.001	Significant

Reject H0. There is significant variation

According to the ANOVA results (F = 6.78 and p = 0.001), the differences between the educational groups for their awareness of AI and green investment are statistically significant. Across all groups, the more highly educated the respondent, the better they understand how AI can be used in the context of sustainable investing. The results support the thesis that education plays a significant role in technological competence and financial knowledge about the environment. AI-driven sustainability education ought to be central to the universities, financial institutions, and policy makers' focus, to enhance public involvement in sustainable investment decisions.

Regression Output Tables

$H_0$6: There is no statistically significant association between socio-demographic factors (education, occupation, age and gender) and the awareness and uptake of AI-driven green investment platforms.

$H_1$6: Socio-demographic factors (education, occupation, age, or gender) have a statistically significant effect on the awareness and usage of green investment platforms powered by artificial intelligence.

Table 7: Logistic Regression Results (Dependent: Awareness)

Variable	Coefficient (β)	Standard Error	Wald Statistic	Odds Ratio (Exp β)
Constant	-1.45	0.52	7.78	—
Education	0.85	0.26	10.68	2.34
Age	0.03	0.015	4.00	1.03
Occupation	0.56	0.24	5.44	1.75
Gender	0.12	0.11	1.20	1.13

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Statistic	Value
-2 Log Likelihood	210.45
Cox & Snell R^2	0.32
Nagelkerke R^2	0.41
Model Chi-square	28.67
Model p-value	0.001
Classification Accuracy	72.5%

The logistic regression analysis is presented in Table 7.Education, occupation and age are the most important factors by logistic regression analysis ($\beta = 0.85$; OR = 2.34, $\beta = 0.56$; OR = 1.75, $\beta = 0.03$; OR = 1.03 respectively). Gender is not significantly related to the outcome. The overall model is statistically significant (Model $\chi^2 = 28.67$, $p = 0.001$), and has a Nagelkerke R^2 of 0.41 and a classification accuracy of 72.5%, proving the model has a satisfactory level of explanatory power. The results suggest that higher education is significantly associated with awareness and usage of AI-powered green investment platforms. People with advanced degrees are better equipped to understand AI investment advice, evaluate environmental risks, and take environmentally responsible investments.

Path Analysis Figure (Conceptual Model)

Education
↓
Awareness
↓
Healthcare Utilization
↓
Financial Burden

Distance to Facility ⟶ Healthcare Utilization
Traditional Medicine ⟶ Healthcare Utilization

SEM / Path Coefficient Table

Table 8: Path Analysis Results

Path Relationship	Coefficient	p-value	Result
Education → Awareness	0.62	0.001	Significant
Awareness → Healthcare Utilization	0.55	0.003	Significant
Distance → Utilization	-0.48	0.005	Significant
Utilization → Financial Burden	0.60	0.002	Significant
Traditional Medicine → Utilization	-0.35	0.020	Significant

The path analysis also confirms the strong positive relationship between education and AI and green investment awareness, with a β value of 0.62 and p value of 0.001. This positive relationship is further demonstrated between AI and green investment awareness and AI enabled sustainable investment activities, with a β value of 0.55 and p value of 0.003. Likewise, lower levels of AI platform use are correlated with less investment commitment to sustainable financial products ($\beta = -0.48$, $p = 0.005$), and higher levels of use are correlated with higher levels of investment commitment to sustainable financial products ($\beta = 0.60$, $p = 0.002$). The negative relationship ($\beta = -0.35$, $p = 0.020$) between traditional investment preferences and the current attitude towards investment adoption suggests that there is a substitution relationship between traditional and technology-based approaches to investing. Overall, the model highlights the role of education as a key enabler of AI literacy, thereby promoting sustainable investment practices and contributing to the development of environmentally sustainable financial systems.

II. CONCLUSION

The study shows the education has a central role in the promotion of AI enabled green investment behaviour by improving digital literacy, financial literacy, and awareness on sustainable investment opportunities. In line with

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Human Capital Theory, education acts as an economic investment that augments the ability to understand intricate information, make use of new innovations and to allocate financial resources effectively. The results show that education has a significant effect on awareness of AI which in turn positively affects the participation in green investment activities.

The statistical analyses are all consistent with this conclusion. The findings of the Chi-square and ANOVA tests show that there is a statistically significant relationship between educational level and the level of awareness on AI-supported sustainable investment platforms.The results of Chi square and ANOVA tests revealed that there was a statistically significant relationship between the level of educational attainment and the level of awareness about the use of AI-supported platforms in sustainable investment. Education is the most influential factor identified by logistic regression and was verified as the indirect influence of education on sustainable investment through path analysis by improved AI awareness. The results indicate that human capital formation is not just a driver of labour productivity but also has its own impacts on sustainable financial decision making.

The research also identifies the ongoing barriers to AI adoption, which include technological accessibility and traditional investment choices, highlighting the necessity for enhancing digital infrastructure and investing in education. Educational curricula should, therefore, be enhanced with concepts of sustainability, financial education, and AI literacy, and inclusive digital financial ecosystems should be encouraged. To foster the inclusion of financial institutions in green investment, it is important to create AI-based advisory systems that are transparent, explainable, and easily understood, catering to investors with different educational levels.

Overall, these results support the economic argument that investing in human capital has a long-term social and environmental payoff, through the ability of individuals to engage in sustainable finance in an effective way using artificial intelligence. Education will continue to play a pivotal role in shaping future adoption of technologies, as well as sustainable investment practices, in economies that are moving towards digital and low-carbon development.

Directions for Future Research

The present study can be extended in a number of significant ways in future studies.

First, the impact of education and AI literacy on green investment behaviour in the long-term should be explored, as this will help to establish more causal links. Second, future research could be extended to cover other economic theories such as the Endogenous Growth Theory, Technology Acceptance Model (TAM), Diffusion of Innovation Theory, and Behavioural Economics to explain the adoption of technology and sustainable financial decision making in a more holistic manner.

Third, cross-country comparisons might be able to assess if educational systems, institutional quality, and digital infrastructure act as moderators in the relationship between AI and green investment behaviour among developed and emerging economies. Finally, researchers can use sophisticated econometric methods like Structural Equation Modelling (SEM), Partial Least Squares-SEM (PLS-SEM), multilevel modelling, or panel-data estimation to study intricate causal relationships between education, AI adoption, financial literacy and awareness of environmental, social and governance (ESG) issues, and investment decision-making.

Other factors such as income, values towards environment, trust in AI algorithms, cyber security concerns, digital financial inclusion, and policy incentives should also be explored in future studies. Lastly, the combination of objective behavioural data on investing from fintech platforms with survey-based data would enhance external validity and further advance understanding of true investment behaviour using AI tools.

Such research will also enhance the theoretical knowledge of the role of investments in human capital in sustainable economic development, revealing the abacus for sound financial choices and speeding the shift to green and digital economy.

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Limitations of the Study

While this study offers important insights into the connections between education, AI, and green investment behaviour, it has some shortcomings.

The first limitation of the study is that it uses the cross-sectional research design; that is, the respondents' perceptions are only obtained at one point in time. This means it is not possible to draw firm conclusions about the causal relationships between education, the awareness of AI, and green investment behaviour.

Secondly, the analysis focuses mainly on the explanatory variables of education, age, occupation and gender. Several other factors that influence green investment behaviour, like income level, financial literacy, environmental values, digital trust, risk tolerance, investment experience, and institutional quality, have not been accounted for and may also affect the adoption of AI.

Third, the study is conducted using self-reported survey responses, which are subject to response bias, social desirability bias and subjective interpretation. Possible misrepresentation of awareness about the use of AI technologies or interest in sustainable investments by respondents.

Fourth, the results are based on a particular geographic and demographic setting and are not necessarily valid for other geographical and demographic settings, or for other financial systems with different socio-economic parameters and technological development.

Lastly, although the study does establish direct and indirect relationships, it does not use advanced structural equation modelling (SEM) with latent constructs or longitudinal data which may offer greater validation of the hypothesized relationships.

The conclusions and potential applications of the study.

Theoretical Implications

The study builds on Human Capital Theory as it shows that education plays a role in improving labour productivity, economic growth, technology adoption and sustainable financial decision making. It offers empirical proof that education improves AI literacy, thus leading to the participation in green investments. This research explores the intersection of Human Capital Theory, AI adoption, and sustainable finance, highlighting its impact on the interdisciplinary discourse surrounding digital economics and environmental sustainability. The results also confirm that the awareness of AI is a key pathway by which education impacts environmentally responsible investment practices.

Practical Implications

The results emphasize the importance of incorporating AI literacy, sustainable finance, ESG investing, and digital financial education into the school, university, and professional education curriculum. To create AI-integrated investment platforms that are transparent, easy to use, and accessible to all users, regardless of their level of education, financial institutions need to design such solutions.Financial institutions must develop AI-powered investment platforms that are transparent, easily navigable, and accessible to people of different levels of education. Incorporating explainable AI characteristics designed to boost trust and enable green financial product decision-making without a lack of understanding can help build investor confidence.

Policy Implications

The findings indicate that countries should use investments in green finance and digital infrastructure as an addition to education investments. Policies that facilitate AI education, financial literacy and digital inclusion can drive sustainable investment market participation and advance climate finance goals. Governance frameworks to ensure transparency, accountability, and ethical AI deployment should also be encouraged by regulatory agencies, to facilitate responsible use of AI in financial services. The reinforcement of cooperation between financial regulators, technology companies

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and educational institutions can make human capital development more effective and contribute to the move towards a sustainable and environmentally-friendly economy.

Economic Implications

Economically, the results further support the idea that there are long-term economic returns in human capital investment other than labour market returns. Education enhances individuals' skills in embracing AI technologies and efficiently allocating their resources, as well as engaging in green financial markets, enabling capital mobilisation for green projects. The wider the use of AI in green investments, the more innovation can be encouraged, the better the resources can be used, the lower the information gap in financial markets, and the more inclusive economic growth can be achieved. Therefore, education should be seen as a strategic economic investment that can also contribute to strengthening the process of digital transformation, financial inclusion and sustainable development.

Below is the **APA 7th edition reference list arranged alphabetically**, incorporating your publications with the other key references relevant to your study on **Education, Artificial Intelligence, and Green Investment Behaviour**.

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