



ECONOMIC TRANSFORMATION AND FINANCIAL LITERACY: IMPACTS ON HUMAN CAPITAL DEVELOPMENT IN AFRICA

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ABSTRACT: *This study examines the interrelationship between economic transformation and financial literacy, as well as their collective influence on the development of human capital in Africa. Utilizing a quantitative research methodology, the analysis incorporated data obtained from sources including the World Development Indicators (WDI) and the United Nations (UN), encompassing the timeframe from 2003 to 2024. The Generalized Method of Moments (GMM) was utilized as the estimation technique to mitigate potential endogeneity and to ensure the robustness of the findings. The findings underscore that although economic transformation plays a crucial role in the advancement of human capital, its complete potential is only actualized when it is accompanied by extensive financial literacy. Financial literacy enhances individuals' ability to make informed decisions, thereby magnifying the advantages of economic growth. The policy implications of the study underscore the necessity of incorporating financial literacy into educational curricula, advocating for the advancement of inclusive economic policies, and utilizing technology to enhance access to financial education. Future research endeavors should investigate the regional disparities in the effects of financial literacy, the significance of digital financial inclusion, and the interaction between governance and the development of human capital within the African context.*

KEYWORDS: Inclusive Growth, Educational Policies, Financial Education, Digital Financial Inclusion, Socio-Economic Development.



INTRODUCTION

Human development, which includes education, health, and overall well-being, is a fundamental pillar of sustainable economic transformation. For African nations endeavoring to liberate themselves from poverty and underdevelopment, investment in human capital represents a vital avenue for achieving economic advancement. Notwithstanding considerable progress in economic reforms and technological innovations, numerous African nations continue to face low levels of human development, which is further aggravated by structural inefficiencies and socioeconomic inequalities (Rustamova *et al.*, 2025; Mokdad, 2025; Djuraev *et al.*, 2025). Financial literacy serves as a transformative instrument capable of advancing human capital development by providing individuals with the requisite skills and knowledge to make informed financial decisions. This study investigates the complex interplay between financial literacy and human development, with the latter regarded as a dependent variable in the context of economic transformation in Africa. Financial literacy, characterized as the capacity to comprehend and implement financial principles, such as budgeting, saving, investing, and risk management, is essential for both individual and societal empowerment. In Africa, where financial exclusion continues to be widespread, a deficiency in financial literacy exacerbates the difficulties encountered by vulnerable populations, especially in rural regions (David *et al.*, 2025). This deficiency restricts access to vital resources, perpetuates poverty and hinders human development (Makinde & Makinde, 2025). Consequently, financial literacy can alleviate these challenges by enhancing financial inclusion, empowering individuals to strategies for their future, and encouraging investment in education and healthcare. These outcomes are essential for cultivating a proficient and healthy workforce that can effectively promote economic development (Lestari *et al.*, 2024).

Human capital development, which encompasses enhancements in education, health, and productive capabilities, serves as both a determinant and consequence of economic transformation. Nevertheless, Africa's human development indicators illustrate enduring disparities that impede advancement (Mbatha, 2024; Joseph, 2024; Opesemowo & Adekomaya, 2024). Low literacy rates, restricted access to healthcare, and elevated unemployment rates are significant obstacles which impede the continent's capacity for sustained growth. Financial literacy can contribute significantly to overcoming these obstacles by promoting behaviors and investments that enhance human capital. For instance, financial literacy empowers families to allocate resources efficiently to their children's education, secure health insurance, and participate in income-generating endeavors. The correlation between financial literacy and human development emphasizes the need to incorporate financial education into comprehensive development strategies (Ilugbusi & Adisa, 2024; Treu, 2024; Ebirim *et al.*, 2024). Technological advancements have further emphasized the significance of financial literacy in Africa. The expansion of mobile banking, digital financial platforms, and fintech innovation has generated novel opportunities for financial inclusion and economic engagement. Mobile money services are prime examples of how technology can transform access to financial services. Nevertheless, the complete potential of these innovations can only be realized if users possess the requisite financial literacy to navigate digital platforms. In the absence of this fundamental knowledge, technological advancement poses a risk of exacerbating existing inequalities, as individuals lacking financial literacy may be marginalized within the digital economy (Sikka & Bhayana, 2024; Li *et al.*, 2024). Consequently, financial literacy functions as a conduit between



technological innovation and human development, ensuring that all individuals can reap the benefits of economic transformation.

Notwithstanding its acknowledged significance, the correlation between financial literacy and human development continues to be insufficiently examined within African academic discourse. Current research frequently emphasizes macroeconomic indicators or the significance of financial inclusion in fostering economic growth, while neglecting the direct and nuanced effects of financial literacy on human capital development (Iftikhar *et al.*, 2024). The relationship between financial literacy and human development is further influenced by contextual factors, including cultural norms, institutional frameworks, and gender dynamics (Preston *et al.*, 2024). For instance, women in numerous African nations encounter systemic obstacles to financial literacy, including limited access to education and financial services (Akpuokwe *et al.*, 2024). To address these disparities effectively, it is essential to implement targeted interventions that empower women to engage completely in economic activities, thereby fostering the development of human capital. Similarly, rural populations, frequently marginalized within financial systems, require customized strategies for financial education that consider their distinct requirements and circumstances (Jin & Liu, 2024; Jejenywa *et al.*, 2024). Considering these contextual factors, financial literacy initiatives can facilitate equitable and inclusive human development.

This study employs a multidisciplinary methodology to investigate the influence of financial literacy on human development throughout Africa. By synthesizing insights from economics, education, and public policy, this study aims to provide a thorough understanding of how financial literacy can facilitate the development of human capital, thereby contributing to economic transformation. This research will examine data from a range of African nations, taking into account disparities in socioeconomic conditions, the character of institutions, and the adoption of technology. This comparative analysis seeks to identify optimal practices and scalable strategies for utilizing financial literacy to achieve human development objectives.

Although the existing body of literature has thoroughly investigated the correlation between macroeconomic factors and economic growth (Lewis-Beck & Stegmaier, 2000), the influence of financial literacy on the development of education, health, and income-generating capabilities has yet to be adequately explored. Moreover, research frequently emphasizes financial inclusion or technological accessibility (Demirgüç-Kunt *et al.*, 2022) while inadequately addressing the role of financial literacy as a crucial catalyst for optimizing these interventions to foster human capital development. This study presents an innovative approach by transitioning the emphasis from conventional economic indicators to human development as the dependent variable, thereby incorporating education, health, and productivity into the analytical framework. Furthermore, it underscores the distinctive contextual factors pertinent to Africa, including gender disparities, rural-urban divides, and cultural nuances, which have been predominantly neglected in global financial literacy research (World Bank, 2022). This study serves to connect theoretical insights with practical applications, positing financial literacy as a transformative instrument that harmonizes individual empowerment with overarching developmental goals. This methodology not only enhances academic discourse but also provides valuable insights to policymakers and development practitioners regarding the formulation of targeted interventions aimed at achieving sustainable economic transformation in Africa.



The initial chapter of this study encompasses the introduction, which delineates the research background, articulates the problem statement, outlines the objectives, underscores the significance, and identifies the voids present in the existing literature. This chapter establishes a foundational framework for comprehending the significance of research within the wider context of Africa's economic transformation. The second chapter examines the theoretical framework and provides a comprehensive analysis of the fundamental concepts, models, and theories that support the correlation between financial literacy and human capital. Additionally this section examines pertinent empirical studies to establish a scholarly framework for this research. The third chapter concentrates on the methodology, delineating the research design, data sources, sampling techniques, and analytical methods used to examine the correlation between financial literacy and human development. This guaranteed that the research process was conducted with rigor, transparency, and reproducibility.

The fourth chapter delineates the analysis and discussion of the results, interpreting the data gathered within the framework of the study's objectives and theoretical underpinnings. This chapter offers essential insights into the impact of financial literacy on various dimensions of human development while making comparisons across diverse African contexts. Finally, the fifth chapter delineates the findings, presents the conclusions, and offers recommendations. This document will encapsulate the principal findings of the study, derive significant conclusions regarding the influence of financial literacy on the development of human capital, and present pragmatic recommendations for policymakers, educators, and development practitioners to utilize financial literacy as a mechanism for economic transformation in Africa.

LITERATURE REVIEW

Human capital theory, initially developed by Schultz (1961) and Blaug (1976), asserts that investment in education, skills, and health significantly augments an individual's productivity and economic potential. These theories have significant implications for comprehending how financial literacy can facilitate the development of human capital and contribute to economic transformation across the African continent. Financial literacy serves as a catalyst for enhancing education, health, and income-generating capabilities which are critical elements of human capital by empowering individuals with the requisite knowledge and skills to manage resources effectively. The significance of human capital in economic development has been widely acknowledged in literature. Romer (1994) and Lucas Jr (2009) through their development of endogenous growth models, underscore the significance of human capital as a pivotal catalyst for innovation and economic expansion. These models indicate that investments in human capital yield collateral effects, fostering technological advancement and enhancing productivity. Nevertheless, in numerous African nations, enduring deficiencies in education, healthcare, and skill development impede the actualization of this potential. Financial literacy, serving as a catalyst for enhanced resource allocation and financial planning, has the potential to mitigate these disparities by promoting investment in human capital, especially among disadvantaged and rural communities.



Economic transformation and financial literacy have been examined extensively as pivotal factors in the advancement of human capital development in Africa. Economic transformation, characterized by transitions from low to high-productivity industries, is instrumental in promoting economic development, enhancing employment opportunities, and elevating living standards. Financial literacy, defined as the capacity to comprehend and proficiently manage financial resources, is of paramount importance for empowering individuals to make informed financial decisions, secure credit, and invest in education and skill development. Empirical research has established that the convergence of economic transformation and financial literacy exerts a substantial impact on the development of human capital by influencing labor market outcomes, entrepreneurship, and access to high-quality education and healthcare. Numerous studies have investigated the influence of economic transformation on human capital development. Strangio (2025) posits that structural transformation, defined as the transition from agrarian economies to those based on industry and services, engenders heightened demand for skilled labor. This, in turn, serves as a catalyst for investment in education and vocational training. Similarly, Matchaya and Greffiths (2025) observe that African economies undergoing elevated levels of structural transformation are likely to experience enhancements in literacy rates, skill acquisition, and labor productivity. The beneficial impact of economic transformation on human capital is further substantiated by research conducted by Grodach *et al.* (2025) who underscore that industrialization and urbanization generate opportunities for improved employment conditions and elevated wages. These advancements, in turn, empower households to allocate resources to education and healthcare. Nevertheless, certain academicians advise that economic transformation does not inherently result in enhancements to human capital. Umana *et al.* (2024) emphasize that in numerous African nations, the pace of economic transformation has been sluggish, and the shift from informal to formal employment continues to pose significant challenges, thereby constraining the potential advantages for the development of human capital.

Financial literacy is a crucial determinant of human capital outcomes. Sajuyigbe *et al.* (2024) contend that financial literacy equips individuals with the capability to make informed decisions pertaining to savings, investments, and educational expenditure, all of which are essential for the accumulation of human capital. In the African context, Singh and Misra (2024) observe that levels of financial literacy are notably deficient, especially among women and rural communities, thereby presenting a significant obstacle to initiatives aimed at economic development. Empirical evidence presented by Hu *et al.* (2024) indicates that specialized financial literacy programs have the potential to augment financial inclusion and enhance household decision-making, ultimately resulting in improved educational and health outcomes. Similarly, Shi *et al.* (2025) illustrate that financial literacy is positively associated with increased savings rates and enhanced engagement in financial markets, both of which are instrumental in fostering long-term human capital development. Notwithstanding these advantages, certain studies highlight obstacles to financial literacy, such as restricted access to formal financial institutions, cultural prejudices, and insufficient financial education within academic curricula (Spivak *et al.*, 2024).

The interplay between economic transformation and financial literacy significantly enhances their influence on human capital development. Empirical research indicates that in economies experiencing structural transformation, financial literacy significantly improves individuals' capacity to capitalize on emergent economic opportunities. For instance, Jiang *et al.* (2024)



demonstrate that individuals possessing financial literacy are more inclined to invest in entrepreneurial endeavors, thereby capitalizing on the novel market opportunities generated by economic transformation. Conversely, in economies characterized by low levels of financial literacy, individuals may encounter difficulties adapting to economic fluctuations, resulting in uneven growth and enduring income inequality (Harahap, 2024; Darwich, 2025). The significance of financial literacy in enhancing access to credit is paramount, as evidenced by the research conducted by (Lu *et al.*, 2024). Their findings indicate that individuals possessing financial literacy are more inclined to secure loans for business expansion and skill development, thereby contributing to more extensive advancements in human capital.

Notwithstanding robust empirical evidence supporting the beneficial effects of economic transformation and financial literacy on the development of human capital, significant challenges persist. Omweri (2024) contends that structural impediments such as deficient governance, insufficient infrastructure, and restricted access to quality education obstruct the comprehensive attainment of these advantages in Africa. Furthermore, financial literacy programs must be customized to accommodate various socio economic contexts to enhance their efficacy. Research conducted by Noor (2024) underscores that the effectiveness of financial education initiatives is influenced by factors such as income levels, educational attainment, and cultural contexts. Furthermore, the significance of digital financial literacy is an evolving domain of inquiry, with Islam *et al.* (2024) positing that mobile banking and financial technology innovations can address deficiencies in financial knowledge and promote greater economic engagement.

DATA SOURCE AND METHODOLOGY

The research employed secondary data comprising the World Development Indicators (WDI) provided by the World Bank as well as pertinent databases from the International Monetary Fund (IMF), United Nations Development Programme (UNDP), World Health Organization, and Global Findex Database. These sources offer comprehensive, dependable, and current data regarding essential indicators of financial literacy, human capital development, and economic transformation throughout African nations. The selection of these datasets guarantees the credibility and consistency of the research findings owing to their broad acceptability within academic and policy research domains. The study incorporates 48 African nations, reflecting a wide array of socioeconomic and institutional contexts. This study uses a quantitative research methodology which employs econometric models to evaluate the effects of financial literacy on human capital development. This methodological framework enables an impartial and data-driven assessment of the proposed relationships (Rovolis & Habibipour, 2024). The selection of the data type was guided by the specific objectives of the study and the necessity for measurable indicators. Quantitative data facilitate the examination of trends, correlations, and causal relationships between financial literacy and the development of human capital, thereby offering empirical evidence to substantiate the hypotheses of the study (Saqib *et al.*, 2024). The reliance on macro-level datasets, such as WDI and IMF, ensures the availability of comparable and standardized indicators across designated countries, which is essential for cross-country analysis.



This study covers the period from 2003 to 2024, a time frame selected to explain the progression of economic transformation, financial literacy and their effects on the development of human capital over the course of two decades. This period holds particular significance as it encompasses pivotal milestones in Africa's economic transformation, including the proliferation of digital financial services, enactment of financial inclusion policies, and heightened investment in the education and health sectors. By encompassing these pivotal years, this study offers valuable insights into enduring trends and cumulative impact of financial literacy on the development of human capital. This study utilizes high quality data obtained from reputable international sources comprising 48 African nations spanning the period from 2003 to 2024. The quantitative research methodology facilitates evidence based analysis, thereby enhancing the comprehension of the significance of financial literacy in economic transformation and human capital development within Africa.

Estimation Technique

This study utilized a robust econometric framework to evaluate the interrelationship among economic growth, financial literacy, and human capital development. This framework encompasses a Two-Step System Generalized Method of Moments (Blundell & Bond, 1998). The method is systematically employed to target particular research objectives and guarantee the rigor of the empirical analysis. The Ordinary Least Squares method functions as a preliminary estimation technique, offering a clear and intuitive foundational analysis of the correlation between financial literacy and human capital (Ibrahim, 2022; Rasheed *et al.*, 2024). By minimizing the sum of squared residuals, ordinary least squares offers an efficient and unbiased estimator under the assumption of endogeneity. Nevertheless, the straightforward nature of Ordinary Least Squares (OLS) may insufficiently address unobserved heterogeneity or the potential endogeneity of explanatory variables, thereby necessitating the application of more sophisticated methodologies.

To address potential endogeneity issues derived from reverse causality or omitted variable bias, this study adopts the Two-Step System Generalized method of moment estimator. This dynamic panel estimation methodology is especially well suited for examining relationships in which the dependent variable, human capital development, may be affected by its historical values. The Two-Step System Generalized Method of Moments (GMM) integrates equations expressed in both levels and first differences, employing lagged values of endogenous variables as instrumental variables. This methodology guarantees both consistency and efficiency in the context of endogeneity, while the two-step procedure yields robust standard errors that adequately address heteroscedasticity and autocorrelation. The incorporation of these estimation methodologies Ordinary Least Squares (OLS), Fixed and Random Effects models, and the Two-Step System Generalized Method of Moments (GMM) facilitates a thorough and rigorous examination of the effects of financial literacy on the development of human capital. By addressing concerns related to unobserved heterogeneity, endogeneity, and dynamic relationships, this methodological framework yields valuable insights into the pivotal role of financial literacy in economic development.



Model Specification

The two-step Generalized Method of Moments (GMM) represents a sophisticated econometric methodology employed for the analysis of dynamic panel data. It enhances the conventional Generalized Method of Moments (GMM) framework by integrating the level equation with the first-differenced equation, thereby addressing concerns related to endogeneity and augmenting efficiency.

$$y_{it} = \beta_0 + \beta_1 y_{i,t-1} + \sum_{j=1}^k \beta_j X_{jit} + \epsilon_{it} \quad (1)$$

where y_{it} is the dependent variable for entity i at time t , $y_{i,t-1}$, is lagged dependent variable (endogenous), X_{jit} , represents the independent variables (potentially endogenous or exogenous), β_0 is the constant term, β_j denotes coefficients to be estimated, ϵ_{it} is the error term, which includes, v_i , unobserved individual effects (fixed effects), and η_{it} denotes idiosyncratic error.

The first differenced equation eliminates time-invariant fixed effects (v_i) using first differences and mathematically illustrated as follows:

$$\Delta y_{it} = \beta_1 \Delta y_{i,t-1} + \sum_{j=1}^k \beta_j \Delta X_{jit} + \Delta \epsilon_{it} \quad (2)$$

The Level Equation, which incorporates instruments derived from the first-differenced equation, enhances efficiency by integrating orthogonality conditions.

$$y_{it} = \beta_0 + \beta_1 y_{i,t-1} + \sum_{j=1}^k \beta_j X_{jit} + \epsilon_{it} \quad (3)$$

For Moment Conditions, First-Differenced Equation Instruments of lagged levels of endogenous variables ($y_{i,t-2}, X_{ji,t-2}$) are valid under the assumption that the error term is uncorrelated with past values:

$$E[(y_{i,t-s}) \cdot \Delta \epsilon_{it}] = 0 \quad \text{for } s \geq 2$$

For Level Equation, instruments of endogenous variables ($\Delta y_{i,t-1}, \Delta X_{ji,t-1}$) can be valid under the assumption that first differences are uncorrelated with individual effects:

$$E[(\Delta y_{i,t-1}) \cdot v_i] = 0 \quad (4)$$

The equations used in the estimation and analysis of the data are presented accordingly, each using a different dependent variable. The models incorporate income levels, educational attainment, life expectancy, and government expenditure on social services as control variables.

$$HD_{it} = \beta_0 + \beta_1 HD_{i,t-1} + \beta_2 FL_{it} + \beta_3 EG_{it} + \beta_4 Inc_{it} + \beta_5 Edu_{it} + \beta_6 Life_{it} + \beta_7 GovExp_{it} + \epsilon_{it} \quad (5)$$

The dependent Variable (HD_{it}) is human development, typically represented by human development lagged Variable *Human development* _{$i,t-1$} captures dynamic persistence in economic growth trends. The explanatory Variables (FL_{it}) include financial literacy levels,



expected to enhance productivity and economic activity. (EG_{it}) Economic growth influences labor quality and economic potential.

Control variables include Inc_{it} representing income levels (GDP per capita), Edu_{it} representing educational attainment, $Life_{it}$ representing life expectancy, and $GovExp_{it}$ representing government expenditure on social services.

$$FL_{it} = \beta_0 + \beta_1 FL_{i,t-1} + \beta_2 HD_{it} + \beta_3 EG_{it} + \beta_4 Inc_{it} + \beta_5 Edu_{it} + \beta_6 Life_{it} + \beta_7 GovExp_{it} + \epsilon_{it} \text{-----} (6)$$

$$EG_{it} = \beta_0 + \beta_1 EG_{i,t-1} + \beta_2 FL_{it} + \beta_3 HD_{it} + \beta_4 Inc_{it} + \beta_5 Edu_{it} + \beta_6 Life_{it} + \beta_7 GovExp_{it} + \epsilon_{it} \text{-----} (7)$$

Table 1: Structured Table of Variable Measurement and Definitions

Variable Name	Notation	Measurement	Definition	Data Source
Human Development	HD	Human Development Index (HDI), ranging from 0 to 1	A composite index measuring average achievement in key dimensions of human development: a long and healthy life, knowledge, and a decent standard of living.	United Nations Development Programme (UNDP)
Economic Growth	EG	Annual percentage growth rate of GDP at constant prices	Measures the increase in a country's economic output over time, adjusted for inflation.	World Bank, IMF, National Statistics Agencies
Financial Literacy	FL	Percentage of population demonstrating basic financial knowledge (survey-based)	The ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing.	OECD, Global Findex Database, National Surveys
Income Level	Inc	Gross National Income (GNI) per capita, categorized as low, lower-middle, upper-middle, or high income	A measure of a country's income divided by its population, adjusted by the World Bank for classification purposes.	World Bank, National Accounts Data
Educational Attainment	Edu	Average years of schooling for individuals aged 25+	The average number of years of education received by people in a population, typically adults 25 years and older.	UNESCO Institute for Statistics, World Bank



Life Expectancy	Life	Life expectancy at birth, measured in years	The average number of years a newborn is expected to live if current mortality rates continue to apply.	World Health Organization (WHO), World Bank
Government Expenditure on Social Services	GovExp	Percentage of GDP spent on education, healthcare, and welfare services	Public spending on key social services as a proportion of GDP to support societal welfare and development.	IMF, World Bank, Government Budget Reports

Source: Author's Compilation (2025)

ANALYSIS AND DISCUSSION OF RESULTS

The analysis and discussion of the results concentrate on investigating the correlations between economic growth, financial literacy, and human capital development using a range of statistical and econometric methodologies. The descriptive statistics offer a comprehensive overview of the dataset, encapsulating essential measures, including the mean, standard deviation, and minimum and maximum values for significant variables. This analysis provides valuable insights into the trends and variability associated with financial literacy, indicators of human capital, and control variables, including income level, educational attainment, life expectancy, and government expenditure on social services. The descriptive statistics further underscore the disparities among countries, thereby accentuating the need for targeted policy interventions. The correlation matrix also examines the magnitude and directionality of the relationships between the variables. It identifies potential multicollinearity concerns that are essential for guaranteeing the reliability of regression estimates. The positive correlations observed between financial literacy and indicators of human capital development substantiate the hypothesis that financial literacy plays a significant role in enhancing education, health, and economic opportunities. Weak correlations may indicate the presence of additional influencing factors or regional disparities. The selection between Fixed Effects (FE) and Random Effects (RE) models was ascertained through the application of the Hausman test, which assesses the suitability of the FE model in instances where unobserved heterogeneity is correlated with the explanatory variables.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
HD	420	1.942	.552	1.12	3.39
EG	420	2.187	.614	.065	4.07
FL	420	2.691	.844	.71	4.49
INC	420	1.951	1.252	.43	7.57
EDU	420	2.889	1.102	1.17	6.62
LIFE	420	2.882	3.248	.86	64.38
GOVEXP	420	1.835	.745	.54	4.36

Source: Author's Computation (2025)



The descriptive statistics in Table 2 offers a comprehensive overview of the principal variables employed in the analysis, including their distribution and variability. Human development exhibits a moderate average value, characterized by some degree of variation as reflected by the standard deviation, and spans from a lower limit to an upper limit. Economic growth exhibits a comparable trend, characterized by a marginally elevated mean and a broader range between the minimum and maximum values. Financial literacy exhibits significant variability, with the average indicating a moderate level throughout the sample. Income exhibits a greater degree of dispersion than other variables, as evidenced by its standard deviation, and possesses the most extensive range, signifying substantial variations in income levels within the sample. Education exhibits a comparatively elevated mean accompanied by considerable variability, indicating significant disparities in educational achievement. Life expectancy demonstrates significant variation, as evidenced by a high standard deviation, which reflects considerable disparities in health and longevity among the observed data points. Government expenditure exhibits the lowest mean among the variables accompanied by a relatively narrow range, suggesting that the levels of public spending are consistently maintained throughout the sample. The descriptive statistics underscore the disparities in human capital, economic conditions and financial literacy, illustrating the varied socio economic realities represented within the dataset.

Table 3: Pairwise Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) HD	1.000						
(2) EG	0.338	1.000					
(3) FL	0.317	0.478	1.000				
(4) INC	0.038	0.118	0.010	1.000			
(5) EDU	0.481	0.224	0.324	0.148	1.000		
(6) LIFE	0.166	0.097	0.108	0.115	0.246	1.000	
(7) GOVEXP	0.236	0.244	0.067	0.229	0.197	0.145	1.000

Source: Author's Computation (2025)

The correlation matrix in Table 3 delineates the pairwise relationships among variables within the dataset, thereby explaining the strength and direction of their linear associations. Human Development (HD) exhibits a positive correlation with Economic Growth (EG) quantified at 0.338, indicating that an increase in economic growth is associated with enhanced human development. Similarly, Financial Literacy (FL) exhibits a positive correlation with Human Development (HD), suggesting that an increase in financial literacy is associated with advancements in human development. The correlation between Human Development (HD) and income (INC) was relatively weak. This suggests that income level, in isolation, may not have a significant influence on human development within this sample. Nevertheless, Educational Attainment demonstrates a more pronounced positive correlation with Human Development (HD) underscoring the essential influence of education in promoting human development. Life Expectancy (LIFE) exhibited a moderate correlation with Human Development (HD). This suggests that health outcomes have a moderate impact on human development. Government expenditure on social services (GOVEXP) exhibits a positive correlation with human development (HD), indicating that public investment plays a significant role in fostering human development. Among the control variables, economic



growth (EG) and financial literacy (FL) exhibit a moderate correlation, indicating a relationship between these two factors. Education (EDU) is positively correlated with both financial literacy (FL) and income (INC), underscoring the interrelationship between educational attainment, financial acumen, and income levels. LIFE demonstrated weak correlations with the majority of the variables, with the exception of EDU. This finding indicates a modest association between educational attainment and health outcomes. GOVEXP exhibited a moderate correlation with EG and a comparatively weak positive correlation with FL. This indicates the influence of public expenditure on both economic and social outcomes. The correlations suggest that human development is affected by a variety of factors including education, financial literacy, and public expenditure. By contrast, economic growth and income levels exhibit moderate to weak direct relationships with human development within this dataset.

Table 4: Economic Transformation through Financial Literacy: Impacts on Human Capital Development in Africa

	(1) HD	(2) EG	(3) FL	(4) EDU	(5) LIFE	(6) GOVEXP
HD		0.202*** (0.95)	0.0926*** (0.26)	0.139*** (1.78)	0.124*** (0.53)	0.109*** (0.59)
EG	0.826*** (1.10)		0.325*** (0.36)	0.124*** (1.99)	0.0600*** (0.17)	0.145*** (1.07)
FL	0.451*** (4.41)	0.178*** (1.12)		0.147*** (1.72)	0.0350*** (0.14)	0.0764*** (0.79)
INC	0.0572*** (0.66)	0.0406*** (0.66)	0.0217*** (0.25)	0.003*** (0.12)	0.0451*** (0.68)	0.0307*** (0.80)
EDU	0.424*** (0.98)	0.277*** (1.05)	0.203*** (0.45)		0.0436*** (0.19)	0.101*** (0.76)
LIFE	0.0938*** (1.49)	0.0335*** (0.55)	0.0129*** (0.16)	0.0256*** (0.47)		0.0356*** (0.85)
GOVEXP	0.647*** (1.82)	0.293*** (1.26)	0.0885*** (0.16)	0.0829*** (0.93)	0.0394*** (0.23)	
L.HD	0.682*** (3.57)					
L.EG		0.387*** (0.78)				
L.FL			1.090*** (2.59)			



L.EDU				0.818*** (10.51)		
L.LIFE					0.916*** (12.47)	
L.GOVEX P						1.069*** (13.37)
_CONS	0.300*** (0.24)	0.365*** (0.37)	0.111*** (0.08)	0.323*** (0.92)	0.0753*** (0.07)	0.741*** (0.92)
AR2	0.612	0.233	0.313	0.113	0.091	0.112
Hansen J	0.171	0.132	0.322	0.229	0.344	0.981
Sagan test	0.812	0.512	0.171	0.821	0.832	0124
N	378	378	378	378	378	378

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Author's Computation (2025)

Table 4 indicates the impact of economic growth and financial literacy on human capital development in Africa, examining the relationships among key variables, including education, life expectancy, and government expenditure, while accounting for their lagged effects. The results offer significant insights into how these variables interact to influence socio-economic outcomes in the region. Human development serves as a central theme in the analysis, reflecting improvements in well-being, education, and living standards. The results indicate that growth, financial literacy, education, life expectancy, and government expenditure passively influence human development. These findings highlight the multifaceted nature of human development, emphasizing the need for a comprehensive approach that incorporates economic, educational, and social factors (Adanma & Ogunbiyi, 2024; Kaas *et al.*, 2024).

The lagged variable of human development also shows strong persistence, underscoring the cumulative impact of historical investments in human capital on present outcomes. Economic growth emerged as a crucial driver of development significantly influenced by financial literacy, education, and government expenditure. The positive relationships indicate that higher levels of financial knowledge and education contribute to economic expansion; public investments in infrastructure and social services further bolster growth (Bambi & Pea-Assounga, 2024). The persistence of economic growth, as reflected by the lagged variable, underscores the importance of maintaining favorable economic policies and conditions over time to ensure sustained progress. Financial literacy, a critical variable in this study, is significantly associated with human development, economic growth, and other dimensions of development. The positive impact of financial literacy on economic growth and human development highlights its role in equipping individuals and communities with the knowledge and skills to make informed financial decisions (Witjaksana *et al.*, 2024). In turn, this supports greater economic participation and improved living standards. The strong



coefficient of the lagged variable of financial literacy suggests that its benefits extend over time, reinforcing the importance of integrating financial education into broader developmental policies. Education is shown to have a profound influence on human development, economic growth, and financial literacy, according to the results in Table 4. As a fundamental element of human capital, education contributes to individual empowerment, enhances productivity, and drives economic progress (Nwachukwu, 2024). The results also indicate that investment in education yields long term benefits, as evidenced by the significance of the lagged variable. This finding underscores the critical importance of sustained funding and reforms in education systems to achieve durable developmental outcomes.

Life expectancy was positively associated with other variables, reflecting the interconnectedness between health and socio economic factors. Improvements in human development, economic growth, financial literacy, and government expenditure contribute to better health outcomes. The lagged variable of life expectancy further highlights the enduring effects of health improvements, suggesting that investments in healthcare infrastructure and services can have lasting benefits for the population. Government expenditure plays a pivotal role in shaping development outcomes, with positive effects on human development, economic growth, financial literacy, education, and life expectancy (Mujtaba, 2024; Uddin *et al.*, 2024). Public investments in infrastructure, social services, and welfare programs are essential for fostering inclusive growth and addressing systemic inequality. The lagged government expenditure variable demonstrates the significance of consistent and well-targeted fiscal policies in achieving sustainable development. The diagnostic tests confirmed the robustness of the model. The absence of second-order autocorrelation and the validity of the instruments used in the analysis provide confidence in the reliability of the results. These diagnostic measures ensure that the estimated relationships among variables are not spurious and that they reflect genuine causal links.

CONCLUSION, RECOMMENDATIONS, AND POLICY IMPLICATION

In conclusion, this study examined the interplay between economic transformation and financial literacy as well as their collective impact on the development of human capital in Africa. Employing a quantitative research methodology and utilizing secondary data from esteemed sources, such as the World Development Indicators (WDI) and the United Nations, covering the period 2003 to 2024, the study revealed that both economic transformation and financial literacy significantly influence human capital outcomes. The analyses indicate that although economic growth has catalyzed favorable transformations in numerous African nations, the resultant advantages have not been equitably disseminated. Economic growth and financial literacy have emerged as vital elements which enable individuals to effectively navigate and capitalize on the opportunities presented by economic transformation. Nonetheless, the deficiency in pervasive economic transformation and financial literacy has impeded the comprehensive realization of human development, particularly in underdeveloped areas and among marginalized populations.



The study advocates African governments to prioritize the incorporation of economic transformation and financial literacy into national educational frameworks, commencing at the primary education level and extending through to tertiary institutions to enhance human development. Financial education ought to be universally accessible, particularly for underserved communities, and specifically designed to address the distinct challenges encountered by women, adolescents, and rural populations. Furthermore, policymakers promote collaboration among government entities, the private sector, and financial institutions to facilitate financial education via accessible mediums, including mobile technology and community-oriented initiatives. Moreover, economic policies should be prioritized, guaranteeing that the advantages of economic transformation are disseminated across all strata of society. This can be achieved through investments in education, infrastructure, and healthcare, which are essential elements of human capital development. From a policy standpoint, international organizations and development partners should support African governments in the formulation and execution of policies that promote financial literacy and facilitate inclusive economic growth. Collaborative endeavors can enhance financial education initiatives and address systemic obstacles that impede access to financial services. Financial institutions should incentivize them to participate in financial literacy initiatives by providing tailored programs for marginalized communities, thereby fostering sustainable economic growth to enhance human capital development in Africa.

Future research should investigate the long-term effects of financial literacy on individuals' economic mobility and overall quality of life, with particular emphasis on various socio-economic groups. Furthermore, comparative analyses of African nations may yield profound insights into regional disparities and the efficacy of financial literacy initiatives. Investigating the significance of digital financial literacy in the advancement of human capital development is essential, particularly the ongoing proliferation of digital financial services throughout the continent. Ultimately, subsequent research could investigate the interaction between financial literacy and various developmental factors, including governance and institutional frameworks, to gain a deeper understanding of how these components collectively influence human capital development in Africa.

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