

Human Capital Investment and Long-Term Economic Growth: An SDG 8 Perspective

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Abstract

Human capital investment has emerged as a critical determinant of long-term economic growth, particularly in the context of knowledge-driven and innovation-based economies. Sustainable Development Goal 8 (SDG 8) emphasizes sustained, inclusive, and sustainable economic growth, productive employment, and decent work for all. This paper examines the role of human capital investment—specifically education, skill development, health, and lifelong learning—in fostering long-term economic growth aligned with SDG 8. Drawing upon theoretical foundations, empirical evidence, and global policy frameworks, the study integrates human capital theory with the decent work agenda. The paper adopts a conceptual and analytical approach using secondary data from international organizations and prior empirical studies. Findings suggest that economies that prioritize inclusive and quality human capital investment experience higher productivity, employment quality, and resilience to economic shocks. However, challenges such as skill mismatches, inequality in access to education, and underinvestment in health hinder optimal outcomes. The paper concludes with policy implications for governments, educational institutions, and industry stakeholders, emphasizing the need for integrated human capital strategies to achieve sustainable and inclusive economic growth.

Keywords: Human Capital, Economic Growth, SDG 8, Decent Work, Education, Skills Development, Inclusive Growth

1. Introduction

Economic growth has traditionally been understood in terms of capital accumulation, labor expansion, and technological progress. However, contemporary growth paradigms increasingly recognize human capital investment as a fundamental driver of sustained and inclusive economic development (Lucas, 1988; Romer, 1990). Human capital is comprising education, skills, health, and knowledge enhances labor productivity, innovation capacity, and economic resilience. The adoption of the 2030 Agenda for Sustainable Development by the United Nations reframed economic growth objectives by emphasizing quality of growth, employment generation, and decent work, encapsulated in Sustainable Development Goal 8 (SDG 8) (United Nations [UN], 2015). SDG 8 explicitly links economic growth with productive employment, labor rights, social protection, and inclusivity. Despite substantial investments in education and training across countries, disparities persist in employment quality, wage levels, and productivity outcomes.

This paper aims to:

1. Conceptually analyze the relationship between human capital investment and long-term economic growth.
2. Examine human capital investment through the lens of SDG 8 and the Decent Work Agenda.
3. Identify challenges and constraints in translating human capital investment into inclusive growth.
4. Propose policy directions for aligning human capital strategies with SDG 8 objectives.

2. Conceptual Foundations Of Human Capital And Economic Growth

The concept of human capital occupies a central position in economic theory and development discourse, emphasizing the role of education, skills, health, and knowledge in enhancing productivity and economic performance. Human capital development refers to the process of improving individuals' capabilities through investment in education, training, and health, thereby increasing their economic value and contribution to growth. From both macroeconomic and organizational perspectives, human capital is widely recognized as a critical driver of sustainable economic growth.

2.1 Human Capital Theory

Human Capital Theory, pioneered by economists such as Schultz (1961) and Becker (1993), posits that expenditures on education, training, and health should be viewed as investments rather than consumption. These investments increase workers' productivity, earning potential, and innovative capacity, leading to higher organizational performance and national income growth. The theory assumes that individuals and organizations rationally invest in skill development to maximize future economic returns. At the macro level, economies with higher levels of human capital tend to experience faster growth due to increased labor productivity, technological adoption, and innovation. At the micro level, firms that invest in employee development gain competitive advantage through improved efficiency, quality, and adaptability.

2.2. Endogenous Growth Theory

Endogenous Growth Theory further strengthens the link between human capital and economic growth by arguing that growth is generated from within the economic system through investments in human capital, innovation, and knowledge (Romer, 1990). Unlike traditional growth models that treat technological progress as exogenous, endogenous models highlight education, learning-by-doing, and research and development as key drivers of sustained growth. Human capital accumulation enhances a nation's ability to innovate and absorb new technologies, thereby supporting long-term economic expansion. This perspective underscores the importance of continuous learning, skill upgrading, and institutional support for knowledge creation.

2.3 Human Capital and Labor Productivity

Labor productivity is one of the most direct channels through which human capital influences economic growth. Skilled and healthy workers perform tasks more efficiently, adapt to technological changes, and contribute to higher-quality outputs. Empirical studies consistently demonstrate a positive relationship between education levels, training intensity, and productivity growth. In the context of organizations, effective human resource management (HRM) practices such as training and performance management serve as mechanisms for translating individual skills into organizational productivity. At the national level, workforce skill development contributes to industrial competitiveness and economic resilience.

2.4 Human Capital, Innovation, and Competitiveness

Human capital is a foundational element of innovation-driven growth. Knowledge workers, researchers, and skilled professionals play a vital role in generating new ideas, improving processes, and developing new products and services. Economies with strong education and research systems tend to exhibit higher innovation output and global competitiveness.

From an HRM perspective, innovation is supported through talent management, learning cultures, and knowledge-sharing systems. Organizations that prioritize human capital development are better positioned to compete in knowledge-intensive and technology-driven markets.

2.5 Human Capital, Employment, and Inclusive Growth

Beyond productivity and innovation, human capital development contributes to inclusive economic growth by improving employability and income opportunities. Education and skill development reduce unemployment, underemployment, and job insecurity, particularly among youth and marginalized groups. This aligns closely with the objectives of Sustainable Development Goal 8, which emphasizes productive employment and decent work

for all. Inclusive human capital investments promote social mobility and reduce income inequality by enabling broader participation in economic growth. When supported by inclusive labor market policies, human capital development strengthens social cohesion and long-term development outcomes.

2.6 Human Capital and Sustainability

Contemporary development discourse increasingly emphasizes the sustainability dimension of human capital. Sustainable human capital development focuses not only on economic returns but also on employee well-being, lifelong learning, and intergenerational equity. This perspective aligns with sustainable HRM and the broader sustainable development agenda, recognizing people as long-term assets rather than short-term resources.

3. SDG 8 And The Centrality Of Human Capital

Sustainable Development Goal 8 (SDG 8) aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. At the core of this goal lies human capital the collective skills, knowledge, health, and capabilities of the workforce which functions as a fundamental driver of productivity, innovation, and inclusive growth. Without sustained investment in human capital, the objectives of SDG 8 cannot be effectively realized.

3.1 Human Capital as a Driver of Economic Growth

Human capital enhances labor productivity by improving workers' competencies, adaptability, and innovative capacity. Skilled and educated workers are better equipped to adopt new technologies, improve production processes, and contribute to value creation. From a macroeconomic perspective, countries with higher levels of human capital accumulation experience stronger and more resilient economic growth. This relationship reinforces the economic dimension of SDG 8, which emphasizes sustained growth through productivity enhancement rather than resource exploitation alone.

3.2 Human Capital and Productive Employment

SDG 8 stresses the importance of productive employment, defined not merely by job availability but by the quality and sustainability of work. Human capital development increases employability by equipping individuals with market-relevant skills and competencies. Workforce training, vocational education, and lifelong learning initiatives enable workers to

transition across sectors and adapt to labor market changes, reducing unemployment and underemployment, particularly among youth.

3.3 Human Capital and Decent Work

Decent work, a central pillar of SDG 8, encompasses fair wages, safe working conditions, social protection, and opportunities for personal development. Human capital development supports decent work by empowering employees to access better job opportunities, negotiate fair employment terms, and participate meaningfully in organizational decision-making. Skilled workers are more likely to be employed in formal sectors where labor rights and workplace standards are protected.

3.4 Human Capital, Inclusion, and Equity

Inclusive economic growth requires equitable access to education, training, and employment opportunities. Human capital development plays a critical role in reducing inequalities by enabling participation of women, youth, and marginalized groups in the workforce. Targeted skill development and inclusive HRM practices support SDG 8's commitment to equal pay for equal work and non-discriminatory employment practices.

3.5 HRM and the Operationalization of SDG 8

Human resource management acts as a key institutional mechanism through which human capital contributes to SDG 8 outcomes. HRM practices such as recruitment, training and development, performance management, and

employee well-being initiatives translate human capital investments into organizational productivity and decent work conditions. Sustainable HRM frameworks emphasize long-term workforce development, ethical employment practices, and social sustainability, directly aligning organizational strategies with SDG 8 objectives.

3.6 Human Capital in the Context of Technological and Structural Change

Technological advancements and the transition toward green and digital economies have intensified the need for continuous human capital development. Reskilling and upskilling initiatives are essential to prevent job displacement and ensure that economic growth remains inclusive. Human capital thus acts as a stabilizing force, enabling workers and organizations to adapt to structural transformations while maintaining employment quality.

4. Review Of Empirical Literature

A substantial body of empirical research demonstrates a positive relationship between human capital investment and long-term economic growth, aligning closely with the objectives of Sustainable Development Goal 8 (SDG 8), which emphasizes productive employment and sustained economic development. Scholars have examined this relationship across global regions, specific country cases, and broader panel analyses, consistently highlighting that investments in education, health, skills, and workforce competencies are key drivers of economic performance.

1. Cross-National and Macro-Level Evidence

Several studies using large cross-country panel datasets confirm that human capital accumulation significantly contributes to economic growth. Research aggregating data across regions shows that education and skills within the workforce correlate with higher GDP growth rates, reinforcing mainstream economic theory that human capital is essential for productivity

and innovation (Stryzhak et al., 2025). Specifically, studies highlighted in recent global analyses find that countries with a higher proportion of educated workers experience more robust long-term growth outcomes, although results may vary depending on institutional quality and regional contexts. Similarly, a global regression analysis examining human capital interaction with investment and demographic variables found that higher education levels and human capital investment significantly boost economic growth, especially when combined with physical investment and urbanization. This combined effect suggests that human capital amplifies the growth potential of broader economic inputs. Regional studies provide complementary evidence. For example, research involving 48 Asian countries over 2014–2021 revealed that government expenditures on education and health, along with secondary school enrolment and life expectancy, positively influence economic growth, confirming human capital's role as an engine of long-term development in diverse national contexts.

0. Country and Regional Case Studies

Case studies of specific countries and regions further reinforce the linkage between human capital investment and growth:

- **South Africa:** A recent empirical investigation used time-series econometric techniques to analyze how government expenditures on education and healthcare influence economic productivity. The study found that health spending positively correlates with GDP growth, but simply increasing school enrolments without improving quality may not yield proportional economic returns—indicating the nuanced nature of human capital effects.
- **SAARC Countries:** Panel regression models applied to South Asian economies reveal that labor force quality and government spending on human capital significantly impact GDP per capita, although variations exist across countries due to differences in policy environments and capital structures.
- **West African Countries:** A study of selected West African nations found that human capital investment positively affects sustainable development outcomes, implying a broader impact beyond GDP to include

employment and welfare indicators consistent with SDG 8 priorities.

These country-specific analyses illustrate that while human capital investment generally fosters economic growth, the magnitude and pathways of impact depend heavily on policy implementation, education quality, and complementary institutional frameworks.

4.3 Integration with Sustainable Development Outcomes

Beyond traditional growth metrics, recent work connects human capital investment more directly to sustainable development objectives. For instance, research focusing on training and employee development highlights how organizational investments in human skills support decent work conditions, productivity improvements, and broader sustainability goals encompassing quality employment, well-being, and inclusion. In addition, studies on sustainable HRM practices demonstrate how structured human capital strategies not only enhance productivity but also contribute to institutional quality and workforce resilience key components of SDG 8's emphasis on decent and inclusive work.

0. Emerging Patterns and Regional Variations

A growing theme in the literature is that the effects of human capital investment are mediated by regional, institutional, and demographic contexts. For example, human capital's positive

impact on growth is stronger in regions with urbanization and better infrastructure, suggesting that complementary factors like technology adoption and governance amplify the benefits of human capital accumulation. Moreover, evidence suggests that while human capital generally supports productivity and growth, threshold effects may exist: in regions where human capital levels are below certain levels, its contribution to productivity growth may be limited unless supported by broader economic integration and development policies.

Across diverse empirical contexts, the literature consistently supports the notion that investments in education, health, and skill development are significant determinants of long-term economic growth, aligning with SDG 8's focus on productive employment and sustained economic development. Human capital investment enhances labor productivity, fosters innovation, and, when paired with supportive institutional and policy environments, contributes to more inclusive and sustainable economic outcomes.

However, the empirical evidence also underscores that the quality of human capital, the coherence of policy frameworks, and the integration of human capital strategies with broader economic and institutional reforms are critical for realizing these growth benefits fully. These findings have direct implications for HRM and public policy, emphasizing the need for holistic human capital development strategies that transcend pure investment figures to include quality, inclusivity, and sustained implementation.

5. Methodology

5.1 Research Design

This study adopts a **conceptual and analytical research design**, drawing on secondary data and peer-reviewed literature.

5.2 Data Sources

- United Nations SDG Database
- World Bank Human Capital Index
- ILO Global Employment Reports
- OECD Education and Skills Outlooks

5.3 Analytical Approach

The study uses:

- Comparative analysis across regions
- Thematic synthesis of empirical findings
- SDG 8 indicator mapping to human capital variables

6. Analysis Of Human Capital Investment And Long-Term Economic Growth

Human capital investment refers to deliberate expenditures on education, training, health, and skill development that enhance the productive capabilities of individuals. Over the past several decades, economic theory and empirical research have consistently demonstrated that human capital investment is a critical determinant of long-term economic growth. Unlike physical

capital, human capital generates sustained returns by improving labor productivity, fostering innovation, and enabling structural transformation of economies.

6.1 Human Capital as a Growth Engine

Theoretical foundations, particularly human capital theory and endogenous growth models, emphasize that economies investing in education and skills experience higher growth trajectories. Human capital enhances workers' ability to utilize technology, improve production efficiency, and generate knowledge spillovers. As a result, productivity gains from human capital investment are cumulative and self-reinforcing, supporting long-term economic expansion rather than short-term output increases.

6.2 Education, Skills, and Productivity

Investment in education and skills development increases workforce competence and adaptability. Empirical evidence indicates that higher levels of educational attainment and skill intensity are associated with increased labor productivity and per capita income growth. Quality of education rather than mere years of schooling plays a decisive role in determining growth outcomes, as cognitive skills and job-relevant competencies directly affect innovation and firm performance.

6.3 Health Investment and Economic Performance

Health is an essential component of human capital. Investments in healthcare improve labor participation, reduce absenteeism, and enhance physical and cognitive performance. Healthy workers are more productive and capable of sustaining longer working lives, which contributes to economic stability and growth. At the macro level, improved population health strengthens human capital accumulation and supports inclusive economic development.

6.4 Human Capital, Employment, and Structural Transformation

Human capital investment facilitates labor mobility across sectors and supports structural transformation from low-productivity to high-productivity industries. Skilled workers are better positioned to transition into technology-intensive, service-oriented, and green sectors, which are increasingly important for sustainable growth. This transition supports productive employment and aligns closely with the objectives of Sustainable Development Goal 8 (SDG 8).

6.5 Role of HRM in Human Capital Investment

From an organizational perspective, human resource management (HRM) operationalizes human capital investment through training and development, career management, performance appraisal, and employee well-being initiatives. Strategic HRM ensures that individual skill development aligns with organizational and economic needs, thereby translating human capital investment into measurable productivity and growth outcomes. Sustainable HRM practices further ensure that growth is inclusive and socially responsible.

6.6 Long-Term Growth and Sustainability

Human capital investment contributes not only to economic growth but also to its sustainability. By enhancing employability, reducing inequality, and promoting decent work, human capital development ensures that economic gains are broadly shared. This inclusive growth model strengthens social cohesion and economic resilience, making human capital investment a cornerstone of sustainable long-term development.

7. Challenges In Translating Human Capital Investment Into SDG 8 Outcomes

Despite substantial investments in education, training, and workforce development, many countries and organizations struggle to convert human capital investments into tangible outcomes aligned with Sustainable Development Goal 8 (SDG 8), which emphasizes sustained economic growth, productive employment, and decent work for all. The gap between investment inputs and development outcomes highlights several structural, institutional, and organizational challenges.

7.1 Mismatch Between Skills Supply and Labor Market Demand

One of the most persistent challenges is the misalignment between the skills produced through education and training systems and the competencies demanded by labor markets. While human capital investments often focus on formal education, they may not adequately emphasize employability skills, digital competencies, and industry-relevant training. This mismatch leads to graduate unemployment, underemployment, and low productivity, thereby limiting progress toward productive employment under SDG 8.

7.2 Quality and Inequality in Human Capital Formation

The quality of education and training varies significantly across regions, institutions, and socio-economic groups. Unequal access to quality education, healthcare, and skill development opportunities results in uneven human capital accumulation. Such disparities undermine inclusive growth and decent work objectives, as marginalized populations remain excluded from productive employment despite aggregate human capital investments.

7.3 Weak Institutional and Governance Frameworks

Effective translation of human capital investment into economic growth requires strong institutions and policy coherence. In many developing and emerging economies, weak governance, fragmented policy implementation, and limited coordination between education systems, labor markets, and industrial policies reduce the effectiveness of human capital investments. As a result, investments fail to generate sustainable employment and productivity gains envisioned under SDG 8.

7.4 Limited Absorptive Capacity of Economies

Human capital investments yield optimal returns only when economies possess sufficient absorptive capacity, including technological infrastructure, innovation ecosystems, and dynamic industries. In contexts where economic structures are dominated by low-productivity or informal sectors, skilled workers may not find adequate opportunities to apply their capabilities. This leads to brain drain, skill underutilization, and slow progress toward decent work and economic growth.

7.5 Informality and Precarious Employment

A significant proportion of employment in many economies remains informal, characterized by low wages, job insecurity, and lack of social protection. Even with improved human capital, workers in informal sectors may not experience better working conditions or productivity gains. This limits the impact of human capital investment on achieving SDG 8 targets related to decent work and labor rights.

7.6 Organizational Constraints and Short-Term HRM Practices

At the organizational level, short-term cost considerations often discourage sustained investment in employee development. Inadequate training budgets, limited career progression pathways, and weak performance

management systems reduce the long-term benefits of human capital investment. Without strategic and sustainable HRM practices, organizations fail to convert workforce capabilities into innovation, productivity, and decent employment outcomes.

7.7 Technological Disruption and Skill Obsolescence

Rapid technological change poses a challenge to translating human capital investment into long-term SDG 8 outcomes. Automation and digital transformation can render existing skills obsolete, requiring continuous reskilling and upskilling. In the absence of lifelong learning systems, human capital investments may become outdated, limiting their contribution to sustained economic growth.

7.8 Measurement and Impact Assessment Challenges

Another critical challenge lies in measuring the outcomes of human capital investments. Many organizations and governments focus on input indicators (such as education expenditure or training hours) rather than outcome-based indicators (such as productivity, employment quality, or income growth). This limits evidence-based policy adjustments and weakens the linkage between human capital investment and SDG 8 achievements.

8. Policy Implications

The relationship between human capital investment and long-term economic growth carries significant policy implications for governments, institutions, and organizations seeking to achieve Sustainable Development Goal 8 (SDG 8), which promotes sustained, inclusive economic growth, productive employment, and decent work for all. Translating human capital investment into measurable SDG 8 outcomes requires coherent, inclusive, and forward-looking policy interventions.

8.1 Aligning Education and Skill Development with Labor Market Needs

Policymakers must ensure closer alignment between education systems and labor market requirements. This includes strengthening vocational education, promoting industry–academia collaboration, and embedding employability, digital, and green skills into curricula. Demand-driven skill policies enhance workforce productivity and reduce structural unemployment, thereby supporting sustained economic growth and productive employment.

8.2 Promoting Lifelong Learning and Continuous Skill Upgradation

Given rapid technological change and evolving work structures, policies should prioritize lifelong learning frameworks. Governments can incentivize continuous training through tax benefits, public–private partnerships, and digital learning platforms. Lifelong learning policies enhance workforce adaptability, reduce skill obsolescence, and ensure long-term returns on human capital investment in line with SDG 8 objectives.

8.3 Strengthening Health and Social Protection Systems

Health investments are integral to human capital development and economic growth. Policymakers should expand access to affordable healthcare, workplace safety, and mental health support to improve labor productivity and participation rates. Social protection

mechanisms such as unemployment insurance and retirement security also contribute to decent work conditions and economic stability.

8.4 Reducing Inequality and Enhancing Inclusive Human Capital Formation

Inclusive growth under SDG 8 requires targeted investments in marginalized and vulnerable populations. Policies that improve access to quality education, skill development, and employment opportunities for women, youth, and disadvantaged groups can reduce inequality and expand the productive labor force. Inclusive human capital policies strengthen social cohesion and long-term economic resilience.

8.5 Formalization of Employment and Labor Market Reforms

Human capital investment yields limited impact in economies dominated by informal employment. Policymakers must encourage labor market formalization through regulatory reforms, simplified compliance mechanisms, and incentives for small and medium enterprises (SMEs). Formal employment enhances job security, productivity, and labor rights—key pillars of SDG 8.

8.6 Encouraging Sustainable and Strategic HRM Practices

At the organizational level, governments can promote strategic human resource management (HRM) by encouraging investment in employee training, career development, and well-being. Policy instruments such as skill subsidies, training credits, and reporting standards on human capital development can motivate organizations to adopt sustainable HRM practices that support long-term growth.

8.7 Leveraging Technology and Innovation for Human Capital Development

Digital technologies can expand access to education and training while improving workforce efficiency. Policymakers should invest in digital infrastructure and support innovation ecosystems that absorb skilled labor. Technology-enabled human capital policies foster productivity gains and support the transition toward knowledge-based and green economies aligned with SDG 8.

8.8 Improving Measurement and Monitoring of Human Capital Outcomes

Effective policy implementation requires robust monitoring and evaluation frameworks. Governments should move beyond input-based indicators and adopt outcome-oriented metrics, such as employment quality, wage growth, labor productivity, and decent work indicators. Integrating SDG-aligned metrics into national development planning enhances accountability and policy effectiveness. From an SDG 8 perspective, human capital investment must be embedded within a broader economic and institutional framework to generate sustained growth and decent work. Policies that integrate education, health, labor market reforms, and strategic HRM practices can maximize the long-term economic returns of human capital investment while ensuring inclusivity and sustainability.

9. Conclusion

Human capital investment is a cornerstone of long-term economic growth and a critical enabler of SDG 8. While education, skills, and health investments generate productivity gains, their effectiveness depends on inclusivity, institutional quality, and labor market alignment. Achieving sustained and inclusive growth requires integrated human capital strategies that emphasize decent work, lifelong learning, and equitable access. Future research should explore longitudinal and country-specific analyses to further strengthen evidence-based policy design.

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