



TWIST

Journal homepage: [www.twistjournal.net](http://www.twistjournal.net)

# A Frame-Work Development: Considering All Aspect of Human Capital Development (HCD) to Achieve Sustainability

**Md. Tahzibul Haque\***

[1] – Faculty of Engineering, Universiti Malaysia Sabah, Kota Kinabalu, Malaysia

[2] – Mechanical Processing Division, Bangladesh Jute Research Institute, Dhaka, Bangladesh

[\*Corresponding author]

**M. K. Wan Ibrahim**

Faculty of Engineering, Universiti Malaysia Sabah,  
Kota Kinabalu, Malaysia

**Ismail Bin Maakip**

Faculty of Psychology and Education, Universiti Malaysia Sabah,  
Kota Kinabalu, Malaysia

**Md. Abul Kalam Azad**

Jute and Textile Product Development Center,  
Bangladesh Jute Research Institute (BJRI), Dhaka, Bangladesh

**Nazmina Chowdhury**

Jute- Textile Wing, Bangladesh Jute Research Institute (BJRI),  
Manik Mia Avenue, Dhaka 1207, Bangladesh

**Ahsan Habib**

Department of Sociology and Anthropology,  
Green University of Bangladesh, Narayanganj, Bangladesh

**Khalilullah Muhammad Bayezid**

Department of Humanities and Social Sciences,  
Shanto-Mariam University of Creative Technology, Dhaka, Bangladesh

## Abstract

A thorough framework for human capital development (HCD) that incorporates social, emotional, cognitive, and physical aspects is presented in this research. It highlights the connections between job learning, health, formal education, and sociocultural flexibility. The concept emphasizes lifelong learning mechanisms, equitable resource access, competence upgrading, and impact assessment metrics, positioning human capital as both an input and an output of sustainable development processes. By redefining human capital as a transformative force for equity, resilience, and creativity, it places the framework within the framework of global development goals.

## Keywords

Human capital development, Lifelong learning, Capability approach, Sustainable development, Framework design, SDG

## INTRODUCTION

Sustainability has emerged as a defining imperative of the 21st century, influencing global policy agendas, corporate strategies, and socio-economic planning. In this context, Human Capital Development (HCD) plays a pivotal role—not merely as a means of economic productivity but as a strategic driver of sustainable development. Human Capital

Development (HCD)—traditionally defined as the enhancement of individual knowledge, skills, and capabilities—has evolved into a multi-dimensional construct, central to achieving long-term sustainability across sectors and nations. With the growing pressure to meet the United Nations Sustainable Development Goals (SDGs), particularly those related to quality education (SDG 4), decent work and economic growth (SDG 8), and reduced inequalities (SDG 10), a robust, inclusive, and context-sensitive framework for HCD has become imperative.

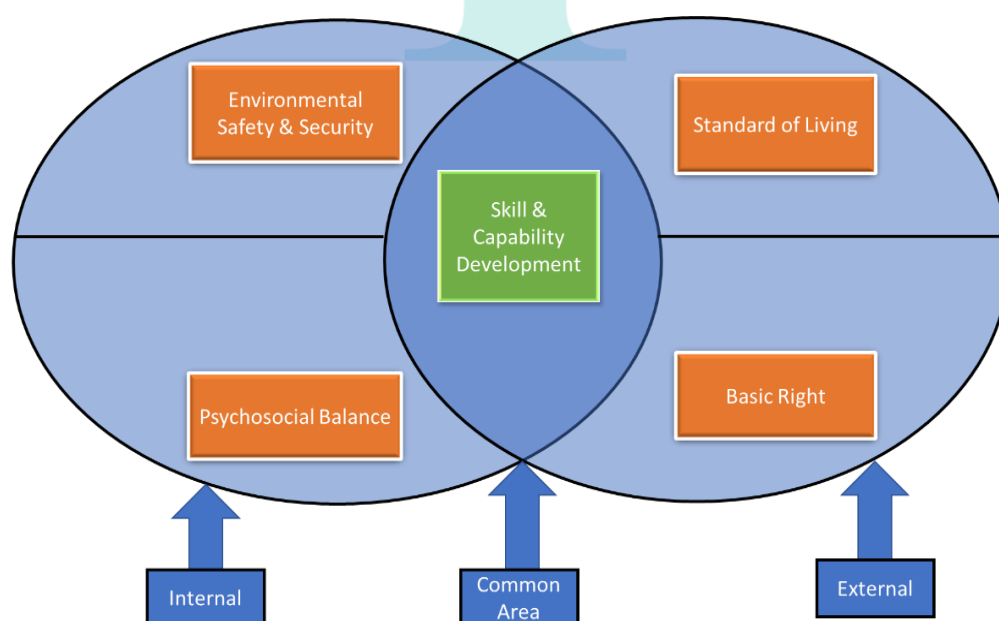
Recent research has emphasized the role of holistic human development in supporting sustainable national agendas, highlighting gaps in existing models that often overlook soft skills, mental well-being, lifelong learning, and socio-cultural contexts (Althawadi, 2025; W. Wardhani et al., 2025). In addition, studies suggest that investing in adaptable, innovation-oriented, and digitally skilled workforces is critical to navigating transitions in smart industries, public health, and climate resilience (Durrance-Bagale et al., 2025; Muthusamy, 2025). Despite this recognition, there remains an absence of integrated frameworks that tie HCD explicitly to sustainable development trajectories.

This article proposes a comprehensive framework that captures all key aspects of Human Capital Development through a sustainability lens. It integrates cognitive, emotional, institutional, and ethical dimensions of human growth and aligns them with the broader goals of environmental, economic, and social sustainability. By bridging theory with practice and drawing from interdisciplinary sources, this framework aims to serve as a guide for policymakers, educators, industry leaders, and development institutions in designing equitable and future-ready human capital systems.

## BACKGROUND PROCESS OF FRAMEWORK DEVELOPMENT:

The methodology employed is primarily conceptual and qualitative in nature. It is based on an extensive literature review aimed at identifying, synthesizing, and integrating key elements of Human Capital Development from economic, educational, and health domains. The research's empirical findings, which came from a thematic analysis of stakeholder interviews in Bangladesh's textile sector, unambiguously point to the need for a cohesive and all-encompassing framework for HCD. This research also utilizes theoretical analysis to construct a holistic and multi-dimensional framework that captures both micro and macro-level perspectives of HCD. According to framework development process, our identified research problem or topic is Human Capital Development. A proper literature review has done in this research from which it is clear that there is a lack of framework which is concerned with the cumulative/comprehensive development of Human Capital. Most of the models/framework focuses on identifying individual talents and then the process of developing them. Only the balance scorecard is concerned with the cumulative development process, but it is from a specific perspective. Besides this, a link between SPMPs and Sustainability has already been established (Haque et al., n.d.). All these reasons prompted us to develop a framework which concerned with all aspects of human capital development by ensuring the continuous maintenance of the standards.

Standards and practices/tools are identified as the two main building blocks of the suggested system. The operational construct of our proposed model is sustainability. It will provide a means of measurement by various social and economic sustainability indicators. After identifying all the constructs, we termed our model or framework the Total Human Capital Development (THCD) Framework.



**Fig. 1** Presentation of THCD Model

From the above pictorial presentation, we divided our model into three areas or perspectives:

### Internal Area or Perspective of Development

Those perspectives that are pretty much under the control or can be mitigated between the employee and employer are termed internal areas or perspectives of development. All the possible developments in the area are broadly divided into two parts:

### ***a. Workplace Environmental Safety & Security***

Workplace environmental safety and security are crucial aspects of ensuring the well-being of employees and the smooth functioning of an organization. Its standards are the guidelines and regulations established to ensure the health, safety, and security of employees, visitors, and the environment within a workplace. These standards are often set by government regulatory bodies, industry organizations, and international agencies. Employers have a responsibility to provide a safe and secure work environment, and employees play a role in adhering to safety protocols (Abrams, 2001). Some important standards of various components of workplace environmental safety and security are described below:

Workplace environmental safety involves Risk Assessment, Safety Policies and Procedures, Training and Education, Emergency Response Plan, Hazardous Materials Handling, Health and Wellness Programs, Regular Inspections, etc. The maximum of these factors can be compliance with OSHA standards (A Call for Safer and Healthier Working Environments, 2023) such as Health and Wellness Programs can be compliance with Personal Protective Equipment (PPE) (29 CFR 1910.132 - 1910.138). Machine Guarding (29 CFR 1910.212 - 1910.219), Emergency Action Plans (29 CFR 1910.38), and Walking-Working Surfaces (29 CFR 1910 Subpart D) can be used for Risk Assessment and Safety Policies and Procedures respectively. ISO 45001 is an international standard also used for occupational health and safety management systems (ISO, n.d.). It focuses on identifying and controlling health and safety risks and promoting a safe work environment. Hazardous Materials Handling can comply with Hazard Communication (29 CFR 1910.1200) and Control of Hazardous Energy (Lockout/Tagout) (29 CFR 1910.147) (Shapiro, 2024). Various mentoring & coaching Models such as GROW, TGROW, CLEAR, OSKAR, Four A's, etc. models can be a good source of compliance for Training and Education. Deming's PDCA Cycle can be a good compliance for Regular Inspections and updates (Halevy et al., 2009).

Workplace environmental security involves Access Control, Surveillance Systems, Cybersecurity, Security Personnel, Visitor Management, Communication Systems, Security Audits, Employee Awareness, etc (Nancy Irwin Maxwell, 2014). ISO 27001 is the international standard for information security management systems that can be useful for Digital Access Control, Surveillance Systems, and Communication Systems whereas the National Institute of Standards and Technology (NIST) Cybersecurity Framework is best fitted for Cybersecurity (Ferreira et al., 2013). Building Security Standards, are the best fitted for securing physical structures, including access points, surveillance, Visitor Management, and alarm systems. Payment Card Industry Data Security Standard (PCI DSS) is very useful for all kinds of payment-related security of employees. Employee Screening and Background Checks and Emergency Preparedness can also be used by PCI DSS.

By integrating these practices and compliance with proposed standards into the workplace, organizations can create a safer and more secure environment for their employees, promoting physical well-being. Regular reviews and updates to safety and security measures are essential to adapt to changing circumstances and emerging threats (Johnson, 2020). Organizations must stay informed about changes in regulations and standards, regularly update their policies, and ensure that employees are trained to comply with these standards. Adhering to these standards not only helps prevent accidents and injuries but also protects against legal liabilities and reputational damage (Levine et al., 2012).

### ***b. Psychosocial Balance***

The psychosocial balance of employees refers to the overall mental and emotional well-being of individuals in the workplace. It involves aspects related to the psychological and social factors that influence an employee's experience, satisfaction, and performance at work (Field & Chan, 2018). A positive psychosocial balance contributes to a healthier and more productive work environment. Measuring psychosocial balance in the workplace involves assessing various factors related to the mental and emotional well-being of employees. There isn't a single universal standard for psychosocial balance measurement. Various organizations and researchers have developed frameworks and guidelines to assess and promote psychosocial well-being in the workplace. These often align with broader occupational health and safety standards and encompass psychological, social, and organizational factors. Some frameworks and guidelines to assess and promote psychosocial well-being in the workplace are described below:

ISO 45003 (ISO, 2021) which is mainly based on ISO 45001 provides a framework for managing occupational health and safety that emphasizes the identification and management of hazards, which can include psychosocial hazards.

The Health and Safety Executive (HSE) in the UK developed management standards focusing on six primary areas: demands, control, support, relationships, role, and change. These standards are designed to help organizations assess and manage work-related stress (Hse, 2008).

The International Labour Organization (ILO) provides guidelines for managing psychosocial risks in the workplace. It emphasizes risk assessment, prevention, and the promotion of a positive work environment (Constitution of the International Labour Organization the International Labour Organization (ILO), n.d.).

The National Institute for Occupational Safety and Health (NIOSH) Total Worker Health Program provides not a standard in the traditional sense, but it also promotes a holistic approach to worker well-being. It integrates traditional occupational safety and health with broader elements of worker well-being, including psychosocial factors (New Directions at NIOSH., 1996).

The World Health Organization (WHO) offers a global model for workplace health promotion, encompassing physical and mental health. It emphasizes creating a healthy work environment that includes psychosocial considerations (Gostin et al., 2022).

The International Stress Management Association (ISMA) provides standards and guidelines related to stress management in various contexts, including the workplace. They focus on stress prevention and intervention strategies (Fallatah & Syed, 2018).

Maintaining a positive psychosocial balance requires a holistic approach that considers both individual and organizational factors. By prioritizing the well-being of employees, organizations can create a more resilient and engaged workforce, ultimately contributing to improved productivity and satisfaction. Regular assessments and surveys, combined with open communication channels, can help organizations identify areas of concern and implement targeted interventions to support employees' psychosocial balance (Tay & Diener, 2011). It's important to note that psychosocial balance is multifaceted, and a combination of quantitative and qualitative approaches provides a more comprehensive understanding. It's also important to stay updated on the latest research and standards in this evolving field.

### **External Area or Perspective of Development**

Those perspectives that are involved with bigger aspects (such as national and international infrastructure, custom, law, etc.) which are absolutely beyond the control of the employee and employer are termed external areas or perspectives of development. All the possible developments in the area are also broadly divided into two parts:

#### ***a. Standard of living***

The standard of living refers to the overall quality and level of comfort that individuals or communities enjoy, usually measured by various economic, social, and cultural factors. It's important to note that the standard of living can vary widely between countries, regions, and even within different socioeconomic groups within a given area (Rao & Min, 2018). Additionally, subjective factors like personal happiness and satisfaction contribute to an individual's perception of their standard of living. Some key components that contribute to the standard of living are described below:

##### *Income and Economic Indicators*

Economic indicators play a crucial role in measuring the standard of living in a country or region. These indicators provide quantitative data on income, wealth distribution, employment, and overall economic well-being. Gross Domestic Product (GDP) per Capita, Income Distribution, Unemployment Rate, Purchasing Power Parity (PPP), Inflation Rate, Poverty Rate, etc. are some key economic indicators that help assess the standard of living. Economic indicators are essential for evaluating and comparing the standard of living across different regions. While GDP per capita provides a broad measure, factors like income distribution, inflation, and unemployment offer a more detailed picture (World Bank, 2023).

##### *Housing & Infrastructure*

Housing and infrastructure are key factors in determining the standard of living, as they directly impact quality of life, economic productivity, and social well-being. Access to safe, affordable housing and well-developed infrastructure contributes to better health, economic stability, and overall societal progress. Key Indicators of Housing & Infrastructure Affecting Standard of Living are Housing Affordability & Quality, Home Ownership Rate, Access to Basic Utilities, Urban vs. Rural Living Conditions, Public Transportation & Road Networks, and Internet and Digital Infrastructure. Housing and infrastructure significantly impact the standard of living by affecting health, economic stability, and social well-being. Governments that invest in affordable housing, modern infrastructure, and digital connectivity create better living conditions for their populations (UN-Habitat, 2023).

##### *Healthcare*

Healthcare is a fundamental determinant of the standard of living, as it directly impacts life expectancy, quality of life, and economic productivity. A well-functioning healthcare system ensures that people have access to essential medical services, contributing to overall well-being and societal development. Key Healthcare Indicators Affecting Standard of Living are Life Expectancy at Birth, Infant Mortality Rate (IMR), Healthcare Access and Quality Index (HAQ Index), Physician-to-Population Ratio, Health Expenditure (as % of GDP), and, Prevalence of Diseases and Health Conditions (WHO, 2023). Healthcare is a crucial component of the standard of living, influencing life expectancy, economic productivity, and overall well-being. Nations with accessible, high-quality healthcare systems generally enjoy higher living standards.

##### *Education*

Education is a key determinant of the standard of living, as it directly influences economic opportunities, social mobility, and overall well-being. A well-educated population contributes to higher productivity, innovation, and improved quality of life. Key Indicators of Education Affecting Standard of Living are Literacy Rate, Enrolment Rates, Government Expenditure on Education (% of GDP), Student-Teacher Ratio, Quality of Education & Global Rankings, and, Higher Education & Skills Training. Education is a fundamental driver of economic and social development, directly influencing employment, income levels, and overall quality of life. Countries that prioritize education investment typically enjoy higher standards of living and long-term prosperity (UNESCO, 2023).

Besides these components, Quality of Life Metrics and Global Comparisons components are mainly involved with measuring the standards of living. Quality of Life Metrics involves with Human Development Index (HDI), Happiness Index (World Happiness Report), Life Expectancy, Cost of Living Index, Environmental Quality, Work-Life Balance, and, Safety and Crime Rate whereas Global Comparisons divides all countries into High Standard of Living, Emerging Economies and Low Standard of Living. Quality of life metrics provide a more comprehensive understanding of the standard of living by considering factors beyond income. Countries with high living standards typically have strong economies, good governance, and investments in healthcare, education, and infrastructure. Emerging economies are improving but still face significant challenges, while low-income countries struggle with poverty, instability, and lack of resources (OECD, 2023). Some of these measuring indicators for the standards of living are describe below.

#### *Human Development Index (HDI)*

It is a composite statistic developed by the United Nations to measure and compare the average achievements in basic human development across countries. The HDI is based on three key dimensions of human development Health (Life Expectancy at Birth), Education (Mean Years of Schooling and Expected Years of Schooling), and Standard of Living (Gross National Income per Capita). The HDI combines these three dimensions into a single index that ranges from 0 to 1, with higher values indicating higher levels of human development. The formula for calculating the HDI is as follows:

$$HDI = \left( \frac{Life\ Expectancy + Education\ Index + Income\ Index}{3} \right)^{1/3} \quad (\text{Wolff et al., 2011})$$

where:

- Life Expectancy is the life expectancy at birth.
- Education Index is the geometric mean of the Mean Years of Schooling and Expected Years of Schooling.
- The income Index is the natural logarithm of GNI per capita, adjusted for PPP, divided by the maximum natural logarithm of GNI per capita.

The United Nations Development Programme (UNDP) publishes an annual Human Development Report that includes the HDI rankings for countries around the world. The HDI is widely used as a measure of a country's overall development and well-being. It allows for comparisons between countries and helps identify areas where improvements are needed (UNDP, 2024).

#### *Happiness Index (HI)/ Happy Planet Index (HPI)*

The Happy Planet Index (HPI)/ Happiness Index (HI) is an index of human well-being and environmental impact that was introduced by the New Economics Foundation in 2006. Human development is simply an increase in income and riches. The theories of human capital production and human resource development are found to be inadequate by human development because they see human beings primarily as means rather than purposes. So, nowadays another popular index is the Happiness Index (HI) which is a method of assessing progress that takes into account numerous dimensions and nonmonetary indicators of happiness, emphasizes the value of freedom and opportunity, and understands that people translate their skills into happiness at varying rates (Monni & Spaventa, 2013). The HPI is based on general utilitarian principles (SAUNDERS, 2010). The International Union for Conservation of Nature (IUCN) call for a metric capable of measuring 'the production of human well-being (not necessarily material goods) per unit of extraction of or imposition upon nature'. It measures what matters, a sustainable well-being for all. Human well-being is conceptualized as happy life expectancy (R Veenhoven, 1996). Extraction of or imposition upon nature is evaluated by using the ecological footprint per capita, which attempts to estimate the number of natural resources required to sustain a given country's lifestyle. A country with a large per capita ecological footprint uses more than its fair share of resources, both by drawing resources from other countries and also by causing permanent damage to the planet which will affect future generations. Furthermore, it is believed that the notion of sustainable development requires a measure of the environmental costs of pursuing those goals. The index is weighted to give progressively higher scores to nations with lower ecological footprints (Leiwakabessy & Amaluddin, 2020).

#### ***b. Fundamental/Basic Right***

Fundamental/Basic rights are a group of rights that have been recognized by a high degree of protection from encroachment. These rights are specifically identified in a constitution, or have been found under due process of law. The United Nations' Sustainable Development Goal 17, established in 2015, underscores the link between promoting human rights and sustaining peace. The standard of basic rights varies across different legal and cultural contexts, but there are universally recognized rights that are considered fundamental and essential to human dignity. Some of these rights include:

##### *Self-determination*

It is a fundamental principle in political, philosophical, and legal contexts that emphasizes the right of individuals and groups to make their own choices and govern themselves without external coercion (UNDRIP, 2007). It applies in various domains, including political self-determination (national sovereignty), personal self-determination (autonomy in decision-making), and collective self-determination (rights of indigenous and marginalized communities) (E. L. Deci ; R. M. Ryan, 2000).

### *Liberty*

It is the state of being free within society from oppressive restrictions imposed by authority on one's way of life, behaviour, or political views. The concept of liberty can vary depending on perspective and context (Baldissone, 2018). In the Constitutional law of the United States, ordered liberty means creating a balanced society where individuals have the freedom to act without unnecessary interference (negative liberty) and access to opportunities and resources to pursue their goals (positive liberty), all within a fair legal system. These foundational perspectives have significantly influenced contemporary discussions on individual rights, governance, and the balance between personal freedom and societal order.

### *Due process of law*

It is a fundamental legal principle developed from clause 39 of Magna Carta in England that ensures the government respects all legal rights owed to individuals, safeguarding them from arbitrary denial of life, liberty, or property. Due process balances the power of law of the land and protects the individual person from it. Due process encompasses two main aspects. One is Procedural Due Process which requires that the government follow fair procedures before depriving an individual of life, liberty, or property. The other one is Substantive Due Process which protects certain fundamental rights from government interference, even if procedural protections are in place. It ensures that laws infringing on fundamental rights, such as those related to privacy or marriage, must have a compelling justification (John V; Orth, 2003).

### *Freedom of Movement/Mobility Rights/Right to Travel:*

It is a fundamental human right that allows individuals to move freely within a country and travel across international borders. It is essential for personal liberty, economic opportunities, and global interactions. Three Key Aspects of Freedom of Movement are firstly, Internal Movement – The right to move freely within one's own country (e.g., choosing where to live or work). secondly International Travel – The right to leave and return to one's country without undue restrictions and thirdly Freedom from Arbitrary Detention – Protection from being unlawfully restricted in movement by the state. Although fundamental, this right is not absolute and may be restricted under circumstances such as National security concerns (e.g., travel bans during wartime), Public health emergencies (e.g., COVID-19 lockdowns), and Legal penalties (e.g., house arrest or imprisonment) (Denza, 2016).

### *Right to Privacy*

It is a fundamental human right that protects individuals from unwarranted intrusion into their personal lives by the government, organizations, or other individuals. It encompasses various aspects, including Personal Privacy as Protection of private life, including relationships and family matters, Data Privacy as Protection of personal data from misuse, governed by laws, Digital Privacy as Right to online anonymity and freedom from unwarranted surveillance, and Medical Privacy as Protection of health information under laws (Meingast et al., 2006). Privacy rights are not absolute and may be restricted under conditions such as National security concerns (e.g., government surveillance for counterterrorism), Public interest (e.g., contact tracing during a pandemic), and Legal investigations (e.g., search warrants under due process) (Morris & Messenger Davies, 2018).

### *Freedom of thought*

It is a fundamental human right that protects an individual's ability to hold beliefs, opinions, and ideas without interference or coercion from external forces, including the government, religious institutions, or society. Key Aspects of Freedom of Thought are: **Right to Hold Any Belief** as individuals can adopt any personal, philosophical, political, or religious belief without coercion. **Protection from Forced Ideological Conformity** as no authority can compel someone to think in a particular way or penalize them for their thoughts. **Connection to Freedom of Expression** as while thought itself is unrestricted, expressing certain thoughts (e.g., hate speech, incitement to violence) may be subject to legal limitations. While freedom of thought is considered absolute, external expressions of thought (speech, writings, actions) may be restricted under certain conditions as National Security Concerns – Governments may impose restrictions if an expressed thought incites violence or terrorism. Censorship and Social Control – Many regimes impose ideological controls through propaganda, surveillance, or imprisonment of dissidents. Religious and Political Persecution – Some individuals face punishment for their beliefs in authoritarian states (Swaine, 2018).

### *Freedom of Conscience*

It is the right of individuals to hold, change, or act upon their moral or ethical beliefs without coercion or interference. It is closely linked to freedom of thought, religion, and expression, allowing people to make decisions based on their deeply held values, whether religious, philosophical, or secular. Its key Aspects are **Moral and Ethical Autonomy** – Individuals can make decisions based on personal beliefs without external pressure. **Religious or Secular Choice** – Protects both religious believers and non-religious individuals who base their decisions on ethical principles. **Right to Act According to Conscience** – Includes conscientious objection (e.g., refusing military service on moral grounds) and the right not to be forced to engage in actions against one's beliefs. Limitations and Challenges of Freedom of Conscience are very difficult to address cognitively. Legal Restrictions which may limit actions based on conscience, such as refusing medical treatment for children on religious grounds. Conscientious Objection example is some countries allow individuals to

refuse military service, while others do not. Another challenge is Conflicts Between Rights such as Freedom of conscience may clash with anti-discrimination laws (e.g., religious beliefs vs. LGBTQ+ rights) (Perchoc, 2019).

#### *Freedom of religion/worship*

It is the right of individuals to practice, change, or abstain from any religion without government interference or societal persecution. It is a fundamental human right recognized in many national constitutions and international declarations (Koppelman, 2018). Key Aspects of Freedom of Religion are **Right to Belief** (Individuals can believe in any religion or none at all.) **Right to Worship** (People can practice their faith through prayer, rituals, or ceremonies.) **Right to Change Religion** (Freedom to convert to another religion or abandon religion entirely.) **Right to Express Religion** (Freedom to wear religious symbols, preach, or share beliefs.) **Protection from Coercion** (No one should be forced into a religion or religious practices.) **Separation of Church and State** (In many democratic societies, the government remains neutral regarding religion.) While freedom of religion is widely protected, it sometimes conflicts with other rights, such as freedom of speech, LGBTQ+ rights, or gender equality, leading to legal and ethical debates (GLOBAL RESTRICTIONS-ON-RELIGION, 2009; Koppelman, 2018).

#### *Freedom of speech/Expression*

It is the freedom to voice thoughts, feelings, and convictions without interference or retaliation from the state. Numerous national constitutions and international accords safeguard it, making it a fundamental component of democracy. The following are important facets of freedom of expression: The freedom to voice one's thoughts (People can express their opinions on any subject, including politics, religion, and culture.) People have the right to peacefully protest or call for change. Press freedom (the ability of journalists to report without intervention from the government) Freedom of Cultural and Artistic Expression (Entertainers, authors, and artists can express themselves without worrying about censorship.) Defense Against Government Censorship (The state cannot censor speech at will) Free speech is essential, but it is not unqualified. There are certain limitations, such as Hate Speech: Speech that calls for violence or discrimination is restricted in many nations. Defamation: Making untrue claims that damage someone's reputation can have legal repercussions. National Security: Speech that incites violence or poses a threat to public safety may be prohibited. Obscenity and Child Exploitation: It is against the law to create or disseminate certain types of information. When freedom of speech clashes with other rights, such privacy, public safety, or protection from danger, it frequently causes controversy ("Freedom of Speech," 2008).

#### *Freedom of peaceful assembly and association*

These two fundamental rights sometimes used interchangeably with the freedom of association, is the individual right or ability of people to come together and collectively express, promote, pursue, and defend their collective or shared ideas. The right to freedom of association is recognized as a human right, a political right and a civil liberty. The terms freedom of assembly and freedom of association may be used to distinguish between the freedom to assemble in public places and the freedom to join an association. Freedom of assembly is often used in the context of the right to protest, while freedom of association is used in the context of labour rights which is manifested through the right to join a trade union, to engage in free speech or to participate in debating societies, political parties, or any other club or association, including religious denominations and organizations, fraternities, and sport clubs and not to be compelled to belong to an association (Udhr\_booklet\_en\_web, n.d.). In Bangladesh, Articles 37 and 38 of the Constitution of Bangladesh guarantee the freedom of association and assembly (Prime Minister's Office, 2011).

These rights are often codified in international documents, including National legal systems and constitutions may also include provisions protecting basic rights. The standard of basic rights is a foundational element of human rights frameworks worldwide, and the promotion and protection of these rights are essential for the establishment of justice and equitable societies. Violations of basic rights are generally considered serious human rights abuses and may be subject to legal and international scrutiny

### **Intermediate/Common Area or Perspective of Development**

This area/perspective lies in between the previously mentioned area/perspective, and its characteristics are similar to those of any previously mentioned area/perspective that has developed. For this reason, it is referred to as the Intermediate/Common Perspective of Development or the Intermediate/Common Area in the vend diagram. The primary component of this field development is the development of skills and capabilities, which depend on both inside and outside the business.

#### *Skills and capabilities development*

Skills and capabilities development is a continuous process that involves acquiring, enhancing, and applying a range of abilities, knowledge, and competencies to perform tasks effectively. It can be categorized into several broad areas, each focusing on different aspects of personal and professional growth. Here are the key categories:

##### *Technical Skills*

These are specialized abilities and knowledge required to perform specific tasks in various industries, such as IT, engineering, healthcare, finance, and manufacturing. These skills are often acquired through education, training, and

hands-on experience and can be measured or assessed. They include expertise in programming languages, software development, data analysis, cybersecurity, cloud computing, and industry-specific tools and technologies. Proficiency in technical skills enhances efficiency, problem-solving capabilities, and job performance, making them essential for career growth in today's technology-driven world. Continuous learning, certifications, and practical experience help individuals stay updated with evolving industry trends and advancements.

#### *Soft skills (interpersonal and communication skills)*

These are essential for building strong relationships, collaborating effectively, and navigating social interactions in both personal and professional settings. These skills include verbal and written communication, active listening, emotional intelligence, teamwork, adaptability, conflict resolution, and negotiation. Unlike technical skills, soft skills are more about behaviour, attitude, and emotional awareness, helping individuals express ideas clearly, work harmoniously with others, and handle challenging situations with empathy and diplomacy. Strong interpersonal and communication skills enhance workplace productivity, leadership effectiveness, and overall career success, making them invaluable across all industries and job roles (Sousa & Rodrigues, n.d.).

#### *Cognitive and problem-solving skills*

These are essential mental abilities that enable individuals to process information, analyse situations, and devise effective solutions. These skills encompass critical thinking, logical reasoning, decision-making, and creativity, allowing individuals to navigate complex challenges efficiently. Cognitive processes such as memory, attention, and perception play a crucial role in problem-solving, as they help in recognizing patterns, generating alternatives, and evaluating potential outcomes. Research indicates that enhancing cognitive flexibility and metacognition—awareness and control of one's own thinking—can significantly improve problem-solving abilities (John R. Anderson, 2010). Strengthening these skills through education and practice fosters adaptability and innovation in various professional and personal contexts.

#### *Management and leadership skills*

These are essential for guiding organizations toward success, encompassing strategic planning, decision-making, communication, and team motivation. While management focuses on processes, efficiency, and resource allocation, leadership emphasizes vision, inspiration, and innovation. Effective leaders exhibit emotional intelligence, adaptability, and the ability to empower their teams, fostering a collaborative and high-performance culture. Research suggests that strong leadership enhances employee engagement, productivity, and organizational resilience, particularly in dynamic business environments (Peter G. Northouse, 2021). Developing these skills requires continuous learning, self-awareness, and the ability to navigate complex challenges.

#### *Entrepreneurial and business skills*

These are essential for identifying opportunities, managing resources, and driving innovation in competitive markets. These skills include strategic planning, financial management, marketing, leadership, and adaptability, all of which contribute to business growth and sustainability. Entrepreneurs must also develop strong problem-solving abilities, resilience, and networking capabilities to navigate uncertainties and build successful ventures. Research highlights that a combination of technical knowledge and soft skills, such as creativity and emotional intelligence, plays a crucial role in entrepreneurial success (Man et al., 2002). Continuous learning and practical experience further enhance these competencies, enabling entrepreneurs to adapt to evolving business landscapes.

#### *Digital and technological skills*

These encompass a broad spectrum of competencies required to navigate, utilize, and innovate with digital tools and technologies. These skills include basic digital literacy, such as operating software and managing data, as well as advanced competencies in areas like programming, cybersecurity, artificial intelligence, and cloud computing. In the modern workforce, proficiency in these skills is crucial for enhancing productivity, fostering innovation, and adapting to rapidly evolving technological landscapes. Research highlights that digital proficiency is increasingly linked to employability and economic growth, emphasizing the need for continuous skill development (for Curriculum Redesign, 2024). Furthermore, digital transformation in industries necessitates a workforce adept at critical thinking, problem-solving, and ethical considerations in technology use (van Laar et al., 2017). As digital tools become more integrated into professional and daily life, equipping individuals with these competencies remains a priority for educational and training institutions.

#### *Personal development and self-management*

These encompass the continuous process of improving one's skills, behaviours, and mindset to achieve personal and professional growth. It involves self-awareness, goal setting, emotional intelligence, time management, and resilience, enabling individuals to adapt to challenges and maximize their potential. Effective self-management fosters productivity, well-being, and a balanced lifestyle by promoting discipline and proactive decision-making. Research highlights the role of self-regulation and motivation in driving personal development, emphasizing the importance of lifelong learning and adaptability in an ever-changing world (Schunk, 2011). Studies also suggest that mindfulness and habit formation significantly enhance self-management skills, leading to better outcomes in various life domains (Lomas et al., 2019).

### *Cultural and social awareness skills*

These involve understanding, respecting, and adapting to diverse cultural norms, social behaviours, and perspectives in various settings. These skills enhance interpersonal communication, foster inclusivity, and promote effective collaboration in multicultural environments. Culturally aware individuals recognize biases, appreciate different worldviews, and navigate social interactions with sensitivity and empathy. Social awareness extends to understanding societal structures, power dynamics, and historical contexts that shape human interactions. Developing these skills is crucial in education, business, and global interactions, as they contribute to reducing prejudice and improving cross-cultural relationships (Lomas et al., 2019; P. Christopher Earley & Soon Ang, 2003).

### *Physical and well-being skills*

These encompass a range of abilities that contribute to an individual's overall health, fitness, and mental resilience. These skills include physical literacy—such as strength, coordination, balance, and flexibility—as well as psychological and emotional competencies like stress management, mindfulness, and resilience. Research highlights the importance of integrating physical activity with mental well-being strategies to enhance overall quality of life and reduce risks associated with chronic diseases (McONNELL & GRIFFITHS, 2010). Furthermore, studies indicate that fostering these skills from an early age through structured physical education and well-being programs can lead to long-term benefits, including improved cognitive function and emotional regulation (Powell et al., 2016). By integrating movement with mindfulness practices, individuals can develop a holistic approach to well-being, fostering both physical fitness and mental resilience.

Setting standards for skills and capability development is essential for ensuring consistency, quality, and relevance in education, training, and professional growth. This chapter has explored various categories of skills and highlighted the significance of establishing clear benchmarks to measure and enhance their development.

The establishment of global and industry-specific skill standards plays a crucial role in aligning workforce capabilities with evolving labour market demands. Initiatives such as the OECD's Skills Strategy and the World Economic Forum's Future of Jobs Report emphasize the importance of competency-based policies that foster employability, innovation, and economic growth (Philippa Cordingley et al., 2019). Furthermore, the rise of automation and artificial intelligence has underscored the need for dynamic, adaptable standards that support continuous upskilling and reskilling (Erik Brynjolfsson & Andrew McAfee, 2014).

Looking ahead, the harmonization of skill standards across sectors and regions remains a critical challenge. Future efforts should focus on creating flexible, universally recognized frameworks that accommodate diverse learning pathways while addressing the evolving needs of the workforce. By ensuring that skills development is standardized yet adaptable, individuals and organizations can better navigate the complexities of modern education and employment landscapes.

## **CONCLUSION**

The Human Capital Development Model represents a pivotal framework for understanding and cultivating the most critical asset (people) within any society or organization. Throughout the article, it is investigated into the multifaceted aspects of human capital, exploring the significance of education, training, and lifelong learning in fostering individual and collective growth.

This model recognizes that human capital is not merely a measure of individual skills and knowledge but encompasses a broader spectrum of attributes, including health, creativity, adaptability, and socio-emotional intelligence. As we navigated through the various dimensions of human capital development, it became evident that a holistic approach is essential. Effective human capital development involves not only formal education and training programs but also considers the importance of inclusive learning opportunities, mentorship, and continuous skill enhancement.

Furthermore, the article highlighted the dynamic nature of the globalized and technologically driven world, emphasizing the necessity for individuals, organizations, and governments to embrace a culture of continuous learning and adaptability. Keeping all these in mind, our developed Model comprises two aspects, one is identifying all areas of development. Another is the standards that are used as the tools for development. Improving standardized work always incurs changes which is a never-ending process. As the standard is improved, the new standard becomes the baseline for further improvements, and so on. So, the aspect of development in our model is fixed, but the standard suggested for development always evolves with time. The benefits of standardized work include documentation of the current process for all shifts, reductions in variability, easier training of new operators, reductions in injuries and strain, and a baseline for improvement activities (Miroslava et al., 2016).

In essence, The Human Capital Development Model advocates for policies and practices that foster equitable access to education and skills development, recognizing diversity and promoting inclusivity. It serves as a compass, guiding us toward a future where individuals are empowered, societies are inclusive, and the collective potential of human capital is realized to its fullest extent. The journey toward this future requires commitment, collaboration, and a steadfast belief in the transformative power of education and continuous learning.

## **FUNDING**

This study, NATP2/PIU-BARC-44/2017/662(35), was supported in part by the IFAD and World Bank as part of the People's Republic of Bangladesh's "National Agricultural Technology Project-20" (Project ID: P149553).

## CONFLICTS OF INTEREST

The funders had no role in the study's design, in the collection, analyses, or interpretation of data, in the writing of the manuscript, or in the decision to publish the results.

## CONSENT FOR PUBLICATION

Participants provide their consent for publication in the consent form. A sample of the consent form and all the provided data are presented as an interview data sheet in the Appendix of this article.

## REFERENCES

1. *A call for safer and healthier working environments*. (2023). <https://doi.org/10.54394/HQBQ8592>
2. Abrams, H. K. (2001). A Short History of Occupational Health. *Journal of Public Health Policy*, 22(1), 34. <https://doi.org/10.2307/3343553>
3. Althawadi, A. (2025). A Strategic Framework for Enhancing SME Competitiveness and Growth. In Reem Khamis Hamdan (Ed.), *Sustainable Data Management* (Vol. 1, pp. 289–301). [https://doi.org/10.1007/978-3-031-83911-5\\_26](https://doi.org/10.1007/978-3-031-83911-5_26)
4. Baldissoni, R. (2018). *Farewell to Freedom: A Western Genealogy of Liberty*. University of Westminster Press. <https://doi.org/10.16997/book15>
5. *Constitution of the International Labour Organization the International Labour Organization (ILO)*. (n.d.).
6. Denza, E. (2016). Freedom of Movement. In *Diplomatic Law* (pp. 173–177). Oxford University Press. <https://doi.org/10.1093/law/9780198703969.003.0024>
7. Durrance-Bagale, A., Basnet, H., Singh, N. B., Belmain, S. R., Rudge, J. W., & Howard, N. (2025). ‘Community people are the most powerful resources’: qualitative critical realist analysis and framework to support co-produced responses to zoonotic disease threats with(in) Nepali communities. *BMC Public Health*, 25(1), 1430. <https://doi.org/10.1186/s12889-025-22657-9>
8. E. L. Deci ; R. M. Ryan. (2000). Self-determination is a core principle in international law, human rights, and individual autonomy. *Psychological Inquiry*, 11(4), 227–268.
9. Erik Brynjolfsson, & Andrew McAfee. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W. W. Norton & Company. <https://dl.acm.org/doi/book/10.5555/2635954>
10. Fallatah, R. H. M., & Syed, J. (2018). A Critical Review of Maslow’s Hierarchy of Needs. In *Employee Motivation in Saudi Arabia* (pp. 19–59). Springer International Publishing. [https://doi.org/10.1007/978-3-319-67741-5\\_2](https://doi.org/10.1007/978-3-319-67741-5_2)
11. Ferreira, L. N., da Silva Constante, S. M., de Moraes Zebral, A. M., Braga, R. Z., Alvarenga, H., & Ferreira, S. N. (2013). ISO 27001 certification process of Electronic Invoice in the State of Minas Gerais. *2013 47th International Carnahan Conference on Security Technology (ICCST)*, 1–4. <https://doi.org/10.1109/ICCST.2013.6922072>
12. Field, J. C., & Chan, X. W. (2018). Contemporary Knowledge Workers and the Boundaryless Work–Life Interface: Implications for the Human Resource Management of the Knowledge Workforce. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.02414>
13. for Curriculum Redesign, C. (2024). *Infusing Competencies Across Knowledge Domains*.
14. Freedom of Speech. (2008). In *The Encyclopedia of Libertarianism*. Sage Publications, Inc. <https://doi.org/10.4135/9781412965811.n112>
15. *GLOBAL RESTRICTIONS-ON-RELIGION*. (2009). <http://pewforum.org/docs/?DocID=491>
16. Gostin, L. O., Klock, K. A., Clark, H., Diop, F. Z., Jayasuriya, D., Mahmood, J., & Waris, A. (2022). Financing the future of WHO. *The Lancet*, 399(10334), 1445–1447. [https://doi.org/10.1016/S0140-6736\(22\)00533-5](https://doi.org/10.1016/S0140-6736(22)00533-5)
17. Halevy, A., Norvig, P., & Pereira, F. (2009). The Unreasonable Effectiveness of Data. *IEEE Intelligent Systems*, 24(2), 8–12. <https://doi.org/10.1109/MIS.2009.36>
18. Haque, T., Ibrahim, M. K. W., Abul, M., Azad, K., & Wing, J.-T. (n.d.). *The International Journal of Science, Mathematics and Technology Learning A Review of Project Management Tools and Sustainability: Industry Applications*. <https://www.ijsmatl-cgrn.com>
19. Hse. (2008). *Health and Safety Executive and Accounts 2008/09 Annual Report HC580*.
20. ISO. (n.d.). *ISO 45001 Occupational health and safety*. Retrieved December 25, 2024, from [www.iso.org](http://www.iso.org)
21. ISO. (2021, June 8). *ISO 45003*. [https://genorma.com/en/iso-guidelines-for-managing-psychosocial-risks-available-iso-45003\\_p10121.html](https://genorma.com/en/iso-guidelines-for-managing-psychosocial-risks-available-iso-45003_p10121.html)
22. John R. Anderson. (2010). *Cognitive Psychology and Its Implications Seventh Edition*. [www.worthpublishers.com](http://www.worthpublishers.com)
23. John V; Orth. (2003). *Due Process of Law: A Brief History*. University Press of Kansas. <https://books.google.com.bd/books?id=1yOQAAAAMAAJ&lpq=PA41&vq=conundrum&pg=PR4#v=onepage&q&f=false>
24. Johnson, M. S. (2020). Regulation by Shaming: Deterrence Effects of Publicizing Violations of Workplace Safety and Health Laws. *American Economic Review*, 110(6), 1866–1904. <https://doi.org/10.1257/aer.20180501>

25. Koppelman, A. (2018). How could religious liberty be a human right? *International Journal of Constitutional Law*, 16(3), 985–1005. <https://doi.org/10.1093/icon/moy071>
26. Leiwakabessy, E., & Amaluddin, A. (2020). A MODIFIED HUMAN DEVELOPMENT INDEX, DEMOCRACY AND ECONOMIC GROWTH IN INDONESIA. *Humanities & Social Sciences Reviews*, 8(2), 732–743. <https://doi.org/10.18510/hssr.2020.8282>
27. Levine, D. I., Toffel, M. W., & Johnson, M. S. (2012). Randomized Government Safety Inspections Reduce Worker Injuries with No Detectable Job Loss. *Science*, 336(6083), 907–911. <https://doi.org/10.1126/science.1215191>
28. Lomas, T., Medina, J. C., Ivztan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2019). Mindfulness-based interventions in the workplace: An inclusive systematic review and meta-analysis of their impact upon wellbeing. *The Journal of Positive Psychology*, 14(5), 625–640. <https://doi.org/10.1080/17439760.2018.1519588>
29. Man, T. W. Y., Lau, T., & Chan, K. F. (2002). The competitiveness of small and medium enterprises. *Journal of Business Venturing*, 17(2), 123–142. [https://doi.org/10.1016/S0883-9026\(00\)00058-6](https://doi.org/10.1016/S0883-9026(00)00058-6)
30. McCONNELL, A. K., & GRIFFITHS, L. A. (2010). Acute Cardiorespiratory Responses to Inspiratory Pressure Threshold Loading. *Medicine & Science in Sports & Exercise*, 42(9), 1696–1703. <https://doi.org/10.1249/MSS.0b013e3181d435cf>
31. Meingast, M., Roosta, T., & Sastry, S. (2006). Security and Privacy Issues with Health Care Information Technology. 2006 *International Conference of the IEEE Engineering in Medicine and Biology Society*, 5453–5458. <https://doi.org/10.1109/IEMBS.2006.260060>
32. Miroslava, M., Prajová, V., Yakimovich, B., Korshunov, A., & Tyurin, I. (2016). Standardization - one of the tools of continuous improvement. 149(June), 329–332. <https://doi.org/10.1016/j.proeng.2016.06.674>
33. Monni, S., & Spaventa, A. (2013). Beyond GDP and HDI: Shifting the focus from paradigms to politics. *Development*, 56(2), 227–231. <https://doi.org/10.1057/dev.2013.30>
34. Morris, B., & Messenger Davies, M. (2018). Can children’s privacy rights be adequately protected through press regulation? What press regulation can learn from the courts. *Journal of Media Law*, 10(1), 92–113. <https://doi.org/10.1080/17577632.2018.1467597>
35. Muthusamy, D. (2025). *Assessing the role of Technology and Innovation in Enhancing Productivity and Reducing Reliance on Imports*. <https://doi.org/10.61796/ijeirc.v2i1>
36. Nancy Irwin Maxwell. (2014). Producing Manufacturing Goods. In *Understanding Environmental Health: How We Live in the World* (pp. 226–226). Jones & Bartlett.
37. *New directions at NIOSH*. (1996). <https://doi.org/10.26616/NIOSH PUB97100>
38. OECD. (2023). *Better Life Index*.
39. P. Christopher Earley, & Soon Ang. (2003). *Cultural Intelligence: Individual Interactions Across Cultures*. Stanford University Press.
40. Perchoc, P. (2019). BRIEFING EPRS | European Parliamentary Research Service. In *Members’ Research Service PE* (Vol. 642).
41. Peter G. Northouse. (2021). *Leadership: Theory and Practice* (9th ed.). SAGE Publications.
42. Philippa Cordingley, Bart Crisp, & Paige Johns. (2019). *Future of Education and Skills 2030*.
43. Powell, L. M., Kumanyika, S. K., Isgor, Z., Rimkus, L., Zenk, S. N., & Chaloupka, F. J. (2016). Price promotions for food and beverage products in a nationwide sample of food stores. *Preventive Medicine*, 86, 106–113. <https://doi.org/10.1016/j.ypmed.2016.01.011>
44. Prime Minister’s Office. (2011). Constitution of Bangladesh: Chapter III. In *Constitution of Bangladesh*. Bangladesh Government.
45. R Veenhoven. (1996). Happy life expectancy: a comprehensive measure of quality-of-life in nations. *Social Indicators Research*, 39, 1–58.
46. Rao, N. D., & Min, J. (2018). Decent Living Standards: Material Prerequisites for Human Wellbeing. *Social Indicators Research*, 138(1), 225–244. <https://doi.org/10.1007/s11205-017-1650-0>
47. SAUNDERS, B. (2010). J. S. Mill’s Conception of Utility. *Utilitas*, 22(1), 52–69. <https://doi.org/10.1017/S0953820809990380>
48. Schunk, D. H. (2011). *Handbook of Self-Regulation of Learning and Performance*. Routledge. <https://doi.org/10.4324/9780203839010>
49. Shapiro, S. (2024). Counting regulations and measuring regulatory impact: a call for nuance. *Humanities and Social Sciences Communications*, 11(1), 1463. <https://doi.org/10.1057/s41599-024-03982-7>
50. Sousa, M., & Rodrigues, J. (n.d.). *GROUP CONTRACT: A BOOST FOR COMMITMENT AND EFFECTIVENESS IN COLLABORATIVE LEARNING*. <https://www.researchgate.net/publication/389571450>
51. Swaine, L. (2018). Freedom of Thought as a Basic Liberty. *Political Theory*, 46(3), 405–425. <https://doi.org/10.1177/0090591716676293>
52. Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of Personality and Social Psychology*, 101(2), 354–365. <https://doi.org/10.1037/a0023779>
53. *udhr\_booklet\_en\_web*. (n.d.).
54. UNDP. (2024). *Breaking the gridlock: Reimagining cooperation in a polarized world*.

55. UNDRIP. (2007). *United Nations Declaration on the Rights of Indigenous Peoples*.
56. UNESCO. (2023). *Global Education Monitoring Report*.
57. UN-Habitat. (2023). *World Cities Report*.
58. van Laar, E., van Deursen, A. J. A. M., van Dijk, J. A. G. M., & de Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers in Human Behavior*, 72, 577–588. <https://doi.org/10.1016/j.chb.2017.03.010>
59. W. Wardhani, K. Sa'diah, & V.C. Simanjuntak. (2025). Enhancing Human Resource Competence through Structured and Sustainable Learning & Development Programs. *The Journal of Applied Social Science*.
60. WHO. (2023). *World Health Statistics Report*.
61. World Bank. (2023). *World Development Indicators*.

