

ECONOMICS OF EDUCATION

Editors:

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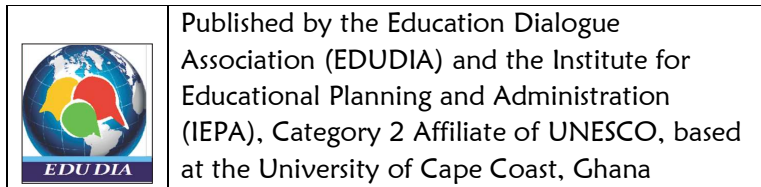
Abiodun O. Ayeni

Economics of Education

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ISBN: 978-978-60153-1-6



Review Process

Sixteen articles were submitted for publication as chapters in this book. The articles were subjected to a thorough process of double-blind peer review. The professionals in EDUDIA's team of Reviewers were from universities in different countries. They were strictly guided by the EDUDIA's Review Criteria. They were also requested to look at the manuscripts with the view to assisting authors produce quality articles that best meet learners' needs.

Following the review process, the editorial committee considered the reviewers' comments; and two articles were unsuitable for publication. The authors of the suitably qualified articles were given the reviewers' reports and asked to use the suggestions to strengthen their papers. After receiving the corrected manuscripts, the editorial committee finally accepted 12 of the 14 qualified articles for inclusion in this Book: Economics of Education. That means that the acceptance rate was about 85.7%.

Preface

This book, titled *Economics of Education*, is derived from responses to a call for contribution of chapters from erudite scholars sometimes in January 2022. The following four accomplished scholars edited the book, they are all full professors: Martins Fabunmi and Michael Amakyi of the Institute for Educational Planning and Administration (IEPA), University of Cape Coast, Ghana; Ayo Alani of the University of Lagos, Nigeria; and Abiodun O. Ayeni, University of Ibadan, Nigeria. Virtually all the authors are very senior academics with rich experiences in writing scholarly articles. Some of them are even professors, while others are budding erudite lecturers.

This book comprises twelve chapters with the following titles: *Economics of Education*, *Human Capital Theory*, *Cost Analysis*, *Modern Educational Management*, *Investment Theory*, *Social Demand Theory in Education*, *Theory of Demand in Education*, *Theory of Supply in Education*, *Determination of Price in Education*, *Population and Demand for Education*, *Contributions of Education*, *Understanding the Returns to Education*, and *Budgeting in Education*.

EDUDIA addresses the shortage of e-books of African backgrounds. The association has started with management in education, with this book dealing with the *Economics of Education* aspect of the discipline. The book contains articles on exigent issues in *Economics of Education*. EDUDIA continues to solicit scholarly articles from authors in different disciplines from all over the world through conferencing. I, therefore, implore all teacher educators to be part of this great mass movement and have their articles published in globally visible publishing outlets.

In view of these developments, I recommend this book as a must-read for everybody, irrespective of discipline. The book deals with *Economics of Education* in a way that makes it a useful learning material for learners, an instructional and dependable guide for teacher educators,



Oluwatoyin Isaiah Awolola & Christinah Oluwakemi Alabi

administrators, and everyone, no matter the professional calling. It is useful for individuals, family heads, religious leaders, community leaders, heads of organisations, and members of different groups. Finally, I am grateful to the co-editors for making the publication of this book, *Economics of Education*, possible.



Professor Martins Fabunmi (FGEN),
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ECONOMICS OF EDUCATION

Chapter 1

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Introduction

Education is a catalyst for every nation's socio-economic and political development. It is an instrument per excellence for the development of any individual or nation. This is because no nation can rise above the quality of its education. For any nation to succeed in tackling major of its developmental problems such as ignorance, poverty, inequality, human trafficking, unemployment and social vices can be traced to its educational system. Efurhievwe (2012) submitted that education does not take place on a void environment, but on man who lives there to translate the educational values for transforming the environment.

Thus, no responsible government would neglect its education system. In addition, Obiora (2010) reported that many nations of the world have made efforts at using necessary and meaningful educational programmes to equip their youths with

skills, knowledge, attitudes and values deemed necessary for them to preserve their values; function effectively and contribute to the overall development of the nation. Education that is active brings out the ability and potential in an individual; stimulates and empowers an individual with saleable skills to positively solve immediate problems for an individual and the society. It is an education that brings out the best in the individual.

Concept of Education

Education can be acquired informally, non-informally and through formal institutions. Okoh (2003) in his opinion identified education as a process that starts from birth and ends at death, education is the sum total of the culture which a society transmits to its younger generation for the continuity of society and as the totality of life's experiences. It also embraces skills and competencies for individual and societal development, enables the individual to acquire knowledge, abilities, skills or behaviour that enables him function in his immediate environment and the larger society.

Education as a process involves some form of activities, and set of actions that result to a set of changes in the behaviour of a person. Here, education is an activity rather than a concept and involves the act of teaching, learning, experiencing, participating in some form of action which will bring about all round development in knowledge, abilities, skills, attitudes and other forms of behaviour which are of positive value to the society. Also, Education as a product refers to the production function of education in producing educated individuals (Garuba, 2003). More so, education performs the same production function as industries or factories by producing human beings who possess skills, knowledge and desirable attitudes for the transformation of society. The products of education are therefore the educated individuals in the society.

More so, Fafunwa in Maduewesi (2002) opined that the old Nigerian must be transformed into a new Nigerian through practical and technical driven education. Likewise, Cooney in Maduewesi (2002) criticized the type of education that produced people with



mere academic knowledge without the ability to produce things. Nigeria needs education that would be practical and skill development-oriented or functionally-driven to fortify its youths with skills needed to perform contemporary tasks. Education is to direct individual towards selection of future occupation. It should also provide job-related training, and teaches the skills needed to perform roles in increasingly specialized occupations.

Moreover, Omolayole (2002) in Adedokun & Olaleye (2013) reported that functional education is practical, stimulating and continuous in order to aid transfer and sustainability of the required positive skills, values and attitudes acquired through learning. The researcher recommended that Nigeria needs to double her efforts in improving her educational systems at all levels and make it more functionally-oriented. For any educational system to a functional one it must possess some features as identified by Fuandai, Shiaki & Gbari (2007). Some of these features are: emphasizing the acquisition of practical skills and knowledge for gainful self-employment, self-reliance, accessibility, relevance, empowerment, involvement of stakeholders in its design; equipping recipients to harness their potentials.

Need for Functional Education

Functional education seeks to prepare people, especially youth, to be responsible, enterprising individuals who become entrepreneurs or entrepreneurial thinkers who will contribute to economic development and sustainable communities (Arogundade, 2011). More so, United Nations Educational Social and Cultural Organisation (UNESCO, 2017) pointed those excluded from education to be 75 million and that seven out of ten live in Sub-Saharan Africa or South and West Asia, 60% of them are girls living in Arab states and 60% in South and West Asia. Reasons for exclusion are given as poverty, gender inequity, and disability, child labour, speaking a minority language, belonging to an indigenous people and living nomadic and rural lifestyles. The terms used to describe these categories of people are vulnerable and marginalized

people. These are people deprived of their rights to education. This implies that for total growth to be experienced in our communities both rural and urban, inclusive education should be planned in a way that accommodates vulnerable and marginalized groups.

Adedokun & Olaleye (2013) summed it up that “education cannot be for all until it is received by all. A system that excludes some people cannot be for all and should therefore give way to one that is accommodating of all”. It thus means that a system that serves only a minority of children while denying attention to a majority who need assistance need not prosper in the 21st century (Obani, 2002). Others who are denied education include the street children, children with special needs whose estimate is given at over 650 million people all around the world and with 150 million being children as revealed by the 2010 EFA Global Monitoring Report.

Those who belong to the marginalized groups usually excluded from education include indigenous people an estimate of which is given at 370 million around the world population, the rural people which represents 70% of the world’s population (Adedokun & Olaleye, 2013). Quality education should therefore be made accessible to all without discrimination or exclusion and in doing this; efforts should be made to reach all, for proper development to take place in individuals and communities. Making education available to all will lead to economic growth because education will enable poor people to develop their skills and enhance productivity thus, providing essential underpinning for economic growth.



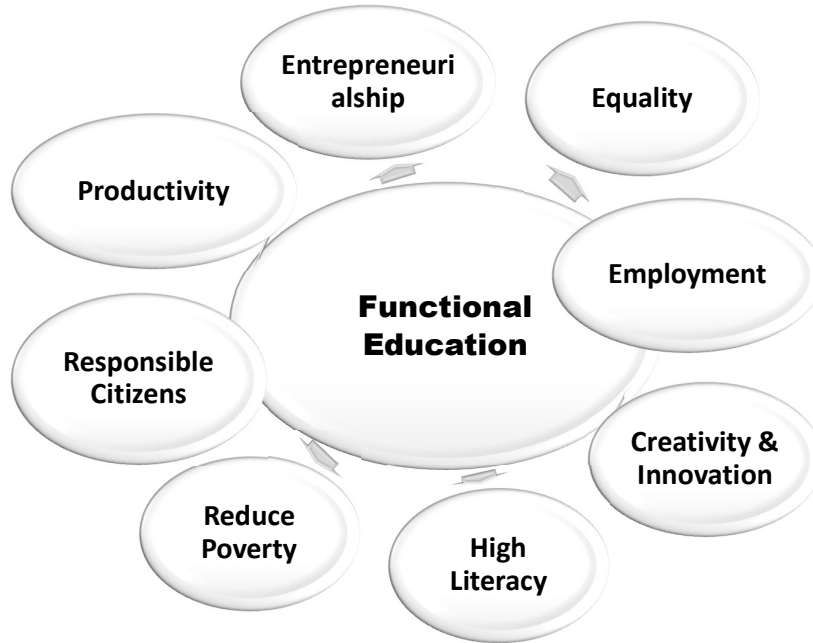


Fig. 1: Products / Outcomes of Functional Education

Source: Authors' Initiation (2024)

More so, Abdu (2005) defined functional education as the wholesome training of an individual that makes him/her useful to him/herself, the community and the nation as a whole. It works for the benefit of all to: understand his interest and vocation; lived ordered and disciplined life; and have the enthusiasm to succeed amidst all odds. Cooley as cited by Asaju and Adagba (2014) viewed functional education as that education in which the capability to do productive tasks is more stressed than the education that aims at producing ideological conformity. It is a kind of education that emphasizes practice more than theory.

Idowu (1999) added that functional education is the entire process of bringing up individuals to develop their potentials (cognitive, affective and psychomotor domains) to the fullest and

consequently be able to contribute greatly to the development of the society. Functional education can translate developing nation to a developed one by establishing and improving the infrastructures such as electricity, poverty reduction, improvement in people's standard of living, roads, education, political stability and patriotism, water supply, health, integrated rural development, reduction in crime and increase in economic growth (increase in agricultural production) and positive attitude to work especially government work.

In addition, Asaju, Thomas and Silas (2013) reported that the declining in standard of education in Nigeria has affected its efforts at human resource development with great consequences for government efforts at reducing the high rate of inequality, poverty, unemployment which are attributed for other social ills experienced in the country today. Our graduates because they are not employable now form easy thugs for the ill-feted politicians of the present day. They are used and dumped without permanent jobs. Thus, this paper examines the present trend in the educational system with the view to identify its functionality as tool for poverty eradication in Nigeria.

Therefore, education becomes a fundamental objective of sustainable development and a prominence source of sustainable development indeed. An input and output of development, education is fundamental to the wider belief to expand human competences which is the pivot of development (UNDP, 2017). At the same time, education plays a key role in the ability of a developing country to absorb modern technology and to develop the capacity for self-sustaining growth and development (Todaro & Smith, 2009). In other words, education holds the master key that unlocks a country's potentials towards national transformation, and sustainable human national development.

UNESCO (2012) specified that developing nations should allocate at least 26 percent of their yearly budget to education. However, Nigeria is far away from attaining this benchmark specified by UNESCO, thereby impeding human development



strength of the country which is supposed to activate growth and sustainable development. Thus, it is of great concern to see countries like Kenya, Ghana, Cameroon and Equatorial Guinea overtake Nigeria in terms of educational standard, leaving Nigeria hopeless in integrating to the Conventional Education Strategies for Africa 2016-2025 agenda and the African Union's Agenda 2063 which sets out a pan-African vision of transformative sustainable development with the aim to transform education system for commensurate wider vision

Aminu (2006) observed that the greatest investment a nation can make for the development of its economic, sociological and human resources is that of education. While sustainable development is the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs.

Education Nexus Economic development: Impact of Education on Economy

The relationship between education and economy is symbiotic. Thus, education is indispensable to economic development. No economic development is possible without a quality education. A balanced education system promotes not only economic development, but productivity, and generates individual income per capita. Its influence is noticeable at the micro-level of an individual family and macro level of every nation. The link between economic development and education lies in the fact that education is a facilitator for economic development. Education is a human capital investment, which is expected to yield results that will translate to the improvement and growth of the economy of a nation. This effect can be seen in areas with a high percentage of well-educated people. Such people can channel their knowledge into concrete actions that lead to the development of the economy in comparison to those areas where there are few well-educated people. The link between economic development and education, thus, is the value or improvement of knowledge.

Education has been referred to as the greatest force that can bring about changes. Aminu (2006) observed that the greatest investment a nation can make for the development of its economic, sociological and human resources is that of education. While sustainable development is the development that meets the needs of the present without compromising the ability of the future generations to meet their own needs (Bruntland Commission, 1987). Hence, education and sustainable development are intertwined such that good quality education drives innovation, which in turn drives economic growth and sustainable development. Human capital development is generally recognized as a support for realizing wide-ranging development. Therefore, investment in education has been empirically connected to healthier economic development outcomes. Education enables poor men and women to participate in and benefit from economic growth (Ravallion, 2004).

The educational provisions within any given country represent one of the main determinants of the composition and growth of that country's output and exports and constitute an important ingredient in a system's capacity to borrow foreign technology effectively. For example, health and nutrition, and primary and secondary education all raise the productivity of workers, rural and urban; secondary education, including vocational, facilitates the acquisition of skills and managerial capacity; tertiary education supports the development of basic science, the appropriate selection of technology imports and the domestic adaptation and development of technologies; secondary and tertiary education also represent critical elements in the development of key institutions, of government, the law, and the financial system, among others, all essential for economic growth (United Nation Development Programme UNDP, 2017).

Empirical evidence at both micro and macro levels further illuminates these relationships. Economic development and education are related by how education leads to the ability of individuals to create opportunities for economic development. For



instance, an educated individual may be able to apply the knowledge gained through education to the development of items like solar energy-powered products as well as other equipment and machinery. These products can increase demand for locally produced goods and also boost the GDP of such countries. It is widely accepted that to adapt to an environment of stronger competition, and a world emphasizing the role of information, knowledge, and skills, advanced economies need continuously to upgrade the overall quality of their labour force (Ozturk, 2001).

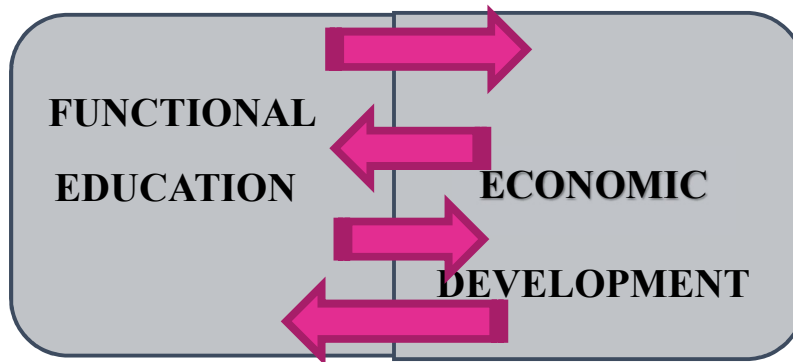


Fig. 2: Education and Economic Development
Source: Authors' Initiation (2024)

From Fig. 2, education and economy are mutually dependent, that is, there is symbolic relationship between the two variables. Thus, it can be submitted that education is a function of economic development. A country's economy becomes more productive as the proportion of educated workers increases since educated workers can more efficiently carry out tasks that require literacy and critical thinking. However, obtaining a higher level of education also carries a cost (Sen, 2013). A country doesn't have to provide an extensive network of colleges or universities to benefit from education; it can provide basic literacy programmes and still see economic improvements. Countries with a greater portion of their population attending and graduating from schools see faster

economic growth than countries with less-educated workers. As a result, many countries provide funding for primary and secondary education to improve economic performance. In this sense, education is an investment in human capital, similar to an investment in better equipment.

According to UNESCO and the United Nations Human Development Programme, the ratio of the number of children of official secondary school age enrolled in school to the number of children of official secondary school age in the population (referred to as the enrollment ratio), is higher in developed nations than it is in developing ones (Bhattarai et al., 2015). The enrollment ratio differs as a metric from calculating education spending as a percentage of gross domestic product (GDP), which doesn't always correlate strongly with the level of education in a country's population. GDP represents the output of goods and services for a nation. Therefore, spending a high proportion of GDP on education doesn't necessarily ensure that a country's population is more educated. For businesses, an employee's intellectual ability can be treated as an asset. This asset can be used to create products and services that can be sold. The more well-trained workers employed by a firm, the more that firm can theoretically produce. An economy in which employers treat education as an asset is often referred to as a knowledge-based economy (Grant, 2017).

National development depends on the kind of educational exposure the citizens have. Individual in the society can only be productive and self-reliant through functional education provided by the authority. Education is an inevitable tool for human survival and vital enterprises that touches the lives of both the present and future generations. Thus, the kind of education that can provide competitive advantage in the present global knowledge economy where knowledge and ideas are central to development must be of good quality (Federal Ministry of Education, FME, 2019).

As a matter of fact, investing in education involves an opportunity cost for the worker. Hours spent in the classroom mean less time working and earning income. Employers, however, pay

higher wages when the tasks required to complete a job require a higher level of education. As a result, although an employee's income might be lower in the short-term to become educated, wages will likely be higher in the future, once the training is complete. The skills available in the labour force and the price of those skills determine how countries will fare in the global market. As services and production systems become more complex, they require workers with higher levels of education. To attract and retain skilled workers, societies need to strike the right balance between fostering overall equity and offering strong economic incentives. Increasing attainment levels in the population, better employment prospects, and the increased earnings that come with higher educational attainment can all contribute to growth and prosperity in OECD countries. In this context, labour income growth in GDP by educational categories provides a simple measure to illustrate this move towards higher skills and the impact it has on economic growth (OECD, 2012)

The roles of higher education in sustainable economic and social development increase year by year, and this will continue over the next decades. Higher education can be seen as a focal point of knowledge and its application, an institution that makes a great contribution to economic growth and development through fostering innovation and increasing higher skills. It is looked at as a way to improve the quality of life and address major social and global challenges. Higher education is broadly defined as one of the key drivers of growth performance, prosperity and competitiveness. UNESCO says its social role provides the link between the intellectual and educational role of universities on one hand and the development of society on the other. Raising skills holds the key to higher living standards and well-being. Investing in knowledge creation and enabling its diffusion is the key to creating high-wage employment and enhancing productivity growth (Bhattarai et al., 2015).

Just as a firm with better-educated workers can perform better in these dimensions, so too can an economy with a better-

educated workforce. Skills beget more skills and new ways of doing business, workers learn from one another, and firms adapt their technology and their use of capital to the skills of the available workforce. The benefits of having a more educated workforce accrue to everyone, not just to the organization where these individuals happen to work. Further, these kinds of indirect (or spillover) effects for the firm or the economy as a whole may be especially important in an increasingly competitive global marketplace. Imagine an economy lacking in people able to read directions, use a sophisticated copier or a computer, or understand prevailing norms of behavior (Dumciuviene, 2014).

Theoretical Framework: Human Capital Investment Theory

This study adapted the Becker (1975) Human capital investment theory. The theory delineated the link among government expenditure on education and human development. Increase government spending on the education sector has the propensity to increase level of human capital development and in turn increase sustainable development through innovation. Hence, poor funding of education leads to low human capital development and poor educational standard.

However, that part of the Becker, (1975) is a prototype of Dauda, 2011; Schady, 2012; Ude, & Ekesiobi, 2014 as well as Onwioduokit, (2020). They submitted that this theory is economically inclined in human capital as a prerequisite for development. It is of important based on the notion that the higher a country's budgetary for human capital development, the more the propensity to attain sustainable development. In addition, it plays a very crucial role in securing economic and social progress and improving income distribution Nations oug

ht to guarantee through enactment and jobs programmes that all their citizens have got to the instruction and preparing that can lift specialists, companies, and the complete economy.



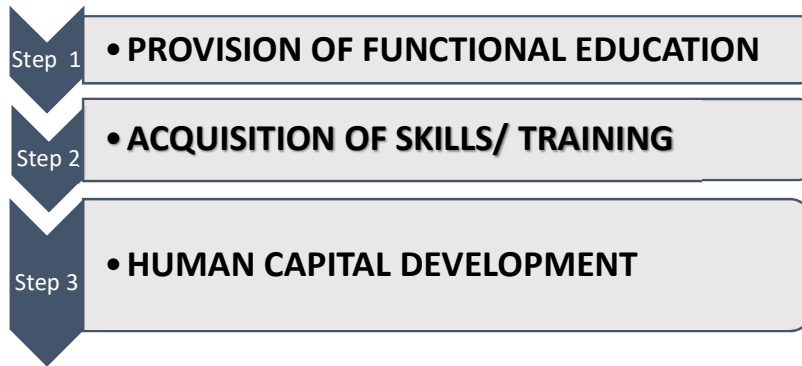


Fig. 3: Human Capital Development

Source: Author's Conceptualization (2024)

From Fig. 3, the basis of every economy development is education, not just education but functional education. It is when education is functional that human capital will be developed through stipulated training in a formal setting. The human resources is the total capacity of labour force to transform the available natural resources to useful and needed materials for the benefit of the populace. Education is a human capital investment, which is expected to yield results that will translate to the improvement and growth of the economy of a nation. The effect can be seen in areas with a high percentage of well-educated people who can channel their knowledge into concrete actions that lead to the development of the economy in comparison to those areas where there are few well-educated people. A country's economy becomes more productive as the proportion of educated workers increases since educated workers can more efficiently carry out tasks that require literacy and critical thinking (UNESCO, 2017).

The human capital is very germane to meet the challenges of the present and future can only be developed through functional, efficient, qualitative and effective education. Education is to develop individuals into morally, academically sound, effective and skilled citizens that are globally relevant. Thus, education in every sense is the basic fundamental factors of development. No country

can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and the world at large. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances.

Some Literature Review on Education, Economy and Development

1. Ibukun and Aremo (2017) examined the long run and short run parameter among inclusive growth variables utilizing the Nigeria's annual data from 1981 to 2014, and employed both the autoregressive distributed lag model (ARDL) and Error Correction Method (ECM). They found a negative relationship between Government consumption education expenditure, and inclusive growth both in the short run and long run.
2. Azra, (2016) on the measurement and determinates of inclusive growth integrated growth, inequality, accessibility and governance into one single measure. It was found that macroeconomic stability and social financial deepening are important determinants to enhance inclusiveness, and reduce poverty and inequality.
3. Ekwueme and Ezenwa-Nebife (2016) examined education for sustainable development through academic freedom using political economy approach. They found that academic freedom leads to the expansion and discovery of new ideas of knowledge, transmits and preserves culture developed in the learner's independent judgment of an environment free from external control and domination. They further added that the educational opportunities that Nigerian children would have enjoyed through Education for all to achieve sustainability and self-reliance is lacking due to: Gender Equality, Cultural Diversity, among others.
4. Robert, Yuko, Nonoyama-Tarumi, Rosalyn, and Charles (2016) examined the contributions of education for



sustainable development (ESD) to quality education in 18 countries. Their findings were that major themes repeated across the 18 studies, shows that ESD contributes in many ways to quality education in primary and secondary schools. Teaching and learning transforms in all contexts when the curricula include sustainability content, and ESD pedagogies promote the learning of skills, perspectives and values necessary to foster sustainable societies. The research also identified the need to integrate ESD across all subjects, to provide professional development for teachers to ensure ESD policy implementation and to adopt ESD management practices to support ESD in the curriculum in order to broaden ESD across countries.

5. Faouzi and Othman, (2017) examined the causal relationship between education expenditure and inclusive growth in Saudi Arabia from 1981-2013 using inequality adjusted human development index for inclusive growth, ratio of human resources development expenditure to GDP for education and structural Auto Regressive model of analysis. They found out that education expenditure has a positive impact on inclusive growth.
6. Ilechukwu, Njoku and Ugwuozor (2014) examined education and development disconnects in Nigeria with emphasis for education for Sustainable Development (ESD) as the critical path to Nigeria's sustainable development and global competitiveness. They found that education is the pivot of national transformation and development, and added that Nigeria's dysfunctional educational system continues and deepens poverty and underdevelopment.
7. Florian, Norma, Rodrigo, Daniela and André (2019) conceptualized the impacts of Higher Education Institutions (HEIs) on Sustainable Development (SD). Inductive content analysis was used to identify major themes and impact areas addressed in the literature to develop a conceptual framework describing the relationship between HEIs'

activities and their impacts on SD. Their findings showed six impact areas (research, education, outreach, campus operations and campus expenses) where direct (research uptake in business and policy making, qualified workforce, cultural dialogue, GHG emissions caused by operations and positive attitudes towards SD, immigration of students) and indirect (economic growth, change of societal and business practices, social cohesion, contribution to climate change and sustainable lifestyles) impacts of HEIs on SD may occur.

Challenges of Education System /Economy Development in Nigeria

Nigeria is continually plagued with the upheaval advancement in the educational sector which is not unconnected to the sharp decline in government funding in the sector and the low esteem placed on education in Nigeria. However, these has adverse effects of dilapidation of education facilities at all levels, teachers' salaries not paid and in its more pronounced forms are the various strikes actions engaged in by the universities teaching and non-teaching staff due to the worsening living and poor working conditions in the university system.

Furthermore, Education in Nigeria has faced several tailbacks, one of which is the poor funding. The government has not been providing adequate funds to stir up educational activities in the country. Annual budgetary estimates carry little proportions of allocation for education sector which ought to have been given more priority these upheaval and unpleasant conditions resulting from government poor funding of the educational sector would no doubt produce and harvest increase rate of crime most especially cybercrime, promiscuity and declining literacy rates in the country.

The recurrent problems of inequality, poverty, insecurity, unemployment among other as a result of dysfunctional education have affected every developmental effort in Nigeria. It appears much has not been attained in reducing the problem of poverty in the country despite several intervention programmes by foreign



government agencies and Non-governmental organisations and various efforts made by successive governments in Nigeria to reduce poverty through programmes and policy measures. Delivery of education in most nations particularly in developing countries have suffered from years of neglect, compounded by inadequate attention to policy frameworks within the sector.

Lack of openness and accountability remain a frightening legacy of the Nigerian leadership since 1960 to date. A country where corruption is entrenched can never have a transparent and accountable system. Transparency and accountability are absent in Nigerian leadership. An accountable government is one that is responsive to the demands of the citizen. However, Nigeria has not done well in this regard; it has been corruption at all levels. And this corruption is not unconnected with profuse index of weak accountability and lack of transparency. Nigerian leaders abuse public office for private gain.

Corruption is a global problem, Nigeria appears to suffer greatly from this menace.. Currently, Nigeria ranks very high in the league of corrupt nations, and as stated by ex-British Prime Minister David Cameron, Nigeria is a “fantastically corrupt” country with corrupt leaders. This problem has been there since independence and has gotten worse. Corruption slows down economic growth and investment. Economic growth and development in Nigeria for over twenty years has been soiled with misappropriation and embezzlement of funds even with the return of democracy, turning the country’s economy into an underdeveloped nation with least position in international ratings (Abullahi, 2009).

Resolution / Strategies toward Promoting Functional Education & Economy Development

- It is expected that quality control should be focused and result oriented educational policies should be considered for all levels of education in Nigeria. This will certainly guarantee cost recovery from schooling abroad and brain drain syndrome.

Economics of Education

- In addition, education funding in Nigeria should be regular and adequate. Government at all levels should ensure conducive learning environment for learners.
- The dilapidated infrastructural facilities in schools must be improved. Ministry of Education should show its obligation and interest to ensuring functional education through its policy making and implementation, monitoring and supervision of educational projects and programmes.
- The policy makers should redesign the curriculum of teacher education to produce teachers with good expertise and determination who can transform her citizens into people that are easily employable.
- The government should ensure that the objectives of our educational system are geared towards producing a total individual with necessary knowledge, skills and values relevant in this 21st century

Summary

The relationship between education and economy is symbiotic. As a result of globalization, education system has been undergoing rapid changes due to rapid technological transformation. To attain national development in Nigerian societies especially in the 21st century, the government should focus on educational development especially the first two levels of education to achieve the highest possible enrollment rates and a rising educational level for its labor force. In other words, the educational system must provide the education related to and needed by the labor market. right values should be encouraged by both the government and the governed, thus, greater heights, unity and progress would be achieved.



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HUMAN CAPITAL THEORY

Chapter 2

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INTRODUCTION

Human capital theory is a framework that emphasizes the importance of investing in people through education, training, and health improvements to enhance their productivity and economic value. There are different definitions of human capital, the one formulated by Becker sets up a solid base for empirical research. Becker differentiates between general (transferable from one employer to another), specific (non-transferable), and involuntary human capital (unintentional investment reinforcement of non-related skills). According to Becker (1975), human capital is similar to physical capital, like machinery or buildings, in that it requires investment to generate returns. This investment typically takes the form of education, training, and experience, which improve an individual's ability to contribute to the economy and increase their potential income. Human capital development is the process of ensuring that a country will have adequate number of qualified persons available at the proper times, having the skills, characteristics and competence required by the developmental process (Olusegun & Adetunji, 2013).

Human capital theory regards education and training as tools for improving employee skills and knowledge (Ndiaye, 2018). Becker (1975) argues that human capital can be integrated into growth theory by viewing the quality of the labor factor as one of the sources of growth. At the aggregate level, a growth model can

be set up where the time devoted to schooling and/or training increases the productivity of every labor unit. In turn, a higher growth rate of the labor factor increases the growth rate of output. Therefore, investment in human capital influences individual income and economic growth.

The intersection of education and labor force encourages investment in human capital, which takes various forms and uses multiple channels. Training is no longer considered solely as stock allowing the acquisition of initial qualifications. Rather, it is now perceived as an ongoing process throughout one's career. On the individual side, increased investment in training raises earnings. It can also increase the productivity of labor by forging skills that complement computer technologies and high-technology machinery.

Human capital theory posits that education, training, and health can increase an individual's productivity, which in turn contributes to economic growth and development (Becker, 1993; Schultz, 1961). This concept has been central to understanding economic growth and development, especially since the mid-20th century. The concept was popularized by economists like Gary Becker and Theodore Schultz in the 20th century.

According to Schultz (1961) and Becker (1993), the following are some key points about human capital theory:

- a. ***Investment in Education and Training:*** Human capital theory suggests that investment in education and training leads to higher productivity. Individuals who acquire more education or specific skills tend to earn higher wages and contribute more effectively to the economy.
- b. ***Economic Growth:*** At the macroeconomic level, the accumulation of human capital is seen as a key driver of economic growth. Countries with higher levels of human capital tend to experience faster economic development.



- c. **Individual Returns:** For individuals, investing in human capital can result in higher lifetime earnings, improved job opportunities, and greater job security.
- d. **Non-Economic Benefits:** Human capital theory also acknowledges non-economic benefits, such as improved health outcomes and social cohesion, as indirect effects of investing in human capital.

The concept of human capital has been used by theorists to describe the acquisition of education and training as investment (Tamilina, 2012). Individuals regard education predominantly as an investment rather than consumption. The hypotheses regarding human capital yield sequential relations relating education to earnings and using the term of human capital; education is incorporated to the level of stocks. Education would have several common characteristics with physical capital. It requires expenditure in terms of consumption of goods and services (tuition fees and wages foregone) that can be installed and produces a flow of output during a period.

DEVELOPMENT OF HUMAN CAPITAL THEORY

The development of Human Capital Theory is rooted in the evolution of economic thought, particularly in the mid-20th century, when economists began to focus more on the role of education and training in economic growth and individual productivity. The concept of human capital has antecedents in classical economics, where economists like Adam Smith recognized the importance of education and skill development in economic productivity. Smith, in *The Wealth of Nations* (1776), acknowledged that the skills and abilities of workers contributed to the wealth of a nation, though he did not formalize the idea as "human capital."

Human Capital Theory as a formal concept emerged in the mid-20th century, particularly through the work of economists such as Theodore Schultz and Gary Becker. Schultz, in his seminal 1961 article, "Investment in Human Capital," argued that investment in

human beings, through education and training, is analogous to investment in physical capital and is a key factor in economic development (Schultz, 1961). Gary Becker, often considered the father of Human Capital Theory, further developed the concept in his 1964 book, *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. Becker expanded on Schultz's ideas by rigorously analyzing the relationship between education, training, and earnings. He demonstrated that investments in human capital—such as education and on-the-job training—lead to higher productivity and, consequently, higher earnings (Becker, 1964).

Becker's work was groundbreaking in that it formalized the theory using economic models and empirical evidence, showing how individuals make decisions about education and training based on the potential returns in the labor market. This shifted the focus of economic research towards understanding how individual decisions about investing in education and skills affect overall economic growth and income distribution. The theory quickly gained traction, influencing both academic research and policy-making. It laid the foundation for policies that emphasize education and skills development as essential for economic growth and competitiveness. Human Capital Theory also contributed to the broader field of labor economics, influencing studies on wage determination, income inequality, and the economics of education. The development of human capital involves a systematic investment in the education and training of individuals to improve their skills and capabilities. The concept of human capital has gained prominence as economies have transitioned from being primarily resource-based to knowledge-based. In a knowledge economy, the primary source of value creation shifts from physical assets to intellectual assets. Becker (1993) argues that education and training are the most significant investments in human capital because they enhance the productivity of individuals and, by extension, the economic output of a nation. Human capital development is crucial

for fostering innovation, improving efficiency, and maintaining competitive advantages in a globalized world (Schultz, 1961).

The development of human capital is a critical aspect of economic growth and social progress. Human capital refers to the skills, knowledge, experience, and health that individuals accumulate, which enable them to contribute productively to society and the economy. This concept is central to various economic theories, particularly in understanding how investments in education, health, and training can lead to increased productivity and development.

FACTORS INFLUENCING HUMAN CAPITAL DEVELOPMENT

- I. **Education and Training:** Education is one of the most fundamental aspects of human capital development. It not only imparts knowledge and skills but also shapes the cognitive abilities and critical thinking skills of individuals. By acquiring knowledge and skills, individuals can increase their productivity, improve their earning potential, and contribute more effectively to economic development (Becker, 1993). Psacharopoulos and Patrinos (2004) found that the returns to investment in education are substantial, especially in developing countries, where the difference in income levels between educated and uneducated workers is pronounced. Moreover, continuous training and skill development programmes are necessary to keep the workforce up-to-date with technological advancements and evolving industry demands (Goldin & Katz, 2008).
- II. **Health:** Health is another crucial determinant of human capital. A healthy population is more productive, as good health reduces absenteeism and increases the capacity to work. According to the World Health Organization (2001), investments in healthcare contribute significantly to the development of human capital by ensuring that individuals are physically and mentally capable of contributing to the economy. Additionally, programmes focused on nutrition,

disease prevention, and mental health can further enhance the productivity of the workforce (Strauss & Thomas, 1998).

- III. **Work Environment and Job Satisfaction:** The work environment and job satisfaction are also important in the development of human capital. A supportive and engaging work environment can enhance employee motivation, leading to better performance and productivity. As Herzberg (1968) suggests in his two-factor theory, factors such as job security, working conditions, and recognition can significantly influence job satisfaction and consequently, the development of human capital.
- IV. **Social and Cultural Factors:** Social and cultural factors, including societal values, norms, and networks, also play a role in human capital development. Societies that value education, innovation, and entrepreneurship are more likely to invest in human capital development. According to Coleman (1988), social capital, which includes networks, relationships, and trust within a society, is essential for the development of human capital, as it facilitates the exchange of information and resources.
- V. **Early Childhood Development:** Investment in early childhood development is crucial as it lays the foundation for future learning, health, and well-being (Heckman, 2006). Early interventions can have long-lasting effects on a person's ability to contribute to society. Heckman's work illustrates the high returns on investment in early childhood development, especially for disadvantaged groups.
- VI. **Migration and Human Capital:** Docquier & Rapoport (2012) reported that migration plays a role in the development of human capital as individuals move to regions or countries where they can maximize their potential. However, it can also lead to challenges such as "brain drain" in the countries of origin. Docquier & Rapoport in their research work explores the effects of migration on human capital development, both for sending and receiving countries.



The development of human capital is vital for economic growth, innovation, and societal well-being. Investments in education, health, and a conducive work environment are crucial for enhancing the skills and productivity of individuals. However, addressing the challenges of inequality and ensuring continuous learning and adaptation are necessary to fully realize the potential of human capital in the modern economy.

BENEFITS OF INVESTMENT IN TRAINING AND EDUCATION

Investment in training and education offers numerous benefits at both the individual and societal levels. For individuals, education and training increase employability, enhance earning potential, and foster personal growth and development (Psacharopoulos & Patrinos, 2004). Educated individuals are more likely to adapt to changing labor market demands, innovate, and contribute to economic progress.

From a societal perspective, investment in human capital is linked to higher productivity, economic stability, and social cohesion. Countries that prioritize education and skill development often experience higher rates of economic growth, reduced poverty, and improved health outcomes (Hanushek & Woessmann, 2008). Education is also associated with lower crime rates, greater civic participation, and improved quality of life (Lochner, 2011).

Human capital is a significant driver of economic growth. Economies with higher levels of education, health, and skill development tend to grow faster due to higher productivity and innovation (Romer, 1990). Development of human capital can also help in reducing income inequality. By providing equal access to education and health services, societies can ensure that all individuals have the opportunity to succeed (Galor & Moav, 2004). Applying Human Capital Theory to the educational system in a country such as Nigeria involves examining how investments in education can enhance individual productivity and contribute to the country's economic growth. In the following section, we present the

application of the theory, including the challenges, opportunities, and policy implications.

APPLICATION OF HUMAN CAPITAL THEORY

1. **Investment in Education:** By investing in educational infrastructure, teacher training, and curriculum development, Nigeria can enhance the quality of education and better prepare students for the workforce. Implementation of policies that focus on building and equipping schools, especially in underserved areas, and training teachers to improve educational outcomes.
2. **Focus on Quality and Relevance:** Aligning educational curricula with market demands can help bridge the skills gap and improve employability for graduates. The development of partnerships between educational institutions and industries would ensure curricula meet current labor market needs.
3. **Early Childhood and Basic Education:** Investing in early childhood education can have long-term benefits by laying a strong foundation for lifelong learning and productivity. Prioritizing funding for early childhood education programmes and ensuring they are accessible to all children, regardless of socio-economic status.
4. **Vocational and Technical Training:** Expanding vocational and technical education can provide students with practical skills that are directly applicable to the job market. Promoting technical and vocational education and training (TVET) programmes that cater to various industries, thereby enhancing skill acquisition and employability.
5. **Health and Nutrition:** Addressing health and nutritional issues can improve students' cognitive abilities and learning outcomes, which are critical components of human capital. Implementing school feeding programmes and health services to ensure students are healthy and ready to learn.



Applying Human Capital Theory to Nigeria's educational system highlights the importance of strategic investments in education to enhance individual capabilities and economic development. By addressing challenges such as access, quality, and relevance, Nigeria can harness the potential of its human capital to drive sustainable growth. Effective policy implementation, increased funding, and stakeholder collaboration are essential to realizing these goals.

Human Capital Theory and Its Critiques

Despite its widespread influence, Human Capital Theory has faced various critiques:

1. **Overemphasis on Education:** Critics argue that human capital theory overly emphasizes formal education as the primary means of enhancing human capital, neglecting other forms of learning, such as on-the-job training, informal learning, and cultural capital (Bourdieu, 1986). This critique highlights that not all valuable skills and knowledge are acquired through formal education. Critics argue that human capital theory may oversimplify the relationship between education and economic outcomes. It may not adequately account for factors like social inequality, labor market dynamics, and the quality of education.
2. **Social and Cultural Contexts:** Pierre Bourdieu's concept of "cultural capital" challenges human capital theory by emphasizing that social and cultural factors also play a significant role in determining an individual's success. Bourdieu argues that cultural capital, such as language skills, cultural knowledge, and social networks, can be just as important as formal education in influencing economic outcomes (Bourdieu, 1986).
3. **Economic Inequality:** human capital theory has been criticized for its role in perpetuating economic inequality. The theory assumes that individuals have equal access to education and training opportunities, but in reality, access to education is often unequal, leading to disparities in human

capital accumulation. Critics argue that human capital theory can reinforce social stratification by blaming individuals for their economic circumstances rather than addressing systemic inequalities (Bowles & Gintis, 1975).

4. **Reductionism:** Some scholars criticize human capital theory for reducing individuals to mere economic units, focusing solely on their utility in the labor market while neglecting other dimensions of human existence, such as social, emotional, and ethical aspects. This critique highlights the limitations of viewing human beings as purely rational actors driven by economic incentives (Marginson, 1997).
5. **Empirical Limitations:** Empirical evidence has shown that the relationship between education and earnings is more complex than human capital theory suggests. Factors such as discrimination, labor market conditions, and the quality of education can significantly impact the returns on education, making the outcomes less predictable than human capital theory assumes (Psacharopoulos & Patrinos, 2004).

CHALLENGES IN HUMAN CAPITAL DEVELOPMENT

There are significant challenges that hinder this development, which can be broadly categorized into several key areas:

1. **Educational System Misalignment:** Educational system misalignment refers to the gap between the skills and knowledge that educational institutions provide and the needs of the labor market. This misalignment is a significant challenge in human capital development, as it often results in graduates who are not adequately prepared for the workforce, leading to high unemployment rates and underemployment, especially among young people. Many educational institutions, particularly in developing countries, rely on outdated curricula that do not reflect the current demands of the labor market. This leads to graduates who lack the practical skills needed in modern industries. Studies have shown that in many African countries, the education system is heavily focused on



theoretical knowledge rather than practical skills, leading to a mismatch between the education provided and the skills required by employers (World Bank, 2018). Similarly, many educational systems place a strong emphasis on academic knowledge while neglecting the development of soft skills such as communication, teamwork, and problem-solving. These skills are increasingly important in a dynamic job market. A report by the World Economic Forum (2020) indicates that while technical skills are important, employers are increasingly looking for candidates with strong soft skills, which are often underdeveloped in traditional educational settings.

There is often insufficient collaboration between educational institutions and industries, resulting in disconnect between what is taught and what is needed in the job market. This lack of alignment can result in a workforce that is not equipped to meet the demands of evolving industries. The International Labour Organization (ILO) has highlighted that in many regions, the absence of partnerships between educational institutions and businesses exacerbates the skills gap, as educational programmes fail to adapt to industry needs (ILO, 2020).

The rapid pace of technological advancement often outstrips the ability of educational systems to update their curricula accordingly. This creates a situation where graduates are not proficient in the latest technologies or methodologies required by employers. In the context of the Fourth Industrial Revolution, many educational systems have struggled to integrate new technologies such as artificial intelligence, data analytics, and digital literacy into their curricula, leaving graduates unprepared for tech-driven jobs (Brynjolfsson & McAfee, 2014).

In some regions, there is an overproduction of graduates in certain fields, such as humanities, while there is a shortage of skilled workers in technical fields such as engineering and IT. This imbalance leads to both unemployment among graduates and a lack of qualified personnel in key sectors. In India, there has been a significant mismatch between the large number of engineering

graduates and the demand for engineers with practical skills, leading to a paradoxical situation of both high graduate unemployment and a shortage of skilled workers in the tech industry (FICCI, 2019).

2. **Economic Inequality:** Economic inequality refers to the unequal distribution of income, wealth, and opportunities within a society. This inequality significantly impacts human capital development by limiting access to education, healthcare, and employment opportunities for disadvantaged groups. The consequences of economic inequality are profound, perpetuating cycles of poverty and hindering overall economic growth.

Economic inequality often results in disparities in access to quality education. Children from low-income families may attend underfunded schools with fewer resources, leading to lower educational attainment and reduced opportunities for upward mobility. The OECD has reported that students from lower socioeconomic backgrounds are significantly less likely to achieve high educational outcomes compared to their wealthier peers, which limits their future employment prospects (OECD, 2019).

Economic inequality also creates barriers to higher education, as tuition fees and other associated costs can be prohibitive for students from low-income families. This limits their ability to acquire advanced skills and qualifications needed in the labor market. A study by the World Bank found that in many developing countries, higher education is disproportionately accessible to students from wealthier families, exacerbating existing inequalities and limiting social mobility (World Bank, 2018).

Economic inequality leads to disparities in healthcare access and outcomes, which in turn affect human capital development. Poor health can limit educational achievement and reduce productivity, perpetuating the cycle of poverty. Research indicates that individuals from lower-income groups often have poorer health outcomes, which negatively impacts their ability to learn and work effectively. This creates a vicious cycle where poor health leads

to reduced economic opportunities, further entrenching inequality (Marmot, 2015).

Economic inequality contributes to higher rates of underemployment and unemployment among disadvantaged groups. These individuals often face barriers to entry into well-paying jobs due to a lack of education, skills, or social networks. In many countries, youth from low-income backgrounds are more likely to be unemployed or underemployed, as they lack the skills and connections needed to secure stable employment (International Labour Organization, 2017).

Economic inequality is often passed down from one generation to the next, as children born into poverty are less likely to have access to the resources necessary for success. This perpetuates cycles of poverty and limits social mobility. The World Bank highlights that in many developing countries, economic inequality is deeply entrenched, with children from poor families having significantly fewer opportunities for education and economic advancement than their wealthier peers (World Bank, 2019).

3. Cultural and Social Barriers: Cultural and social barriers significantly impact human capital development by limiting the participation of certain groups in education, employment, and other opportunities essential for personal and societal growth. These barriers often arise from deeply rooted norms, traditions, and social structures, which can marginalize women, ethnic minorities, and other vulnerable groups, thereby hindering their potential to contribute fully to the economy.

In many societies, cultural norms and gender stereotypes limit women's access to education and employment opportunities. This results in lower female labor force participation and underutilization of women's talents and skills. In some regions, girls are less likely to be enrolled in school due to cultural beliefs that prioritize boys' education. This gender disparity in education contributes to a persistent gender gap in the labor market (UNESCO, 2020).

Ethnic and racial minorities often face discrimination that limits their access to education, quality jobs, and social services. This discrimination can be both direct, through exclusionary practices, and indirect, through systemic biases in institutions. In the United States, studies have shown that African Americans and Hispanics face significant barriers in the labor market, including wage gaps and higher unemployment rates, which are partly attributed to systemic racism (Pew Research Center, 2021).

In societies with rigid caste or class systems, social mobility is often severely restricted. Individuals from lower castes or classes may be denied access to education and employment opportunities, perpetuating cycles of poverty and inequality. In India, despite legal reforms, the caste system continues to influence social and economic opportunities. Lower-caste individuals often face discrimination in education and employment, limiting their ability to advance economically (Deshpande, 2017).

Cultural traditions can sometimes discourage or outright forbid participation in education or employment, particularly for women and certain ethnic groups. These norms are often deeply ingrained and difficult to change, even when they conflict with modern economic needs. In some Middle Eastern countries, cultural norms restrict women's participation in the workforce. Despite advances in education for women, their labor force participation remains low due to cultural expectations around gender roles (World Bank, 2019).

Language can be a significant barrier in multicultural societies, where minority groups may not have access to education and services in their native languages. This can limit their educational attainment and integration into the labor market. In many European countries, immigrant children who do not speak the local language fluently are at a disadvantage in the education system, leading to lower academic performance and higher dropout rates (OECD, 2018).

In some societies, religious beliefs and practices can restrict certain groups from participating fully in education and the

workforce. These restrictions can be particularly severe in areas where religious laws are enforced at the state level. In countries with strict interpretations of Islamic law, such as Saudi Arabia, women have historically faced significant restrictions on their education and employment opportunities, although recent reforms have begun to address these issues (Human Rights Watch, 2019).

4. **Brain Drain:** Brain drain refers to the emigration of highly skilled and educated individuals from their home country to other nations in search of better opportunities. This phenomenon poses a significant challenge to human capital development, particularly in developing countries, where the loss of talent can impede economic growth, innovation, and the overall development of society.

When a large number of skilled professionals leave a country, it creates a talent vacuum, particularly in critical sectors like healthcare, engineering, and education. This can lead to a shortage of essential services and slow down development. In many African countries, the emigration of healthcare professionals to Western countries has resulted in severe shortages of medical staff, adversely affecting healthcare delivery (Clemens, 2019).

The departure of highly skilled individuals can lead to economic losses for the home country. These individuals often contribute to the economy through innovation, entrepreneurship, and the development of new industries, all of which are lost when they emigrate. A study on India's brain drain revealed that the emigration of IT professionals has contributed to a significant loss of potential economic gains that could have been realized if these individuals had stayed in the country (Kapur & McHale, 2005).

Countries often invest substantial resources in the education and training of their citizens. When these individuals emigrate, the home country loses its return on this investment, as the benefits of their education and skills are realized by the host country instead. The Philippines, known for its highly educated workforce, particularly in nursing, experiences significant brain drain as many trained nurses migrate to the United States and other countries,

taking with them the benefits of the Philippine government's investment in their education (Orbeta, 2013).

Brain drain can exacerbate demographic imbalances, particularly when it involves the emigration of young professionals. This can lead to an aging population in the home country, with fewer working-age individuals to support economic growth and social services. Eastern European countries, such as Bulgaria and Romania, have experienced significant outflows of young professionals to Western Europe, leading to aging populations and concerns about the sustainability of their social security systems (Atoyán et al., 2016).

The emigration of researchers and innovators can lead to a decline in the home country's ability to generate new knowledge and technological advancements. This stifles the country's potential for innovation-driven economic growth. Many scientists from developing countries, particularly in Africa and Latin America, migrate to developed nations where they have better access to research funding and facilities, leading to a decline in research output in their home countries (Docquier & Rapoport, 2012).

The loss of a significant portion of the educated population can have social and psychological effects on those left behind. It can lead to a sense of hopelessness and demotivation, particularly among young people who see emigration as the only path to success. In countries like Nigeria, the high rate of emigration among educated professionals has contributed to a "brain waste," where the potential of remaining citizens is underutilized due to the lack of role models and mentors who have left the country (Adepoju, 2018).

SUMMARY

Human Capital Theory emphasizes the value of investing in people—through education, training, and health improvements—to enhance their productivity and economic value. This theory, popularized by economists like Gary Becker and Theodore Schultz, highlights that higher investments in education and training lead to

increased productivity, higher wages, and economic growth. Becker distinguishes between general (transferable), specific (non-transferable), and involuntary human capital (unintentional skill acquisition).

At the macro level, human capital accumulation is crucial for economic growth, with countries investing in human capital often experiencing faster development. Education, training, and continuous skill development improve labor productivity, thereby increasing economic output and individual earnings. Health also plays a critical role in human capital, as a healthier workforce is more productive.

Critiques of the theory include its overemphasis on formal education, neglecting other forms of learning, and potentially reinforcing social inequalities by assuming equal access to educational opportunities. Cultural and social factors, economic inequality, and brain drain also pose challenges to human capital development, especially in developing countries.

Despite its limitations, Human Capital Theory remains central to understanding economic development, particularly in transitioning economies like Nigeria. Effective application requires strategic investments in education, healthcare, and creating conducive work environments to harness the full potential of human capital for sustainable growth.

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COST ANALYSIS MODERN EDUCATIONAL MANAGEMENT

Chapter **3**

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INTRODUCTION

Cost analysis is an important concept in modern educational management, and has become more important today than ever before. A cost is an expenditure made by a firm in producing goods and services to be sold in the market. Invariably, a cost is a form of outflow of money from a business unit or organization in order to have money after goods and services have been sold. A producer incurs different form of costs in production process. For example, a government (producer of education) who promises free primary education at a given date without first considering the cost implications may have problems. This chapter therefore examines cost and other related issues of cost analysis in education.

1.2 Basic Cost Concepts

- a) ***Cost in Economics and Education:*** Cost is made reference to in the production of goods and services. In economics, cost can be expressed in monetary terms and as a real cost. In education, cost can be seen in form of societies/agencies' production education and those who are consuming it. Producers of educational services may include government, an institution (which may be public or private), teachers or families who provide education. Consumers are pupils/students and families who buy education.

- b) ***Expenditure and Cost:*** Even though expenditure and cost are sometimes assumed used interchangeable, yet they are not the same. As an individual, cost of education is the amount of money spent to acquire education at a specified period of time, while from the state's view cost of education refers to expenditure incurred on education over a year. However, cost is used to refer to cost per student relating to a particular level primary, secondary or tertiary. In the same vein for the state, cost per student is calculated for a particular cost or level. Cost per student for the state includes expenditure incurred on salaries and wages, maintenance cost of apparatus, library books, equipment and buildings e.t.c.
- c) ***Social and Private Cost:*** Social costs are borne out of all education and training activities in a society at a given point in time while private costs represent costs incurred by individuals and families for education received. Examples of private costs are tuition and examination fees, manuals and books, uniforms, transport and institutional supplies. Teachers' salaries, expenditure on goods and imputed rents are examples of social cost. However, social cost can be categorized into two, direct and indirect social cost. While teachers' salaries, expenditure on goods and imputed rents fall under direct cost, earnings foregone by individuals by a society or country is a form of indirect social cost.
- d) ***Explicit and Implicit Cost:*** An implicit or indirect cost is the imputed value of the owner resources in the production process, for example the estimated rent of the building used for production that belongs to the entrepreneur or the salary of the owner manager. The explicit cost is the cost you can mobilize from the market. Costs incurred by the firm in buying goods and services directly. This is otherwise known as direct cost. It is accurate in nature and it is easily traceable. Examples are wages and salaries, payment for raw materials and light.



- e) **Money, Real and Opportunity Cost:** Money costs are the total expenses by a firm or organization. The production cost expressed in monetary term. These include wages and salaries of workers, cost of raw materials, expenditure on machine and equipment and depreciation charges on buildings and machines. The efforts and sacrifices made by various members of the society in producing a good are the real cost of production. Opportunity costs are alternative forgone.

In education, money cost of education are expenditure incurred on educational inputs, some of which are books, materials, equipment and buildings. These are also called direct cost of education. Opportunity costs of education include all real resources set aside for educational process and where these cannot be measured directly in money terms, an estimate of their value in alternative uses must be included. For example, the opportunity cost of education for student is measured in terms of earnings forgone by the students when they chose to enroll in school rather than seek paid employment. However, as a result of the difficulty of measuring earnings forgone, or the value of materials or land that are given rather than bought, cost analysis in education concentrates on money cost instead of opportunity cost. Meanwhile for cost-benefit analysis, opportunity costs are used instead.

- f) **Total Cost:** Total cost is the total expense incurred in producing a particular good or service. The total cost is the sum of fixed cost and variable costs.
- g) **Fixed and Variable Cost:** Fixed costs are costs that do not vary with the level of output in the short run. If there is increase or decrease in the level of output, these costs do not change in response to changes in output level. They remain the same. Examples of these costs are land, building, and machinery. Variable costs are costs that vary with the level of output both

in the short and long run. These costs change as the level of output changes. The higher the level of output, the higher the cost, and the lower the level of output the lower the cost. Examples of such cost are cost of labor and raw materials. In education, variable costs are costs that vary directly with the size of the school or students' enrolment such as expenditure on books, stationery, electricity, fuel, instructional materials and laboratory consumable are variable costs of education. Items of things that do not vary with students' enrolment are fixed cost of education. For examples, costs of sites and buildings.

- h) ***Average and Marginal Cost:*** Average cost is the cost per unit of output. The cost of producing a good out of all the goods produced by the firm. Average cost is the total cost divided by the level of output. That is, . Marginal cost is the expenditure incurred by the producer to produce an additional or an extra unit of the commodity. Marginal cost is the additional cost incurred for producing one extra unit after producing certain amount of units. Average cost of education also known as unit cost refers to the cost of educating one student. Unit or average cost can be measured in two ways. One way is to divide total expenditure by the total number of students enrolled in a particular level of education or school gives the average cost per student. Alternatively, divide total cost of education by the number of graduates gives the average cost per graduate. Other types of unit cost are cost per level of education, cost per student year, cost per class, cost per student hour and so on.

In analysing the cost of education, there is need to classify educational cost into 3 parts with regards to sources of funding. They are private cost, institutional cost and social cost.

- i) ***Capital and Recurrent Costs:*** Capital costs in education include all expenses on durable assets, examples are expenditure on school site, buildings, equipment, vehicles, furniture and fittings,



audio-visual aids and books. All these have expected yields over a period of time. Recurrent educational costs are costs of personnel services and materials consumed by the school within an academic calendar year. These costs reoccur regularly and cover expenditures on goods and services which bring immediate and short term benefits. It includes teachers and non-teachers' salaries and allowances, repairs and maintenance, cost of stationery and other running expenses.

DATA REQUIREMENTS FOR COST ANALYSIS

Cost analysis, otherwise referred to as cost-benefit analysis, is the process of estimating the potential earnings from a project or situation by subtracting the total cost in carrying out the project to completion. It predicts the profit from a project and hence compares the project's cost to its estimated financial benefits. This helps decision makers and business men to juxtapose cost with potential profits and hence make decisions. If the cost is higher than the expected benefits decision maker will either make necessary changes to the project in order to increase earnings, or lower expenses. In order to evaluate the costs of a project, there are some data required. These include data on;

- a. Direct cost: These are costs associated with each product variable e.g product type, customer service or activity
- b. Indirect cost: These expenses are indirectly associated with the project but the company needs to incorporate them in the budget. They are expenses on utilities, rent and administrative expenses
- c. Real cost: These are labor and material costs. These are costs associated with the production of a good or service or project
- d. Tangible cost: These are cost that have to do with supporting a project such as purchasing tools and paying of employees
- e. Intangible cost: These are factors that impact the outcome of a project, for example changes in the level of production, decreases in customer satisfaction, e.t.c

ANALYSES OF EDUCATIONAL COSTS

Cost analysis in education is of huge importance to educational planners and policy makers. Educational cost refers to the monetary value of resources used in achieving educational aims and objectives. There are three bodies that bear the cost of education. They are household, educational institutions.

In analysing the cost of education, there is need to classify educational cost into 3 parts with regards to sources of funding. They are private cost, institutional cost and social cost.

- i. **Private cost:** This represents household or private organization cost on tuition and other expenses made by home or private institutions like religious organizations in an effort to educate a child within the educational system. Examples of these costs are school fees, uniform expenses, transportation expenses. Also, the income forgone after tax is included.
- ii. **Institutional cost** - These are expenditure incurred by educational institution charged with the responsibility of supplying educational services. It constitutes both capital and recurrent expenditure
- iii. **Social cost** - This is the sum of all costs borne by the society in educating its citizens. The social cost is the addition of private cost and institutional cost, however, with the deduction of cost of scholarship and fees. Income forgone before tax is included.

In line with these, Longe (1988) summarized the total cost of education as follows

$$\text{Total cost} = P + S + U$$

Where P is private cost, S is social cost and U is institutional cost

$$\text{Private cost (P)} = (a + b + c)$$

$$\text{Institutional Cost (U)} = (Q + R)$$

Where Q is Current Cost and R is capital cost

$$\text{Current Cost (Q)} = (d + e + f)$$

$$\text{Capital Cost (R)} = (g + h)$$

$$\text{Social cost (S)} = (P + U - i - j)$$

Note;

a - school fees; b- Uniform expenses; c - transportation expenses;
d - salaries; e - supplies; f - maintenance; g - buildings; h -
equipment; i- scholarship; j - fees

Importance of Cost Analysis in Education

- a. ***Costing and testing the economic feasibility of educational plans:*** According to Coombs and Hallak (1972), the importance cost analysis of educational plans stem from the need to avoid unrealistic and unrealizable plan targets, which will amount to time and resources wastage. Effective cost analysis ensures that plans and available resources for the plans are matched.
- b. ***Costing educational reforms:*** Cost analysis gives direction of educational reforms to be implemented. It is common to see nations embark on educational reforms without properly considering the cost implications. For example, the case of 1976 Universal Primary Education and the Universal Basic Education (UBE) Scheme of 1999, where there was no meaningful cost analysis in terms of teachers' demand and supply, building, pupils enrolments, e.t.c Hence, the various lapses experienced in the implementation of both programmes.
- c. ***Efficiency in the utilization of resources:*** Cost analysis encourages efficiency in the use of educational resources. Education like other sectors of the economy competes for resources and attention of the government. Efficiency criterion requires that investments should only be made in areas where there are minimum wastages. With cost analysis factors that can lead to wastages are identified and eliminated.
- d. ***Adapting Innovations to education:*** Globalization has brought about different technological innovations which are also adoptable to education. Example of such is computer and multimedia facilities. However, taking advantage of such innovation demands proper cost considerations which helps in making decisions that can change existing practices and adopt or adapt the innovations.

PROBLEMS OF COST ANALYSIS

- a. The use of cost analysis in making educational decisions relies on cross section data poses a problem because the mean earning of the age group may not be the true representation. It is difficult to get time series data for developing countries such as Nigeria, Ghana and Tanzania due to the fact that the researcher collecting the data has died. Hence, the utility of time series data become questionable.
- b. Contextual problems from measurement methods of cost and benefit. Uwadurike (1991) opined that the use of cost benefit ratio method presupposes that the value of money does not change. This is unrealistic.
- c. It is difficult to measure the life-time earnings of workers. This is not realistic as income is a function of several factors. Hence it is difficult to actually measure the real benefit from the amount of education received.
- d. educational administrators and planners find it impossible to convert the psychological beliefs of education into monetary terms
- e. Though cost analysis studies past and present relationship between education costs and benefits, but it is not certain whether the same benefits would be constant over time. Nwadiani (2000) pointed out that returns to education are affected to a large extent by the scarcity or glut of the kind of educated people in question. Nwadiani was of the view that the benefit increases when they are in short supply and vice versa.

DETERMINANTS OF EDUCATIONAL COST

1. ***Growth in educational demand:*** Globalization, population growth, the realization of the importance of education for economic growth and sustainable development and the proliferation of new manpower requirements brought about by new technologies have lead to unprecedented increase in



demand for education in the world, particularly for developing countries. Persistent increase in education demand over the world, though in varying degrees is expected in the future. Education creates its own demand regardless of the country's economic and educational system to cater for this demand. Young people start off from primary and proceed till they get to tertiary.

2. ***The kind of educational technologies used:*** In contrast to some fields that have experienced tremendous changes over the years such as transportation, communication and so on, education highly labor intensive technologies have not really changed over the years. This accounts for the reasons why teachers' salaries and other benefits take a large portion of education budget and why the decision to reduce class size and pupil-teacher ratio or to upgrade the qualification profile of teachers can increase the unit cost per student and the overall budget. Hence, the competitive disadvantage to recruit and retain able teachers and the increase in real cost of education without a proportion increase in quality.
3. ***Teacher salary structure:*** The teachers' salary structure is designed to increase with the number of years spent in service. So, in situations where recruitment of teachers at the bottom ladder slowed down while existing teachers aged, the salary and the overall wage bill will move up in spite of the absence of an across-the-board increase in salary structure. Generally, teachers' salary structure provides for different salary scale based on official teacher qualifications. Fully qualified teachers with the same years of service receive a higher pay than those with lesser qualification. The net effect of this is that as the qualification profile of teaching staff is increasing, there will be increase in the annual wage bill even though the salary structure remains the same.
4. ***Drop-out and repeater rates:*** The rapid increase in enrollment in 1960s and 1970s was accompanied by drastic increase in drop-out and repeater rate in developing countries,

consequently leading to higher cost per completer and a waste of educational resources. High repetition rate means that pupils spend more than the required number of years (6 years) for primary education, and this increases the total cost per child by one-sixth or one-third of putting a child through primary education. In addition to this, is the high drop-out rate which increase the number of years invested per student.

5. **Utilization rate:** The unit cost per student is influenced by teacher utilization rate and that of educational facilities and equipment. Also, the opportunities to lower costs and improve educational achievements by redeploing students from overcrowded educational facilities (buildings and/or classroom) to underutilized ones, hence reducing the need to invest in additional facilities and teachers.
6. **Market forces:** Educational inputs are determined by the interplay between the invisible hands of demand and supply and in a controlled economy government uses the price floor and price ceiling in setting the minimum and maximum prices for goods and services in the economy. Assuming the educational system is the largest buyer of books in a market economy suddenly doubles its purchases, this may affect the general market price of books. Moreso, prices could either increase or decrease depending on the capacity, cost conditions and degree of competitiveness.

Note: Growth in educational demand and market forces lie outside the education system and beyond the direct control of managers and decision makers in education.

PROBLEMS OF ANALYSING EDUCATIONAL COST

- a. In view of the close relationship between funding agents (home/private organization, educational institutions and the society), there is possibility of overlapping of assignment of the costs to sources of funding



- b. There is difficulty of having accurate valuation of opportunity cost in education
- c. The problems of obtaining accurate figures on capital costs due to lack of documentation to indicate the cost of site, site preparation and the cost of equipment.

MAJOR DETERMINANTS OF UNIT COST

Unit cost is also known as average total cost or average cost of producing a unit of an output. This is calculated by dividing the total production cost by the other number of output produced. All costs associated with output are calculated and divided by units of output produced. What is obtained is the cost per unit of that output or unit cost.

What determines unit costs are;

- a. ***Quantity of Output:*** A change in quantity of output determines the unit cost. If there is an increase in the quantity of output while total cost of production remains the same, the unit cost of the output will reduce. On the other hand, if there is a decrease in the quantity of output while production cost remains the same, the unit cost will increase. Hence, there is an indirect relationship between quantity of output and cost per unit of output.
- b. ***The productivity of inputs:*** This refers to the efficiency of production inputs such as technology, employee education. The more efficient or a positive change in productivity of inputs increases the total output produced and then reduces the unit cost, while the less efficient of factor inputs or a negative change in their productivity reduces the volume of production output which invariably increases the unit cost.
- c. ***Cost of Inputs:*** Production inputs include raw materials, labor effort, technology e.t.c. Increase in the cost of inputs will increase unit cost while a decrease in the cost of inputs will reduce the unit cost.

PROJECTION OF TEACHERS DEMAND

Several factors affect teachers demand and its projection. These include teacher requirements, teacher supply prospects, changes in the composition of the teaching force, changes in the general level of teacher salaries, price inflation, changes in the general structure of salary and wage relationship in the economy, expatriate teachers and teacher training costs.

PROJECTING CLASSROOM NEEDS

There are four factors to be considered in projecting classroom needs

- a) **The learner** - This refers to the human being who possesses some sense organs such as seeing, hearing, tasting, smelling or touching. Lack of these senses can impede learning. For example, it will be difficult for a learner that cannot see and hear what people say to their counterparts who do not have visual and hearing impairment. There is need to cater for individual differences in learning. Learners have physical, temperamental, environmental (upbringings) and intellectual differences and some may have several deviations. Age and maturity, level of motivation and aspiration are also indices of variation. The classroom settings should be made in such a way that it will cater for individual difference. For example for intellectual differences, there is need for real objects such as pictures, audio visual aids and charts to make things clear in addition to what have been taught in the class. In planning the classroom and the placement of writing/chalk board the possible heights of pupils should be considered.

- b) **The learning environment:** This refers to the entire environment. The nature environment which are adequate lighting, a cool and controlled temperature, less noise, physically safe environment and so on. The social environment, family, community and the society and the time of teaching and



learning. Some subjects are better taught in the morning when the students can easily assimilate than in the afternoon. The duration for teaching also should be considered to avoid fatigue and teaching without learning.

- c) **The subject matter and instructional materials:** This relates to what kind of subject to be taught in the class and what will be required. This include books, paper, cardboard, a classroom library, word wall, supply storage
- d) **Teachers:** School administrator should project into what kind for teacher will be needed and for which class. This also includes the personality of the teachers, qualifications and knowledge of the subject matter and communicating skills.

PROJECTION OF SCHOOL FACILITIES

The academic and functional success of any educational institution relies heavily on the atmosphere and physical make up of its facilities regardless of the kind of school (private or public) from kindergarten to university level. The need to carefully plan and structure educational system, so as to ensure an environment that enhances teaching-learning process and a broad range of educational objectives cannot be over emphasized. Hence, the importance of projecting what the school need in term of facilities. In doing this, there are some factors to consider. These include

- i. **Location/Size:** Where the school will be situated and accessible to both in town students and those from a far distance. In addition is the size of the schools which should be able to meet the needs of the community as well anticipated the future needs (e.g increase in population). This also includes parking considerations for parents, students, educators, good surroundings having a groceries store, restaurants, and laundry, outdoor natural recreation for boarding educational facilities. There is no recommended size that works best for students. While some

students do better in a smaller school where they get individual attention, some may do better in a larger school where they can have access more things and meet more people. Also a larger school drives competition among students. Notwithstanding, both small and large school have the good and bad sides.

- ii. **Class Size and Density:** This relates to teacher-pupil ratio. There is need for spacious or ventilated environment for teaching-learning activities. Overall crowded classrooms may be breeding ground for disruptive behavior. The required layout for a classroom enables the smooth traffic pattern in which both the students and teachers move without stumbling into one another. A smaller teacher-pupil ratio helps in reducing educator workload, less chaotic classroom, better student engagement and more personal attention.
- iii. **Legal requirements:** It is important to consider the legal requirements for educational facilities in the proposed site of the school. Since it is impossible to know every detail of every single legal requirement, decision makers should rely on certified professionals to ensure legal compliance like structural engineers, architect and builders.
- iv. **Equipment/Technology:** Adequate use and storage space should be considered for technology, traditional equipment and recreational equipment. In addition, there is need to project for power infrastructure needs to support a wide range of technological equipment.
- v. **Demographic Changes:** From the country view, One, this includes increase in the overall enrollment in public primary and secondary schools. Increase in a country's female fertility or the proportion of population of children ages 0-4 is a signal to future increase in primary enrollment. Two, school profile of its pupils and teachers population continue to increase over time. Three, the number of public schools in a country continue to change too.

1.10 Costing Educational Plan



There are procedures in costing educational plan.

- a) *Planning process* - Countries have different approaches in preparing their education plans. This is due to the fact that there are variations; in the extent to which the tradition of planning is established, the presence of economic plan and the extent to which education plan form a major part of the economic plan, strengths and weaknesses of statistical service, et.c. This procedure is quite complex as it puts into consideration the institutional, economic and social conditions of the country concerned. This phase analyses the current state of education system based on the available data (on enrolment by level, type of education and the total and unit cost) and the quality of education service such as the existing standards for class sizes and school, living standard of students in boarding facilities, pupil-teacher ratio, cost of maintenance and supplies per pupil and so on.
- b) *Setting of Provisional Targets Phase* - This follows the first phase in a way. The first set result from exogenous data on the future trend of school age population and migratory movements, from the future needs of the economy for skilled manpower, trend of social demand to special projects whose long term completion seems already certain. The targets relate to quantitative and qualitative trends, for example changes to be made to the standards of construction and equipment or the percentage of qualified teachers in primary education.
- c) *Phase of Unit capital cost*: It consists the cost of constructing a set of unit cost in order to investigate the cost of the plan. In this wise, working assumptions must be established for the trend of educational prices. This includes costs per level, salary costs per level and per specialization and other recurrent costs per level.
- d) *Cost of educational Plan Phase*: This phase should have no inherent difficulty since it flows direct from the second and third phases. By drawing certain distinctions, the cost of the plan is estimated to form a relatively precise judgment if the plan is

realistic and if necessary to set priorities. For example, distinctions are made among sources of finance, or among the costs specific to the plan targets and other costs. This is to know the proportion of the expenditure that can be subjected to policy options.

- e) *Final Collation Phase:* This involves the collation of financial requirements with the resources proposed under the economic plan. If they are both suitable, it is important to revise the plan in finer detail and the targets can be accepted finally. If otherwise and they appear imbalance they it is important to either review the block appropriations for education or to vary the targets themselves. In this regard, the first iteration begins and the process is repeated as often as fit necessary to bring the plan into balance. So, in this phase decisions are made between various targets, all of which are of priority.



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What is Cost Analysis? Business Studies Notes

INVESTMENT THEORY

Chapter 4

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INTRODUCTION

Investment Theory is a fundamental concept in economics and finance that explores the decisions individuals, firms, and governments make regarding the allocation of resources into various assets or projects with the expectation of generating future returns. The theory encompasses a wide range of topics, including the valuation of financial assets, the trade-offs between risk and return, the time value of money, and the optimal allocation of capital across different investment opportunities.

The roots of Investment Theory can be traced back to classical economics, particularly the works of Adam Smith and David Ricardo, who explored the accumulation of wealth and the role of capital in economic growth. However, the formal development of the theory began in the 20th century, with significant contributions from financial economists who sought to understand the behavior of investors and the dynamics of capital markets.

One of the earliest and most influential frameworks in Investment Theory is the *Discounted Cash Flow (DCF)* analysis, which was popularized by economists such as Irving Fisher in the early 20th century. Fisher's work on the time value of money laid the groundwork for modern investment valuation techniques, emphasizing the importance of considering future cash flows in present value terms (Fisher, 1930).

Modern Investment Theory took shape with the development of portfolio theory and the efficient markets

hypothesis. Harry Markowitz's seminal paper, "Portfolio Selection" (1952), introduced the concept of diversification and the trade-off between risk and return in constructing an optimal portfolio. Markowitz demonstrated that by combining assets with varying degrees of risk and return, investors could achieve a portfolio that maximizes expected returns for a given level of risk (Markowitz, 1952).

Building on Markowitz's work, William Sharpe developed the Capital Asset Pricing Model (CAPM), which provides a framework for determining the expected return of an asset based on its systematic risk, as measured by beta. Sharpe's CAPM became a cornerstone of financial economics, offering insights into how risk is priced in financial markets and guiding investment decisions (Sharpe, 1964).

The Efficient Market Hypothesis (EMH), developed by Eugene Fama in the 1960s, further shaped Investment Theory by asserting that financial markets are informationally efficient, meaning that prices of securities fully reflect all available information. According to EMH, it is impossible to consistently achieve higher returns than the market average through active management, as any new information is quickly absorbed by the market, making it difficult to outperform through stock selection or market timing (Fama, 1970).

While traditional Investment Theory assumes rational behavior and efficient markets, the emergence of behavioral finance in the late 20th century challenged these assumptions. Behavioral finance, pioneered by scholars such as Daniel Kahneman and Amos Tversky, explores how psychological factors and cognitive biases influence investment decisions. This field has highlighted instances where investors deviate from rationality, leading to anomalies in financial markets that cannot be explained by traditional models (Kahneman & Tversky, 1979).

The critique of traditional Investment Theory has led to the development of alternative models that account for investor behavior, market inefficiencies, and the impact of institutional

factors on investment outcomes. These developments have broadened the understanding of investment dynamics and continue to shape the field of finance.

Investment Theory is crucial for both individual and institutional investors, as it provides the tools and frameworks necessary to make informed decisions about asset allocation, risk management, and portfolio construction. Governments and policymakers also rely on principles from Investment Theory to guide public investment decisions, infrastructure development, and economic policy. The theory's applications extend beyond finance, influencing areas such as corporate strategy, economic development, and public policy. By understanding the principles of Investment Theory, investors can better navigate the complexities of financial markets, optimize their portfolios, and achieve their financial goals.

TYPES OF EDUCATIONAL INVESTMENTS

Educational investments are crucial in shaping the human capital of individuals and societies, contributing to economic growth, social mobility, and personal development. These investments can be understood as the allocation of resources—time, money, and effort—into various forms of education and training with the expectation of future returns in the form of enhanced skills, higher earnings, and broader societal benefits. Educational investments can be broadly categorized into several types, each playing a distinct role in human capital development. They are as following:

1. Early Childhood Education: refers to educational programmes and activities designed for young children, typically from birth to age eight. This type of investment is crucial because early childhood is a critical period for cognitive, social, and emotional development. Research has shown that high-quality early childhood education can have long-term positive effects on academic achievement, social skills, and economic outcomes (Heckman, 2006).



Investing in early childhood education is often seen as one of the most effective ways to reduce inequality and promote social mobility. Programmes such as preschool, Head Start, and other early intervention initiatives are designed to provide children with a strong foundation for lifelong learning (Heckman, 2011).

2. Formal Education: refers to structured and systematic instruction provided in schools, colleges, and universities. The structure of formal education varies significantly across countries, but there are some commonalities in how education systems are organized globally. This type of educational investment is characterized by a standardized curriculum, professional educators, and a formal certification process. Generally, formal education is divided into several stages, with a focus on academic learning, skills development, and personal growth. Below is a general outline of the formal education structure in a global context:

- **Primary Education (Elementary School):** primary education, typically serves children aged 6 to 12 years. It aims to build basic literacy and numeracy skills, along with an introduction to subjects such as science, social studies, and art. Most countries have compulsory primary education, though the exact age range and grade structure can vary. Some countries have a 6-year primary system, while others may extend it to 8 years. Primary education is considered a critical investment because it lays the groundwork for further learning and skill development.
- **Secondary Education (Middle and High School):** Secondary education builds on the foundation laid in primary education, with a greater emphasis on specialized subjects like mathematics, science, languages, and social studies. The typical age range for secondary education is 12 to 18 years old. In many systems, secondary education is divided into two stages: lower secondary, which focuses on general education, and upper secondary, which often includes more specialized education or vocational training. In many

countries, students can choose a track (e.g., academic, vocational, or technical). While secondary education is compulsory in many countries, the structure can differ widely. The investment in secondary education is crucial for preparing individuals for higher education or direct entry into the labor market (Hanushek & Woessmann, 2008).

- **Tertiary Education:** Tertiary education includes universities, polytechnics, colleges, and other institutions that offer undergraduate and graduate programmes. This level of education is associated with specialized knowledge and skills, often leading to professional careers. The investment in tertiary education is linked to higher earning potential and greater job opportunities, making it a significant contributor to economic growth (Psacharopoulos & Patrinos, 2004).

3. Vocational and Technical Training: refers to education and training programmes that focus on practical skills and knowledge required for specific trades or occupations. Unlike formal education, which is often more theoretical, vocational training is hands-on and directly linked to the labor market's needs. This type of educational investment is particularly valuable in industries such as manufacturing, healthcare, information technology, and construction. Vocational training can be provided at various levels, from secondary education to post-secondary institutions, and often leads to certifications or diplomas that qualify individuals for specific jobs. Investing in vocational and technical training is crucial for developing a skilled workforce that meets the demands of a rapidly changing economy (Wolf, 2011).

4. On-the-Job Training: involves the acquisition of skills and knowledge while working. This type of educational investment is often provided by employers to enhance the productivity and efficiency of their employees. On-the-job training can take various forms, including:



- ***Apprenticeships:*** Apprenticeships combine practical work experience with formal instruction in a specific trade or profession. Apprentices are typically employed by a company while receiving training and are often paid during their training period. Apprenticeships are a traditional and highly effective form of on-the-job training, particularly in skilled trades (Fuller & Unwin, 2011).
- ***Workshops and Seminars:*** Companies may organize workshops, seminars, and training sessions to update employees' skills or introduce new technologies and methods. These short-term training programmes are focused on specific topics and are designed to enhance the employees' immediate job performance.
- ***Mentorship and Coaching:*** Mentorship and coaching involve more experienced employees guiding and training less experienced colleagues. This personalized form of on-the-job training helps in transferring knowledge, skills, and organizational culture.

Investing in on-the-job training is essential for companies to maintain a competitive edge, as it ensures that employees' skills are up-to-date and aligned with industry standards (Barrett & O'Connell, 2001).

5. **Informal Education and Self-Learning:** refers to learning that occurs outside the traditional classroom setting and is often self-directed. This type of educational investment includes:

- ***Self-Learning:*** Individuals invest in their own education through reading, online courses, tutorials, and other resources. The rise of digital platforms and Massive Open Online Courses (MOOCs) has made self-learning more accessible, allowing individuals to acquire new skills and knowledge at their own pace (Yuan & Powell, 2013).
- ***Community-Based Learning:*** Community-based learning occurs through participation in community activities,

volunteer work, and local organizations. This type of learning often involves practical skills, social interaction, and civic engagement.

- ***Lifelong Learning:*** Lifelong learning is the continuous investment in education throughout an individual's life. It encompasses formal, non-formal, and informal education and is driven by the need to adapt to changing personal and professional circumstances.

Investing in informal education and self-learning is increasingly recognized as vital in a rapidly evolving world where continuous skill development is necessary to remain relevant in the job market (Field, 2006).

Educational investments are diverse and encompass various forms of learning and skill development, each contributing uniquely to the growth of human capital. From formal education and vocational training to informal learning and early childhood education, these investments are essential for individual success and societal progress. By understanding the different types of educational investments, policymakers, educators, and individuals can make informed decisions that enhance personal development and drive economic growth.

INVESTMENT IN EDUCATION AND DEVELOPMENT

Investment in education is widely recognized as a crucial factor for economic development, social progress, and individual well-being. By enhancing human capital, education contributes to higher productivity, innovation, and economic growth. Moreover, it plays a key role in reducing poverty, improving health outcomes, and fostering social cohesion. This comprehensive analysis explores the various dimensions of investment in education and its implications for development.

1. Economic Growth and Productivity: One of the primary reasons for investing in education is its significant impact on economic



growth and productivity. Education equips individuals with the skills and knowledge needed to participate effectively in the workforce, leading to higher levels of productivity and economic output. The relationship between education and economic growth has been extensively studied, with evidence suggesting that countries with higher levels of educational attainment experience faster economic growth.

- ***Human Capital Formation:*** Education contributes to human capital formation, which is essential for economic development. As Gary Becker (1964) posited in his Human Capital Theory, education is an investment that enhances the productivity of individuals, leading to higher earnings and economic growth. Becker's work highlights how investments in education lead to a more skilled and efficient workforce, driving economic progress (Becker, 1964).
- ***Innovation and Technological Advancement:*** A well-educated workforce is more likely to engage in innovation and adapt to new technologies. Education fosters critical thinking, problem-solving, and creativity, which are essential for technological advancement and economic competitiveness. Countries that invest heavily in education, particularly in science, technology, engineering, and mathematics (STEM) fields, are better positioned to lead in innovation and technological breakthroughs (Hanushek & Woessmann, 2008).
- ***Return on Investment (ROI):*** The return on investment in education is substantial, both for individuals and societies. Studies have shown that each additional year of schooling can increase an individual's earnings by a significant margin. At the societal level, higher educational attainment is associated with increased gross domestic product (GDP) per capita. Psacharopoulos and Patrinos (2004) found that the average global rate of return on investment in education is about 10% per year of schooling, underscoring the

economic benefits of educational investment (Psacharopoulos & Patrinos, 2004).

2. Poverty Reduction and Social Mobility: Investment in education is a powerful tool for reducing poverty and promoting social mobility. By providing individuals with the skills and knowledge needed to access better job opportunities, education can lift people out of poverty and enable upward social mobility.

- ***Education as an Equalizer:*** Education can level the playing field by providing opportunities for individuals from disadvantaged backgrounds to improve their socio-economic status. Access to quality education is critical for breaking the cycle of poverty and reducing income inequality. Programmes that target marginalized groups, such as scholarships, conditional cash transfers, and affirmative action, can help ensure that education reaches those who need it most (UNESCO, 2015).
- ***Intergenerational Impact:*** The benefits of investing in education extend beyond the individual to future generations. Educated parents are more likely to invest in the education of their children, leading to a virtuous cycle of improved educational outcomes and economic prospects. This intergenerational impact of education is a key factor in long-term poverty reduction and social development (Haveman & Wolfe, 1995).
- ***Gender Equality:*** Education plays a critical role in promoting gender equality by empowering women and girls. Investments in girls' education have been shown to lead to numerous positive outcomes, including delayed marriage, lower fertility rates, improved maternal and child health, and increased participation in the labor force. Educating women also has a multiplier effect, as educated women are more likely to educate their children, contributing to broader social and economic development (World Bank, 2018).



3. Health Outcomes and Well-Being: Investment in education is closely linked to improved health outcomes and overall well-being. Education provides individuals with the knowledge and skills needed to make informed decisions about their health and well-being, leading to healthier lifestyles and better health outcomes.

- **Health Literacy:** Education enhances health literacy, enabling individuals to understand and apply health information effectively. This is particularly important in the prevention and management of diseases, as educated individuals are more likely to adopt healthy behaviors, such as regular exercise, a balanced diet, and avoiding risky behaviors like smoking and excessive alcohol consumption (Cutler & Lleras-Muney, 2010).
- **Access to Healthcare:** Educated individuals are more likely to access and utilize healthcare services, leading to earlier diagnosis and treatment of illnesses. Education also increases awareness of the importance of preventive care, such as vaccinations and regular health check-ups, which can reduce the burden of disease and improve quality of life (Grossman, 2006).
- **Reduced Child Mortality:** Maternal education is one of the most significant determinants of child health and survival. Educated mothers are more likely to seek prenatal care, ensure proper nutrition for their children, and follow recommended health practices, all of which contribute to lower child mortality rates. The World Health Organization (WHO) has emphasized the importance of maternal education in achieving better health outcomes for children (WHO, 2013).

4. Social Cohesion and Civic Engagement: Education is a key driver of social cohesion and civic engagement, contributing to the development of stable, democratic, and inclusive societies. Through education, individuals acquire the knowledge, values, and skills

needed to participate actively in civic life and contribute to the common good.

- ***Social Capital:*** Education fosters social capital by promoting trust, cooperation, and participation in social networks. Educated individuals are more likely to engage in community activities, volunteer work, and civic organizations, strengthening the social fabric and contributing to a sense of shared identity and purpose (Putnam, 2000).
- ***Democratic Participation:*** Education is positively correlated with democratic participation, including voting, political awareness, and involvement in civic activities. Educated citizens are better equipped to understand political issues, evaluate candidates, and make informed decisions, contributing to the functioning of democratic institutions and processes (Milligan, Moretti, & Oreopoulos, 2004).
- ***Tolerance and Inclusivity:*** Education promotes tolerance and inclusivity by exposing individuals to diverse perspectives and cultures. This helps reduce prejudice, discrimination, and social tensions, fostering a more inclusive and harmonious society. Education also plays a critical role in promoting human rights and social justice, encouraging individuals to stand up against inequality and injustice (UNESCO, 2015).

5. Challenges and Policy Implications: While the benefits of investing in education are clear, several challenges remain in ensuring that these investments are effective and equitable. Addressing these challenges requires targeted policies and sustained commitment from governments, international organizations, and civil society.

- ***Quality of Education:*** Ensuring the quality of education is essential for maximizing the returns on educational investment. Poor-quality education, characterized by inadequate infrastructure, untrained teachers, and outdated



curricula, can undermine the potential benefits of educational investments. Policymakers must focus on improving the quality of education at all levels to ensure that students acquire the skills and knowledge needed to succeed in the labor market and contribute to society (Hanushek & Woessmann, 2012).

- ***Equity and Access:*** Achieving equity in education requires addressing disparities in access to educational opportunities. This includes ensuring that marginalized groups, such as low-income families, ethnic minorities, and rural populations, have access to quality education. Policies that promote inclusive education, reduce financial barriers, and provide targeted support for disadvantaged students are essential for achieving equitable educational outcomes (UNESCO, 2015).
- ***Sustainable Financing:*** Financing education sustainably is a significant challenge, particularly in developing countries where resources are limited. Governments must prioritize education in their budgets and seek innovative financing mechanisms, such as public-private partnerships and international aid, to ensure that education is adequately funded. Long-term investment in education is essential for achieving sustainable development and improving the well-being of future generations (World Bank, 2018).

Investment in education is a cornerstone of economic development, social progress, and individual well-being. By enhancing human capital, reducing poverty, improving health outcomes, and fostering social cohesion, education contributes to the development of prosperous, inclusive, and sustainable societies. While challenges remain in ensuring that educational investments are effective and equitable, the benefits of investing in education are clear and far-reaching. Policymakers, educators, and stakeholders must continue to prioritize education as a key driver of development and work towards ensuring that all individuals have access to quality education.

RETURNS TO EDUCATIONAL INVESTMENTS

The concept of returns to educational investments refers to the benefits or gains that individuals and societies receive from investing in education. These returns can be measured in various ways, including increased earnings, improved health outcomes, higher levels of productivity, and broader societal benefits such as economic growth, social mobility, and civic engagement. This comprehensive exploration delves into the different types of returns to educational investments, the factors influencing these returns, and the implications for policy and practice.

1. Private Returns to Education: Private returns to education refer to the benefits that individuals receive as a result of their investment in education. These returns are typically measured in terms of increased earnings and improved employment prospects.

- ***Increased Earnings:*** One of the most significant private returns to education is the increase in earnings associated with higher levels of educational attainment. Numerous studies have shown that individuals with more years of schooling tend to earn higher wages compared to those with less education. This relationship between education and earnings has been consistently observed across different countries and time periods. According to Psacharopoulos and Patrinos (2004), the global average rate of return on investment in education is approximately 10% per additional year of schooling, with higher returns for primary and secondary education in developing countries (Psacharopoulos & Patrinos, 2004).
- ***Employment Prospects:*** Education also enhances employment prospects by providing individuals with the skills and qualifications needed to access better job opportunities. Higher levels of education are associated with lower unemployment rates and greater job stability. In a rapidly changing labor market, where technological advancements and globalization are reshaping industries,



education plays a critical role in equipping individuals with the knowledge and skills needed to adapt to new job requirements (Oreopoulos & Salvanes, 2011).

- ***Non-Monetary Benefits:*** In addition to financial returns, education provides individuals with various non-monetary benefits, such as improved health, greater life satisfaction, and enhanced cognitive and social skills. For example, higher educational attainment is linked to better health outcomes, as educated individuals are more likely to engage in healthy behaviors and access healthcare services. These non-monetary benefits contribute to overall well-being and quality of life, making education a valuable investment beyond just economic returns (Cutler & Lleras-Muney, 2010).

2. Social Returns to Education: Social returns to education refer to the broader societal benefits that arise from investments in education. These returns include economic growth, poverty reduction, improved health outcomes, and increased social cohesion.

- ***Economic Growth:*** Education is a key driver of economic growth, as it enhances human capital, boosts productivity, and fosters innovation. By equipping individuals with the skills and knowledge needed to participate effectively in the workforce, education contributes to higher level of economic output. Research has shown that countries with higher levels of educational attainment tend to experience faster economic growth. For example, Hanushek and Woessmann (2008) found that the quality of education, as measured by cognitive skills, is strongly associated with long-term economic growth (Hanushek & Woessmann, 2008).
- ***Poverty Reduction and Income Inequality:*** Education is one of the most effective tools for reducing poverty and addressing income inequality. By providing individuals from disadvantaged backgrounds with the skills and qualifications

needed to access better job opportunities, education can lift people out of poverty and enable upward social mobility. Additionally, education helps narrow income gaps by increasing the earning potential of lower-income individuals, thereby reducing overall income inequality (Ferreira & Gignoux, 2011).

- **Improved Health Outcomes:** Education has a positive impact on public health by promoting healthier behaviors and increasing access to healthcare services. Educated individuals are more likely to adopt preventive health measures, such as vaccinations, and are better equipped to manage chronic conditions. The social returns to education in terms of health are substantial, as improved population health leads to lower healthcare costs and increased productivity (Grossman, 2006).
- **Social Cohesion and Civic Engagement:** Education fosters social cohesion by promoting tolerance, inclusivity, and civic engagement. Educated individuals are more likely to participate in community activities, volunteer work, and democratic processes, contributing to a more stable and inclusive society. Education also plays a critical role in promoting human rights, social justice, and gender equality, which are essential for sustainable development (Milligan, Moretti & Oreopoulos, 2004).

3. **Determinants of Returns to Educational Investments:** The returns to educational investments are influenced by various factors, including the level of education, the quality of education, and the alignment of educational outcomes with labor market demands.

- **Level of Education:** The level of education attained is a significant determinant of returns to educational investments. Generally, higher levels of education are associated with higher returns, particularly in terms of earnings. However, the marginal returns to education may vary depending on the stage of education. For example,



returns to primary education tend to be higher in developing countries, where access to basic education is limited, while returns to tertiary education are often higher in developed countries (Psacharopoulos & Patrinos, 2004).

- ***Quality of Education:*** The quality of education is a crucial factor in determining the returns to educational investments. High-quality education, characterized by well-trained teachers, adequate resources, and a relevant curriculum, is more likely to produce positive outcomes in terms of student achievement and labor market success. In contrast, poor-quality education can undermine the potential returns to investment, as students may not acquire the necessary skills and knowledge to succeed in the workforce (Hanushek & Woessmann, 2012).
- ***Labor Market Alignment:*** The alignment of educational outcomes with labor market demands is essential for maximizing the returns to educational investments. Education systems that produce graduates with skills that match the needs of the labor market are more likely to generate higher returns in terms of employment and earnings. Conversely, a mismatch between educational outcomes and labor market requirements can lead to underemployment, lower wages, and reduced returns to investment (Autor, 2014).
- ***Economic and Social Context:*** The broader economic and social context also influences the returns to educational investments. Factors such as economic growth, labor market conditions, social policies, and cultural norms can affect the extent to which education translates into improved economic and social outcomes. For example, in countries with high levels of economic inequality, the returns to education may be lower for disadvantaged groups, as they face greater barriers to accessing quality education and employment opportunities (Ferreira & Gignoux, 2011).

Returns to educational investments are multifaceted, encompassing both private and social benefits that contribute to economic growth, social mobility, improved health, and social cohesion. While the returns to education are generally positive, they are influenced by various factors, including the level and quality of education, labor market alignment, and the broader economic and social context. Policymakers must prioritize investments in education that maximize these returns, focusing on early childhood education, improving education quality, aligning education with labor market needs, and promoting equity in access to quality education. By doing so, they can ensure that educational investments contribute to sustainable development and the well-being of individuals and societies.

SUMMARY

Investment theory highlights the importance of allocating resources to education as a means of enhancing human capital and driving economic growth. By understanding the different types of educational investments and their associated returns, policymakers and educators can make informed decisions that maximize the benefits of education for individuals and society. Educational investments yield significant economic and social returns, contributing to economic growth, poverty reduction, and social development. As the global economy continues to evolve, investing in education remains a critical strategy for building a prosperous and equitable future.

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SOCIAL DEMAND THEORY IN EDUCATION

Chapter 5

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Introduction

Social Demand Theory (SDT) in education otherwise known as the Social Demand Approach (SDA), is one of the most popularly used approaches in the planning of education in most countries of the world, especially the Less Developed Countries (LDCs) or Developing Nations.

Efficient planning and administration of education have become critical elements of the educational process for more reasons than one, considering the unique, pivotal and indispensable role of education in the socio - political, economic, cultural, esthetic and technological development of any nation. Educational planning involves the formulation of educational policies and objectives, the coordination of various educational proposals, the projection of enrolments, compilation of school statistics, educational costing and budgeting, establishment of new schools and the expansion of existing ones. Today educational planning is concerned with the social, economic, and man-power development of the whole nation. It is by nature a complex process. This complexity is made greater by the fact that in the educational industry a major part of the inputs and outputs consist of human capacities and skills which are not as quantifiable as the inputs and outputs in other sectors of the economy.

Educational provision to cater for the needs of the people in the society requires careful planning, and it is based on four basic approaches, or methods, in order to justify its provision. These

approaches are: the Cost -Benefit - Analysis (CBA) or the Economic Rate - of - Returns (ERR) Approach, the Social Demand Approach (SDA), the Manpower Requirement Approach (MRA), and the Aggregative or Eclectic Approach (AA). In this discourse, attention would be concentrated on the concept of Social Demand Approach in educational planning. Its basic assumptions, merits, and demerits would also be discussed.

The concept of Social Demand Approach (SDA)

Social Demand Approach (SDA) is a method in educational planning which sees education as public social service; a necessity and inalienable right of all citizens who desire it. (Campbell, 2002; Fadipe 2007 and Olaniyonu, Adekoya & Gbenu, 2008).

According to Agabi in Peretomode (1995), this approach was developed to respond to the shortcomings of other educational planning approaches, especially the Cost – Benefit – Analysis Approach (CBA) or the Economic Rate of Return approach (ERR). The Social Demand Approach views education as a consumption goods, and therefore, the expenditure on it as a consumption expenditure, rather than an investment. In line with this sense of reasoning therefore, the approach demands that education has to be provided for all those who are qualified and desirous of it.

This approach relies on private demand for education and stipulates that all those that demand for education should be given the opportunity provided that they are qualified. This approach emphasizes and believes that education is one of the fundamental human rights of every individual. As such, it recommends that all those who qualify for admission into a particular level of education must be given the opportunity (given admission). It is believed that all expenses and activities on education are goods in themselves. For example, consequent upon the belief of the government that mass literacy was a birth right in Nigeria, it has always expended money on providing mass education to its citizens. In the 1970s, the Federal Government realized the need to provide education all its citizens. As a means of achieving this, it started the Universal Primary



Education (UPE) scheme in 1976 and also introduced Universal Basic Education (UBE) programme in 1999. In other words, the UPE and UBE programmes in Nigeria were based on SDA.

Generally, the belief is that when the citizens are literate, it will be easy for them to know their rights, participate in the choice of who is to rule them and avoid political thuggery. To a large extent, political reasons dictate the adoption of the social demand approach. This explains somehow why government continues to spend so much money on education. Government continues to spend more on educational facilities in order to reduce the gap in educational opportunities in different states, rural-urban areas and between men and women. It is important to note that the mass literacy campaign on functional literacy, the political education programmes and even, the nomadic education are all parts of using the social demand approach to investing in education.

Social Demand Approach views education as social goods and services that must be provided for every individual that is qualified, and signifies interest for it. It is a consumption view of education suitable when education is considered as an obligation and not as a privilege. According to Fadipe (2007), the Dutch adopted the SDA in planning her educational system when government stated that: If a sufficiently qualified citizen stands at the door of any type of school, he must be admitted, and it is the responsibility of the appropriate government authorizes to anticipate his request so that school capacity will be adequate to accommodate him. As aptly noted by Longe (2003) and Olaniyonu, et al (2008), adoption of the SDA in any successful educational programme requires that accurate demographic information be made available. Such information must include the total number of pupils to be provided with education, the number of teachers to be trained and re-trained, classroom facilities and laboratory equipment needed. As a measure of ensuring an accurate projection of pupil population, the SDA requires the use of population growth rate formula and time series analysis to study past population trends and extrapolate this to the future. This becomes necessary so that

estimated population of pupils can be determined at present and facilities made available.

Where this approach is to be adopted, the task before educational planners is to project the demand trend for school places and make sufficient provisions in terms of educational resources to accommodate such anticipated demand like determining number of teachers to be trained, classroom facilities to be built and laboratories to be provided and equipped.

Usually, different estimates have to be carried out for different levels of education using different types of educational and demographic data. The number of places to be provided at the primary school level for example can be derived from the demographic forecast of the school-aged population, the growth rate and the non-schooling gap. Factors that will influence the number of school places to be provided using the above data are the progression rates between grades.

Planning for the secondary level of education follows a similar procedure. The only difference here is that the projection of the required school places in the first grade is based in the transition rate from the primary to the secondary school level. In a similar vein, the forecast of educational places at the tertiary level is dependent on the transition rate from the secondary level and the progression rates (repetition, promotion and drop out) between grades.

Some Basic Assumptions of Social Demand Approach

A number of assumptions underlie the SDA. These include:

1. that education is the birth right of every individual and that it must be made available to all individuals to the limits of their requests.
2. that all children of school going age will demand for education that is meant for their ages.
3. that the demand for education will continue to be greater than its supply.
4. that the unit cost of education will remain fairly constant.



5. that expanded education opportunities will add significantly to social and economic growth.
6. SDA requires the use of population growth rate formula and time series analysis to study past population trends and extrapolate this to the future.

Advantages of Social Demand Approach

According to Gbadamosi (2005) and Olaniyanu et al (2008), adoption of SDA has a lot of advantages which is in line with the goal of UBE namely:

1. increasing the level of literacy through the encouragement of mass education and mass literacy.
2. it is seen as a tool for building egalitarian societies by enhancing equality of educational opportunities,
3. reducing the level of social tension because politicians use education as political gimmick to win votes while the masses see it as a means of social ladder,
4. less complex in adoption,
5. and that it facilitates the process of income re-distribution.

Other advantages associated with this educational planning approach identified in Oladejo (2019) include:

- a. It democratizes educational opportunities in the society.
- b. policy makers and governments find the social demand approach easy to defend since the philosophy of the approach is the satisfaction of the educational needs of the people.
- c. One of the reasons which Musaazi (1985) gave for “Universalising basic education” was promotion of a sense of national unity and the “equalization of educational opportunities.”
- d. According to Musaazi (1985), the social demand approach can show the planner the resources that can be allocated to each level of education as long as certain existing trends continue and if private demand is to be satisfied.

Disadvantages of Social Demand Approach

Irrespective of the fact that this approach has numerous merits, the social demand approach to educational planning has its defects, most especially when applied in LCDs. Some of these are:

1. In most cases, timely, accurate and adequate demographic and educational data to assist in the projection of demand for educational places and facilities are lacking. Besides, the rates on which most of the projections are based (progression and transition rates) are hardly constant as they are usually assumed.
2. The problems of surplus manpower and pent-up demand for education in excess of the available capacity have always resulted from applying this approach to the planning and provision of all levels of education.
3. Above all, SDA is insensitive to the usual resource constraints for providing all types of education for all who are qualified and are willing to acquire the various types or levels of education. The Nigerian educational system manifests some of these problems because of the adoption of this approach in the planning of different levels of education at one time or the other.

Others shortcomings associated with the SDA outlined in Okunola (2019) include:

- a. It does not show whether there is an alternative optimum allocation of resources.”
- b. The social demand approach ignores the types and kind of manpower that is needed by the economy and that which can readily result in the production of too many people skilled in one area and not enough in another. For example, with the UBE, too many people with general education of the level of primary education were produced even though much manpower was required in specialized fields such as medicine, engineering etc.



- c. The social demand approach tends to over-estimate popular demand and to underestimate costs.
- d. Few countries are in position to afford the cost of providing education to all and sundry.
- e. Mass education may tend to give rise to low quality education.
- f. The approach is not usually cost effective as it tends to require a large chunk of the National budget.
- g. Fails to consider the vacancies and capacity of the labour market (occupational and industrial) to absorb the graduates of the educational system (P.43).

Summary

Education is a fundamental right for all people. It can help ensure a safer, healthier, more prosperous and environmentally sound nation and world at large, and at the same time contribute to social, economic, political and cultural progress, tolerance and international cooperation. By virtue of this indispensable key to personal and social improvement guaranteed by sound education, it is expedient that quality education is taken to the door steps of all and sundry. This is the position the social demand approach to educational planning represents. This approach if well considered or adopted, would probably help to ameliorate the menace of thuggery, taunts at motor parks, hawking on our roads, child slavery, and other forms of social vices that have generally bedeviled our society today.

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THEORY OF DEMAND IN EDUCATION

Chapter 6

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Introduction

The theory of demand is a key aspect of economics. Economics as a subject involves the study of how people use limited means to satisfy unlimited wants. Naturally, people prioritize more urgent wants and needs over less urgent ones in their economic behaviour and this carries over into how people choose among the limited means available to them. For any economic good, the first unit of that good that a consumer gets their hands on will tend to be used to satisfy the most urgent need the consumer has that the goods can satisfy. For example, let's consider those in the desert without water to drink, bath or wash clothes. If for any reason they get some bottles of water, what they will consider first is water to drink. This is because they are thirsty. We can conclude that those people in the desert will value each additional water less than the one before. That is, consumers use the first units of an economic good they purchase to serve their most urgent needs first, and then they use each additional unit of the good to serve successively lower-valued ends. On the other hand, the term "quantity demanded" reflects changes in the price, without implying any change in the pattern of consumer preferences.

BASIC CONCEPT OF DEMAND

Meaning of Demand

Demand is a principle of economics that captures the consumer's desire to buy the product or services. The demand is calculated as the price the consumers are willing to pay for the product or services. Samuelson and Nordhaus (2020) define demand as the quantity of a product or service that consumers are willing and able to purchase at various prices, during a particular time period. According to Mankiw (2018), demand represents the desire or willingness of consumers to buy a particular product or service at a given price and time, backed by the ability to pay. Pindyck and Rubinfeld (2017) define demand as "the relationship between the price of a good or service and the quantity that consumers are willing and able to purchase, holding all other factors constant. Perloff (2019) explains that demand is "the amount of a good or service that consumers are willing to buy at a given price, reflecting their preferences, income, and the prices of related goods. We can define a demand as a willingness to buy products and the ability of consumers to pay for them.

Theory of Demand

The theory of demand is a fundamental concept in economics that explains the relationship between the price of a good or service and the quantity of that good or service that consumers are willing and able to purchase. It explores the factors influencing consumer behavior and choices in the marketplace.

Key Elements of the Theory of Demand include:

Law of Demand: The law of demand states that, *ceteris paribus* (all other factors being equal), as the price of a good or service increases, the quantity demanded decreases, and vice versa. In other words, there is an inverse relationship between price and quantity demanded.



Demand Curve: The demand curve represents the graphical depiction of the relationship between price and quantity demanded. It slopes downward from left to right, reflecting the negative relationship between price and quantity demanded.

Determinants of Demand: Various factors influence the demand for a particular good or service, such as consumers' income, price of related goods (substitutes and complements), consumer preferences, population demographics, and consumer expectations. Changes in these determinants can shift the entire demand curve.

Elasticity of Demand: Elasticity of demand measures the responsiveness of quantity demanded to changes in price. It helps determine how sensitive consumer demand is to price fluctuations. Price elasticity of demand can be elastic (responsive), inelastic (less responsive), or unitary (proportional).

Market Demand: Market demand represents the aggregate demand of all individual consumers in a given market. It is derived by summing up the quantities demanded by individual consumers at each price level.

The theory of demand is crucial for understanding market behavior, price determination, and consumer decision-making. It provides a framework for analyzing and predicting how changes in price and other factors affect consumer demand, market equilibrium, and overall economic outcomes

Theory of Demand in Education

The theory of demand can be used in the context of education to comprehend people's preferences and decisions regarding their educational options.

Demand and Price for Education: Price is a key factor in influencing the quantity sought according to the theory of demand. The term

"price" in the context of education can refer to the whole cost of education, which can include tuition costs, textbook costs, and other related costs. *Ceteris paribus*, the quantity requested may decline as the cost of schooling rises, if all other variables stay the same. When increasing education prices result in lower enrolment or demand for particular programmes, this relationship can be seen.

Income and Demand for Education: According to the theory of demand, demand is influenced by a person's income. Higher income levels can help people afford education and can have a positive impact on the demand for education. The demand for educational possibilities rises as a result of the fact that people with better wages frequently have more resources to devote to school, pursue postgraduate degrees, or access superior education.

Demand for Education and Consumer Preferences: Demand for education is significantly influenced by consumer preferences. Demand for particular educational courses or fields of study is largely influenced by people's own interests, aspirations, and professional objectives. A person with a keen interest in science, for instance, would have a greater need for education in STEM (science, technology, engineering, and mathematics) subjects.

Demand for Education and Consumer Expectations: Consumer expectations on the advantages of education can also affect demand. People are more inclined to want education if they believe it would increase their chances of landing a job, their salary, or their social standing. On the other side, if returns on investment expectations are low, it can have an impact on the demand for specific educational levels or programmes.

Principles of Demand in Education

The principles of demand in education are derived from the broader principles of demand in economics but specifically applied to the education sector. In the context of education demand, the principles



of demand theory can be applied to understand how changes in the quantity of education demanded by individuals affect the price of educational services. The theory suggests that when the price of education increases, all other factors held constant, the demand for education decreases, leading to a downward sloping demand curve. This implies that individuals are sensitive to the cost of education, including tuition fees, and other related expenses. Higher prices may deter individuals from seeking education or influence their choices regarding educational institutions and programmes. As the price of education decreases, there is generally an increase in the demand for education, assuming other factors remain unchanged.

The theory of education demand recognizes that factors such as income, return on investment, consumer preferences, accessibility, quality, and government policies also play significant roles in shaping individuals' decisions and preferences regarding education. These factors interact with the price of education to determine the quantity of education demanded in the market.

By understanding the principles of education demand theory, policymakers, educational institutions, and stakeholders can assess the impact of pricing strategies, income levels, quality improvements, accessibility enhancements, and policy interventions on the demand for education. This understanding can inform decisions related to affordability, programme offerings, institutional reputation, resource allocation, and policy formulation to effectively meet the educational demands of individuals and society as a whole.

The theory of education demand explores the relationship between the price of education and the quantity of education demanded by individuals, assuming other factors remain constant. It follows the fundamental law of demand theory, which states that there is an inverse relationship between the price of a good and the quantity demanded. Applied to education, this means that as the price of education increases, the quantity of education demanded decreases, and vice versa.

In simpler terms, when the cost of education is high, individuals may be less inclined to pursue education or may seek more affordable alternatives. Conversely, when the cost of education is lower, individuals are more likely to demand a greater quantity of education.

This theory recognizes that price is not the only factor influencing education demand. Other determinants such as income levels, accessibility, quality of education, perceived benefits or returns on investment, and individual preferences also play significant roles in shaping the demand for education. However, the theory of education demand highlights the important influence of price on individuals' decision-making processes when it comes to pursuing educational opportunities.

The law of demand states that the quantity purchased varies inversely with price. In other words, the higher the price, the lower the quantity demanded. In the context of education demand, the law of demand still applies. As the price of education increases, the quantity of education demanded by individuals tends to decrease, assuming all other factors remain constant. This is because higher prices make education less affordable and may lead individuals to seek alternative, more cost-effective options.

It's important to note that the law of demand in education is influenced by the concept of diminishing marginal utility. As the price of education rises, individuals may perceive each additional unit of education as providing less value or utility relative to its cost, leading to a decrease in the quantity demanded.

Additionally, it is crucial to understand that changes in price alone do not directly affect the demand for education. Instead, changes in consumer preferences, incomes, or related economic goods play a more significant role in shaping education demand. For example, if individuals' preferences shift towards fields of study that require higher education, the demand for education in those areas may increase, even if the prices remain the same.



The principle of education demand also recognizes that lower prices can lead to an increase in the quantity of education demanded. As the cost of education decreases, individuals may be more willing to pursue educational opportunities, resulting in a higher demand.

Another principle of demand is the **income effect**. Individuals typically expect more education as their money rises. This is so that those with higher income levels can invest in their education, pursue advanced degrees, and take advantage of educational opportunities that might improve their abilities and employment prospects. People are more likely to set aside money for schooling when they have greater disposable income because they see it as a wise investment in their future. The demand for education rises as a result of the income effect, especially for individuals with higher income elasticity of demand.

The **substitution effect** is another principle of demand. In the context of education, the substitution effect is relevant to understanding individuals' choices and decisions regarding educational options. When the price of education increases, individuals may seek alternative, more affordable avenues for acquiring knowledge and skills. The substitution effect in education reflects the idea that individuals are sensitive to the cost of education and are willing to explore other educational opportunities that offer similar benefits at a lower price. This may include considering different institutions, programmes, or modes of education delivery that provide comparable learning outcomes but at a more affordable cost.

For example, if the tuition fees of a specific university or educational programme become prohibitively expensive, individuals may opt for community colleges, online courses, vocational training, or other forms of education that offer similar knowledge and skills but at a lower price point.

The Characteristics of Demand for Education

The characteristics of demand for education can be analyzed through three key aspects: **desire**, **willingness**, and **ability** to pay. By

examining these characteristics, we can gain insights into the demand for education.

Desire: Is education desired by all?

Education is often regarded as a pathway to success, and there are several reasons why pursuing education is attractive and can lead to success. These reasons include acquiring skills that are in demand by companies, networking opportunities, keeping up with changing technologies, defining career interests, and developing time management skills. With these factors in mind, it can be concluded that there is a growing desire for education due to the increasing opportunities and expectations for knowledge and performance.

Willingness: What is the ratio of those who are willing to continue with education when its prices increase?

The benefits of education are numerous. Individuals who pursue education not only experience personal benefits such as higher income, career advancement, skill development, and employment opportunities, but society and communities also benefit. Societies with higher rates of education and degree completion tend to be healthier, have greater economic stability, lower crime rates, and greater equality. Moreover, lack of access to education is often considered a root cause of poverty. The willingness to learn promotes a desire for education, enabling individuals to gain new knowledge, develop a broader perspective of thinking, enhance problem-solving abilities, increase self-confidence, become more flexible, and achieve higher learning outcomes.

Ability to Pay: Does everybody have the ability to pay as the price increases?

Education is seen as a fundamental aspect of development; however, it is hindered by various challenges, with insufficient funding being a major issue, particularly in countries like Nigeria. This means that students who lack the ability to pay may not benefit from the education system. Thus, even if there is a desire and willingness to be educated, the ability to pay becomes a crucial



factor. This aligns with the theory of demand, which states that as the price of a good increases, the quantity demanded decreases. The characteristics of demand for education involve the desire for education due to its perceived benefits, the willingness to continue with education driven by the positive impact it has on individuals and society, and the ability to pay, which can be a barrier for some individuals.

The Determinants of Education Demand

The demand for education is influenced by various factors that can be categorized into three main groups: individual factors, family factors, and social factors. Additionally, school factors can also impact the demand for education.

Individual Factors:

Rate of Return: Individuals consider the present value of expected benefits from education in relation to the present cost. The rate of return, which compares the marginal interest rate to the marginal rate of returns, plays a significant role in determining the individual's decision to invest in education (Becker and Chiswick, 2016).

Gender: The individual's gender can affect the demand for education. Cultural beliefs and societal norms may influence educational opportunities and investments, leading to differential demand for education between boys and girls.

Family Factors:

Parental Education: The education level of parents is a crucial factor influencing the demand for education. Parents with higher levels of education tend to value education more and are more likely to encourage their children to pursue education. They can also provide necessary resources and support for their children's education (Blundell et al., 2018; Verick and Islam, 2015).

Income: The income of families affects their ability to afford the costs associated with education, such as tuition fees and educational resources. Higher-income families are more likely to have greater access to education (Glick and Sahn, 2016; UNESCO, 2020).

Social Status: Families with higher social status tend to prioritize education and provide their children with more opportunities and resources for education. Social status can influence educational attainment (Jensen and Nielsen, 2017; López and Paredes, 2020).

Social Factors:

Social Context: Social factors such as community, religion, and the social value attached to education play a crucial role in determining educational attainment. Good social status, social mobility, and social prestige are often associated with higher demand for education.

Inequality: Educational distribution can vary among different socio-economic strata, contributing to differences in the demand for education.

Conveyance Facilities: The availability of transportation facilities to educational institutions can impact the demand for education, particularly in rural areas.

School Factors:

Distance: The distance from home to school can affect the demand for education, as longer distances may pose challenges for access and attendance.

Availability: The availability of schools, particularly in rural areas, can influence the demand for education by providing or limiting educational opportunities.



Medium of Instruction: The choice of language or medium of instruction in schools can affect the demand for education, especially for individuals who may have language barriers.

School Fees: The cost of education, including school fees, can influence the demand for education, particularly for individuals and families with limited financial resources.

Infrastructure Facilities: The availability and quality of infrastructure facilities in schools, such as classrooms, libraries, and laboratories, can impact the attractiveness and demand for education.

Subjects Offered: The range of subjects and educational programmes offered by schools can influence the demand for education, as individuals may have specific interests or career aspirations.

Challenges of Demand for Education in Nigeria

Education in Nigeria suffers from several challenges, this includes:

High Cost of Education: Many families in Nigeria struggle to afford the costs associated with education, including tuition fees, textbooks, uniforms, and transportation.

Limited Financial Aid: Insufficient government funding and lack of scholarship programmes make it difficult for economically disadvantaged students to access quality education.

Insufficient Facilities: Many schools in Nigeria lack basic infrastructure such as classrooms, libraries, laboratories, and playgrounds, compromising the quality of education.

Shortage of Teaching Materials: Inadequate availability of textbooks, learning resources, and teaching aids hinders effective teaching and learning processes.

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Shortage of Qualified Teachers: Nigeria faces a significant shortage of qualified and well-trained teachers, particularly in remote and rural areas.

Teacher Training and Professional Development: Limited opportunities for teachers to enhance their skills and knowledge result in subpar teaching quality.

Unequal Distribution of Educational Institutions: Educational opportunities are concentrated in urban areas, leading to limited access and opportunities for students in rural and marginalized communities.

Insecurity and Conflict: Areas affected by insecurity and conflicts face challenges in providing access to education, resulting in reduced demand and disrupted learning.

Gender-Based Barriers: Cultural norms, societal expectations, and economic constraints often limit educational opportunities for girls, leading to lower demand for education among female students.

Limited Awareness about Educational Opportunities: Lack of information and guidance on available educational options and their benefits can hinder individuals' demand for education. Addressing these challenges requires concerted efforts from the government, educational institutions, and stakeholders. Strategies such as increasing investment in education, improving teacher recruitment and training, expanding access to scholarships and financial aid, promoting gender equality, and enhancing infrastructure development can help improve the demand for education in Nigeria and ensure equitable access to quality education for all



Summary

The concept of demand in economics refers to consumers' desire and willingness to purchase a product or service at a specific price. In education, the theory of demand helps understand people's preferences and choices related to educational options. Factors such as price, income levels, consumer preferences, and expectations influence the demand for education. Understanding demand principles in education helps policymakers and institutions make decisions on pricing, accessibility, and programme offerings to meet educational demands. The characteristics of education demand include the desire for education, willingness to pay even with price increases, and ability to afford education. In Nigeria, education faces challenges such as high costs, limited financial aid, inadequate facilities and teaching materials, teacher shortages, unequal distribution of educational institutions, and insufficient teacher training and professional development, which can impact the demand for education and hinder access to quality education.

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THEORY OF SUPPLY

Chapter 7

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Concept of Supply

In the global economy, no nation has monopoly of knowledge. Thus, no nation is an island in term of existence. As a result, there is inter-relationship in term of exchange between countries in the world. There is a necessity for every nation to demand for or supply essential commodities (goods or services) from (or to) other countries for economic motive and mainly for each other survival. For instance, developing nations (LDCs) depend on developed world or super power nations such as USA, France, Russia, Britain, Germany, among others for capital goods while LDCs supply them basically with raw materials for revenue generation. On this premise, Supply, therefore, can be defined as the quantity or amount of commodity (either goods or services) which a producer (manufacturer) is willing and able to offer for sale at a given market price over a particular period of time.

Law of Supply

The first law of supply states that “the higher the price, the higher the quantity of commodity that will be supplied”. The second law of supply states that the lower the price, the lower the quantity of commodity that will be offered for sale (Filmer, 2018). The law explains that when the price of a particular commodity is high in the market, large quantity of that product will be offered for sale by the producer.

Factors affecting the Supply of a Commodity

There are factors that are affecting supply of a commodity at a point of time, among include:

1. The price of a particular commodity (i.e. Commodity X)
2. The price of other substitute commodities (i.e. Commodity A, B, C)
3. Climatic / weather condition
4. The purchasing interest or desire of the consumers
5. Government fiscal policies (such as taxes, financial supports or grants to producer)
6. The number of consumers available in the market
7. The pest and diseases
8. Natural disaster (earthquakes, landslides, flooding or drought)
9. Level of technology development
10. Deflation/ Devaluation trend factor
11. Infrastructural facilities development (motorable good roads)
12. Poor market interaction /collaboration (Communication network)
13. The intercession of the smugglers along the distribution chain
14. Frequent hoarding activities by the middlemen
15. Inflation trends factor
16. External factor (International market price or intervening of world economy power)

17. Availability of power / electricity
18. Tribal war/Civil war / regional war / world war
19. Nearness of the market to
20. Number of the producers/manufacturers
21. Value of currency/exchange rate at a given time
22. Political instability
23. Availability of raw materials
24. Price control or management board
25. The population structures of a nation (configuration)

However, at whatever time the quantity of goods or services are regularly supplied (offered) by the producers or seller(s) for sale in the market, it is known as effective supply but each time there is limited in supply of commodities, other economic problems such as scarcity and inflation may occur and this would definitely affect the wellbeing of the consumers. The resolutions to ineffective supply in the market lie in the seven principles of effective and efficient supply chain management. These include:

- Improving the inventory/record visibility,
- Manage supply and demand as a flow,
- Adopt a fast, flexible pipeline planning system,
- Use real-time analytics to measure unpredictability of demand,
- Improve forecasting model / projection strategies,
- Diversify suppliers (expand the horizons) and
- Create new distribution networks and channels.

Amplifying the Problem of Demand and Supply Upstream

Eiriz and Wilson (2006) pointed that manufacturers make and supply goods using supermarkets' forecasts, which are based on the consumption rates in their stores. So the manufacturers only buy raw materials to supply the rate. This meant that when supermarkets asked the manufacturers to turn on the taps harder, they did not

have the raw materials needed to meet the unexpected demand. For example, manufacturers of hand sanitizer experienced severe shortages of raw ingredients and packaging. The shortages quickly moved upstream as manufacturers requested more raw materials. The raw material suppliers weren't expecting to produce more than the normal rate of supply and ran out. When you couple this with the distance the (mostly foreign) manufacturers are from the distribution centers, and how far they are from the stores, the problems multiplied again.

This effect was first documented by American computer engineer and systems scientist Jay Forrester in 1961 and called the Forrester effect or the Bullwhip effect. It is likened to cracking a whip. A small hand movement is increasingly amplified the further away you move from the hand. In the same way, the effect of a small fluctuation in demand at a store increases the further it moves from the store to the manufacturer and beyond. Think of it like this: a store sells 300 ml drink cans that its distribution centre supplies in cases. But the distribution centre has to order the cans from the manufacturer in pallets, so the order multiplier effect causes a Bullwhip increase in demand the further it moves up the supply pipeline (Lazzarini, 2001)

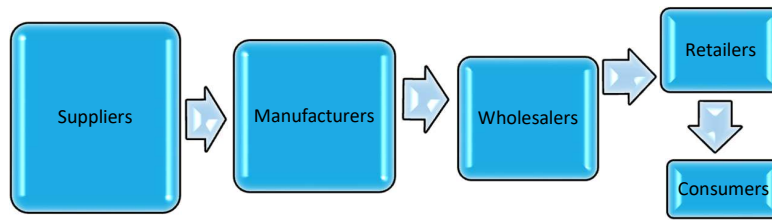


Figure 1: The Bullwhip Effect

Source: Authors' initiative (2024). Adapted from Weimann (2020)

The emergence of the global marketplace necessitates that supply chain management (SCM) must be refocused into a global or network context. The globalization process that is underway is viewed as a network of contemporaneous events, options, and constraints, which requires the development of a systemic concept of supply chain strategy development and implementation. It is anticipated that globalization will be an enduring phenomena due to the reduction of entry barriers into industries, technological advancement, increased information/knowledge transfer, and emerging markets becoming a viable alternative for rejuvenating mature products and industries (Andersen, 2006).

Principles of Supply

Anderson, Britt and Donavon (1997) in Weimann (2020) pointed to the fact that to balance customers' demands with the need for profitable growth, many companies have moved aggressively to improve supply chain management. Their efforts reflect seven principles of supply chain management that, working together, can enhance revenue, cost control, and asset utilization as well as customer satisfaction. Implemented successfully, these principles prove convincingly that you can please customers and enjoy profitable growth from doing so. Segment customers based is on seven principles. On the analysis of initiatives to improve supply chain management by more than 100 manufacturers, distributors,

and retailers shows many making great progress, while others fail dismally. The successful initiatives that have contributed to profitable growth share several themes. They are typically broad efforts, combining both strategic and tactical change. They also reflect a holistic approach, viewing the supply chain from end to end and orchestrating efforts so that the whole improvement achieved in revenue, costs, and asset utilization- is greater than the sum of its parts.

Unsuccessful efforts likewise have a consistent profile. They tend to be functionally defined and narrowly focused, and they lack sustaining infrastructure. Uncoordinated change activity erupts in every department and function and puts the company in grave danger of "dying the death of a thousand initiatives." The source of failure is seldom management's difficulty. Anderson, Britt and Donavon (1997) in Weimann (2020) classified supply chain management as seven segments: Service needs, Customize the logistics network, Listen to signals of market demand and plan, Differentiate product closer to the customer, Source strategically, Develop a supply chain-wide technology strategy and adopt channel-spanning performance measures.

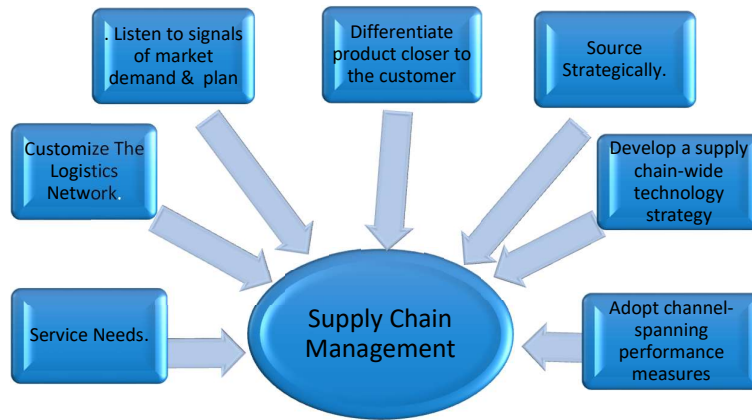


Fig. 2: Supply Chain Management

Source: Authors' initiative (2024). Adapted from Anderson et al. (1997) in Weimann (2020)

Managers increasingly find themselves assigned the role of the supplying. This is indeed one way by customers' mounting demands and the opposite way by the company's need for growth and profitability. Many have discovered that they can keep the rope from snapping and, in fact, achieve profitable growth by treating supply chain management as a strategic variable. These savvy managers recognize two important things. First, they think about the supply chain as a whole—all the links involved in managing the flow of products, services, and information from their suppliers' suppliers to their customers' customers (that is, channel customers, such as distributors and retailers). Second, they pursue tangible outcomes-focused on revenue growth, asset utilization, and cost reduction. Rejecting the traditional view of a company and its component parts as distinct functional entities, these managers realize that the real measure of success is how well activities coordinate across the supply chain to create value for customers, while increasing the profitability of every link in the chain (Dash *et al.*, 2007).

In the process, some even redefine the competitive game; consider the success of Procter & Gamble (2020). The issue is determining how to develop and execute a supply chain transformation plan that can move multiple, complex operating entities (both internal and external) in the same direction. To help managers decide how to proceed, we revisited the supply chain initiatives undertaken by the most successful manufacturers and distilled from their experience seven fundamental principles of supply chain management.

Adherence to the seven principles transforms the tug of war between customer service and profitable growth into a balancing act. By determining what customers want and how to coordinate efforts across the supply chain to meet those requirements faster, cheaper, and better, companies enhance both customer satisfaction and their own financial performance. But the balance is not easy to strike or to sustain. Thus, every company whether a supplier, manufacturer, distributor, or retailer must find the way to combine

all seven principles into a supply chain strategy that best fits its particular situation. No two companies will reach the same conclusion.

Basic Applications of Theory of Supply to Education

Supply of educational resources is the educational production function (Lazear, 2001; Filmer, 2018). It relates some inputs such as teachers, student abilities, schooling facilities, teaching resources, environment, financial factor among others) to the output of human capital formation. However, this production function has the peculiarity of considering student activity as inputs and outputs at the same time. More resources employed in schooling (higher) induce longer school attendance of the learners, and presumably higher educational attainment; at the same time, longer attendance in schools favours greater formation of new human capital. Students are brighter when teachers are better qualified, experienced and more motivated.

However, regulations addressing both the tangible variables in education system, that is components of education finished products (graduates) and the service render (e.g., logistics) offerings within global supply chains change consistently and are often driven by preferential measures of both local and global markets. As a result, global supply chain designs are influenced by local content and labor requirements, export regulations, and safety provisions, which often dictate the location of specific global supply chain activities. This might increase the difficulty in standardizing global supply chain efforts across multiple markets (Leonidou et al., 2006)

Global market need to identified and taken into consideration factors such as standard capacity, dynamism and regulatory changes. The concept of supply in the global environment is similar to its capacity, it addresses the extent to which the institutional environment can sustain growth within the global supply chain. However, managers should be more specifically to complex external social relationships with institution. Thus, there is need for managers to ensure flows supply of resources an

opportunities. Current examples include political economies that provide capital, labor, and information flows across borders. The complexity, or heterogeneity, of the environment refers to the number and diversity of competing global supply chains with which the institutional organization such as school must interact in its competitive efforts.

Forces of Supply toward Globalization

Dornier, Ninlawan and Seksan (2006) identified the following forces that collectively drive the trend toward globalization:

- Global market forces,
- Technological forces,
- Global cost forces,
- Political and economic forces.

Global Market Forces: It involves the pressures created by foreign competitors, as well as the opportunities created by foreign customers. Even if companies do not do business overseas, the presence of foreign competitors in home markets can affect their business significantly. To defend domestic markets successfully, companies may find it necessary to move into foreign markets.

Technological Forces: They are related to the products themselves. Various sub components and technologies are available in different regions and locations around the world, and many successful firms need to have the ability to use these resources quickly and effectively. To achieve this, it may be necessary for firms to locate research, design, and production facilities close to these regions. To gain collaborate, resulting in the location of joint facilities close to one of the partners. Along similar lines, global location of research and development facilities is becoming more common primarily for two reasons. First, as product cycles become shorter and time more important, companies have discovered how useful it is to locate research facilities close to manufacturing facilities.

Cost Forces: It often dictate global location decisions. In the past, the low cost of unskilled labor was a decisive factor in determining factory location. Recently, studies have found that in many cases the costs of cheaper unskilled labor were more than offset by the increase in other costs associated with operating facilities in remote locations. In some cases, of course, cheaper labor is sufficient justification for overseas manufacturing. The capital costs of building a new facility often dominate labor costs. Many governments are willing to provide tax breaks or cost-sharing arrangements to lower the cost of the new facility. In addition, supplier price breaks and cost sharing joint ventures may dictate these types of decisions.

Political and Economic Forces: It may greatly affect the drive toward globalization. There are also several other political and economic factors. For example, regional trade agreements may drive companies to expand into one of the countries in the regional group. In some cases production processes may even be redesigned to avoid tariffs; for example, almost-finished goods may be shipped into a trading block to avoid tariffs on finished goods. Similarly, various trade protection mechanisms can affect international supply chain decisions. Tariffs and quotas affect what can be imported and may lead a company to decide to manufacture within the market country or region. More subtle regulations, including local content requirements, affect supply chains.

Correlation between Supply Chain Management (SCM) and the Economy

Supply chain management can be defined as the management of upstream and downstream relationships with buyers and sellers in order to create value in the final market at less cost to the supply chain as a whole (Svensson, 2002). The academic literature underlines a more varied rationale as several studies link supply chain management to key perspectives such as relationship marketing theory (Eiriz and Wilson, 2006), network theory (Ritter, 2004), and transaction cost theory (Williamson, 2008). This issue

refers to the set of relationships where a single relationship cannot work alone without connecting with other relationships. Another important notion is the focus on the transactions of the relationship that are grouped in one supply chain. Wilson (2006) argues that information sharing is one of the important aspects of supply chains for increasing profits and reducing costs, and must be investigated in more detail. Consequently, there is a demand for building a strong buyer-seller relationship to encourage the improvement of modern chains (Duffy *et al.*, 2008).

Supply chain management framework has become an important approach within management in developed countries since the 1990s. In the mid-1980s, transactions depended on arms-length agreements, whereas agreements in chain relationships were built on cooperation and information sharing in the 1990s. Consequently, the monetary value gained from the export of fresh fruit and vegetables to the European Union by developing countries increased by 24% between 2001 and 2005 (Jaffee, 2005). This is an indicative of how the export supply chain plays a key role in managing flows of produce and information between buyers and sellers who are concerned with information sharing. More importantly, information sharing is a key strategy, helping its members to make better decisions about strategic issues for better performance (Huang *et al.*, 2003).

SOME RELEVANT THEORIES ON SUPPLY

Relationship Marketing Theory

This theory can explain the exporter-producer relationship and its information sharing, offering explanations for the several streams in relationships, the dimensions in relationships, such as the rationale for, process of and structure of relationships. Relationship marketing theory is a useful perspective offering explanations of several processes or dimensions (e.g. commitment and cooperation) that are significant in studying the interrelationships between certain phenomena of the buyer-seller relationship (Wilson, 2006), such as

information sharing in supply chain management (Toften and Olsen, 2003).

Conceptual and empirical models often focus on different components of the relationship but use similar key theoretical dimensions to explain relationships (Dash *et al.*, 2007). These dimensions include trust, commitment, communication, cooperation, collaboration, and information sharing. Tomkins (2010) explains that trust leads to increased information between firms in business. Trust and information sharing have a functional association that is more likely to be characterised over the life cycle of a positive relationship. Details are in table 1.

Table 1: Key Previous Research Related to Relationship Marketing

Theory Author	Type of Research	Key Factors (Dimensions & Concepts)	Key Findings
Wilson (1995)	Conceptual research	Trust, commitment, bonds, cooperation, quality, mutual goals, satisfaction and technology adoption.	A relationship concept definition was improved and operationalized and the study described development processes.
Toften & Olsen (2003)	Conceptual research	Export information, export performance, and business success.	Export information use and export performance are influenced by knowledge and learning factors. Information use has positive impact on firm success.
Wu et al. (2004)	Empirical research	Trust, commitment, power, investment, dependence, continuity, and chain integration	The level of investment, dependence, trust, power and continuity to supply chain partners will enhance commitment and, consequently, the

			integration of the supply management.
Lages et al. (2005)	Empirical research	Relationship quality, long-term relationship, information sharing, commitment, satisfaction, and export performance.	A better relationship quality results in a greater amount of information sharing, commitment, orientation, and satisfaction with the exporter-importer relationship in the UK.
Parker et al. (2006)	Empirical research	Information sharing, commitment application, quality, and decision-making.	Perceived equality, continuous supply, quality, control and commitment are benefits in dealing directly in relationships. Information sharing importance for decision making in fresh products.

Source: Wilson (1995) Toften & Olsen (2003) Wu et al. (2004) Lages et al. (2005) and Parker et al. (2006)

Network Theory

Network theory provides a useful framework for analysis of a business situation, and it adds a new level of complexity to understanding the relationship perspective (Croom *et al*, 2000). Network relations create information sharing that enables buyers and sellers to have access to resources and knowledge beyond their abilities, leading to long-term relationships (Mikkola, 2008). This approach is a structure formed by the main dimensions (e.g. activities, resources and actors) that connect a set of relationships. Therefore, alongside information sharing, the network perspective will also be studied as it enables the analysis of export chain relationships. A business network is a set of relationships that are connected, showing firms’ identity, process and functions that contribute to explaining a dyadic relationship (Ritter, 2004).

Anderson (2019) state that functions carried out within relationships must be viewed as part of a network. The relationships are connected to establish networks, which have direct and indirect connections with other relationships. Most of the previous studies state that relationship functions such as activities, resources and processes must be managed in a network in order to establish interactions for better benefits and long-term relationships. This is where networks are a set of relationships among constellations of actors (Ritter, 2004) and these relationships make connections with each other to provide the functions of benefits and exchange processes of their business and others' for better performance. Previous studies on Network theory are in table 2.

Table 2: Key Previous Research Related to Network Theory

Theory Author	Type of Research	Key Factors (Dimensions) and Concepts	Key findings
Ritter (2004)	Empirical research	Network competences, resource availability, human resource management, activities, communication structure and culture	Network competence is embedded within the whole company. Resource availability is a pre-condition for the development of competence. Network orientation of human resources, communication structure and corporate culture are positively associated with competence.
Möller & Halinen (2009)	Empirical research	Network, actor and buyer-seller relationship.	A network theory provides well-developed conceptual tools for analyzing the networks and network management issues.
Koops et al. (2002)	Empirical research	Resources, change processes, strategic	Resources have an effect on the product and process in food industry. Supplier and customer collaboration were

		changes and collaboration.	not found to have any moderating effects.
Wilkinson & Young (2002)	Empirical research	Network, actor, firm performance, complexity, planning and strategies.	A network perspective leads to the identification of additional causal factors explaining firm and relationship behaviour and performance.
Mikkola (2008)	Empirical research	Market relations, power, economic activities, actors, network relations, and coordination.	A coordinative structural mode of socially overlaid networks is identified for fresh product chains.

Source: Ritter (2004) Koops et al. (2002) Wilkinson & Young (2002) Mikkola (2008) Möller & Halinen (2009)

Export Performance (Buyer-Seller Relationship) Theory

According to Cousins *et al.* (2008, p.242), “*the buyer-seller relationship must be evaluated, not just the dimensions of performance, but financial dimensions as well*”. Considerable attention has been paid to the export performance (Katsikeas, 2008). However, despite the previous research efforts in understanding the importance of export performance, this paper is characterised by helping in developing a new approach to supply chain management for export. It is an attempt to link supply and demand sides based on the influence of information sharing on export performance. As a result, this research claims that export performance is a process by which it is possible to evaluate the overall business of both the buyer and the seller in their relationship. A variety of financial and non-financial criteria are important in providing the information necessary for decision makers to plan, control and direct the activities of the firm (Cousins *et al.*, 2008).

Financial criteria of performance are export sales growth, export profitability, export sales intensity and market share

(Katsikeas *et al.*, 2008) in addition to costs (Hsu *et al.*, 2008). Robertson and Chetty (2010) suggest that export intensity, growth and profitability are 3 economic factors that measure performance. The economic measures of performance for the fresh products business are efficiency (profitability and logistics costs), return on investment and return on sales. Zou and Stan (2008) argued that export sales and profits are probably the most frequently used financial factor. Non-financial criteria of performance are: satisfaction (Dash *et al.*, 2007), (Lages *et al.*, 2005), relationship quality (Lages *et al.*, 2005). Details is shown on table3

Table 3: Performance Criteria of Buyer-Seller Relationship Theory

Criteria	Representative Research
Financial Performance -Profitability -Costs -Sales growth -Market share -Return on investment	Author (s) Zou & Stan (1998); Katsikeas <i>et al.</i> (2008) Dyer (1996); Hsu <i>et al.</i> (2008); Trienekens <i>et al.</i> (2008) Matanda & Schroder (2002); Trienekens <i>et al.</i> (2008) Styles & Ambler (1994); Robertson & Chetty (2000); Hsu <i>et al.</i> (2008) Trienekens <i>et al.</i> (2008); Hsu <i>et al.</i> (2008)
Non-Financial Performance -Satisfaction -Relationship quality -Continuation -Market diversification	Author (s) Wilson (1995); Batt (2003); Leonidou <i>et al.</i> (2006); Dash <i>et al.</i> (2007). Roy <i>et al.</i> (2004); Hsu <i>et al.</i> (2008) Lages <i>et al.</i> (2005); Trienekens <i>et al.</i> (2008) Hsu <i>et al.</i> (2008) Robertson & Chetty (2000)

Source: All Author(s) as appear in the table 3

Summary

The advent of the universal marketplace necessitates supply as an essential tool in business management. In every country, the producers and exporters realise the importance of information sharing in supplying successfully. Within the production processes, supply and demand are interrelated. Without supply, there would

not be demand. Thus, the supply chains can motivate the producers and the exporters to organise themselves in marketing groups. This is in order to develop sufficient volume for the necessary quality based on production, logistics and marketing information and connections with markets to access export markets with high profits. The study argues that supply chain management for export is built on the objectives of delivering products and services to the right customer, in the right quantity and at the right time in the export chain.

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DETERMINATION OF PRICE IN EDUCATION

Chapter 8

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Introduction

Education is related to social and economic processes the more it affects a multitude of economic and social life issues, productivity, salary, experiences, poverty, and unemployment to aspects that have to deal with national and regional features (Blaga and Blaga, 2016). The term price is defined as the amount a customer pays for a product or a sum of the values that a customer exchanges for using a product (Rendon, 2004). The prices charged by educational institutions vary from one institution to another and remain a subject of many factors. Some of these include the demand for educational services, availability of service competitors, cost implications, political environment, and legal and image-related issues (Imoleayo, 2010). The price determination in education is based on demand for education and supply of education. Therefore, the theory of price is an economic theory that states that the price for a specific good or service is determined by the relationship between its supply and demand at any given point. Price increases if demand exceeds supply and fall if supply exceeds demand (Banton, 2022).

Equilibrium Price

In a free market economy, prices are determined by the forces of demand and supply. That is also known as the price mechanism or price system. Therefore, the equilibrium price is the price at which demand equals supply. It is the price at which the quantity of a

commodity that consumers are willing to buy equals the quantity of that commodity that suppliers are willing to sell.

The equilibrium price is the price where the quantity demanded by consumers equals the quantity supplied by producers. The equilibrium quantity is the quantity of a commodity or service bought/rendered and produced at the equilibrium price.

Equilibrium occurs when the quantity demanded equals the quantity supplied. That is where the demand and supply curves intersect.

A shortage results when the quantity supplied is less than the quantity demanded at a given price consumers will bid prices higher to provide suppliers a greater incentive to produce more. Shortages exist at all prices below the equilibrium prices.

The forces of demand and supply exert a powerful influence in the market for goods and services, labour, and other inputs. Integrating the concepts of demand and supply establishes a framework for understanding how they interact to determine market prices and quantities for all goods and services.

Demand is the rate at which consumers want to buy a product. Economic theory holds that demand consists of two factors: taste and ability to buy, taste, which is the desire for a commodity, determines the willingness to buy the commodity at a specific price. The role of demand in the public education system has traditionally been articulated almost entirely in terms of access to more and higher status opportunities within the existing system, rather than for alternatives to the standardised, highly regulated opportunities provided by the state. The determinants of demand for education include the characteristics of parents of the household's background, such as parents' income and educational level of parents and the information of indicators for educational expenditure due to the impact of globalisation (Sulaiman, Ismail and Othman, 2012).

Like other commodities, the quantity of schooling that households consume depends on the price, which in turn depends on the supply of schools and the strength of household demand for

schooling. Many parents are willing to send their children to school when the private cost of schooling is low; however, the number reduces as the cost increases. Governments have sought to increase the quantity of schooling their citizens consume by adopting policies that affect the supply of schools and demand for schooling. On the supply side, the government has worked steadily to reduce the cost of schooling, making educational opportunities more accessible to the citizens.

Recently, the government has made efforts to move education beyond the construction and staff schools towards the provision of a growing variety of distance and online alternatives to traditional schooling.

On the demand side, governments have sought to encourage households to send their children to school through policies that encompass both gentle persuasion and active coercion. Contrarily, governments have invested substantial resources in social marketing campaigns aimed at convincing households of the benefits of sending their children to school and keeping them there for longer periods. Contrarily, they have also adopted policies, including compulsory schooling and child labour laws that reduce the relative cost of schooling by raising the cost of alternative uses of children's time (Plank, n.d).

Demand Forecasting

Demand is the relationship between quantities of that category of human resources demanded and a series of possible wage rates. Forecasting refers to a prediction of the outcome when the course of events is influenced and altered by external forces; it usually considers the projections and the estimates.

Demand forecasting refers to a quantitative aspect of human resource planning. It is also regarded as the process of estimating the future requirement of human resources of all kinds and types of organisation.

According to Nancee (2016) demand forecasting also known as Manpower Forecasting is the process of estimating the future

number of people required and the likely skills and competencies they will need. Forecasting human resource demand is the process of estimating the future human resource requirement of the right quality and number. Human resource requirement is to be estimated by keeping in view the organisation's plans over a given period.

Demand Forecasting is the systematic process of evaluating future demand for a specific product (Education). Demand Forecasting enables us to examine the sales scientifically over upcoming weeks, months, and years so that we know how many stocks to order and hold at any given period. With the help of demand forecasting, businesses can enhance inventory by predicting future sales by analysing previous sales data that make proper business decisions about everything from inventory planning and warehousing needs to running flash sales and meeting customers' demands.

Factors responsible for Demand Forecasting

The following are the factors responsible for demand forecasting:

1. Employment trends in the organisation for the minimum period of five years to determine the future needs.
2. The organisation has to look for replacement needs due to retirement, death, termination, and resignation.
3. Productivity improvement is another factor that affects demand forecast. To increase an organisation's productivity, there is a need for better employees with relevant skills and potential. Thus, productivity results in growth but depends on the demands for the enterprises' products. Therefore, increased demand may lead to an increase in the employment of skilled personnel.
4. Expansion of the organisation leads to hiring more skilled people. Manufacturing companies' plan depends upon the budget. Therefore, expansion in production leads to more employment of skills and technology.

Type of Demand Forecasting

Demand forecasting has various types. Namely;

1. It is the simplest forecasting model in which we use sales data from the past to predict the future. It is necessary to apply data from some of the same seasons to predict sales. That is appropriate for those whose businesses have seasonal fluctuations.
2. Active Demand Forecasting: This involves an excellent choice for a new business that is progressing. An active forecasting model studies market research, campaigns, and development plans.
3. Short-Term Projections: This is good for managing the firm's just-in-time supply chain. Looking to short-term demand allows businesses to balance projections based on real-time sales data.
4. Long-Term Projections: Long-term projection is a type of demand forecasting for more than one year; this helps to identify and plan for seasonal and annual sequences, production capacity, and expansion over a long time.
5. Internal Business Forecasting: internal business forecasting assists businesses in understanding planning; and is convenient for expected customer demand. It provides a more extensive review of business operations, and internal business forecasting helps to determine improvement areas to optimise resources.
6. External Macro-Level Demand Forecasting: This deals with the broader markets that depend on macroeconomic empowerment. It is to assess the strategic targets of a business life entering new customers segments, product portfolio development, a significant change to customer behaviour, and risk-reducing strategies.

Demand Forecasting Methods

There are three major methods of demand forecasting. They are as follows.

1. Executive Judgment:

It is one of the most appropriate methods for smaller establishments because they do not afford to have work study techniques. Within this technique, the executive sits together and determines the future human resources requirements of the enterprise and submits the proposal to the top management for approval. Therefore, this method is known as the 'bottom-up' approach.

There are times when members of top management sit together and determine the needs of the device of the personnel department.

Such forecasts go to the departmental heads for review and, after their consent, approve the need. This method of demand forecast is known as the "top-down" approach. The most suitable is the combination of the two approaches. Therefore, the executives at both levels equipped with guidelines sit together and determine the human resources need of the organisation.

2. Work Load Forecasting: This is known as workload analysis; it is under this method that the stock of workload and the community operations are determined. The workload becomes the base for workforce analysis for the forthcoming years. Here due consideration is given to absenteeism and labour turnover. This method is also known as the work study technique. Here the working capacity of each employee is calculated in terms of man-hours. Man-hours required for each unit are calculated, and the number of required employees is calculated.

3. Statistical Techniques: Long-range forecasting for human resources is more responsive to statistical and mathematical techniques. With the help of computers, any data is rapidly analysed. Other methods of demand forecasting are as follows.

- I. **The Delphi Technique:** The technique involves a group of experts appointed to produce a demand forecast. Each expert is to forecast their elected specific segment. After the initial forecasting round, each expert reads their estimation, and every expert influences another expert. The experts again produce a consequent forecast. The process continues until all experts achieve a near-consensus scenario.
- II. **Sales Force Opinion:** The sales manager asks for inputs of predicted demand from every salesperson in their team. Each salesperson accesses their respective region and product categories and services their customers. Eventually, the sales manager aggregates all the demands and sets up the final version of the demand forecast after the management's opinion.
- III. **Market Research:** In this method, marketers use customer-specific surveys to forecast possible demand. Such surveys seek personal, analytical, preference, and economic information. Since this type of research is on a random pattern basis, care needs to be involved in the survey regions, locations, and polls of the end customers. This technique could be good for products with little to no demand history.
- IV. **Trend Projection Method:** This can be useful for businesses with a large sales data history, usually over 18 to 24 months. This historical data set up a time series that illustrates the previous sales and projected demand for a specific product category under normal conditions by a graphical plotting method.
- V. **Barometric Technique:** This barometric technique of demand forecasting is by recording events in the present to forecast the future. This is carried out by classifying the statistical and economic indicators.

Supply Forecasting Models

On the supply side, models of the inflow of school-leavers and the unemployed, and those out of the labour force are used to project the number of individuals from each source with different types of education or vocational training that are expected to come onto the labour market in the target year. Adding up all the expected inflows from each source provides an estimate of the total number of individuals by type of education who is expected to be seeking employment in the target year.

Supply forecasting in hospitality is often treated like manpower and labour force as synonyms. However, one can find a subtle difference, in that, the labour force includes all the persons in the population who are economically active, and manpower is only the skilled component of the labour force. Manpower supply is, therefore, the totality of manpower employed and manpower unemployed but seeking jobs.

According to Nancee (2016), Human Resource supply forecasting is the process of estimating the availability of human resources followed by the demand for testing of human resources. To forecast human resources supply, organisations need to consider internal and external supply. Internal supply of human resources is available by way of transfers, promotions, retired employees, and recall of laid-off employees, and the source of external supply of human resources is the labour force in the market, and new recruitment from an external source of human resources depends on some factors mentioned below:

Supply and demand of jobs; Literacy rate of the nation; Rate of the population; Industry and expected growth rate and levels; Technological development; and Compensation system based on education, experience, skill, and age.

Thus, supply forecasting refers to estimating supply of human resources by analysing current human resources inventory and future availability.

The first step in supply forecasting is to take a stock of existing Human Resource (HR) as follows.

1. **Head Count:** This involves counting the total number of individuals available department-wise; sex-wise; designation-wise; skill-wise; and pay roll-wise.
2. **Job Family Inventory:** This consists of the number and category of employees of each job family, that is, the jobs related to the same office staff, sales and marketing staff, production staff, maintenance, and industrial engineers, as well as quality control engineers.
3. **Age Inventory:** This consists of an age-wise number and category of employees. That gives us the age composition of human resources, dynamism, creative abilities, and innovativeness present in young employees while making proper judgments, and the display of maturity by elderly employees.
4. **Inventory of Skill, Experience, Values, and Capabilities:** The organisation should take stock of the inventory of skills, employees with years of experience (10 years, 15 years, and more than 20 years), values, and capabilities.
5. **Inventory of Qualifications and Training:** This comprises of educational qualifications of the employees, this includes academic, technical, and special qualifications - if any, and training received by the employees.

Techniques of Supply Forecasting

According to Nancee (2016) revealed some techniques of supply forecasting are as follows.

1. **Markov Analysis:** This means every employee elevates himself in the organisation through a well-defined career path. All employees begin at the bottom rung and climb up the ladder one at a time in an organisation. The model assumes that an employee in a particular group has a fixed chance of promotion in a given year, independent of vacancy. At the organisational level, Markov analysis can describe and forecast the process of human resource flows or movements within, into, and out of the organisation. The focus of this model is

to attempt to project into future what the current workspace would like if the current mobility flow continues with no change.

2. Replacement Charts: These are forecasting techniques used in succession planning to help companies visualise key job roles, current employees, and existing future vacancies. Positions are mapped alongside information such as potential replacements, gender, and promotion potential replacements, gender and promotion potential.

3. Staffing Tables: This shows the number of employees in each job it tries to classify employees based on age, gender, position, category, experience, qualifications, and skills. A study of the table indicates whether current employees are utilised or not. The staffing table is the graphical arrangement of the jobs in the organisation along with the number of employees currently working in this position, and it shows the details of future vacancies on each job.

4. Wastage Analysis: This is the labour wastage to consider while forecasting and finding out why people are leaving the organisation. Action can be taken to arrest labour wastage and replacement of uncontrollable losses.

5. Succession Planning: It is another aspect of effective workforce planning is succession planning. Succession planning in an organisation identifies and prepares suitable employees to fill positions when current employees leave. An effective workforce planning process includes a review of key leadership positions, business-critical roles, and incumbents that can progress into these roles.

The External Labour Market

External labour markets imply that workers move somewhat fluidly between firms, and wages are determined by some aggregate process where firms do not have significant discretion over wage

setting (Lazear and Oyer, 2003). According to Snell (2000) external labour market can be categorised into one of these three labour arrangements: Contingent employment, part-time employment, contract labour, and other external labour market employees.

Contingent Employment: Contingent employees have a tenuous relationship with their organisation; they lack a long-term attachment to the organisation. They are a factor of product demand shifts or increased foreign competition and are for short-term demand increase to fill in for ill employees or employees on leave and to provide skills that core employees do not have. They are also for performing routine and low-content tasks. The essence of contingencies is to meet the increasing demand for a product and guide against seasonal and cyclical demand fluctuations.

Part-Time Employees: Part-time employees, according to the Bureau of Labour Statistics, are people who work less than 35 hours per week repeatedly. Part-time employment has been on the increase since 1969 more because employers regard the arrangement as a means of reducing costs than because many want part-time employment (Tilly, 1991 in Snell, 2000).

Contract Labour: This includes jobs with temporary help agencies, independent contractors, employees of contract companies, and on-call employees. Temporary help service employment has increased two-and-a-half-fold since the early 1980s. Employers demand the services of temporary workers to increase flexibility and reduce labour costs.

Supply side effects, including the reasons employees enter into contract labour jobs, may also affect the determinants of external labour markets. However, the reasons employees enter into contract labour arrangements is to obtain flexibility, are unable to find other work, or to learn different jobs. Nevertheless, some labourers secure lucrative employment through contract appointments. Contract labour arrangement may offer paths into

the labour market individuals would otherwise not have but could provide them flexibility that assists them balance their work with other responsibilities.

Other External Labour Market Employees

Apart from contingent, part-time, or contract jobs, other external labour market includes employees that lack opportunities for promotion and fringe benefits. Even though such employees may be permanent or full-time and are directly employed, the employees may not be in an internal labour market that offers job stability, advances potential and good benefits.

Matching Demand and Supply

Economists use the eligible relevant age population or the number of qualified potential entrants willing, able and ready to participate in a particular educational programme at a given cost and at a specified time to measure the demand for education. The demand for education is based on investment approach and consumption approach.

The investment approach of demand views enrolment in educational institutions as an investment decision. Thus, an individual will purchase education if the present value of the expected stream of benefits from education exceeds its present cost. The expected stream of benefits includes the additional lifetime money income resulting from such education and the additional social and intellectual amenities that an individual might expect to receive from acquiring it.

The consumption approach to the theory of educational demand asserts that an individual will buy education if the cost of enrolment is relatively lower than the current consumer goods prices. In other words, for a given population, enrolment demand should vary positively with the consumer price index and negatively with the money and real costs of education.

Supply of education refers to the quantity of education in terms of the number of places; the educational institutions are

willing, ready, and able to offer at a given price over a period. Applicants and the labour market demand educational services. Applicants demand admission, while employers of labour demand graduates produced by higher education institutions. In most cases, the supply of education is the number of places available for eligible applicants.

Interaction of Demand and Supply in Education

The equilibrium point is a price where the number demanded equals the number supplied by institutions. It can be illustrated with combined curves of demand for education and supply of education.

Excess Supply of Students Places and Excess Demand for Students Places

An excess supply of students' places is a situation where the number of students enrolled is less than the number of places provided. Excess supply occurs when the price of education exceeds what private individuals can afford; the result is the surplus situation in educational supply. Thus, an increase in supply will cause the equilibrium price to fall and the quantity demanded to increase student places. Contrarily, excess demand for student places represents a situation where the number of people seeking admission into the educational system is greater than the number that can be accommodated. Excess demand occurs as a result of the low contribution of students to education in terms of fees and other forms of private cost of education. Thus, an increase in both the equilibrium price and quantity of education supplied and vice-versa.

Summary

This article focused on the determination of the price of education; therefore, price determination in education is based on the demand for and the supply of education. Thus, the theory of price is an economic theory that states that the prices of goods or services are determined by the relationship between supply and demand at any given point. Like other commodities, the quantity of schooling that

households consume depends on the price, which in turn depends on the supply of schools and the strength of household demand for school. Demand forecasting refers to a quantitative aspect of human resource planning. It is also the process of estimating the future requirement of human resources of all kinds and types of organisation. Supply forecasting in hospitality often treats manpower and labour force as synonyms. However, one can find a subtle difference because the labour force includes the total population of economically active people, and manpower is only the skilled component of the labour force. External labour markets imply that workers move somewhat fluidly between firms, and wages are determined by some aggregate process where firms do not have significant discretion over wage setting. Apart from contingent, part-time, or contract jobs, another external labour market is the employees that lack opportunities for promotion, fringe benefits, and other benefits as compensation. The matching of demand and supply is based on the interaction of demand and supply of education. Therefore, the equilibrium point is at a price where the number of prices demanded equals the number supplied by institutions of learning. This can be illustrated by combined curves of demand for and supply of education.

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POPULATION AND DEMAND FOR EDUCATION

Chapter 9

Akinmoladun, O. O.

Introduction

The attainment of education set goals require adequate projection on future enrolment which will inform robust planning on resources and how to raise funds to finance them. Despite the increase in the demand for education as a result of the fast-changing world, investment in education is still very low, as evident in the too much pressure put on the existing education infrastructure. There is the need for proper planning and projection on the demand for education and funding of educational needs.

Generally speaking, population is the number of people living in a particular area at a particular time. Osikhotsali (2022) defined population as the complete set of a group of individuals, whether that group comprises a nation or a group of people with a common characteristic.

Education is the process of training an individual to fully utilise his or her potentials for personal benefits and general well-being of the society. The training may take any form and can be acquired at different stages in life. In this regard, education is described as a life-long process. Onuka (2009) viewed education as the universal means by which knowledge, skills and relevant attitudes are imparted by those who possess them and acquired by those who need thorough interactions between the two parties at some particular place or by some other means. Adeniyi (2019) defined it as the process of imparting or acquiring knowledge or habits through instruction or study.

Demand is the amount of goods and services that an individual is willing and ready to buy at a given price and at a particular time. The willingness and readiness to pay are very

important when we are talking about demand. Demand for education is the total number of individuals who are willing and ready to pay for their education fees at a given time. Education is not a cost-free activity, even when a member of household is attending a government-owned school where no tuition is charged. Apart from the direct cost of education, which Akinmoladun (2015) listed to include: expenses on school fees, uniform, transportation, extra lesson, feeding, textbooks, writing materials, ceremonies and notebooks, there are other indirect costs or opportunity cost of education, which includes forgone earning, time and leisure,

It must be noted that education is carried out at different levels with each level interconnected. Output of one level of education may be the input in the next level of education. For example, output at the primary level of education (Primary 6 graduates) serve as input at the first level of secondary education (JSS 1). Usually, the demand for education is analysed in a long-term framework, which makes it more difficult putting such factors as changes in taste, quality or social structure constant.

Looking at demand for education is not just one where one formulates a demand-schedule, where a functional relationship is established between amount of education demanded and price, income, rate of return and social benefit. Demand for education is more complex to analyse as it deals with analysing the relationship between a complex set of institution (education system) and a dynamic society.

It must be noted that educational system and society in general are not static, but emerging (continuously changing and developing) over time; thus analysis of demand over time will have to bear this change and development in mind. It is likely that there is more than a one-way relationship involved; the amount or type of education demanded does not simply depend on forces acting from society or various individuals within the society. Looking at the complexity of the interaction, education may influence society and thus, influence society's demand for education. For example, the quality of education in a society will influence the development

of the society, while at the same time the level of development in a society can determine the quality of education to be provided in the society. It may even affect the content of the curriculum. The relationship is more of interaction rather than a fixed relationship between independent and dependent variables.

The fast-changing world and ways of doing businesses had indirectly made it mandatory for every human being, especially adults, to be better equipped to adapt to the changes in their daily life, work and environment. Rise in the standard of living, coupled with increase in population and schooling rates have increased the demand for education at all levels. Rani and Jegan (2022) attributed globalisation and demographic changes for the growing demand for higher education in India. According to them, an individual will pursue a college education if the present value of the expected stream of benefits gained from the education exceeds the present costs of the education.

Total Population Figure

Student total population is the total number of students in the school system. The population can be grouped based on level, geographical location and gender. School age population is the amount of people within the school age bracket living in a particular area at a given period. Movements of school age population within schools in a country have no effect on the total enrolment, but will only dislodge the geographical structure of the school population. The existing population of a place or country at a given period will determine to a great extent the number of people who will demand for education since learners come from the society. The present school age population and enrolment can be used to project future enrolment, hence the need to co-study population and demand for education.

A report submitted by an expert group meeting held to discuss 'Population Education and Sustainable Development', as part of preparations for the 56th session of the United Nations Commission on Population and Development, indicated that in

2022, trends in education showed an increased demand for life-long learning and regarding any type of education among school age populations. It was reported that the school age population reached 1.7 billion in the year and also projected that the increased demand will be predominant in sub-Saharan Africa as the school age populations were projected to increase by greater than 99% between 2050 and 2100.

Error Detection and Correction

The accuracy of a survey estimate refers to the closeness of the estimate to the true population value. Where there is a difference between the value of the survey estimate and true population value, the difference between the two is referred to as the error of the survey estimate.

Renato and Antonio (2001) noted that errors (which denote inconsistencies between answers or out of range answers), can be due to the original compilation of the questionnaire, or introduced during any later phase of information processing, such as data input or conversion.

Inconsistent questionnaires could contain information that modifies the aspects of interest and thus, without their detection, statistical investigation would produce erroneous results. Error detection is generally approached by formulating a set of rules that the records must respect in order to be consistent, or correct. Inconsistent records are declared erroneous.

There is sampling error, which arose when only a part of the population is used to represent the whole population. The error reflects the difference between an estimate derived from a sample survey and the true value that would be obtained if the whole population was surveyed. The error is affected by factors such as sample size, sample design, sampling fraction and the variability within the population. Larger sample sizes decrease the sampling error. This can be measured mathematically.

The other type of error is non-sampling error, which can occur at any stage of a sample survey and can also occur with

censuses. It is very difficult measuring this type of error. Error detection helps to gain insight into the quality of the data sources, observation and processing.

The standard error is a measure of the spread of estimates around the true value. In practice, only one estimate is available, so the standard error cannot be calculated directly. However, if the population variance is known, the standard error can be derived mathematically. Even if the population variance is unknown, the standard error can be estimated by using the variance of the sample units.

According to the Australian Bureau of Statistics, any estimate derived from a probability based sample survey has a standard error associated with it. It listed the following about the standard error:

- i. The standard error is an indication of how close the sample survey estimate is to the result that would have been obtained from a census under the same operating conditions (an equal complete coverage).
- ii. The standard error only gives a measure of the variation in values obtained from repeated samples. It does not measure the precision of the particular sample from which it is estimated.
- iii. A small standard error indicates that the variation in values from repeated samples is small and therefore the chance of a 'bad' sample is small, hence there is more likelihood that the sample estimate will be closer to the result of an equal complete coverage.
- iv. Standard errors can be used to work out upper and lower limits ('confidence interval'), which will include the result from an equal complete coverage with a certain probability.
- v. Estimates of the standard error can be obtained from anyone of the possible random samples.
- vi. Variance, relative standard error, are other ways of measuring sampling error.
- vii. The standard error calculated from a sample is itself an estimate (and is also subject to sampling error)

- viii. When publishing the results of any survey, statements about the standard error of the estimates should be made.
- ix. When comparing survey estimates, the standard errors must be taken into account.
- x. The term 'sampling variance' refers to the square of the standard error.

Non-sampling error include: failure to identify target population or inadequate survey population, non-response bias, questionnaire problems, respondent bias, processing errors, misinterpretation of results, time period bias. Non-sampling error can be minimised through careful selection of the time the survey is conducted, accurate sampling name, planning for follow up of non-respondents, careful questionnaire design and thorough training for interviewers.

Population Structure

Population structure is the composition of a given population, which is broken down into categories such as age and gender, sectors of economic activities and geographical distribution.

Population structure can be used to categorise populations into many subsections and demonstrate population demographics on a local, regional or national scale. For example, we can look at the student population structure in terms of age, gender and geographical location. Understanding population structure will help to show the trend and patterns of the past, present and future.

What makes a population structure strong is the composition of the population. The composition determines the ability of the structure to withstand the forces that tend to break the structure or change its composition. Some characteristics of population can be identified. Namely: birth rate, death rate, sex ratio, size, density, dispersion, locality, ethnicity and age distribution. These characteristics can be measured, evaluated and tracked to compare, project, measure growth and decline in the population

Population density measures total number of people in a given space at a given time. It takes note of the concentration of the population in a particular place and at a given time. Birth rate is the number of birth per thousand of the population in a year while mortality or death rate is a measure of the number of deaths per thousand of the population in a year.

Children below 15 are unproductive economically. They are at the primary and secondary levels of education. They need to be provided food, shelter, education, and other basic needs. Working Population is between the ages of 15 - 59 years. These individuals can work and reproduce to maintain the population numbers. They are mostly at the tertiary level of education. When the percentage of the population in this category is high, it will have implication on the birth rate and enrolment at the tertiary level of education. People who are over 59 years are regarded as aged population. They may still be working, while some may still enrol in the school system probably to meet up for the deficiency in their early-age education. Their demand for education may not be viewed as an investment but consumption.

Population Dispersion

Population dispersion can be defined as the spatial distribution of individual on the basis of favourable conditions available for their survival. It has to do with the scattering of the population in an area. Population density measures the individuals present per unit area of a given habitat. It is an indicator of the ability of the environment to provide the necessary resources. Density and dispersion are two descriptors of populations that can provide understanding into processes such as competition and territoriality. These characteristics are concerned with how a population partially relate to others in the population.

Population Projections

Population projections are attempts to show how the human population statistics might change in the future. It gives a picture of

what the future size and structure of the population by sex and age might look like. These projections are important for long-term thinking. It is based on knowledge of the past trends, and, for the future, on assumptions made on fertility, mortality and migration. Without a reliable estimate of the expected school population, educational planners would not be able to formulate plans and policies that would be reliable to face future education challenges. The projection would aid the estimation of the total educational cost, resources needed and the need to plan for the possible means of getting funds.

It is not difficult to forecast school enrolment for a country with effective system of compulsory primary education. In such a country, the projected school enrolment will be approximately equivalent to the school age population. Meanwhile, to calculate for other levels, there is the need to have information on the school age population.

The UN Population Division projects the world population, which is 8 billion as of 2022, to level out around 2100 at 10.9 billion (the median line), assuming a continuing decrease in the global average fertility rate from 2.5 births per woman during the 2015–2020 period to 1.9 in 2095–2100.

The global population is expected to reach 9.7 billion in 2050 and 10.4 billion in 2100, according to the medium scenario, which assumes a decline of fertility for countries where large families are still prevalent, a slight increase of fertility in several countries where women have fewer than two births on average over a lifetime, and continued reductions in mortality at all ages. There is inherent uncertainty in population projections.

At the global level, according to the UN, the uncertainty depends on the range of plausible future trends in fertility, mortality, and international migration, which have been assessed for each country or area using demographic and statistical methods. This analysis concludes that, with a probability of 95 per cent, the size of

the global population will stand between 9.4 and 10.0 billion in 2050, and between 8.9 and 12.4 billion in 2100.

Two types of population estimates will be considered here: population between census periods and the current population. We would need to estimate the mid-year population census period as well as the current population if reliable information is available on the number of births, deaths, immigrants and emigrants.

$$P_{t+n} = P_t + B_{t,t+n} - D_{t,t+n} + M_{t,t+n}$$

P_{t+n} = changes that occur in the population from one time period to the other

P_t = population at the last census

$B_{t,t+n}$ = live births that occurred during the time interval $t, t+n$

$D_{t,t+n}$ = death that occur during the time interval

$M_{t,t+n}$ = net migration during the time interval

Where net migration ($M_{t,t+n} = I_{t,t+n} - E_{t,t+n}$)

$I_{t,t+n}$ = immigration during the interval

$E_{t,t+n}$ = emigration during the interval

The equation will give reliable figure of estimated population if necessary data are available on birth rate, death rate and migration. The poorer the data quality and the longer the projection period, the less reliable are the results.

Example:

Find the changes in population of country A between 2010 to 2015 if the population at the last census (2010) was 10,000,000, live birth within the period was 50,000, deaths was 10,000 while the number of immigrants stood at 3,000 and emigrants 1,000.

Solution:

Using the equation $P_{t+n} = P_t + B_{t,t+n} - D_{t,t+n} + M_{t,t+n}$ to calculate the total population in 2015.

$$P_{2015} = ?$$

$$P_t = 10,000,000$$

$$\begin{aligned}
 B_{t,t+n} &= 50,000 \\
 D_{t,t+n} &= 10,000 \\
 M_{t,t+n} &= (3,000 - 1,000) = 2,000 \\
 P_{2015} &= 10,000,000 + 50,000 - 10,000 + 2,000 \\
 &= 10,042,000.
 \end{aligned}$$

Estimating the population of a given year within two census periods

Using the formula $P_e = P_1 + \frac{n}{N} (P_2 - P_1)$

where

- P_e = population estimate for a given year
- n = number of months from P_1 census to the date of estimate
- N = number of months between census periods
- P_2 = last census taking
- P_1 = second to last census taking

Estimating crude birth rate

$$\text{Crude birth rate} = \frac{\text{number of births}}{\text{Midyear population}} \times 1000$$

Example:

Birth in country B in 2019 was 55,000 while the census figure in 2010 was 100,000,000 and 120,000,000 in 2020.

- a) Estimate the population of country B in 2019.
- b) Find the crude birth rate in 2019.

Assuming the census was conducted in July while the date of estimate was September

Solution:

- a) Birth in country B in 2019 = 55,000
- 2010 census = 100,000,000
- 2020 census = 120,000,000

Population estimate for 2019 using the formula $P_e = P_1 + \frac{n}{N} (P_2 - P_1)$

$$P_{2019} = 100,000,000 + 111/120 (120,000,000 - 100,000,000)$$

$$\begin{aligned} &= 100,000,000 + 0.925 (20,000,000) \\ &= 100,000,000 + 18,500,000 \\ &= 118,500,000 \end{aligned}$$

b)

$$\begin{aligned} \text{Crude birth rate} &= \frac{\text{number of births}}{\text{Midyear population}} \times 1000 \\ &= 55,000/118,500,000 \times 1000 \\ &= 0.0004641350 \times 1000 \\ &= 0.464135 \end{aligned}$$

Estimating School Age Population

Estimating school age population means to calculate what the size of school age population would be in the near future. Two techniques can be employed: Inter-census estimation and post-census estimation. Inter-census estimation is carried out for a date between two census periods while post-census estimate is conducted for the current year. Estimates involve the use of data that are obtained from the census results, which must capture such population characteristics such as birth rate, death rate, migration. Population estimation can be used to make projection about the population. The accuracy of estimation and projection tools are based on the rules and assumptions held while carrying out the exercise. Making judgment about the future through projection requires knowledge about past and present social, economic and demographic trends.

Projecting New Admission

New admission projection is the calculation of the size of new admission for a future date. The past, present and future conditions of admission can be used to make projection about the future admission. According to Oyebade (2009), as long as the population continues to increase, the demand for education will also continue to increase, thus giving strength to the need to do proper projection of educational demand, bearing in mind the future requirement for educational personnel, facilities and student enrolment.

Oyebade (2009) listed the importance of enrolment projections to include:

- i) They make possible a numerical assessment of future intakes grade-wise enrolments and number of school leavers
- ii) They can be used to cross check the feasibility of attaining set goals by target dates.
- iii) They provide the basis for the quantification of teachers, school facilities and financial requirement.
- iv) It is an instrument needed by an educational planner to be productive as an enrolment projection form the backbone of practically all educational planning exercises.

Three approaches will be considered to estimate future school populations:

Grade Ratio Method

There are many possible methods of determining new entrants. Any one chosen will depend upon the data available, especially age distribution of the new entrants and the proportion of the admission age-group entering school.

In a country where new entrants start school at the same time and where there is minimum age to start school, the population of new entrants to educational system in a given year will depend upon the number of children of admission age and the proportion of the age group that entered school (intake rate).

Not all school age population would enrol in the school system at the normal age or official age except in a country with effective compulsory education system. At the basic level of education, entrant rate can be calculated as the new entrant in a particular year, divided by the school age population for the year.

i.e $\text{Entrant rate} = e_t^1/P_t^1$

where

e_t^1 = new entrants in primary 1 in year t

P_t^1 = Primary 1 school age population in year t

Economics of Education

This is a crude method of calculating the entrant rate, as some pupils will enter the school system as an under-aged and over-aged pupils. To calculate the new entrants $(Ne^t_1) = P^t_1 \times e^t_1/P^t_1$

For example, if all children enter school at the age of 6 years, the population of new entrants in year t will be expressed as:

$$Ne^t_6 = e^t_6 P^t_6$$

where

Ne^t_6 = total number of new entrants aged 6 year in year t

e^t_6 = proportion of 6 year-old entering grade of primary education in year t

P^t_6 = population aged 6 years old in year t.

The procedure is to compute grade progression ratios for each grade of elementary and high school, from data on school enrolment for successive years in the area for which the projection is to be made. Enrolment for each year is estimated from the current date to the last projection date. Estimate of school enrolment will be made based on available data.

Another method we can use where data on the age of new entrants is not available is to base it on apparent intake rate which can be calculated.

Apparent intake ratio = $\frac{\text{Number of new entrants of whatever age}}{\text{Number of legal admission age in year t}}$

In symbol $e^t_6 = Ne^t_6 / P^t_6$ (if the official age to enter primary school is 6 years old).

The apparent intake rate may exceed 1, if the numbers of new entrants exceed the population aged 6 years. This may occur if substantial number of 6 years old population enrolled with additional children who were 5 years or 7 years plus enrolled.

In this circumstance, planners need to determine the number of 6 years old that actually enrolled and to also determine the

number of over-aged and under-aged that were forming the new entrants. Where new entrants come from different age group data on new intake by single year of age must be made available.

This can now be represented by the formula:

$$Ne^t = e^t_5 P^t_5 + e^t_6 P^t_6 + \dots e^t_{5+n} P^t_{5+n}$$

where

Ne^t = total number of new entrants in year t

P^t_5 = population aged 5 years in year t

P^t_6 = population aged 6 years in year t

P^t_{5+n} = highest age from which entrant were drawn in year t

The grade ratio method is very simple and quicker to calculate and can be used where there is automatic promotion (promotion rate = 100%). The method is not adequate for analysing the implications of changes in educational planning because some major parameters such as promotion, repetition and dropout rates are not taken into account.

The Grade Progression Ratio Model

The model requires data on enrolment by grade for at least two successive years. Where data on promotion and repetition are not available, the class register can provide data on enrolment by grade. Thus, apparent promotion can be determined. The grade ratio projects the enrolment in a grade level as the new intake to the grade level in a given year, plus the pupils repeating the grade level from the previous year.

i.e $E_t = Ne_t + r_{t-1} \times E_{t-1}$

where

E_t = enrolment in grade level 1 in year t

Ne_t = new intake into grade level 1 in year t

r_{t-1} = repetition rate in grade level 1 in year t-1

E_{t-1} = enrolment in grade level 1 in year t-1

Subsequent grades enrolment can be projected as a constant factor multiplied by the enrolment in previous year. The constant factor,

also known as grade ratio or apparent promotion rate of the progression rate can be obtained by dividing the enrolment in a grade in one year by the enrolment in the grade below it in the year before.

For example, Grade ratio in P1 to P2 =
$$\frac{\text{Enrolment in Primary 2 in year } t}{\text{Enrolment in Primary 1 in year } t-1}$$

Example:

Enrolments in primary school in Town C in 2020 and 2021 are presented in the table below. Use the table to find the grade ratio from primary 1 to primary 2?

Year	P1	P2	P3	P4	P5	P6	Total
2020	200	190	210	178	240	185	1203
2021	180	160	180	220	186	250	1176

The grade ratio from P1 to P2 =
$$\frac{\text{Enrolment in primary 2 in 2021}}{\text{Enrolment in primary 1 in 2020}} = \frac{160}{200} = 0.8$$

Grade ratios from P2 to P3, P3 to P4, P4 to P5 and P5 to P6 can be calculated using the grade ratio formula.

Planners can calculate the grade ratios for several consecutive years and adopt the average for making short-term projection. However, the grade ratio is inadequate for analysing the implications of change in educational planning because some key parameters like promotion, repetition and dropout ratios are not taken into account.

Student Flow Model (Cohort Analysis)

The model assumes that:

- i. Rate of repetition, promotion and dropout remains constant over the entire period.

- ii. A pupil may repeat 6 times at most during elementary education.
- iii. There are no new entrants to the system after the first years

Identical rate of promotion, repetition and dropout are assumed to apply to those who reached the grade directly and those who have been delayed by repetition.

The model requires data on:

- i. Population of the admission age.
- ii. Rate of admission in the first grade.
- iii. Enrolment by grade for at least two successive years
- iv. Rate of promotion from grade to grade
- v. Rate of repetition in each grade

Dropouts do not feature in the model as it has no significant effect. The student flow model assumes variability in the transmission rates between grades. Formula: $E_b^t = P \times E_b^{t-1} + r \times E^{t-1}_{b-1}$

Where

- E_b^t =enrolment in grade b in year t
- P =promotion rate from grade b-1 in year t-1
- E^{t-1}_{b-1} =enrolment in grade b-1 in year t-1
- r =repetition rate in grade b in year t-1

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For example, the table below gives the projected enrolment in primary school in Town D using the student flow model.

YEAR	P ₀	entrant	P1	P2	P3	P4	P5	P6					
2019	2000	1600	1800	1600	1533	1450	1300	45					
			0.2	0.7	0.09	0.83	0.07	0.9	0.04	0.04	0.05		
2020	1800	1400											
			0.05	0.9	0.12	0.85	0.07	.85	0.1	0.83	.08	0.9	0.03
2021	2500	2000											
			0.08	0.88	0.06	0.89	0.03	0.9	0.12	0.05	0.07		
2022	2100	1900											

From the table above,

- (a) Calculate the entrant rate in primary 1 in 2019.
- (b) Project enrolment in primary 4 in 2021.

Solution:

$$\begin{aligned}
 \text{(a) Entrant rate in 2019} &= \frac{\text{New entrants in 2019}}{\text{Population of 6 years old in 2019}} \\
 &= \frac{1600}{2000} \\
 &= 0.8
 \end{aligned}$$

$$\begin{aligned}
 \text{(b) Enrolment in primary 4 in 2021} &= P_{r3}^{2020} \times E_3^{2020} + r_4^{2020} \times E_4^{2020} \\
 &= 0.85 \times 1435.31 + 0.4 \times 1437.7 \\
 &= 1220.0135 + 143.77 \\
 &= 1363.7835 \\
 &= 1364
 \end{aligned}$$

Enrolment for other grades can be projected using the above methods.

Growth Rate Model

The growth rate model, according to Ayodele (2009), is widely used by demographers and social statisticians while making projection on specific item of a specific population of a given area or nation. The model is geometric in nature and has a constant term (1 + r). It is called compounding when used normally and discounting when used in the reverse order.

Mathematical formula for the model is given as:

- $P_n = P_o \times (1+r)^n$ where:
- P_n = target year population
- P_o = initial year population
- r = rate of changes in population
- n = number of years between initial period and target year

Suppose we want to find P_o

$$P_n = P_o (1+r)^n$$

$$P_o = \frac{P_n}{(1+r)^n}$$

To find r

$$(1+r)^n = \frac{P_n}{P_o} \quad \text{take log of both sides}$$

$$n \log(1+r) = \frac{\log P_n}{\log P_o}$$

$$\log(1+r) = \left(\frac{\frac{\log P_n}{\log P_o}}{n} \right)$$

$$r = \text{Antilog} \left(\frac{\frac{\log P_n}{\log P_o}}{n} \right) - 1$$

To find n
 Given $P_n = P_o(1+r)^n$

$$\begin{aligned} P_n / P_o &= (1 + r)^n \\ \log P_n &= n \log(1 + r) \\ \frac{\log P_n}{\log P_o} &= n \\ \frac{\log P_o}{\log(1 + r)} & \end{aligned}$$

Example

In Town E, the secondary school enrolment in 1990 was 50,000. Between 1990 and 1995, it increased at the rate of 5% per annum. What was the enrolment in 1995?

Solution:

$$P_n = P_o (1 + r)^n$$

Where

$$P_n = ?$$

$$P_o = 50,000$$

$$r = 5\% = 0.05$$

$$n = 1990 - 1995 = 5 \text{ years}$$

Substituting for P_n , r , and n

$$P_n = 50,000 \times (1 + 0.05)^5$$

$$= 50,000 \times (1.05)^5$$

$$= 50,000 \times 1.27628$$

$$= 63,814$$

Example:

Enrolment in JSS 1-3 in town F during 2015/2016 academic session was 100,000. For the target year 2020/2021 academic session, the enrolment was 115,000. Find the growth rate?

Solution

$$\begin{aligned} P_n &= 115,000 \\ P_o &= 100,000 \\ n &= 2015/16 - 2020/2021 = 5 \text{ years} \\ r &= \text{Antilog} \left[\frac{\log P_n}{\log P_o} \right] - 1 \end{aligned}$$

Substituting

$$\begin{aligned} r &= \text{Antilog} \left[\frac{\log 115000}{\log 100,000} \right] - 1 \\ &= \text{Antilog} \left[\frac{\log 1.15}{5} \right] - 1 \\ &= \text{Antilog} \left[\frac{0.0607}{5} \right] - 1 \end{aligned}$$

$$\begin{aligned} &= \text{Antilog} (0.0121) - 1 \\ &= 1.028 - 1 \\ &= 0.028 \\ &= 2.8 \text{ or } 3\% \text{ approximately.} \end{aligned}$$

Summary

This article has established that the use of population figures and analytical techniques in the management and thus planning of education makes the study of population and demographic techniques to be very essential. Pre-school age population, school age population and school population are of interest to educational managers, particularly the planners. Some population characteristics were explained while factors affecting demand for education were clearly enumerated. School enrolments were also projected using different methods.

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CONTRIBUTIONS OF EDUCATION

Chapter 10

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INTRODUCTION

Education is the only tangible sources of knowledge and information. It empowers individuals to reach their full potential leading to a more enlightened, productive and harmonious society. It fosters a culture of lifelong learning, critical thinking, and innovation ultimately driving progress and growth for individuals and society as a whole. Education is widely recognised as a fundamental driver of economic growth, prosperity and individual success. It empowers individuals to acquire knowledge, skills, and critical thinking abilities, making them more productive and adaptable in an ever-changing world. Education's contributions can also be seen in various aspects of economic and personal development. It determines the growth of the individual by equipping him with the ability to choose the most appropriate solution to a problem at any given time.

The individual who is well educated is competent enough to use a variety of technologies (Sharma & Ankit, 2023). Such individual, if gainfully employed receives commensurate income, career advancement, skill development and various employment opportunities while the society tends to be healthier, high rate of economic stability, lower crime rate and greater equality. The individual thinks critically to develop problem-solving skills, develop lifelong learning ability, transformation into capable and reflective person. This in return contributes to social stability and

drives long term economic growth, meeting basic needs and promoting political participation.

This chapter looks into the contributions of education to the individual and the society at large. It also ventures into examining education as a consumption and investment expenditure. It includes the measuring of the contributions of education and the age-earning profiles of education.

Education as Consumption and Investment

Education can be viewed as both consumption and investment expenditures. As consumption, education enhances personal development, leading to a more fulfilling life. Education as consumption refers to the idea that education is treated as a commodity or product that can be bought, sold and consumed. Students are seen as consumers, and educational institutions are seen as providers of goods and services (education). Education is seen as a product or service that can be purchased and consumed like any other commodity that is, a product or service which can be bought (demand) by students and sold (supply) by the educational institutions who charged the consumers fees. Educational services have a price (tuition fees) and cost (resources, labour). Students and families make choices about educational consumption based on factors like price, quality, achievement and reputation.

As a consumption expenditure, it refers to expenses incurred for immediate but often short-lived satisfaction. Consumption items are ends in itself. The following aspects of education provide recipient with direct and immediate satisfaction in just the same way as other consumer goods do:

- a. Education teaches student to learn, read and write which makes the individual to enjoy life more. Student learn to read and write by studying various subjects. The reading makes them to go through various story books talking about various individual which shape the life of the student. They also learn how to play various games both indoor and outdoor.

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- b. Education improves the worth of its recipients. The learning of an individual does not only involve content but also the elements of his environment. The individual interact with his environment like the nutritional habit of the society, child care, care of the home, hygiene and in terms of his relationship with the society where he lives.
- c. Education helps to develop the individual to enable him to understand and appreciate the environment he lives. This development increases the critical thinking ability of the individuals and trigger the reasoning ability of the individuals.
- d. Education gives the individual psychological satisfaction that he is literate, current, known and recognised in the society. This may include his experience during the schooling age.

Education as consumption can be viewed further, from two basic perspectives: economic and sociological perspectives.

Economic Perspective

The economic perspective of education as consumption expenditure refers to education as a commodity or service that is purchased and consumed by individuals or households. It is viewed as a form of consumption expenditure where students or their families pay for educational services such as tuition, fees and materials under the following characteristics:

- a. ***The theory of demand and supply:*** Education is demanded for as a product or service provided in a market where private and public providers supplying the product or service compete for students who can afford to pay their fees. In a market there is buyer and seller, where the theory of demand and supply for goods and services are applied in determining the quantity of the good or service that will be purchased and sold. The buyers (students and parents) here will consider the factors that determine the demand

for education in deciding which institution to go and the institution will employ the determinants of supply in deciding which level of students to admit or number of labour to employ to provide the best quality education.

b. ***Human capital theory:*** Students are seen as consumers who pay for an education in order to acquire specific skills and knowledge that will enhance their education as consumption emphasizes the economic benefits, future employment prospects and earning potential. Students and parents choose the kind or type of educational products or services to buy to have the best human capital. Education is investment in human capital which increases productivity and earning potential of the consumers.

c. ***Certification:*** The output of education is the certification awarded at the end of the educational period which will determine the attainment of each individual in the educational institutions. Education is focussed on the certification acquired during the stipulated period of study which as well will attached the quality to the level of education attained.

d. ***Accessibility:*** The provision of education in Nigeria is by public and private institutions. This has made it possible for both lower and higher calibre of people to educate their children to the affordable level. The quality of education in both institutions may differ but the certifications are rated in the same way.

Sociological Perspective

- a. Education provides cultural capital, conferring status and prestige on individual.
- b. Education perpetuates social inequalities, reproducing existing power relations.
- c. Education can perpetuate symbolic violence, legitimating dominant cultural norms.

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- d. Education is shaped by consumerist values, emphasising individualism and competition
- e. Education is increasingly focused on producing marketable skills, rather than critical thinking or intellectual curiosity

Education as investment expenditure shows the importance of spending money on educating an individual. Investing in education brings about increase rate of returns on the amount invested. This can be viewed under the following: investment on education is seen as a means to achieve personal and professional goals such as higher wages and better job prospects. The economic benefits of education are emphasised, and the value of education is often measured in terms of its return on investment.

Education as investment refers to the idea that education is a valuable asset that yields returns in the form of increased earning potential, improves career prospects, enhanced skills and knowledge, personal growth and development and social mobility and status. Therefore, education is seen as a long-term investment in human capital which can lead to:-

- a. **Human Capital Theory:** Education increases the productivity of an individual and earning potential making it a valuable investment (Becker, 1964; Mincer, 1978). Education as investment reveals the economic benefits of being educated such as higher wages and better job prospects. Education is primarily as a means to achieve personal and professional goals.
- b. **Rate of Return:** Education yields a high rate of return, with benefits exceeding costs of investment made on education. It is a long-term strategy for individual and societal success.
- c. **Investment in Human Capital** - Education is a long-term investment in human capital, leading to increase economic growth. It increases innovation and entrepreneurship ability of individual

which also leads to economic growth and development. So it is the key driver of economic growth and development.

d. ***Signalling Theory:*** Education serves as a signal to employers about an individuals' skills and abilities.

e. ***Screening theory*** - Education screens out less productive workers, ensuring employees are the most capable. Education leads to improved civic engagement and social cohesion.

MEASURING EDUCATIONAL CONTRIBUTION

Measuring educational contribution will require us to be conversant with the costs and benefits of education (Owolabi, 2006). The cost of education falls into two categories: private and social costs.

a. Private costs are costs incurred by the individual, family or organisation in the course of purchasing education or additional education. This cost can be direct or indirect. Direct costs are costs or expenditure on fees, tuition, books, uniforms, transport, room and board etc. Indirect costs are the opportunity cost of schooling (forgone earning by learners). Social costs are costs incurred by the society or public or government in providing education to the people. It can be categorised into direct and indirect social cost. Direct social costs are salaries i.e. teaching and non-teaching staff, government grants, scholarships, bursaries etc. Indirect social costs are productivity of the individual and the tax revenue forgone.

Educational investment yield benefits to the individuals and the society, which may be private or social. The private benefits can be direct (higher lifetime earnings of income) or indirect (psychological satisfaction, movement up the socio-economic ladder etc) benefits (Potts, 2012). The private direct benefit of educational investment is the lifetime earnings of income of the individual. In as much as the individual is alive and working a certain amount is earned as income. The individual who is educated enjoyed this benefit directly. The private indirect benefit of education investment is satisfaction derive by the individual due to his educational

attainment. This also help the individual to move up the social ladder and enjoy some social benefits.

Educational benefits enjoyed by the society or government from education investment are referred to as social benefits. Such benefits could be direct (increased productivity, high tax revenue, economic growth etc) or indirect benefits. The direct social benefits bring about increase in productivity which as well brings about high tax revenue to the government and economic growth to the nation. The indirect social benefits are the externalities, neighbourhood effects and spill over effect of the investment. The indirect social benefits that the individual and the government may enjoy include:

- There will be reduction in petty crime;
- There will be national integrations and social cohesion within the nation;
- There will be population control so that the population will not out-numbered the resources available;
- There will be reduction in the poverty level in the country;
- There will be improved health and nutrition within the country;
- There will be increase in productivity related habits such as hard work, punctuality, self-reliance etc.

Comparison of Costs and Benefits

The comparison of costs and benefits of an educational investment can be captured by rates of returns computation (social rates of return for society and private rate of return for individuals).

i. ***Private Rates of Return:*** this connotes the net benefits (benefits less cost) that educational investments yield to concerned individuals. Private rates of return have generally been found to be highest at the tertiary level of education and to fall down the education ladder. This is the profitability of higher education to individuals and to justify the financing of this level from largely private funding sources.

ii. ***Social Rates of Return:*** this connotes the net benefit to society from the educational investment. Social rates of return are highest at basic levels of education. This implies that basic levels of education are more profitable to society and deserve priority in public allocation of educational resources. Where there is free primary education and free secondary education as partially practice in Nigeria.

AGE-EARNING PROFILE

Studies have consistently shown a strong positive correlation between education and earnings. People with more education not only earn more but the spread tends to grow with time. As individuals acquire more education, their earning potential increase significantly (Nasib, 2017). The less educated a young individual is the less his earning wage compare to the more educated, young and healthy individual.

Age-earning profiles define the pattern of earnings over time for individuals with different characteristics. It is used to calculate average lifetime earnings associated with different levels of education. Age-earning profiles are statistics obtained and classified according to age (experience attained) and of education of individuals. This is because the earning of an individual depends on the age, educational qualification and experiences achieved. The profiles compare the earnings attributable to less education with those with more education. It is comparison between the net income of secondary school leavers and the graduates. The differences in earnings are usually taken as a revelation of direct benefits accruing to expenditures incurred by individuals with more education.

Characteristics of Age-earning Profiles

- i. The highly educated as a age group earn more than their counter part with less education and therefore there is no crossing of profiles.

- ii. Earnings rise with the age of the individual to a single peak after which there is a slow decline for the age group.
- iii. The profiles are steeper for higher educated individual than for those with less education.
- iv. The higher level of education attained by a worker, the later the age at which earning reach their peak.

Limitation to Age-earning Profiles

- a. Difficulty in quantifying increased productivity (a direct benefit of education) especially where wages are not allowed to respond to market forces of the demand and supply of human capital. This will be obvious because productivity is more likely to be lower than wages because wages will not be equal to the value of workers marginal productivity.
- b. The differences in earnings are not entirely determined by difference in education. Some other factors attributed to differences in earning other than education e.g. age, natural ability, social class, occupation, sex, inheritance, motivation, experience etc.
- c. Difficulty in quantifying the indirect benefit especially psychological satisfaction of an individual arising from education as one climbs the social economic ladder.
- d. Many studies have revealed that education plays a critical role in the socio-economic development of any nation. The present world is a knowledge based global society where information and communication technology has created an information super highway where the society put a high premium on education. Without a sound education, an individual encounter the danger of becoming functionally illiterate in the global world. Age-education earning profile shows that workers earnings increase with age as well as the education. This relationship can be seen in the age-education earning profile, where:
 - a. Higher education leads to higher earnings.

- b. Earnings increase with age, peaking in mid-to-late career.
- c. Education premium persists across the lifespan.

SUMMARY

In conclusion, education's contributions are multifaceted and far-reaching. It enhances personal development, increases human capital, and drive economic growth. By investing in education, individuals and societies can reap significant benefits, leading to a more prosperous and enlightened world.

Here education is seen as a form of consumption that:

- a. satisfies individual desires for knowledge skills or credentials;
- b. provides a sense of personal fulfilment or satisfaction;
- c. enhances individual status, prestige or social mobility;
- d. offers a means of self-improvement or personal growth;
- e. often driven by consumerist value, such as choice convenience and flexibility

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UNDERSTANDING THE RETURNS TO EDUCATION

Chapter 11

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Abstract

Understanding the returns to education is pivotal in evaluating how investments in education contribute to individual and societal advancement. This paper explores the several benefits of schooling, which encompass both financial and non-financial outcomes. Literature consistently shows that higher levels of education are positively associated with increased earnings, enhanced employability, job satisfaction, and social mobility. However, the returns to education are influenced by several factors, including gender disparities, methodological issues related to discounting, and the effectiveness of education policies. Gender inequities, such as wage gaps and occupational segregation, significantly affect the economic returns to education for women, underscoring the need for policies that address these disparities and promote inclusivity.

Additionally, discounting methods used to assess educational investments often overlook non-economic benefits and may prioritize short-term gains over long-term fairness. Effective education policies must tackle challenges related to funding allocation, curriculum reform, and quality improvement to optimize the returns on educational investments. By addressing these issues, policymakers can enhance educational outcomes, promote equity, and prepare individuals for success in a rapidly evolving world. This comprehensive analysis provides a foundation for understanding the complex interaction between educational investments and their broad societal impacts.

Keywords: Education Returns; Returns to Schooling; Gender Influence; Discounting Returns; Educational Policies

1.0 INTRODUCTION

Education serves as a powerful link that unites generations, cultures, and economies in the intricate network of socioeconomic advancement. Its significance extends beyond the mere attainment of academic accomplishment; instead, it serves as a beacon of hope, a catalyst for change, and a pathway to achievement (Brown, 2020). Essentially, it is a commitment to a more promising future, where opportunities are actively pursued and capitalized upon, and where aspirations are not simply contemplated but realized. Nevertheless, there is a more complex story exploring the costs and benefits of education investment under this overall commitment.

In recent decades, policymakers, economists, and educators have shown increasing interest in the conversation surrounding the benefits of education. The implementation of policies designed to enhance educational accessibility and improve its standard has been driven by the allure of education as a means to enhance personal earning capacity, foster creativity, and drive economic advancement (Johnson & Williams, 2018). Still, among the frenzy for funding education, several questions remain unanswered: in the fast-changing worldwide economy of today, what are the clear

advantages of schooling? How do shifting labour market dynamics, technological innovation, and globalisation affect these returns? The most important question is: how can we guarantee fair allocation of educational investments to benefit all people equally?

This article aims to unravel the intricate connections between education and economic outcomes, shedding light on both the achievements and difficulties associated with pursuing education. We explore the various aspects of the impact of education on individuals, society, and the labour market. As we proceed with this examination, it becomes evident that education offers other advantages beyond mere financial gain. While a higher level of education is often associated with increased earning capacity, the benefits extend well beyond a higher income. Education cultivates critical thinking, ingenuity, and an enduring curiosity, all of which are invaluable in a rapidly evolving world that demands adaptability (Martinez & Patel, 2016).

Education is also a crucial factor in facilitating social mobility, as it offers individuals from diverse backgrounds the opportunity to overcome the limitations of their current situation and build more promising prospects for themselves and their families (Harris, 2022). However, for a significant number of individuals, the possibility of advancing socially or economically still appears out of reach due to persistent barriers that hinder their ability to obtain a top-notch education and perpetuate disparities (Thompson, 2019). Furthermore, the education sector and its monetary benefits are undergoing a significant transformation as we approach a new era characterized by unprecedented disruption and swift technological advancements (Evans & Zhang, 2023). The need for skills in the labour market has shifted as a result of the increasing prevalence of automation, artificial intelligence, and other transformative technologies. This situation offers both possibilities and challenges for individuals attempting to navigate this ever-evolving terrain (Nguyen, 2021).

Given the current circumstances, it is crucial to possess a comprehensive understanding of the benefits gained from schooling. Through the analysis of several factors that impact educational outcomes, including institutional frameworks, policy initiatives, sociocultural dynamics, and human aspirations, we can begin to chart a course towards a fairer and more affluent future (Taylor, 2020). This study discusses the returns of education while exploring various contexts, with specific focus on returns to schooling, the relationship between educational qualifications and job requirements, how gender influences the returns to education, and the concept of discounting in education (Clark et al., 2017). The study also addresses criticisms of economic returns and evaluates the effectiveness of education policies in maximizing returns on public and private investments in education (Harris, 2022). Ultimately, this journey serves as evidence of the transformative power of education, which transcends barriers and disparities and serves as the gateway to a future filled with boundless possibilities and prosperity for everyone (Evans & Zhang, 2023).

2.0 CONCEPT OF RETURNS TO EDUCATION

The term "returns to education" refers to the concept that investments in education yield favourable outcomes for society, the economy, and individual welfare (Psacharopoulos & Patrinos, 2018). These returns encompass the additional advantages or value that individuals, communities, and economies gain from acquiring greater degrees of knowledge. Education offers a multitude of advantages beyond mere financial benefits, such as increased earning capacity, improved employment opportunities, enhanced health outcomes, and greater social mobility (Lochner, 2018). Essentially, the returns on education reflect the notion that education is an investment rather than a cost. Education is considered an investment in human capital, which refers to the knowledge, abilities, and skills individuals possess, ultimately enhancing their productivity and earning capacity (Becker, 2019). This concept is analogous to investing in stocks or real estate with

the aim of obtaining future returns. By acquiring knowledge and skills through formal education, vocational training, or informal learning, individuals can increase their market value and competitiveness in the job market (Oreopoulos & Petronijevic, 2016).

The wage premium, which refers to the disparity in income between individuals with higher educational attainment (such as a college degree or advanced certifications) and those with lower educational attainment (such as a high school diploma or less), is commonly used as a measure of the benefits gained from education (Autor, 2019). Research consistently demonstrates that individuals with higher degrees of education tend to earn higher overall incomes compared to those with lower levels of education (Card, 2021). This wage premium reflects the extra value employers assign to education-based knowledge, skills, and certifications. However, the advantages of education extend beyond individual earnings and include broader societal and economic benefits. For instance, individuals with higher education are more likely to pursue employment in occupations requiring advanced skills and offering greater wages, which fosters innovation and boosts productivity in various sectors (Moretti, 2020). Education also encourages political participation, civic engagement, and social cohesion, all of which contribute to the overall stability and welfare of society (Dee, 2021).

3.0 RETURNS TO SCHOOLING

The concept of return to schooling refers to the economic and social benefits individuals or societies gain from investing in education. It is typically measured by the increase in wages, employment opportunities, and overall productivity associated with higher levels of education. Economists often calculate the return to schooling by estimating the percentage increase in earnings for each additional year of education. Research consistently demonstrates a positive correlation between educational attainment and earnings, indicating that individuals with more education tend to earn higher incomes (Psacharopoulos & Patrinos, 2018); although the reality in

a developing country like Nigeria shows that unemployment has birthed many of the so-called self-employed, and underemployment.

However, the return to schooling is not limited to individual economic benefits. It also encompasses broader societal advantages, such as improved public health, reduced crime rates, and enhanced civic participation. Societies with higher educational levels tend to experience greater economic growth, social cohesion, and democratic engagement (Hanushek & Woessmann, 2020). Moreover, the return to schooling may vary based on factors such as the quality of education, labour market conditions, and the specific field of study (Oreopoulos & Petronijevic, 2018).

Despite its many advantages, critics highlight that the returns to education may not be evenly distributed across different social groups, as marginalized individuals often face barriers that limit their ability to fully benefit from education investments (Klees et al., 2020). Additionally, some argue that overemphasis on the economic returns to schooling can overlook the intrinsic value of education, such as personal development and social well-being (Espinoza et al., 2020).

These benefits are however often evident in the following:

1. **Earnings Premium:** Research consistently shows that individuals with higher levels of education earn higher wages compared to those with lower levels of education. This earnings premium reflects the additional value that employers attribute to the knowledge, skills, and credentials acquired through education (Autor, 2019).
2. **Employability and Job Quality:** Education enhances individuals' employability by equipping them with the skills and qualifications needed to compete in the labour market. Higher levels of education are associated with lower unemployment rates and greater job stability. Moreover, individuals with higher levels of education are more likely to access higher-quality jobs with better pay, benefits, and

opportunities for career advancement (Oreopoulos & Petronijevic, 2016).

3. **Social and Economic Mobility:** Education plays a crucial role in promoting social and economic mobility by providing individuals with opportunities to improve their socio-economic status and achieve upward mobility. Education is often referred to as the "great equalizer" because it helps individuals overcome barriers related to socio-economic background, race, ethnicity, and gender, providing access to pathways for success (Chetty et al., 2016).
4. **Human Capital Development:** Education contributes to human capital development, which includes individuals' knowledge, skills, abilities, and attributes that enhance productivity and earning potential. Investments in education not only benefit individuals but also contribute to overall economic growth and competitiveness by increasing the pool of skilled labour available to industries (Becker, 2019).
5. **Non-Monetary Benefits:** Education offers non-monetary benefits, including improved health outcomes, increased civic engagement, greater social cohesion, and an enhanced quality of life. Education fosters critical thinking, creativity, and problem-solving skills, which are essential for addressing complex challenges and contributing to societal progress (Lochner, 2018).
6. **Lifetime Returns:** Returns to education are cumulative and accrue over individuals' lifetimes. While the upfront costs of education may be significant, the long-term benefits often outweigh these costs, resulting in positive returns on investment. Education is a durable asset that retains its value over time and serves as a foundation for continuous learning and skill development throughout individuals' careers (Card, 2021).

4.0 GENDER INFLUENCES ON THE RETURNS TO EDUCATION

Gender plays a significant role in shaping the returns on education, influencing individuals' access to opportunities, earning potential, and career paths. Despite efforts to promote gender equality, disparities in the labour market persist, often due to ingrained cultural norms, institutional biases, and structural obstacles (Blau & Kahn, 2017). Achieving gender equity requires a deeper understanding of how gender intersects with education and employment, particularly in areas such as wage gaps and occupational segregation (Goldin, 2021).

4.1 Wage Gaps

Gender wage gaps remain prevalent worldwide, with women consistently earning less than men for comparable work (International Labour Organization [ILO], 2018). While education is often cited as a factor explaining income disparities, research shows that even after accounting for educational attainment and other variables, a substantial portion of the wage gap between men and women remains unexplained (Miller, 2022). Factors such as differences in academic disciplines and occupational segregation contribute to this disparity. Men are disproportionately represented in higher-paying fields like STEM (science, technology, engineering, and mathematics), finance, and engineering, while women are more likely to work in lower-paying sectors such as caregiving, education, and administrative roles (England et al., 2020). Gender wage gaps persist due to systemic issues such as discrimination, unconscious bias, and unequal access to career advancement opportunities. These disparities may further widen if women encounter barriers to leadership roles, career progression, and salary negotiations (Blau & Kahn, 2017).

4.2 Occupational Segregation

Occupational segregation refers to the unequal distribution of men and women across various professions and sectors, a phenomenon

that exacerbates gender disparities in wages and career progression (Cortes & Pan, 2018). Gender stereotypes, cultural norms, and societal expectations heavily influence individuals' educational and career choices, contributing to occupational segregation. Men are often encouraged to enter traditionally male-dominated fields such as engineering, technology, and finance, while women are steered toward careers in caregiving, healthcare, education, and social services (Goldin, 2021). This segregation perpetuates gender wage gaps by limiting women's access to high-paying, male-dominated professions and devaluing work in sectors traditionally dominated by women (England et al., 2020). Addressing occupational segregation requires dismantling barriers to entry in male-dominated industries and promoting gender diversity across all sectors (Cortes & Pan, 2018).

5.0 CONCEPT OF DISCOUNTING IN EDUCATION

Discounting in education refers to the practice of assigning a lower value to future benefits or costs relative to their current value. This method is frequently used in educational finance and policy analysis to assess the costs and benefits of educational investments over time (Levin & McEwan, 2021). It is particularly useful for comparing various options or evaluating the long-term effects of policy decisions. Discounting recognizes that the value of money or resources received or spent in the future is less than if they were obtained or used in the present, due to factors like opportunity cost and uncertainty about future outcomes (Boardman et al., 2018). The fundamental elements of discounting in education are:

- a) **Time Preference:** Discounting reflects individuals' preference for obtaining benefits sooner rather than later, known as temporal preferences. Most people exhibit a preference for immediate gratification and are willing to pay more to receive rewards earlier, rather than waiting for them to accrue (Becker et al., 2015). Similarly, individuals may undervalue future costs, such as the potential loss of income

while studying, when calculating the worth of educational investments (Levin & McEwan, 2021).

- b) **Present Value:** Discounting allows future costs and benefits to be converted into their present value, facilitating comparison and decision-making. Present value calculations involve discounting future cash flows using a discount rate, which reflects the potential return from investing the money elsewhere (Boardman et al., 2018). The higher the discount rate, the lower the present value of future cash flows, making future benefits appear less valuable.
- c) **Risk and Uncertainty:** Discounting takes into account the risk and uncertainty associated with future outcomes. Benefits or costs that are uncertain or contingent are discounted at a higher rate than guaranteed outcomes. A higher discount rate implies a need for an additional risk premium to compensate for the uncertainty surrounding future results.
- d) **Inter-temporal Trade-offs:** Discounting in education involves evaluating the costs and benefits of educational investments over time and making decisions that balance trade-offs across different periods. For instance, governments may use discounting to assess the long-term benefits of investing in early childhood education relative to other social programmes (Heckman et al., 2017). Policymakers can weigh the cost-effectiveness of early childhood education by considering the long-term benefits, such as improved academic performance, reduced crime rates, and increased workforce productivity (Barnett, 2018).
- e) **Ethical Considerations:** While discounting is a common method in economic analysis, it raises ethical concerns, particularly when evaluating long-term investments that affect future generations, such as education and environmental sustainability. Discounting future benefits or costs can lead to undervaluing the well-being of future generations, potentially prioritizing immediate gains over long-term sustainability and equity (Pearce, 2019).

6.0 CRITICISMS OF ECONOMIC RETURNS OF EDUCATION

The criticism of the economic benefits of education stems from various perspectives, including theoretical objections, methodological limitations, and broader societal concerns. While education is widely recognized as a driver of economic growth and societal development, critics argue that an exclusive focus on its economic benefits overlooks important non-economic dimensions of education and can perpetuate inequality (Marginson, 2016). Common critiques of the economic benefits of education include the following:

1. **Narrow Definition of Returns:** Critics argue that a narrow focus on financial returns from education neglects other important aspects of human development, such as personal fulfilment, civic engagement, cultural enrichment, and social cohesion (Brighouse et al., 2018). Education has intrinsic value that goes beyond its economic utility and contributes to individuals' overall well-being and quality of life.
2. **Measurement Challenges:** Assessing the economic returns of education involves complex measurement issues, including selecting appropriate indicators, estimating causal effects, and accounting for confounding variables. Critics argue that traditional measures of educational returns, such as wage differentials or labour market outcomes, may fail to capture the full range of benefits associated with education, particularly those related to non-market activities and societal outcomes (Psacharopoulos & Patrinos, 2018).
3. **Equity Concerns:** Critics warn that emphasizing the economic benefits of education may exacerbate inequality by prioritizing investments in educational programmes that yield the highest economic returns, potentially neglecting the needs of marginalized or disadvantaged groups (Unterhalter, 2020). This approach risks reinforcing existing socio-economic disparities and perpetuating structural inequalities in access to education and employment opportunities (Van der Berg, 2020).

4. **Contextual Factors:** Critics argue that the economic returns to education are highly context-dependent and vary across countries, regions, and socio-economic groups. Factors such as labour market conditions, institutional structures, cultural norms, and policy environments shape the extent and distribution of the benefits derived from education (Hanushek & Woessmann, 2020). These factors also limit the generalizability of research findings from one context to another (Marginson, 2016).
5. **Unintended Consequences:** Emphasizing the economic benefits of education can lead to unintended consequences, such as credential inflation, where individuals pursue higher levels of education primarily to obtain credentials rather than acquire meaningful skills and knowledge. Credentialism can devalue the educational experience and undermine the quality and relevance of education (Brown et al., 2020).
6. **Underinvestment in Non-Market Outcomes:** Critics often highlight that focusing on the economic returns to education may result in underinvestment in educational programmes that produce non-market outcomes, such as the arts, humanities, and social sciences. These fields contribute to the holistic development of individuals, enhance critical thinking skills, and foster civic engagement, yet they may not yield immediate economic benefits in the labour market (Nussbaum, 2016).

6.1 Challenges to Maximizing Returns on Public and Private Investments in Education

Optimizing the outcomes of both public and private investments in education is essential to fostering economic growth, enhancing social mobility, and improving individual well-being. However, various obstacles hinder the effectiveness of these investments, limiting their impact on educational attainment and societal advancement. The following are eleven key obstacles to optimizing returns on education expenditures:

1. **Inequitable Access to Education:** Disparities in access to quality education based on socio-economic status, geographic location, ethnicity, gender, and disability serve as barriers to achieving educational goals and contribute to perpetuating social inequalities (Walker, 2018).
2. **Insufficient Funding:** Budgetary constraints and inadequate resource allocation impede educational institutions from providing high-quality learning environments, attracting and retaining qualified teachers, and equipping students with necessary resources and opportunities (Klees et al., 2020).
3. **Irrelevant Curriculum and Outdated Pedagogy:** Curricula that fail to align with real-world skills and competencies, combined with reliance on outdated pedagogical approaches, leave students unprepared for success in an increasingly technology-driven world (OECD, 2018).
4. **Teacher Recruitment and Professional Development:** The quality of teaching and student outcomes can be compromised by challenges in recruiting, training, and retaining teachers, as well as insufficient support for ongoing professional development (Darling-Hammond et al., 2017).
5. **Discrimination and Marginalization:** Educational equity and inclusion are hindered by factors such as race, ethnicity, socio-economic background, gender identity, sexual orientation, and disability, which limit the establishment of inclusive learning environments (Espinoza et al., 2020).
6. **Digital Divide:** The lack of access to technology, particularly in impoverished and rural areas, exacerbates educational inequalities, preventing students from engaging in digital learning environments (Van Dijk & Hacker, 2018).
7. **Underfunding of Early Childhood Education:** Insufficient investment in early childhood education and development programmes limits children's cognitive, social, and emotional development, adversely affecting their long-term educational outcomes (Berlinski & Schady, 2015).

8. **Misalignment with Labour Market Needs:** The lack of career guidance, limited opportunities for work-based learning, and mismatches between educational qualifications and labour market demands hinder individuals' transition from education to employment (Quintini, 2018).
9. **Limited Access to Lifelong Learning:** The absence of sufficient opportunities for continuous learning and skill development prevents individuals from adapting to technological advancements and pursuing career progression, affecting their competitiveness in the job market (Desjardins, 2020).
10. **Policy Fragmentation:** Inefficiencies and conflicts in education policy, resulting from a lack of coordination across various levels of government, sectors, and stakeholders, can impede progress toward comprehensive improvements in educational outcomes.
11. **Inadequate Support for Marginalized Groups:** Systemic barriers faced by marginalized groups, including gender discrimination and socio-economic disparities, limit their access to education, curtailing their potential to benefit fully from educational investments (Unterhalter, 2020).

6.2 Effectiveness of Education Policies in Maximizing Returns on Public and Private Investments in Education

Assessing the effectiveness of education policies in addressing critical issues such as funding distribution, curriculum reform, and improving education quality is essential for determining how well these policies optimize the outcomes of public and private investments. Effective education policy can enhance educational outcomes, promote equity and diversity, and prepare individuals for success in an ever-evolving world. The following strategies illustrate how education policy can optimize the benefits of investments in education:

6.2.1 Funding Allocation

Effective education policy ensures efficient and equitable resource allocation to support educational institutions, programmes, and initiatives. Adequate funding is vital for maintaining high-quality learning environments, attracting and retaining skilled educators, and providing students with the necessary opportunities and resources (OECD, 2020). Prioritizing equitable funding distribution, especially for underserved communities, can help bridge the achievement gap and promote social mobility (Klees et al., 2020). Moreover, transparent budgeting procedures, along with accountability and oversight mechanisms, are essential for ensuring that funds are distributed fairly and used efficiently (Ladd, 2017).

6.2.2 Curriculum Reform

Reforming the curriculum is crucial to aligning education with the rapidly changing demands of the labour market and society (Sahlberg, 2021). Education policy should support adaptable curriculum frameworks that incorporate emerging trends in industry, technology, and society. By promoting project-based learning, interdisciplinary education, and real-world applications, policies can help students develop critical thinking, creativity, and problem-solving skills (Marope et al., 2017). Incorporating topics like environmental sustainability, digital literacy, and global citizenship into the curriculum can better prepare students for 21st-century challenges (UNESCO, 2019). Successful curriculum reform requires collaboration with stakeholders, professional development for teachers, and continuous assessment and improvement (Darling-Hammond et al., 2017).

6.2.3 Initiatives to Improve Educational Quality and Relevance

Education policies should focus on initiatives that enhance the quality and relevance of education for all learners. This includes investing in teacher training and professional development, modernizing educational infrastructure, and promoting evidence-based teaching practices (Mourshed et al., 2018). Policies that

advocate for student-centred approaches, differentiated instruction, and personalized learning can improve academic performance and increase student engagement and motivation (Espinoza et al., 2020). Expanding access to higher education, vocational training, and early childhood education can help individuals acquire the skills needed for employment and personal growth (OECD, 2018). Additionally, fostering collaboration between educational institutions, employers, and community organizations can increase the relevance of education by offering internships, industry-aligned career paths, and experiential learning opportunities (Schleicher, 2020).

7.0 SUMMARY

The debate on the returns to education has covered a wide range of disciplines, clarifying many aspects of how education shapes people, businesses, and societies. More exactly, the focus has been on the returns to schooling, (i.e., the benefits people get from investing in education) that have social and as well as financial value, greater degrees of education and greater salaries, improved employability, more work satisfaction, and more social mobility consistently show a positive relationship according to research. Education gives people opportunity to increase their capacities, knowledge, and chances for development, therefore helping them to attain both personal happiness and economic success. The influence of gender on the returns to education has become a crucial factor, with persistent inequities in salary gaps, occupational segregation, and access to opportunities. Women frequently encounter obstacles when it comes to accessing school and career opportunities, which restricts their ability to earn money and achieve economic autonomy. To tackle gender disparities in education and the labour market, it is necessary to make a collective and determined effort to question and dismantle gender stereotypes, eradicate discriminatory behaviours, and advocate for policies that foster gender equality and inclusivity.

Discounting in education is a methodological strategy used to assess the costs and benefits of educational investments over a period of time. By applying a reduction in the value of future benefits or costs, policymakers and stakeholders can evaluate the lasting effects of education policies and investments, taking into consideration individuals' preferences for time, risk, and uncertainty. Nevertheless, critics warn that the act of offering discounts may fail to consider significant non-economic aspects of education and prolong inequalities by giving priority to immediate benefits rather than long-term viability and fairness. Finally, the efficacy of education policy in optimising the returns on public and private investments in education was reviewed. Literature shows that policymakers often encounter difficulties in distributing resources, restructuring curriculum, and enhancing the quality and applicability of education to address the varied requirements of learners and the expectations of the job market. It is crucial to make efforts to promote equity, quality, and lifelong learning in order to maximise the benefits of investing in education and enable individuals and societies to reach their full potential in a fast-evolving world.

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BUDGETING IN EDUCATION

Chapter 12

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Introduction

To start with, it is worth noting that the concepts of "budgeting" and "education" are two inseparable phenomena. This is because, without adequate budgetary allocation of financial resources, education suffers. Without quality education, too, a nation's human capital development will long become a farce. From this realization, it is expedient to examine both concepts and see the ripple effect one has on the other.

Fundamentally, there is a thin line between funding and budgeting which needs to be made clear. Funding, on one hand, can be defined as the money that a government or organisation provides for a particular purpose. Budgeting, on the other hand, is the financial plan for a defined period that is known to greatly enhance the success of any financial undertaking (Ganti, 2022). Simply, a budget is an estimate of resources necessary to carry out a project and the revenues needed to cover expenditures. Based on

this realization, it is logical to posit that a budget is dependent on funding available because it is the latter which dictates the former. Being a financial management technique, budgeting can be seen from different perspectives but still be targeted toward the same goal. Hitherto, we have had various experts and scholars give different definitions, and we should examine some of them. According to Chukwu et al. (2019), budgeting is a statement of the financial plan over a given period that shows the estimated income and expenditure of the school in a given year. Chukwu et al. further stated that budgeting is an established financial standard needed to consciously guide the activities of a principal and the school management team toward the attainment of the aims and objectives of the school, in a given year. Kinyanzil et al (2019) also defined budgeting as the comprehensive and coordinated plan of a school, expressed in financial terms in a given fiscal year. This coordinated plan thus enhances prudence in spending school funds. According to Titus and Ukaigwe (2018), budgeting is a plan for specifying how resources, especially money and time, will be spent and allocated during a particular period in the school system. In other words, budgeting is practised in school systems to control spending on school-limited financial resources. Conclusively, we can purport that budgeting in education means designing a financial blueprint or plan that would sustain the execution of quality educational processes in an educational institution within a given fiscal year.

However, the question of what a “school” is may arise. What then is a school? According to Rosa and Ortiz-Ospina (2019), a school is an educational institution designed to provide learning spaces and learning environments for the teaching of students under the direction of teachers. According to Turkkahramana (2015), a School is a centre which both trains individuals within a framework of a certain plan and programme which influences and shapes the society. As a result, a school is a union which tries to enlighten a group in terms of intelligence, morale, technical knowledge and skills meeting in a particular time and place consciously and systematically. This means that the two most important elements of

education and teaching are the teachers and the students. Invariably, it can be resolved that a school, in these contexts, is a formal institution (private or public) of learning where knowledge is passed on from a trained teacher or subject expert to learners.

Taking it a step further, we should examine the concept of education and how budgeting in education is a worthy conversation to have. According to Ololube (2016), education is a bedrock for the growth of any nation, and the cornerstone for social and economic development. Unarguably, it is a pathway to the stardom of the people who make up a nation, on a larger scale. According to the global conversations on investment in education at the United Nations (U.N.), member states of UNESCO agreed in 2015 that 4 to 6% of GDP or 15 to 20% of public expenditure should be allocated to the education sector (UNESCO, 2022) as a need to achieve the Sustainable Development Goal (SDG) 4 which is quality education. To achieve quality learning standards and the global agenda for universal, inclusive, and equitable basic education for all school-age children by 2030, an increase in quality and access to education are critical (Abdullahi, 2022), and significant budgetary allocations for this are what can bring the dream to the limelight.

Budgeting has been a useful part of the administrative strategy of organisations such as educational institutions right from time (Lasisi, 2021). It has the fundamental importance of controlling the financial behaviour of school administrators, to prevent reckless spending of budgeted funds supplied for various educational services. In the words of Akinsolu (2018), there is a need for the adequacy of funds to effectively implement programmes and courses designed by our educational institutions. That is why there is an international best practice that UNESCO has prescribed for countries to meet the demands of the education sector. More to this effect, Akinsolu put forward that school managers need to be prudent when spending and must judiciously account for every fund used. This is so because, as the operators of earmarked budgets, they are compelled to follow the appropriate estimate in spending funds. Holistically, the school management plays the technical function of

authorizing expenditure and serving as a 'microscope' in the analysis of details. Therefore, budgeting can be said to be an instrument for planning and controlling educational activities because it fosters the coordination of educational activities and promotes efficiency in operating the business.

Budgeting: types and process

There are a variety of budgets that can be prepared, depending on the type, nature, objectives and programme plan of each organisation. At the same time, the budgeting practices in educational institutions follow a systematic procedure which is targeted towards the effective management of funds made available for the execution of institutional activities. In this section, we will examine both the types of budgeting and the processes involved.

Types of Budgeting

Majorly, some of the budget types known in the education sector are:

- i. Line item budgeting,
- ii. Programme-linked budgeting;
- iii. Performance budgeting;
- iv. Zero-base budgeting;
- v. Planning, Programming and Budgeting System; and
- vi. Incremental budgeting.

i. Line Item Budgeting

The term line item refers to the individual expenses listed on a budget, such as salaries, sports equipment, textbooks, maintenance, student services, technology, and supplies. This type of budgeting involves allocating a specific amount of money for each expense category, and each item of revenue and expenditure is listed on a line-by-line basis. Line-item budgets are prepared based on the previous year's budget, where possible sources of income and expenses remain the same. This traditional approach is backwards-looking in preparation and does not deviate from the previous

year's budget. Despite some progressive secondary schools, line-item or traditional budgeting remains predominant in most institutions. (Olufidipe, 2016).

ii. Programme Linked Budgeting

A school can prepare a specific budget for particular purposes and programmes that align with the government's educational policies, goals, and targets. The budget preparation process follows several essential steps, including identifying the main programmes in line with government policies and determining the necessary resources for implementing those programmes. This step involves breaking down the programmes into sub-items and grouping them into sub-programmes. The next step is costing the programmes and sub-programmes before finally preparing the budget, along with supporting documentation, nominal rolls, and other necessary paperwork. Adhering to the instructions for budget preparation is crucial in ensuring that the budget is accurate and reliable.

iii. Performance Budgeting

Performance budgeting is a budgeting method that prioritizes measuring the outcomes or results of services provided, such as the completion of a school construction project or the achievement of a programme's goals. This approach determines the allocation of resources and funds based on their potential impact. By adopting performance budgeting, administrators can develop budgets that reflect the correlation between funding levels and the expected results of each programme. This process helps to maximize the effectiveness and efficiency of budgetary spending, which ultimately leads to better management of resources. In short, performance budgeting is a valuable tool that administrators can use to enhance the cost-effectiveness and efficiency of budgeting procedures.

iv. Zero-Base Budgeting (ZBB)

Zero-based budgeting (ZBB) is a budgeting system that differs from the traditional budgeting approach by requiring management to

review all programmes and activities annually, without considering the previous year's budget. It requires all expenses to be reviewed and justified based on their current and future value to the institution. According to Akinsolu (2018), ZBB enables administrators to prioritize projects and programmes and allocate resources accordingly. It also helps identify areas of wasteful spending and suggests alternative courses of action. However, this budgeting approach is time-consuming and may lead to overestimating the benefits of projects, resulting in the waste of resources. Additionally, justifying every line item can be problematic and expensive (Olufidipe, 2016). Nonetheless, ZBB provides an opportunity for schools to reassess their programmes and allocate resources more strategically.

v. Planning, Programming and Budgeting system (PPBS)

According to Lasisi (2021), the Programme Planning and Budgeting System is a structured decision-making framework for developing strategies, policies, and capabilities to achieve anticipated missions. It is a modern and innovative tool that offers an analytical basis for effective decision-making and implementation. However, the success of the PPBS system largely depends on clearly defined goals and objectives for the institution and unit, as well as the availability of adequate funding to achieve these goals. Nevertheless, the PPBS system may prove challenging to implement and manage in developing nations like Nigeria due to a lack of reliable and timely data, a shortage of experts, and its more theoretical than practical orientation.

vi. Incremental Budgeting

Incremental budgeting is a budgeting approach that relies on the previous year's budget or actual performance as a basis, with incremental amounts added for the new budget period. This budgeting method is quick, easy, and inexpensive, as it requires minimal effort in formulating budgets. As a result, it ensures that departments operate consistently for an extended period. However,

the main disadvantage of incremental budgeting is that it promotes conservative maintenance of the status quo, which discourages innovation and risk-taking. Despite this limitation, Olufidipe (2016) found that a significant percentage of secondary school principals in Nigeria preferred incremental budgeting because of its simplicity in preparation and compliance with government budget guidelines.

Budgeting Processes

A budget process is a strategy used by the school administrators, the board of governors and other governmental agencies in its planning and administration right from its commencement to its completion (Lasisi, 2021) which is characterized by the following features:

i. Planning and coordination

The budgeting process is based on some more general long-term objectives to elaborate thorough operational plans for different sectors or executive links of the enterprise. Planning is the key to success in any business and it is encouraged by the allotment of budgetary resources. Planning is reflected in the master budget that includes all the secondary budgets, a fact that determines the managers to consider the relation among the function of the budgets and the various departments of the enterprise and to analyse how they contribute to achieving the objectives.

ii. Authority and responsibility

The budgeting process assumes that the entity is organised in responsibility or budgetary centres and follows clear instructions regarding the responsibilities of each manager that has a budget as well. Adopting a budget includes the authorization of all its activity plans, allowing exceptional management which means that a subordinate is given a specified role and also the authority and necessary resources to carry out the assigned part of the plan but if the activities do not follow the plan, the variations are reported to the superior authority.

iii. Communication

The budgeting process involves all the managerial levels and constitutes an important means of communication between the superior and middle management regarding the targeted objectives and their achievement. When the budgeting process ends, the approved plans are communicated to the entire involved personnel upon approval.

iv. Control

This element of budgeting is the least expected by employees. The process of comparing the current results with the planned or budgeted results and reporting the comparison's results, which is the budgetary control, establishes a guideline for carrying out the plans within the set limits for the expenses.

v. Performance evaluation

The performance of the managers is partially evaluated according to their ability to implement the budgets. The data regarding the manager's budget and his ability to achieve the budget objectives is an important factor whenever a manager is evaluated to be promoted, to be given a raise or in any other kind of assessment. The budgets used as objectives may assist a manager in monitoring his performance.

Problems in budgeting

As previously established that budgeting in education is a complex process that involves allocating resources to support teaching and learning activities, we need to understand that this process is not only a technical skill, but also a strategic and ethical one that requires careful planning, communication, and evaluation for ensuring the provision of quality education to students (Hallak, 1995). However, there are several challenges associated with budgeting in education that can impact the quality and accessibility of education. These include:

i. Balancing competing priorities

One of the main challenges of budgeting is to balance the competing priorities of different programmes, departments, and initiatives while ensuring that the core mission and vision of the school are met. You have to make difficult trade-offs and allocate resources in a way that is fair, transparent, and aligned with the school's goals and values. To do this, you need to have a clear understanding of the needs and expectations of your stakeholders, such as students, teachers, parents, and district officials, and involve them in the budgeting process. You also need to have clear criteria and rationale for your decisions and communicate them effectively to your stakeholders.

ii. Dealing with uncertainty and change

Another challenge of budgeting is dealing with the uncertainty and change that affect the school's finances, such as enrolment fluctuations, funding cuts, grant opportunities, inflation, and emergencies. You have to be flexible and adaptable, and plan for different scenarios and contingencies. You also have to monitor and evaluate the budget performance regularly and adjust it as needed. To do this, you need to have reliable and accurate data and information, and use appropriate tools and methods to forecast and analyse the budget. You also need to have a contingency fund and a risk management plan and communicate any changes and impacts to your stakeholders.

iii. Misalignment with budget standards and regulations

One of the challenges associated with budgeting is the misalignment of a budget with the standards and regulations that govern an institution's operations and accountability. This includes state and federal laws, policies, accreditation criteria, and audit requirements. Therefore, it is critical to ensure that the budget meets the expectations and rules of the authorities while supporting the school's quality improvement and reporting processes. To achieve

this, there is a need for a comprehensive understanding of the relevant standards and regulations, as well as a reliable documentation and record-keeping system. Collaboration with relevant departments and officials is also essential in meeting these challenges.

iv. Inconsistent government policies and regulations

Another major challenge of budgeting is that government's policies and guidelines are susceptible to change and those changes, though necessary, can be inconsistent. The ripple effect this has is that it disrupts the ultimate budgeting structure that must have been put in place in alignment with existing regulations and policies. A probable solution to this is to establish an independent regulatory body that oversees education policies and regulations. This body could be responsible for ensuring that policies and regulations are consistent and coherent across different levels of government and institutions. It could also provide guidance and support to educational institutions to help them navigate complex regulations and policies.

v. Developing budgeting skills and capacity

Developing budgeting skills and capacity is a crucial challenge for educational managers, especially if they lack experience or training in financial management. This is because certain principles and practices facilitate effective budgeting which needs to be learned and applied. Some of these include strategic planning, stakeholder engagement, data analysis, resource allocation, performance monitoring, and evaluation. To solve the challenge, training staff and hiring supporting staff skilled in budget-related tasks, such as data collection, reporting, procurement, and accounting is important. To achieve this objective, managers should seek professional development opportunities and resources, including workshops, courses, books, and mentors. Managers must also create a learning and collaborative culture among staff, providing them with feedback and recognition.

vi. **Variable costs**

This is also a problem in budgeting because variable costs can be difficult to predict and control. They are expenses that fluctuate based on the level of activity or usage, such as supplies, maintenance, and utilities, and can be affected by factors such as students' enrolment, student attendance, changes in curriculum or programmes and so on. Because they can be unpredictable, it makes the process of budgeting difficult, to accurately forecast expenses and allocate resources. This can result in budget shortfalls or overages, which can have a negative impact on the quality of education provided to students. To address this challenge, schools and educational institutions can take steps to better understand and manage variable costs. This can include analysing historical data to identify trends and patterns in usage, implementing effective cost-control measures, and developing contingency plans to address unexpected fluctuations in expenses. By effectively managing variable costs, schools and educational institutions can ensure that they have the resources they need to provide quality education while staying within their budget constraints.

vii. **Uncomplimentary revenue**

Uncomplimentary revenue is a problem in budgeting because it creates an imbalance between revenue and expenses, which can lead to budget deficits and financial instability. Fundamentally, uncomplimentary revenue refers to revenue that is unpredictable or not consistent over time which can come from sources like grants, donations, or fund-raising, which may vary from year to year and may not be available in the same amount or at all in future years. When uncomplimentary revenue is included in the budget, it can create a false sense of security and lead to overspending. If the revenue does not materialize as expected, there may be insufficient funds to cover essential expenses, resulting in a budget deficit. Alternatively, if the revenue exceeds expectations, there may be a

surplus that is not properly allocated, leading to inefficient use of resources. To address the problem of uncomplimentary revenue, it is essential to have a realistic and conservative revenue projection that takes into account the variability of revenue sources. This means that when creating the budget, revenue from unpredictable sources should be treated with caution and not included as a guaranteed revenue source. Instead, it should be considered as a potential source of revenue and used to fund specific projects or initiatives that are not part of the essential operations of the educational institution. By doing so, educational institutions can avoid the negative consequences of uncomplimentary revenue and ensure financial stability in the long term.

Advantages of budgeting

The central purpose of financial management in educational institutions is ensuring that funds mobilised are utilised most effectively and efficiently. This is based on the fact that resources are scarce and so heads of educational institutions should ensure optimal utilisation of funds. Following the realisation, budgeting in education has several advantages that can improve the quality and effectiveness of educational programmes. Some of these include:

i. Optimum utilisation of funds

Budgeting assists educational managers and administrators to keep a record of their stewardship in financial matters for the benefit of the government, the proprietors or the governing council of the institution. It is, therefore, a means of holding managers responsible for the financial distribution of resources in an institution.

ii. Efficient resource allocation

Budgeting allows educational institutions to allocate resources efficiently and effectively, ensuring that funds are directed towards the most critical areas of need. For example, a school district may allocate more resources to schools with a high number of low-

income students to provide additional support and resources to help these students succeed.

iii. Improved planning

Budgeting enables educational institutions to plan for the future, anticipating the needs and demands of students and faculty, and developing strategies to address these needs. For instance, a college may use budgeting to plan for the construction of new buildings or to provide more scholarships to attract a diverse student body.

iv. Transparency

Budgeting promotes transparency and accountability by providing a clear and concise overview of the financial position of the educational institution. This allows stakeholders to monitor the allocation and use of resources, ensuring that funds are used appropriately. For example, a school board may publish a budget report for parents and community members to review and provide feedback.

v. Flexibility

Budgeting provides a framework for responding to changing circumstances and priorities, allowing educational institutions to adjust their spending priorities and strategies in response to changing needs. For example, a school district may need to shift funds from one programme to another in response to changes in enrollment or student needs.

vi. Resource optimization

Budgeting promotes the efficient use of resources, reducing waste and maximizing the impact of educational programmes and initiatives. For instance, a university may use budgeting to allocate funds to departments with high enrollment and demand for courses, reducing the need for hiring more faculty and staff.

vii. Better decision-making

Budgeting provides a basis for informed decision-making, allowing educational institutions to evaluate the costs and benefits of different options and make decisions that are consistent with their priorities and goals. For example, a school principal may use budgeting to decide whether to hire a new teacher or invest in technology to enhance student learning.

viii. Enhanced accountability

Budgeting provides a framework for tracking performance and measuring outcomes, ensuring that educational institutions are accountable for their performance and are meeting the expectations of stakeholders. For instance, a school district may use budgeting to set performance goals and evaluate the effectiveness of educational programmes and initiatives.

Overall, budgeting in education is crucial to ensuring that resources are allocated effectively and efficiently, enabling educational institutions to provide high-quality education to students and meet the needs of their communities.

Fiscal control measures

According to the Corporate Finance Institute (2023), fiscal control measures are the procedures, policies, and means by which an organisation monitors and controls the direction, allocation, and usage of its financial resources.

Fiscal control, also known as budgetary control, is at the very core of resource management and operational efficiency in any organisation. As identified by Corporate Finance Institute (2023), for concrete fiscal control measures, the following processes are required:

i. Detecting overlaps and anomalies

Financial budgets, financial reports, profit and loss statements, balance sheets, etc., present the overall performance and/or operational picture of a business. Hence, while formulating financial control policies, it is very important to detect any overlaps and/or

anomalies arising out of the data available. It helps in detecting any existing loopholes in the current management framework and eliminating them.

ii. Timely updating

Financial control is the essence of resource management and, hence, the overall operational efficiency and profitability of a business. Timely updates of all available data are very important. In addition, updating all management practices and policies concerning the existing financial control methods is also equally important.

iii. Analysing all possible operational scenarios

Before implementing a fixed financial control strategy in an organisation, it is important to thoroughly evaluate all possible operational scenarios. Viewing the policies from the perspectives of different operational scenarios – such as profitability, expenditures, safety, and scale of production or volume – can provide the necessary information. Also, it helps establish an effective financial control policy that covers all operational aspects of the organisation.

iv. Forecasting and making projections

While implementing a financial control policy, forecasting and making projections are very important steps. They provide insight into the future goals and objectives of the business. In addition, they can help establish a financial control policy per the business objectives and act as a catalyst in achieving such goals.

Fiscal control is a key mechanism to ensuring the successful execution of any project. In education, it is important to have proper fiscal management to ensure the appropriateness of the organisation's spending and to make changes if necessary, which helps minimize budgeting complexity (Lyka, 2022). Fiscal control in education ensures that an academic institution has funds to fulfil its goals and objectives and that these funds are utilized for which they were intended to be employed (Lyka, 2022).

Hence, to ensure proper utilization, below are more specific points that address the possible measures to be taken to facilitate fiscal control.

i. Establishing a budgeting process

A budgeting process is essential for educational institutions to ensure that financial resources are allocated strategically and efficiently. The budgeting process should be transparent and involve input from stakeholders, such as administrators, faculty, staff, and community members. The budget should be aligned with the institution's goals and priorities and should be regularly reviewed and updated as needed. This can help ensure that the institution is making the most of its financial resources and achieving its goals.

ii. Monitor and control expenditures

Educational institutions should have procedures in place to review and approve expenditures, ensure they are authorized and within budget, and that they are processed accurately. Financial controls, such as purchase orders, receipts, and invoices, can help ensure that expenditures are accurately documented and authorized. In addition, procedures for managing cash, such as cash handling and petty cash, should be established to prevent fraud and waste.

iii. Implement financial reporting

Educational institutions should produce regular financial reports that provide a clear and transparent view of their financial position. Financial reports should include detailed information on revenue, expenses, assets, and liabilities. The reports should be accurate, reliable, and timely, and should comply with accounting standards and regulatory requirements. This can help stakeholders, such as administrators, faculty, staff, and community members, to better understand the institution's financial position and make informed decisions.

iv. Conduct internal audits

Educational institutions should conduct regular internal audits of their financial systems and processes to identify weaknesses and vulnerabilities. Internal audits should be conducted by trained professionals who are independent of the financial management team. The audit should identify areas of risk and make recommendations for improvements. This can help identify potential fraud or mismanagement, and help ensure compliance with regulations and policies.

v. Ensure compliance with regulations

Educational institutions should ensure compliance with all relevant regulations and policies related to financial management. This includes procurement procedures, accounting standards, and reporting requirements. Institutions should establish policies and procedures to ensure compliance, such as tracking and reporting expenditures, reviewing vendor contracts, and ensuring that appropriate approvals are obtained.

vi. Develop a risk management plan

Educational institutions should develop a risk management plan that identifies potential risks related to financial management, such as fraud and mismanagement, and outlines strategies to mitigate those risks. Risk management should be integrated into the budgeting and planning process and include procedures for identifying and reporting risks, establishing controls to manage those risks, and developing contingency plans to address potential problems.

Overall, these fiscal control measures can help ensure that educational institutions manage public funds responsibly and transparently and that resources are directed towards supporting student success and meeting the needs of the institution's stakeholders.

Surprisingly, much of the school finance literature focuses on measures of intended public expenditure, such as budget allocations, instead of actual budget expenditure when measuring an education

system's quality and equity (World Bank, 2013). However, budget allocations or other measures of intended expenditure may be a poor proxy for education services reaching beneficiaries (World Bank, 2013). In a fact, if resources are not used for their intended purpose, it is unlikely that education services will be of adequate quality. Therefore, a crucial area for understanding school finance systems is the fiscal control mechanisms used to plan, monitor, and execute the education budget.

As opined by Kinuthia (2012), the perceived important role of fiscal management is because all transactions revolve around cash, and unlike other resources, cash could easily be lost if not well managed. So, more often than not, the funds disbursed to schools are mostly strictly meant for tuition and operational expenses such as support staff, activity, repair and maintenance. As a result, a high level of accountability is required (Kinuthia, 2012). Unfortunately, fraud and corruption among school management members hinder effective budget execution (World Bank, 2013). This then implies that a lack of transparency in the budgeting process limits access to information on the resources available, weakening the capacity of local communities to exercise scrutiny on the resources allocated and used for the delivery of education services (World Bank, 2013).

According to the same report by World Bank (2013), while well-functioning finance systems are not sufficient for academic effectiveness, the extent to which education systems put in place fiscal control mechanisms to ensure that resources budgeted for education are spent in the intended ways is a critical factor in school finance systems. Hence, it is safe to recommend that fiscal controls in school finance should include reflected budgeting processes that include budget implementation/execution reviews, reporting requirements, internal and external audits, public information on school budgets, and enforcement mechanisms.

In the implementation of fiscal control measures, there are primary participants to be involved in the kind of effective financial management system that we advocate. These include:

a) **Parents, Teachers, Students, and Community Members**

Their involvement brings diverse and objective voices not directly represented by school officials and governance bodies to the decision-making process, and their positions as non-school employees/non-elected officials provide a useful set of checks and balances.

b) **School Officials**

They bring knowledge and skills in aligning both educational needs with programmes and practices and also those programmes and practices with available resources. They can translate the needs, goals, and approaches derived from broad-based decision-making into concrete educational and financial terms.

c) **School Governing Bodies**

They play an important role by holding school officials accountable for responding to the expressed needs of the community. Acting on behalf of their constituents, they approve and monitor fiscal plans and their implementation. They serve (and should represent) the interests of not just their constituency, but the entire community, and they can provide a useful and important communication channel between the school and the community.

d) **State Departments of Education**

They can hold both school officials and governing bodies accountable for effective, efficient, and responsive leadership. They have the joint responsibility of ensuring that schools and districts use resources wisely to meet the needs of their students and also of providing the training and resources that will enable them to do so. Fiscal control measures play a critical role in ensuring the responsible and effective management of financial resources in education. Establishing a budgeting process, monitoring and controlling expenditures, implementing financial reporting, conducting internal audits, ensuring compliance with regulations, and developing a risk management plan can help educational institutions manage public

funds transparently, efficiently, and effectively. By following these measures, institutions can build trust with stakeholders, optimize resource allocation, and support student success. To ensure the long-term financial sustainability of educational institutions and the success of the students they serve, it is pivotal to put those measures in place.

Summary

It is one thing is to raise fund, another is to ensure that the fund raised is well utilized by the school managers. In response to this fact, Lasisi (2021) reinforced that resources were scarce, and optimal utilization of the available resources was expedient. However, to ensure judicious spending of funds and accountability, school administrators are expected to plan and prepare budgets for their schools. In turn, effective budgeting in education involves developing a comprehensive and transparent process that aligns financial resources with strategic priorities and implementing fiscal control measures to ensure responsible financial management and compliance with regulations.

In this body of work, we have adequately established that budgeting is a framework that helps to curtail excessive spending and provides guidelines to managers on how to allocate available resources for each activity that requires a financial commitment. We strongly believe that the process of budgeting and its implementation goes beyond having a sect that would be responsible, it includes a participatory display of an equitable utilisation from every party and stakeholder that has a stake in the finances of the institution. We also believe that without a well-drafted budget, educational institutions would suffer the quality that they need to survive. This could be a result of the lack of expertise from the management or the corruptible practices that may be existent in the system. Irrespective of the institution or financial situation, it is expedient that every institution, whether educational or not, has a budget that guides its finances.

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