Examining the Roles of Human Capital Theory. What next for Construction Industry?

John Aliu 1,2*, and Clinton Aigbavboa 2

1Department of Civil Engineering, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa.
2 Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment University of Johannesburg, South Africa.
Corresponding Author;  Ajseries77@gmail.com

Abstract-
The concept of human capital is very common in present-day construction industry with reference to its philosophy and techniques. Human capital (HC) is widely discussed in different fields; hence, its meanings differ from one field to another. This study provides a detailed discussion on the development of the human capital theory under various themes and sub-themes. The study further seeks to discuss the several effects of human capital development on industry success and competitiveness and how this contributes to economic growth in developing countries. Relevant literatures on HC theory and development were extracted from Scopus. Scopus is widely acknowledged as one of the widest interdisciplinary databases for engineering, technology, science and medicine. The Scopus database features over 20,000+ peer-reviewed journals from over 5000 publishers. The Scopus database allows its users to perform more detailed searching opportunities compared to other databases such as Academic Search Complete, Art and Architecture Complete, Ebsco Host, SpringerLink and Web of science. The distillation of literature through thematic analysis revealed the various roles of human capital and its correlation with construction industry success and growth. Findings from this study revealed that the success of the construction industry is firmly related to the effectiveness of its human capital. The study revealed that the human capital theory is not without its criticisms and barriers. Practically, this study explores the various benefits of human capital to employers of the construction industry. The study suggests that human capital development plays a key part in retaining quality employees and recruiting prospects. Furthermore, investment in human capital goes a long way in improving employee satisfaction, organisational culture and increased productivity. This study contributes to the human capital discourse, which is the measure of economic value provided by employees with reference to their abilities, skills, values and knowledge.

Key words: Human capital theory, human capital, employability, construction industry

1. Introduction
The construction industry is well known to play a significant role in almost every economy globally. Its activities which includes provision of local amenities, generating or creating new wealth and infrastructural development are key drivers for the achievement of socio-economic development goals among developing countries [1]; [2]. Due to the state of the industry in developing nations with regards its low-tech and labor intensiveness, the development of its human capital (HC) is paramount for long-term sustainability and achieving its socio-economic
development goals [3]. The concept of HC has received general attention as the most veritable asset of nations, policies and organisations. It has been described as the vital core of strength within the world of work and a key construct that determines the competitiveness of profitability of organisations today. Infact, [4] suggest that despite the fact that firms require a number of parameters to be effective in their approach, its human resources and management are most likely to provide the competitive edge.

Apart from its germane contributions to organisational success, HC is also instrumental to the employability and earning capacity of individuals. Like earlier stated, the economic prosperity of a nation as well as the construction industry is connected to its HC because it is labor intensive. Hence, the effective design and delivery of construction related projects is dependent on the quality of employees at the various levels at all stages from project inception through to project completion. It is therefore vital to develop and retain an adequately skilled workforce capable of meeting the needs of the industry [4]. [5] insist organisational success is not based on conventional factors such as company image or size, but the effectiveness and productivity of its workforce in achieving organisational objectives [4].

In our current world where knowledge and ideas dictate the trends, the industry is concerned with factors such as human and intellectual capitals to improve its survival, while maintaining competitive advantage. Subsequently, there is increasing evidence that indicates a connection between human capital development and organisational performance. This is obvious because the present-day construction sector insists on recruiting and retaining employees who are well skilled and capable of handling arising problems. With the world of work facing several changes, legislative demands and fierce competition, HC development is a veritable route for innovations and developing ideas for continuous improvement [6]. For this reason, it is pertinent that various strategies and effective policies are developed to improve human capacity development to mitigate these changes. This study explains the concept of human capital (HC), its characteristics and key elements, its importance and linkage to other corresponding forms of capital, which includes intellectual, social, and organisational.

2. The Concept of Human Capital Theory
In clear terms, HC refers to anything but physical capital including equipment, properties and financial capital. In previous centuries, the contribution of physical capital to the gross domestic product (GDP) of economies of advanced nations have plummeted, while the quota of HC has skyrocketed [7]. This meteoric rise of human capital shares to the GDP of nations has fostered the concept of a knowledge-based economy. However, HC is not regarded as just an input considering its dynamic roles which goes beyond the production of goods and services. According to [8], HC also refers to education, knowledge, work competence and even psychometric evaluations. The concept can be dated back to the writings of Adam Smith in his book, Wealth of Nations which was published as far back as 1776. Smith argues that education and training is the bedrock of HC in any society. Centuries later, [9], supported Smith’s postulations and described education as a national investment and highlights that the most valuable capital of all is that which is invested in humans [9]. In further discussions regarding the historical evolution of HC, the role of [10] and [11] cannot be overstated. [10] identified education as a form of capital as it deals with the generation of skills and knowledge. Subsequently, [11] hypothesised the relationship between education and economic
development. With the emergence of this theoretical perspective, the term ‘human capital’ was coined and has been utilise ever since in scholarly works and even in practice. The concept which is firmly rooted in economic literature is neither physical capital nor financial capital. [12]. [13] defines this type of capital as the skill, creativity, knowledge, health and creativity of an individual. [13] also believes that there are three aspects of the capital concept (human capital, physical capital, and financial capital). [13] further differentiated between general human capital and specific human capital. General HC (generic skills) is the knowledge obtained through education and training which can be useful across all fronts. On the other hand, specific HC refers to specific skills and knowledge acquired through training and education that are required to function effectively in a particular firm. They can also be regarded as context-specific skills. Like most theories, the HC is not exempted from criticisms. Over time, various researchers have criticised the theory for being too basic in its assumption and have reasoned that education alone cannot influence organisational productivity but must be complemented by other constructs. Factors like contract terms, training and management practices were put forward as possible dimensions that must exist for education to improve productivity [14]. [15] believes that productivity deals mainly with job characteristics rather than the employees themselves, while [16] posits that education may simply be the only way to ascertain the productivity of a graduate since there none other ways to determine the attributes of an individual. In spite of these criticisms, [11]’s HC theory remains a principal construct that understands the concept of human capital with reference to the views from both the individual and the organisation [3].

2.1 Definition of Human Capital

Over time, several researchers have proposed various definitions for the concept of human capital. However, each of these definitions emphasise different characteristics of the concept. According to [17], it is defined as a collection of knowledge, creativity and features with which individuals utilise in carrying out their jobs effectively. This definition is resonated by [18], who describes HC as the skills, knowledge and capabilities of individuals who are economically valued by their employers. In the definition by the Organisation for Economic Cooperation and Development [19], HC is defined as the skills, competencies, abilities and knowledge possessed by individuals which improves their personal, social and even economic well-being. It is further defined as the capabilities, experience, skills and knowledge which are innate and inseparable from an individual [20]. [21] refer to HC as an investment in knowledge and skills while [22] insists that it provides a nation with a competitive edge that could lead to economic growth and enhance everyone’s welfare. The definition by [23] describes HC as the individuals, their performance and their potential to function in the world of work. The inclusion of the term ‘potential’ suggests that individuals can develop their abilities and knowledge on the long run. This study draws a great deal from the definitions reviewed by various scholars. Hence, HC refers to the skills, knowledge, experience, attributes and experience that graduates possess which makes them valuable to the employers of an organisation.

Another aspect of the human capital theory is that it emphasises on education as an important economic enabler [24], which identifies labour as a veritable factor of production [25]. Within the framework of the HC theory, ‘human capital’ speaks of the quality of labour, thus the knowledge, skills, and competencies of employees [25]. There has also been evidence that a
higher level of training will result in individuals with higher qualification to meet construction industry needs [16]. This is supported by [26] who argues that investing in HC through education and training impacts the industry and the society at large. In fact, HC theorists suggest that an educated and well-informed population is ultimately a productive one. Considering the dynamism of the construction industry, it is expected that HC are trained to be flexible, adaptable and skilled to be responsive to the industry changing demands. According to the HC theory, industry productivity is guaranteed if a graduate possesses the requisite skills and can lead to both individual and economic benefits.

2.2 Human Capitals and Corresponding Capitals

According to [27], the concept of human capital is assumed to consist of an individual’s skills, knowledge, capabilities and experience as well as the ability to improve these through individual learning. Hence, the emphasis on knowledge and learning is pivotal and there is no substitute for both components. Regarding human capital, the following corresponding capitals will be discussed: intellectual, social capital and organisational capitals.

Intellectual Capital

According to [28], there are four different elements of intellectual capital namely: individual explicit knowledge (which is referred to as conscious knowledge and is available to an individual in the form of facts or concepts); individual tacit knowledge (which is referred to as automatic knowledge and is available to an individual in the form theoretical and practical knowledge); social explicit knowledge (which is referred to as objectified knowledge) and social tacit knowledge (which is referred to as collective knowledge).

Social Capital

Social capital refers to the network of relationships among people and how they relate in achieving a common goal. Social capital deals with a wide range of social phenomena that affects the performance and behaviors of individuals. These social factors include health and well-being, general economic performance, crime and disorder tendencies, immigration status, amongst others [27].

Organisational Capital

According to [20], the role of this form of capital is to link the resources of an organisation together to create a sustainable advantage for the system. Some of these includes information and communication infrastructures; incentives, controls and performance measurement systems; decision processes and information flows; organisational and reporting structures and values and leadership. If employees are to be motivated in developing their skills and knowledge, there will be a salient need for effective interaction among these dimensions [27].

2.3 Features of Human Capital

Knowledge and Skill
Scientists like Adam Smith discussed about the value of employees’ knowledge and skill and the role both play in the production and efficiency of their employers [29]. [29] proposed that training is a considerable investment in workers that fosters their skills and abilities in handling workplace problems. The process of empowering and developing employees is bound to increase their motivation and adaptability to organisational dynamics and changes [30]. Hence, knowledge management is an effective scope that is created and stimulated through various factors such as organizational development, human resources, information technology, management change, measuring performance, and placing value [31]. Knowledge management can also be regarded as the possession of commercial, knowledge and utilising it to stimulate innovativeness [32]. It is therefore pertinent to be aware of the importance of knowledge and its management because economic growth is interrelated with knowledge [33].

Creativity and Innovation

The survival of organisations is a function of their power of rebuilding that can be accomplished through achieving goals and improving the methods in the realisation of the stated goals. Therefore, organisations must seek to encourage creativity and innovations to align themselves with the present complexities and convolutions characterising the world of work [7].

Competitive Advantage

According to [7], in establishing a competitive edge, organisations must seek to create a distinction from their competitors by acquiring the services of more knowledgeable and skilled employees. Values and ethics such as creativity, flexibility, adaptability and quality performance help to play a significant role in establishing a competitive advantage for the organisation [34]. Consequently, employees who are skilled are regarded as intellectual capitals and important economic resource that play a positive part in further establishing a competitive advantage for employers [7].

Increased Customer’s Satisfaction from the Organization

This feature deals with the behaviours of employees and its significance to the success of the organisation. [35] opines that employees who display a high quality of service delivery tends to create a positive vibe among customers that positively influences their loyalty to the organisation and which in turn can lead to increased financial benefit for the firm. Therefore, the loyalty of a customer to an organisation is directly proportionate to the employee’s behaviour towards that customer. Hence, the qualities such as attitude, competence, experience and skill of employees can invariably influence the commitment of customers to the firm in question [7] [36].

3. Methodology

Relevant literatures on HC theory and development were extracted from Scopus. Scopus is widely acknowledged as one of the widest interdisciplinary databases for engineering, technology, science, medicine, and it includes over 20,000+ peer-reviewed journals from more than 5000 publishers and searches over 500 million scientific web resources and more than 24
million patents. The Scopus database allows its users to perform more detailed searching opportunities when compared to other databases such as EBSCO Host, SpringerLink, JSTOR and even Web of Science. The method applied in this research study was a systematic literature review. This system of review is often regarded as one that provides one of the most efficient methods of identifying and evaluating high quality scholarly articles. Often applied in the medical field, systematic reviews have also gained momentum in other fields in recent times. They are distinctive as they adopt a scientific, rigorous and transparent process. This review approach minimizes the issues of bias and subjectivity as the method identifies the key contributions to a field and presents the findings in a descriptive manner. Systematic reviews do not rely on statistical procedures to analyse data and summarise findings like in the case of meta-analyses. The stages for this review includes developing clear objectives, setting of clear inclusion criteria, rigorous search of related articles in pre-defined journals, assessment and synthesis of individual studies and finally results presentation.

The systematic review on HC theory and its development utilised Scopus to extract relevant literatures based on the search criteria that included the following keyword combinations: ‘human capital’, ‘human capital theory’, ‘employability’, ‘construction industry’ ‘graduate AND employment’ AND opportunities’. This search was restricted to the various keywords found in the research title and abstract as well as keywords noted from retrieved scholarly articles. The search was further restricted to the last 10 years, 2008-2018, to ensure more recent opinions except in the cases of theoretical backgrounds and antecedents upon which this study gained its foundational relevance. The initial search generated 7406 articles across various subject areas including business management, marketing, psychology and the built environment. The rationale for doing so was influenced by the need to understand the concept of HC across various fields. Since the research title highlighted the construction industry domain, this filtering reduced the total to 301 articles. All 301 articles were then individually examined which helped in the realisation of this study. In order to be included in this review, the article had to comply with the following criteria: published in a peer reviewed journal (which meant that books, newspaper articles, unpublished works and even conference proceedings) were not considered; referred to HC explicitly as well as one of its related components or features.

4. Human Capital and Employability
The concept of HC is firmly related to the concept of employability. This stems from [11]’s definition of HC as the skills, abilities and knowledge possessed by individuals and acquired through experience, education and training. These attributes are often cited as intangible asset that play a crucial role to a firm’s performance and advantage. Findings from the HC theory posits that individuals are capable of developing themselves by investing in education, training, competence development and experiential learning [37]. Thus, graduates cum employees are regarded as custodians of HC, who can determine the level of investment in their HC [12]. HC variables such as work experience and training [12], job performance and organization tenure [38], and age and education [39], are all regarded as constructs that influence the concept of employability.

5. Lessons Learnt and Conclusion
The key objectives of this research work were to further understand the concept of human capital theory and its relationship to the employability of present-day graduates in the construction
industry. From examined literatures, the accumulation of knowledge and HC has a direct influence on the output of the construction industry. In developed nations of the world that rely on the growth of gross domestic product (GDP), the level of training of employees has directly increased its productivity and knowledgeability. Social benefits that are derived from the accumulation of HC also affects the economic growth of nations on a long-term basis.

In summary, HC plays a critical role in individual development, knowledge increase, improvement of life and income, poverty reduction and economic growth. While the need for new revolutions to combat capitalism has become more prominent, the element of human forces cannot be over-emphasised. The literature review on HC development reveals a practically strong correlation between HC development and the present-day construction industry and other significant operational outcomes.

Considering the numerous problems facing the construction industry in developing nations such as cost, quality and productivity related problems, a strategic and deliberate investment in various aspects of HC development will go a long way in mitigating these problems. Furthermore, there is the need for industry practitioners and stakeholders to regularly update and review their human development policies to address the various changes facing the industry such as globalisation, information technology amongst others.

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