

## **HUMAN CAPITAL THEORY: IMPLICATIONS FOR THE GHANAIAN CONSTRUCTION INDUSTRY DEVELOPMENT**

Fugar, F.D.K<sup>1</sup>, Ashiboe-Mensah, N.A<sup>2</sup> and Adinyira, E<sup>3</sup>

<sup>1 2 3</sup>Kwame Nkrumah University of Science and Technology, Kumasi, Ghana  
Email: fdkfugar.cap@knust.edu.gh; naaadjeleyashiboe@yahoo.co.uk; adinyira.feds@knust.edu.gh.

### **Abstract**

The purpose of this study is to identify from the literature the effect of human capital development on growth, profitability and competitive success of organisations and to argue that the development of the Ghanaian construction industry, its capacity to remain pivotal to the nation's economic growth and the ability to become globally competitive are directly linked to investment in the development of its human capital. This theoretical paper reviewed the literature to identify empirical evidences of the correlation between human capital development and organisational success and profitability. The findings reveal that investment in education has positive correlation with high performance of other industry categories. The research has also revealed some criticisms of the theory of human capital development and provided insights into the barriers to human capital development within the construction industry in developing countries such as Ghana. The paper presents empirical evidence of the benefits that accrue to organisations that invest in human capital development and provides a training and development model that could serve as a framework for training and developing employees within the Ghanaian construction industry.

**Keywords:** Human capital development, Ghanaian construction industry, Firm performance

### **INTRODUCTION**

The construction industry in Ghana, like in every other country, is pivotal to the economic welfare of the country. It is a major industry for generating or creating new wealth and value to meet other economic and social goals in the country (Ahiaga-Dagbui, et al., 2011). Compared with other industries, the Ghanaian Construction industry is low-tech and labour intensive. Consequently, the long term sustainability of the industry's significant role in the socio-economic development of the country is contingent upon the development of its human capital bearing in mind some of the human-related problems that has bedeviled the industry over the years; low productivity, low quality workmanship, low level of technical and

managerial competence, and time and cost overruns (Westring, G, 1977; Ofori, G. 2001; World Bank, 2003; Ahiaga-Dagbui, et al., 2011).

Human capital has been generally accepted as the most valuable asset of nations and organisations. It is the core capability within firms and an important variable that determines an organisation's competitive success and profitability in today's market place. Fisher et al. (2003) state that organisations require a number of things to be effective but the factor that is most likely to provide potential competitive advantage is human resources and how these resources are managed. Besides its significance to a firm's success, human capital is a key to an individual's employability and earning capacity.

As already stated, the economic prosperity of the construction industry is closely tied to its human capital because it is labour-intensive. Thus, the effective delivery of construction projects depends on the quality of personnel at the professional, technical, supervisory and worker levels at all stages from project inception through design and implementation to completion. It is important therefore, to train, develop and retain quality work force capable of and committed to the success of the industry. Paradoxically, it is in this industry that there is a "wide spread of ignorance of good practice in this area" (Loosemore et al., 2003).

Globalisation, technological change, market complexity and the growing number of competitors in all industries have put high premium on human capital development because it is a critical part of organisation's competitive capability. Marimuthu et al. 2009 and Fisher et al. 2003 emphasise that production technology, financing and marketing can all be copied by other competitors but the strategy that is harder to copy is the unique ways an organisation optimises its workforce through comprehensive human capital development towards the realisation of organisational goals, long term survival and sustainability. Pfeffer, (1998) also states that organisational success is not based on conventional factors such company size, a unique image, the right market niche, dominant market share, being in the right industry, and so forth, but on how employees are treated (cited in Fisher et al. 2003).

Indeed, in an environment of constant change and fierce competition, human capital development is a veritable and inevitable route to developing ideas for reconfiguration, innovation, quality and continuous improvement, as well as other critical variables necessary to succeed in the business world. The construction industry in the last two decades has seen tremendous changes in construction technology, procurement practices, IT, legislation and above all client demands (Loosemore et al., 2003). For that reason, it is important that effective policies and strategies are developed to promote superior human capacity development and management within the Ghanaian construction industry to cope with these changes and in order to remain relevant. This theoretical paper discusses issues of human capital development and advocates the potential positive association between human capital development and the growth of the construction industry by linking human capital development with high performance in other industry categories.

### **THE HUMAN CAPITAL THEORY**

Bohlander et al. (2001) define human capital as “knowledge, skills, and capabilities of individuals that have economic value to an organization.” The Organisation for Economic Cooperation and Development (OECD, 2001) describes human capital as “the knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being.” Dess and Pickens (1999) also define human capital as “capabilities, knowledge, skills, and experience, all of them embodied in and inseparable from the individual.”

This paper focuses on human capital as the knowledge, skills, competencies, experience and attributes that individuals have which contribute to the achievement of organisational goals and enhance individual value in the market place. Thus, human capital development is any activity which increases the quality of the employee. Training is a primary mechanism by which human capital is developed. Marimuthu et al. (2009) describe it as the knowledge and training required and undergone by an employee that increases the individual’s capabilities in performing activities of economic values.

The theory of human capital was proposed by Schultz (1961) and developed by the Nobel prize-winning economist Gary S. Becker in his seminal work on the economics of employer-provided training (1962, 1964). Human capital theory advocates that education or training imparts useful knowledge and skills to workers which in turn increase their productivity and incomes (Becker, 1964). Becker distinguishes between specific human capital and general human capital. Specific human capital includes expertise acquired through education and training which is specific to a particular firm (firm-specific or context-specific skills). General human capital (general skills), on the other hand, is knowledge gained through education and training which is valuable across board (e.g., reading and writing).

Becker views human capital as similar to "physical means of production", e.g., factories and machines: one can invest in human capital (via education, training, medical treatment) and one's outputs depend partly on the rate of return on the human capital one owns. Thus, human capital is a means of production, into which additional investment yields additional output.

A number of authors have criticised the human capital theory for being too simplistic in its analysis of employee productivity and have argued that education alone cannot lead to organisational productivity but must be complemented by other variables. Levin and Kelley (1994) have pointed out that economists and other social scientists have overestimated the payoffs from increased education and ignored complimentary inputs such as, training, contract terms, and management practices which must exist for education to improve productivity. According to Thurow (1975), productivity is largely characteristic of jobs rather than of workers; employers use education credentials to select workers because better-educated workers can be trained for specific jobs more quickly and at a lower cost than their less-educated peers. Spence (1973) also posits that education may simply be a market signal of the potential productivity of a worker since there is hardly any other way for firms to determine the productive attributes of a worker. Notwithstanding these criticisms, "Becker's human capital theory has been resilient and still remains the principal theoretical construct that is used for understanding human capital investment, both from the perspective of the individual and the firm" (Bassi & McMurrer, 2006).

## **POTENTIAL PAYOFFS OF HUMAN CAPITAL DEVELOPMENT**

The following are some benefits of human capital development:

- Results in high and effective performance (Beardwell and Holden, 1997 cited in Loosemore et al., 2003);
- Provides competitive advantage in emerging knowledge economy (Lengnick-Hall and Lengnick-Hall, 2003);
- Prepares employees for promotion and managerial succession (Grobler et al., 2002);
- Fosters a continual learning culture and stimulates the reinventing of organisations in a highly competitive and turbulent environment (Martocchio and Baldwin, 1997 cited in Fisher et al., 2003);
- Updates or gives new skills to front-line as well as managerial employees in order to keep them from obsolescence in the face of constant technological innovations and the global competitive pressure (Grobler et al., 2002);
- Enhances loyalty and retention of top-quality staff (Candy and Miller, 2000; Elsdon & Iyer, 1999, cited in Fisher et al., 2003);
- Increases the problem-solving abilities and the creative thinking of managers to handle the multifaceted problems of organisations (Fisher et al., 2003);
- Satisfies personal growth needs of employees (Grobler et al., 2003); and
- Manifests corporate commitment to employees who may, as a result, feel valued by their employers (Sisson and Storey, 2000 cited in Loosemore, et al., 2003).

## **EVIDENCE OF THE EFFECTS OF HUMAN CAPITAL DEVELOPMENT AND FIRM'S PRODUCTIVITY**

Hansson et al. (2003 cited in Bassi & McMurrer, 2006), conducted an extensive review of the literature to identify the impact of investment on human capital development at the firm level in European countries and concluded that “increasingly, studies provide evidence that training generates substantial gains for employers. The most compelling evidence is presented in several recent papers connecting training investment with changes in productivity, profitability, and stock market performance.” Another review of literature by Tamkin et al. (2004 cited in Bassi & McMurrer, 2006) which focused primarily on firms in United Kingdom has concluded as follows:

- “The evidence is that the benefits to the firm exceed the wage costs paid back to the individual;
- High performing firms employ better educated people than low performers;
- Better educated workforces are associated with higher productivity and other organisational outcomes;
- Matched plant research has suggested skills are an important component of the skills gap with competitor nations;
- Higher levels of training are associated with positive business benefits in several studies but not all;
- There is mixed evidence regarding the kinds of training and their link to business outcomes;
- Evidence suggests consistent trainers achieve greater returns.”

What is more, Hansson (2005) analyses data on about 6,000 private sector organisations in 26 countries (primarily in Europe, but including a small number of non-European countries) and concludes that “staff turnover (mobility) does not appear to be a decisive factor in explaining the provision of training on a national or company level though it is to some extent associated with profitability. However, the single most important factor associated with profitability is how much is invested in training (intensity), suggesting that the economic benefits of training outweigh the cost of staff turnover” (cited in Bassi & McMurrer, 2006)

A number of studies in the US (Low and Kalafut, 2002; Pfau and Kay, 2002, Buckingham and Coffman, 1999) conclude that the best human capital practices are directly related to firm’s present and future performance, high financial performance, employee retention, customer satisfaction, and productivity. Certainly, there is a growing body of evidence in the literature that human capital development can play an important role in improving firms’ financial performance, productivity and other key operational outcomes.

## **BARRIERS TO HUMAN CAPITAL DEVELOPMENT WITHIN THE GHANAIAN CONSTRUCTION INDUSTRY**

Despite the acclaimed contribution of human capital development to organisational growth and profitability, most Ghanaian construction companies do not take advantage of it due to certain barriers:

### ***Lack of central development and regulatory agency***

Currently, there is no central agency with legislative backbone to promote and enforce the advancement of skills, experience and professionalism in the Ghanaian construction industry. There is no compulsion on firms and contractors to undertake continual development of their employees. This has partly led to the poor performance on projects in areas such cost, quality and productivity. A high percentage of construction projects undertaken in Ghana overshoot the cost and time limits set by the parties (Ofori 2003; & Erkelens et al., 2008). It is in this regard that calls for a Construction Development Board for Ghana is relevant and urgent, following successful examples in other countries: the National Construction Council (NCC) of Tanzania, the Building Construction Authority (BCA) of Singapore and the Construction Development Boards (CIDB) of Malaysia and South Africa.

### ***Lack of financial resources***

The myriad of problems facing Ghanaian contractors and consultants is vividly captured in a road-sector report. Among these problems are inability to secure working capital, perennial problem of arrears in payments and low level of consultancy fees (Government of the Republic of Ghana 2000). This situation makes it almost impossible for contractors to embark on human capital development and prevents the development of technical support for consultancy firms in Ghana. Notwithstanding the financial problems and having regard to the immense benefit of human capital development to be accrued to the industry, creative approaches to training and development could be adopted to minimise cost and time. On-the-job training, for example, even though has its short comings may be one of such approaches to reduce cost and time.





***Lack of appreciation of the role of human capital in organizational performance***

Some managers do not appreciate the importance of human capital development as the means for reinventing organizations to be competitive and proactive in a highly competitive and ever-changing economic environment. In such organisations, human capital development is hardly ever incorporated into their strategy and structure. This has partly contributed to the non-viability and non-competitiveness of such domestic enterprises.

***Cost of human capital development***

Besides being one of the most important human resource management functions, Human capital development is also one of the most expensive (Fisher et al., 2003). It involves investment of time and financial resources with long-term benefits. Most owners of construction firms are more interested in immediate benefits than long-term returns. Thus, such enterprises are not normally inclined to invest in human capital development. Furthermore, insufficient and erratic flow of jobs coupled with irregular payment for work done by construction clients has exacerbated the reluctance of construction firms in Ghana to invest in human capital development.

***Macho-nature and low-tech of the industry***

The Ghanaian construction industry, like others in developing countries, is labour intensive and many of the activities on construction projects are physical in nature and cannot be effectively learned in the classroom. This has contributed to the less value placed on formal training or education by some managers (Loosemore et al., 2003).

***Slowness to change***

The construction the industry is slow to change; old construction techniques and materials are still been used thus making human capital development seemingly inconsequential; For example, in 2007, PMC Global Incorporated of the USA started the production of pozzolana cement to reduce the cost and perennial shortages in cement supplies in Ghana.

Pozzolana cement is the product of 30 years of extensive research by the Building and Road Research Institute (BRRI) of the Council for Scientific and Industrial Research. However, because of low patronage, the company was reported to be on the brink of folding up (Business, 2011). This is just one example of how slow the Ghanaian construction industry is in adopting innovation. Consequently, little opportunity or incentive is available to train employees in new technologies and processes.

### ***High employee mobility***

High mobility of construction employees is a major disincentive for training and development. Trained employees are easily poached by other companies through the use of attractive remunerations and other benefits. Thus, no employer is willing to train employees who become easy 'preys' for their competitors. It is unattractive for contractors to train employees because with a better incentive a contractor can attract trained personnel from other companies. The consequence of this, according to Loosemore et al., 2003, is a training stalemate. Furthermore, these itinerant employees fail to cultivate any loyalty to their companies thus further negating the need to provide training to staff. Paradoxically, many research studies have concluded that one of the ways to reduce mobility is by training the employees. Because training engenders commitment of employees and committed employees remain in the organisations for longer periods (Brum, n.d).

### ***Low level of education***

Most Ghanaian construction site employees have low level of education. Studies in the industry especially in the area of job satisfaction and motivation have revealed a relatively high percentage of employees whose educational level is not above Junior High School or its equivalent. Indeed, some artisans were found not to have had any formal education (Fugar and Salam, 2007; Adjei, 2009; Oduro-Owusu, 2010). As a result, any human capital development strategy must include general skill training, such as, reading and writing. But it is unlikely that employers would be willing to invest their training budgets in general training which may not have direct impact to their current jobs.

*Fragmentation of the industry*

The Ghanaian construction industry is made up of small firms which lack financial capacity. This dominant characteristic is a barrier to human capital development.

**CURRENT IMPERATIVES FOR HUMAN CAPITAL DEVELOPMENT WITHIN THE GHANAIAN CONSTRUCTION INDUSTRY**

The current economic environment makes human capital development in the Ghanaian construction industry a matter that must be given a serious thought if the industry must survive. The following are some of the compelling imperatives:

*Globalisation*

Contractors and consultants are currently facing competition from foreign firms who have greater experience and resources (Ofori n.d). Thus, it is becoming increasingly important to develop an internationally competitive industry that will be able to undertake construction projects of any size at home and abroad and ensure that clients receive value for money. It must be an industry that is conscious of the environment in the execution of construction projects. This can happen if Ghanaian construction practitioners acquire appropriate knowledge and skills through effective and continuous human capital development.

*Increased use of latest IT technologies for pacing up work*

This century has seen overwhelming changes in technologies. Internationally, there is evidence that the construction industry is gradually integrating information and communication technology (ICT) applications into the industry's business processes. ICT is used in coordinating stake holders, online procurement, customer relationship management, and for improved efficiency. Practitioners in the Ghanaian construction must acquire knowledge in these technologies and be proficient in their application. The use of ICT will in no small way address some of the current weaknesses of the Ghanaian construction industry which often result in cost and time overruns, and operational and quality deficiencies.

***Increasing clients' demands for quality, speed and cost efficiency***

Today's clients are exacting in their demand for quality, speed and value for money. This requires a complete paradigm shift to a positive quality and performance oriented culture. Training is fundamental in bringing about organisation-wide cultural transformation (Fisher et al., 2003). Training is needed for developing commitment to total quality management within the Ghanaian construction industry.

***Health and safety issues on construction sites***

Construction has been one of the most hazardous industries as measured by the number of fatalities. Efforts have been made in most countries to reduce accidents on construction sites. However, statistics indicate that construction industry accidents continue to rise in Ghana (Boakye-Nimo et al., 2010). This poor performance of the Ghanaian construction industry with regard to the safety of its employees has raised the importance of training in occupational health and safety in the construction sector.

***Emergent black gold economy***

Ghana's economy has been given a positive boost with the discovery of oil in commercial quantities. The World bank reported in 2011 that Ghana was the fastest growing economy in the world, recording a single digit inflation of 8.5 per cent, and a decline in interest rates to the lowest level in four decades (The Ghanaian Times, 2012) A wide range of opportunities exist for the construction industry if the oil sector becomes well developed. Characteristic of most oil rich countries, multi billion cedi infrastructural development projects including onshore and off shore pipelines and other facilities will be undertaken as is the case in Nigeria (Jagun, 2006). Such gigantic construction projects will require knowledge of new technologies and new management and leadership skills. This economic era will also see public-private partnerships playing a major role (Ofori n.d). Thus, the construction industry must acquire the skills necessary to take advantage of the enormous opportunities to be offered by emerging oil economy.

**MODEL FOR HUMAN CAPITAL DEVELOPMENT**

Figure 1 illustrates a training and development model consisting of seven steps. The major phases of human capital development are: (1) development of staff training and development policy (2) regular assessment of training and development needs (3) development of training/development objectives (4) instructional design (5) validation (6) implementation (7) evaluation.

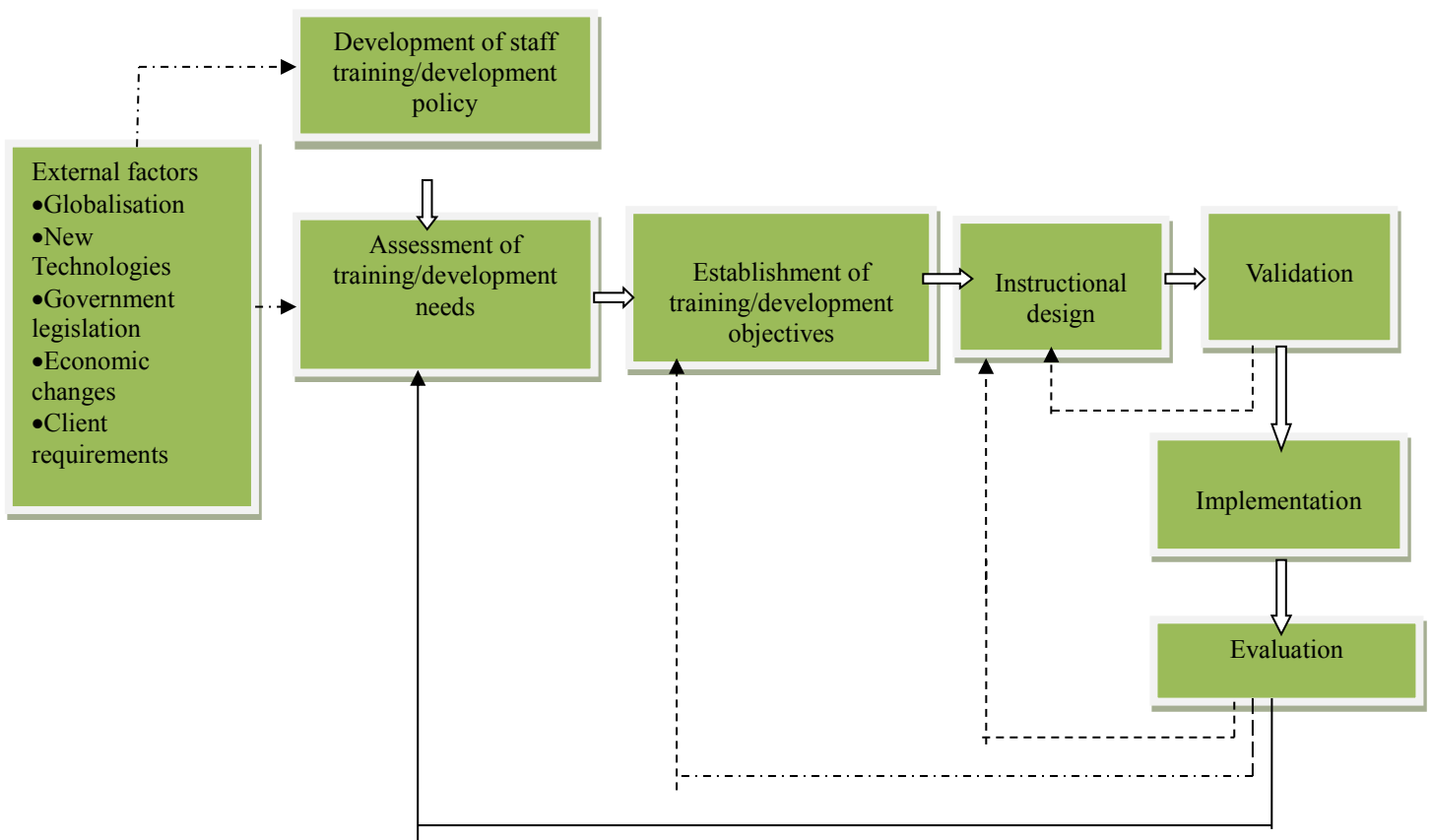


Figure1 Training and development model (Source: Authors)

***Development of staff training/development policy***

The policy must link objectives of the organisation to the nature of training to be provided. It must be flexible enough to allow for regular revision to accommodate changes brought about by changes in the technological, economic, legal and social environments which will require that employees acquire new knowledge, skills and abilities. According to Loosemore et al. (2003) an effective training policy must possess the following qualities:

- “Should identify a hierarchy of skills and knowledge requirements for the organisation to enable it prioritise its training needs
- Must not only define the training needs of individuals, teams and larger workgroups, but must also show how the provision of these skills will contribute towards meeting the organisation’s objectives.
- Should reflect individual, group and organisational training priorities, linking them together in a complementary manner.”

### ***Assessment of training/development needs***

This must identify in a systematic manner the specific training activities an organisation requires to achieve its objectives. It must answer the following basic questions (Byars and Rue, 2004):

- What skills/knowledge will employees need for the organisation to stay competitive over the next five years?
- What problems does the organisation have that can be solved through training?

### ***Establishment of training/development objectives***

After training needs have been determined, objectives must be established for meeting those needs. These must be specific, measurable knowledge and performance objectives (Dessler, 2000).

### ***Instructional design***

This involves the compilation and production of the actual content of the training programme. Included are workbooks, exercises and activities

### ***Validation***

It is the step in which the training programme is pre-tested on a small representative audience to ensure that it will be able to achieve the training and development objectives

### ***Implementation***

Several training techniques or methods are available but the decision regarding which to use must take into account the characteristics of the workers (e.g., age, educational level, etc).

### ***Evaluation***

This is a follow-up step to assess the programme's success or failure.

## **CONCLUSIONS AND IMPLICATIONS**

The purpose of this study is to identify from the literature the effect of human capital development on growth, profitability and competitiveness of organisations and to argue that the development of the Ghanaian construction industry, its capacity to remain pivotal to the nation's economic growth and the ability to become internationally competitive are incontrovertibly linked to investment in the development of its human capital. The extant literature on human capital development reveals reasonably strong correlation between human capital development and firms' financial performance and other significant operational outcomes. The Ghanaian construction industry like those in many developing countries has problems with cost, quality and productivity. Construction products are unsatisfactory in terms of their maintainability and durability. Overcoming these problems will require a strategic and deliberate investment in various aspects of human capital development. Indeed, there are many barriers to overcome but current challenges and new imperatives brought about by globalisation, information technology and a dramatic growth of the Ghanaian economy owing to the oil find, make it necessary for the industry practitioners to update their knowledge from time to time through a well planned and executed human development policy. The establishment of a central agency with the legal backing to, among other things, set standards for training and facilitate training in the construction industry will go a long way to minimise the poor perception of the Ghanaian construction industry and enhance its capability and capacity as a mainstay of the socio-economic development of the country .

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