

# **Effect of Investment in Human Capital Development on Organisational Performance: Empirical Examination of the Perception of Small Business Owners in Nigeria**

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## **Abstract**

Numerous extant studies linking human capital and organizational performance abound, but few focused on the small scale business context. Thus a study towards determining the nature of relationship between the two construct among small scale enterprise owners is thoughtful. Drawn from literature, four variable measures – *skills, education, knowledge, and training* – were used to predict and explain the *human capital effectiveness* construct. Thus, four hypotheses (one for each variable measure) were formulated linking each variable measure to the human capital effectiveness construct. The construct, *organizational performance*, was divided into two sub-constructs, *financial organizational performance* and *non-financial organizational performance* to formulate two additional hypotheses linking each to human capital effectiveness. Twenty-five small scale business owners were purposively selected in Awka metropolis of Nigeria. A structured five-point likert type questionnaire was designed and distributed and a 100% return rate was recorded. ANOVA, t-test, multiple regression analysis, simple regression analysis, and pearson's correlation coefficient were all employed to conduct relevant analyses. While keeping constant other factors that can impact on organizational performance, the study singled out human capital and it was shown that a high intercorelation exist among the four variable measure predictors of human capital effectiveness. A key finding of this study is that, *training* and *skill* are stronger predictors of human capital effectiveness over and above *knowledge* and *education*. This study, in no small measure, provides penetrating insight for

small scale business owners in the area of human resources management. Managerial implications, limitations and opportunity for further research are discussed.

**Keywords:** Human Capital Effectiveness, Small Business, Financial Performance, Non-financial Performance, Training, Skill, Education, Knowledge, Nigeria.

## **1. Introduction and Objectives**

Today's business environment is in the state of flux, where competition is the name of the game. Organizations that fail to change may be forced to change from existence to non-existence, hence survival is the panacea. To survive, companies must explore all available avenues that can bring about competitive advantage. To develop a competitive advantage, it is important that firms truly leverage on the workforce as a competitive weapon. A strategy for improving workforce productivity to drive higher value for the firms has become an important focus. Firms seek to optimize their workforce through comprehensive human capital development programmes not only to achieve business goals but most important is for the long term survival and sustainability of the organization. To accomplish this, firms will need to invest resources to ensure that employees have the knowledge, skills, and competencies they need to work effectively in a rapidly changing and complex environment (Marimuthu, Arokiasamy, and Ismail, 2009).

In response to the changes, most firms that have embraced the notion of human capital have a good competitive advantage that will enhance higher performance. Accordingly, tons of research has been executed linking human capital to organizational performance (for example: Marimuthu, Arokiasamy, and Ismail, 2009; Katou, 2009; Schultz, 1993; Becker, 1993). Results from most studies showed positive relationship between human capital investment on performance (see for example: Lynham, 2000; Lopez, Peon, & Ordas, 2005; Mabey, & Ramirez, 2005); thus, Katou (2009) reported that "there is a large and growing body of evidence that demonstrates a positive linkage between the development of human capital and organizational performance." Interestingly, these results corroborate the importance of human capital development as part of an overall effort to achieve cost-effectiveness and high firm performance.

Arguably, most studies linking human resources to organizational performance have mainly focused on large firms, while scanty research evidence linking the two exist in the small scale business sector and among entrepreneurs. None of the literature which the present researchers were able to collect for his study sought to link the two constructs in the context of small scale enterprises with respect to the perception of small business owners. This literature gap establishes the need for this study.

This study does not pretend to recognize the fact that numerous factors could be responsible for organizational performance; however, the human factor has been singled out because of its criticality and centrality among other organizational resources. Though arguable, there is consensus in the literature that physical resources and other factors are being activated by the human resources because physical resources cannot act on their own. Therefore, the efficient utilization of inanimate organizational resources that can lead to positive organizational performance depends largely on the quality, caliber, skills, perception, and character of the people, that is, the human resources working in it.

While most of the arguments in the literature in terms of factors contributing to firm performance shows that numerous factors can contribute to firm performance, this paper looks at one of these factors, that is, human capital. Firm performance is a common issue in many small organizations in Nigeria especially in the new era of globalization, where competitiveness and innovativeness are norms that go with performance.

Hence, the objective of this paper is to look into the connection between human capital and firm's performance from the standpoint of small scale enterprise owner's perception of the connect between this two concepts. Therefore, the following research questions are used to guide our

investigation: To what extent does the investment in human capital impact on performance of a small scale enterprise? What is the perception of small business owners regarding the relationship between human capital investment and the performance of their firm?

This empirical paper begins by defining the concepts of human capital and firm performance. This is followed by the theoretical framework wherein we explore the human capital theory and connection between human capital and firm performance. This is followed by the schema of the research model and hypotheses. The research methodology is then explained and the analysis is then carried out. Findings of the study are reported with emphasis on managerial implications.

## **2. Theoretical Framework and Hypotheses**

### **2.1. Definition of Human Capital and Firm Performance**

Human capital refers to the processes that relate to training, education and other professional initiatives in order to increase the levels of knowledge, skills, abilities, values, and social assets of an employee which will lead to the employee's satisfaction and performance, and eventually on a firm's performance. Rastogi (2000) stated that "human capital is an important input for organizations especially for employees' continuous improvement mainly on knowledge, skills, and abilities." It is "the knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being" (Organization for Economic Co-Operation and Development [OECD], 2001: 18).

The constantly changing business environment requires firms to strive for superior competitive advantages via dynamic business plans which incorporate creativity and innovativeness. This is essentially important for their long term sustainability. Undoubtedly, human resource input plays a significant role in enhancing firms' competitiveness (Barney, 1995). At a glance, substantial studies have been carried out on human capital and their implications on firm performance; results shows that, human capital enhancement will result in greater competitiveness and performance (Agarwala, 2003; Guthrie et al., 2002).

In relation to this, the definition of firm performance could vary. Nonetheless, some clear definitions of firm performance in the context of human capital enhancement could be put forward. Firm performance can be seen from two angles: financial performance and non-financial performance. Financial performances measures include percentage of sales resulting from new products, profitability, and capital employed and return on assets (ROA) (Selvarajan et al., 2007; Hsu et al., 2007). Besides, return on investment (ROI), earnings per share (EPS) and net income after tax (NIAT) can also be used as measures of financial performance (Grossman, 2000). Interestingly, researchers also tend to benchmark managerial accounting indicators against the financial measures in six dimension; 'workers compensation' (workers' compensation expenses divided by sales); 'quality' (number of errors in production); 'shrinkage' (e.g. inventory loss, defects, sales return); 'productivity' (payroll expenses divided by output); 'operating expenses' (total operating expenses divided by sales) (Wright et al., 2005). On the other hand, firm performance can also be measured using 'perceived performance approach' (also referred to as subjective performance measure) where Likert-like scaling is used to measure firm performance from the top management perspectives (Selvarajan, 2007). Thus the subjective performance measure is adopted in this study.

The traditional paradigm in performance evaluation places emphasis on financial measures as drivers of organizational performance. This paradigm has of late come under criticism from academics and practitioners for its failure to capture important aspects of corporate performance when wealth creation is associated with intangible and non-financial resources within dynamic markets. Critics of the traditional measures advocate for performance indicators that are aligned to the company's strategy.

The emergent paradigm in performance evaluation places emphasis on combining financial with non-financial measures. Non-financial measures such as customer satisfaction, operating

efficiency, productivity, innovation, etc. are taunted as the panacea to address some of the weaknesses of the traditional measures. Non-financial measures are by themselves without controversy.

## 2.2. Human Capital Theory: the Resource-based View of the Firm

The issue of what contributes to competitive advantage has since been within the business strategy literature; however, in recent times there is a shift in emphasis away from external positioning in the industry and the relative balance of competitive forces, towards an acknowledgement that internal resources be viewed as crucial to sustained effectiveness (Wright et al., 2001). The work of Penrose (1959) represents the beginning of the resource-based view of the firm (RBV), later articulated by Rumelt (1984), Barney (1991, 1996) and Dierickx & Cool (1989). The RBV established the importance for an organization of building a valuable set of resources and bundling them together in unique and dynamic ways to develop firm success. In the perspective of the RBV, competitive advantage is dependent not, as traditionally assumed, on such bases as natural resources, technology, or economies of scale, since they are increasingly easy to imitate. Rather, competitive advantage is, according to the RBV, dependent on the valuable, rare, and hard-to-imitate resources that reside within an organization. Human capital in a real sense is an 'invisible asset' (Itami 1987). The importance to the strategic aims of the organization of the human capital pool (the collection of employee capabilities), and how it is managed through HR processes is apparent. Thus, Snell (1996) reports:

*'If the types and levels of skills are not equally distributed, such that some firms can acquire the talent they need and others cannot, then (ceteris paribus) that form of human capital can be a source of sustained competitive advantage' (Snell et al 1996: 65).*

And in terms of inimitability, there are at least two reasons why human resources may be difficult to imitate: causal ambiguity and path dependency (Becker & Gerhart 1996, Barney 1991). 'First, it is difficult to grasp the precise mechanism by which the interplay of human resource practice and policies generates value; second, the HR systems are path dependent. They consist of policies that are developed over time and cannot be simply purchased in the market by competitors' (Becker & Gerhart 1996:782).

The interdependency between HR practices combined with the idiosyncratic context of particular companies creates high barriers to imitation. Of course, the human resources must be valuable; they must, as Boxall says, be 'latent with productive possibilities' (1996:67) and so human capital advantage depends on securing exceptional talent, or, in the familiar phrase, 'the best and the brightest'.

The increasing importance of the RBV has done much to promote human resource management in general and human capital management in particular, and to bring about a convergence between the fields of strategy and HRM (Wright et al 2001). The resource-based view of the firm strengthened the often-repeated statement from the field of strategic human resource management that people are highly important assets to the success of the organization.

## 2.3. The Relationship between Human Capital and Firm Performance

The human capital focuses on two main components: individuals and organizations. According to Garavan et al., (2001) human capitals have four key attributes as follows: (1) flexibility and adaptability (2) enhancement of individual competencies (3) the development of organizational competencies and (4) individual employability. It shows that these attributes in turn generate additional values to individual and organizational outcomes. There are various findings that incorporate human capital with higher performance and sustainable competitive advantage (Noudhaug, 1998); higher organizational commitment (Iles et al., 1990); and enhanced organizational retention (Robertson et al., 1991). Hence, all this debates fundamentally focuses on individual and organizational performance.

From the individual level, Collis and Montgomery (1995) point out that the importance of human capital depends on the degree to which it contributes to the creation of a competitive advantage. From an economic point of view, transaction-costs indicate that firm gains a competitive advantage

when they own firm-specific resources that cannot be copied by rivals. Thus, as the uniqueness of human capital increases, firm have incentive to invest resources into its management and the aim to reduce risks and capitalize on productive potentials. Hence, individuals need to enhance their competency and skills in order to be competitive in their organizations. A skill is the learned capacity to carry out pre-determined results often with the minimum outlay of time, energy, or both. Skills can often be divided into domain-general and domain-specific skills. For example, in the domain of work, some general skills would include time management, teamwork and leadership, self-motivation and others, whereas domain-specific skills would be useful only for a certain job. Skill usually requires certain environmental stimuli and situations to assess the level of skill being shown and used. Employees need a broad range of skills, particularly the domain specific skills, in order to contribute to the success and performance of the organization so that the firm can be competitive. Accordingly, we generate the first hypothesis of this study:

**H<sub>1</sub>:** Cognate skills can predict human capital effectiveness in a small scale enterprise.

The human capital theory has undergone a rapid development. Within its development, greater attention has been paid to training related aspects. This is much related to the individual perspective. Human capital investment is any activity which improves the quality (productivity) of the worker. Therefore, training is an important component of human capital investment. This refers to the knowledge and training required and undergone by a person that increases his or her capabilities in performing activities of economic values. The term training refers to the acquisition of knowledge, skills, and competencies as a result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies. It forms the core of apprenticeships and provides the backbone of content at institutes of technology (also known as technical colleges or polytechnics). In addition to the basic training required for a trade, occupation or profession, observers of the labor-market recognize today the need to continue training beyond initial qualifications: to maintain, upgrade and update skills throughout working life. People within many professions and occupations may refer to this sort of training as professional development. We generate the second hypothesis:

**H<sub>2</sub>:** Staff training has a direct positive relationship with human capital effectiveness in a small scale enterprise.

Some recent literature shows the importance of training. In any case, it is fitting to point out that the workforce's lack of training is related to low competitiveness (Green, 1993). In turn, a greater human capital stock is associated with greater productivity and higher salaries (Mincer, 1997). Likewise, training is linked to the longevity of companies (Bates, 1990) and greater tendency to business and economic growth (Goetz and Hu, 1996). In addition, Doucouliagos (1997) has noted human capital as a source not only to motivate workers and boost up their commitment but also to create expenditure in R&D and eventually pave a way for the generation of new knowledge for the economy and society in general. Knowledge is defined by the Oxford English Dictionary as (i) expertise, and skills acquired by a person through experience or education; the theoretical or practical understanding of a subject; (ii) what is known in a particular field or in total; facts and information; or (iii) awareness or familiarity gained by experience of a fact or situation. Philosophical debates in general start with Plato's formulation of knowledge as "justified true belief." There is however no single agreed definition of knowledge presently, nor any prospect of one, and there remain numerous competing theories. Knowledge acquisition involves complex cognitive processes: perception, learning, communication, association and reasoning. The term knowledge is also used to mean the confident understanding of a subject with the ability to use it for a specific purpose if appropriate. A number of studies have linked knowledge and staff performance (see for example Marimuthu, Arokiasamy, and Ismail, 2009). Accordingly, we formulate the third hypothesis:

**H<sub>3</sub>:** Knowledge relates with human capital effectiveness in a small scale enterprise.

From the organizational level, human capital plays an important role in the strategic planning on how to create competitive advantages. Following the work of Snell et al., (1999) it stated that a firm's human capital has two dimensions which are value and uniqueness. Snell et al. further argued that resources are valuable when they can be applied towards improving effectiveness, capitalizing on

opportunities and neutralizing threats. In the context of effective management, value focuses on increasing profits in comparison with the associated costs. In this sense, firm's human capital can add value if it contributes to lower costs, provide increased performances.

A study by Bontis and Fitzenz (2002) found the consequences of human capital management, wherein they established the relationship between human capital management and economic and business outcomes. In their study, a total of 25 firms in the financial services companies were selected. The study measured human capital effectiveness with four metrics: revenue factor, expense factor, income factor and HC ROI. The fundamental aspects of any organization are to generate more revenue and income per employee. Human capital has a direct impact on the intellectual capital assets that will yield higher financial results per employee. The development of human capital is positively influenced by the educational level of employees and their overall satisfaction. Therefore, we formulate the fourth hypothesis:

**H<sub>4</sub>:** Educational level of employees has direct relationship with human capital effectiveness in a small scale enterprise.

Again, in a very broad discussion, especially in the context of total quality management (TQM), firms can be assessed using financial and non-financial performance. The financial performance includes employee productivity, defect rates and market share and non-financial performance that include workflow improvement, innovation, customer satisfaction and skills development (Kaplan & Norton, 1994). Non-financial performance measures include customer satisfaction, operating efficiency, productivity, innovation, etc. as earlier indicated, the study measured human capital effectiveness with four metrics; revenue factor, expense factor, income factor and HC ROI (Katou, 2009). The fundamental aspects of any organization are to generate more revenue and income per employee. Thus we formulate the fifth and six hypotheses:

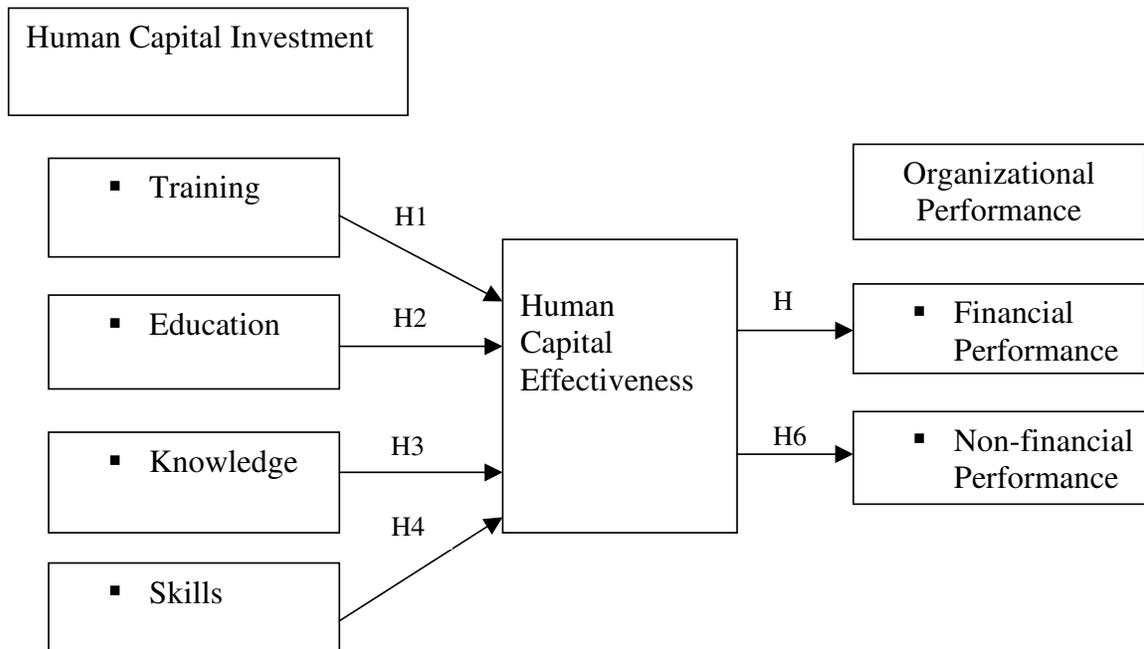
**H<sub>5</sub>:** Human capital effectiveness is a strong predictor of financial performance of small scale enterprise.

**H<sub>6</sub>:** Human capital effectiveness is a strong predictor of non-financial performance of small scale enterprise.

### **3. Conceptual Model**

Based on the preceding hypotheses that are formulated, we develop a model to show the relationship between the dimension of human capital and firm performance. As argued in the earlier discussion, the dimensions that a firm can invest in its human capital includes training, education, knowledge and skills, which, in turn, will enhance human capital effectiveness. Based on the literature reviews, it is therefore postulated that human capital leads to greater firm performance. Firm performance can be viewed in two different perspectives; financial performance and non-financial performance. Financial performance includes productivity, market share and profitability, whereas, non-financial performance includes customer satisfaction, innovation, workflow improvement and skills development. The preceding hypotheses can be represented the structural model in figure 1 below:

**Figure 1:** Structural model of the relationship between investment in human capital and organizational performance among small scale enterprise.



## 4. Methodology

### 4.1. Sample

Twenty-five small scale business owners in Awka metropolis of Nigeria were purposively drawn as sample respondents for this study. For the purpose of this study, a small business is one in which the staff is less than six and its capital base is not more than hundred thousand naira. The business owners were drawn from bookshops, supermarkets, business centres, computer schools, and sellers of computer accessories. Awka metropolis was favoured sample area because of the high presence of small business operating within it.

### 4.2. Questionnaire Design

A structured five-point likert type questionnaire was designed. Twenty five copies of a structured questionnaire were distributed and all were returned, which represent a 100% return rate. The high response rate was as a result of the adoption of drop-and-pick method.

Items were formulated to address each of constructs. For the development of the training construct we used five items referring to individual and team training and development, monitoring training and development, career development, work design, and performance appraisal (Katou & Budhwar, 2007). These items were measured on a scale ranging from 1 = not at all effective to 5 = highly effective. For example, the exact wording for the training and development item is, “In your opinion, how effective are your employee training and development programmes?” and for the work design item is, “In your opinion, how effective are your work design programmes?” and “Do you think that the training of employee can lead to increased firm performance?”

Consistent with Katou (2009), for the development of education construct measures we used two items referring to educational qualification. These items were measured on a scale ranging from 1 = very bad to 5 = very good, asking respondents to report educational level of employee. For example, the exact wording for educational qualification is, “How would you rate the educational level of your employee” and “Do you think the effectiveness firm can partly be linked to the educational qualification of the employee?”

For the development of the knowledge construct, we followed the construct development pattern of training above because cognate knowledge is a function of experience and training (Katou, 2009). Thus, these items were measured on a scale ranging from 1 = not at all effective to 5 = highly effective. For example, the exact wording for the training and development item is, “In your opinion, how effective are your employee training and development programmes on employee knowledge?” and for the work design item is, “In your opinion, how effective are your work design programmes on employee knowledge?”

For the development of the skills construct we used three items referring to competency, cooperation between management and employees, and cooperation among employees. This is because although competencies are assumed to be foundational to all performance improvement (Horwitz, 1999; Hardre, 2003), they are not sufficient for improving organizational performance unless employees are cooperated and motivated (Lopez et al., 2005). These items were measured on a scale ranging from 1 = very bad to 5 = very good, asking respondents to report HRM performance (skills) over the past 3 years in order to minimize random fluctuations and anomalies in the data. For example, the exact wording for the competency item is, “How would you rate employee competences over the past 3 years?” and for the cooperation among employees item is, “How would you rate cooperation among employees in general over the past 3 years?”

The dependent variable of organizational performance measures the bottom-line results on which HRD has an impact (Wang et al., 2002). The organizational performance (both the financial and non-financial) construct is usually indicated by items such as effectiveness, that is, if the organization meets its objectives; efficiency, that is, if the organization uses the fewest possible resources to meet its objectives; development, that is, if the organization is developing in its capacity to meet future opportunities and challenges; satisfaction of all participants – owners and investors, customers, society, other organizations, and organization members, innovation, for products and processes; and quality, % of products/service of high quality. These items were measured on a scale ranging from 1 = very bad to 5 very good, asking respondents to report organizational performance over the past 3 years in order to minimize random fluctuations and anomalies in the data. For example, the exact wording for the effectiveness item is, “How would you rate the overall organization’s effectiveness over the past 3 years?” and for the efficiency item is, “How would you rate the overall organization’s efficiency over the past 3 years.”

### **4.3. Analysis**

The Multiple Regression Model (MRM) was employed to predict the relationships in the construct. MRM was adopted because we sought to determine the nature of correlation between a single dependent variable (i.e organizational performance) and several independent variables (training, knowledge, skill, and education; wherein these four constructs are adapted as human capital). ANOVA and t-test were employed to test the hypotheses. Pearson correlations coefficient was employed to determine the strength of the correlation between human capital effectiveness and organizational performance. The presumption behind the use of MRM is that organizational performance cannot be explained by only one variable element that represent human capital; rather the combined effect of these variables – knowledge, training, skill and education (collectively representing human capital) can best explain it. The result from the combined effect after using the MRM is the Coefficient of Multiple Determination ( $R^2$ ). The result from the  $R^2$  alone cannot be used for the purpose testing the hypotheses. Therefore, to test our hypotheses we adapt the  $R^2$  value into t-statistics formula to arrive at the t-calculated value, which is then compared with the t-critical (table) value for rejection or acceptance criterion (see Hair, Anderson, Tatham, & Black, 2009; Lucey, p130, 1996; Dibua and Dibua, p172, 2005). Corroborating the use of MRM, Ezejelue, Ogwo, Nkamnebe (2008:203) writes “...It is therefore used to test whether two or more independent variables (measure on interval or ratio scale) affect a dependent variable (also measured on interval or ratio scale).” All analyses were executed using the SPSS computer package.

## 5. Results

### 5.1. Demographic Profile

Out of the 25 usable copies of the questionnaire returned by the respondents, 36.6% were female respondents, and 63.4% were male. Various income levels were represented, for example below 24,000 was 13.9%, 24,000-47,999.99 (59%), 48,000-71,999.99(15%), and so on. The ages of the respondents were as follows: below 20 (4%), 20-39 (64.8%), 40-59 (22%), and 60 and above (2.2%). The rate of married respondents was 16%, while singles represented the balance of 54%. With respect to education background, 30.6% had secondary school education and less, 26% had diploma qualifications, and the (43.4%) were degree and post-graduate degree holders.

### 5.2. Consider Analysis Result for H<sub>1</sub> H<sub>2</sub> H<sub>3</sub> and H<sub>4</sub>

Table 1 shows the model summary which sought to establish the explanatory power of the independent variables (the model) – skill, education, knowledge and training – for explaining and predicting the dependent variable – human capital effectiveness. With respect to R, the multiple correlation coefficients, is the linear correlation between the observed and model-predicted values of the dependent variable (human capital effectiveness). Its large value (0.685), which is above the benchmark of 0.5 (see Hair et al, 2010) indicates a strong relationship.

**Table 1:** Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.685 <sup>a</sup>	.469	.363	.761

a. Predictors: (Constant), Skills, Training, Education, Knowledge

R Square, the coefficient of determination, is the squared value of the multiple correlation coefficient. Per figure 2, the 0.469 (that is, about 47%) of the variation in skill, training, education, and knowledge are explained by the model (human capital effectiveness), which means other factors, not considered by the present study and which represent about 53%, are capable of predicting human capital effectiveness.

The ANOVA table of table 2 below reports a significant F statistic, indicating that using the model is better than guessing the mean. As a whole, the regression does a good job of modeling human capital effectiveness. Thus nearly half (0.469) of the variation in human capital effectiveness is explained by the model.

**Table 2:** ANOVA<sup>b</sup>

Model	Sum of squares	df	Mean Square	F	Sig.
1 Regression	10.252	4	2.563	4.424	.010 <sup>a</sup>
Residual	11.588	20	.579		
Total	21.840	24			

a. Predictors: (Constant), Skills, Training, Education, Knowledge

b. Dependent Variable: Human Capital Effectiveness

To determine the model fit, we consider table 3 below. Even though the model-fit looks positive (see the sig column of table 3), the first section of the coefficients table shows that there are too many predictors in the model. There are non-significant coefficients, indicating that these variables do not contribute much to the model. To determine the relative importance of the significant predictors of human capital effectiveness, look at the standardized coefficients. Even though training has a small coefficient compared to education, training actually contributes more to the model because it has a larger absolute standardized coefficient. This is also true for skills. Thus, both training and skills actually contributes more to human capital effectiveness.

**Table 3:** Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.633	1.004		1.627	.119
	TRAINING	-.081	.138	-.114	-.590	.562
	EDUCATION	.525	.218	.549	2.415	.025
	KNOWLEDGE	.626	.267	-.601	2.339	.030
	SKILLS	-.802	.265	.627	-3.029	.007

a. Dependent Variable: Human Capital Effectiveness

The second section of the coefficients table (ie table 4) shows that there might be a problem with multicollinearity. For most predictors, the values of the partial and part correlations drop sharply from the zero-order correlation. This means, for example, that much of the variance in human capital effectiveness that is explained by training is also explained by other variables.

**Table 4:** Coefficients<sup>a</sup>

Model		Correlations			Collinearity statistics		
		B	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.633					
	TRAINING	-.081	.222	-.131	-.096	.715	1.398
	EDUCATION	.525	.431	.475	.393	.514	1.947
	KNOWLEDGE	-.626	.101	-.464	-.381	.402	2.488
	SKILLS	.802	.508	.561	.493	.619	1.617

a. Dependent Variable: Human Capital Effectiveness

The tolerance is the percentage of the variance in a given predictor that cannot be explained by the other predictors. Thus, the small tolerances show that 30%-60% of the variance in a given predictor can be explained by the other predictors. When the tolerances are close to 0, there is high multicollinearity and the standard error of the regression coefficients will be inflated. A variance inflation factor (VIF) greater than 2 is usually considered problematic (see Hair et al, 2010) and the smallest VIF in the table is 1.398. Though the multicollinearity is not high among the independent variables, but VIF is devoid of any problem.

The collinearity diagnostics confirm seriousness of problems with multicollinearity. As show in table 5 below, several eigenvalues are close to 0, indicating that the predictors are highly intercorrelated and that small changes in the data values may lead to large changes in the estimates of the coefficients

**Table 5:** Collinearity Diagnostics<sup>a</sup>

Model	Dimension	Eigenvalue	Condition index
1	1	4.813	1.000
	2	.132	6.041
	3	.030	12.635
	4	.015	17.851
	5	.010	21.815

a. Dependent Variable: Human Capital Effectiveness

Several eigenvalues are close to 0, indicating that the predictors are highly intercorrelated. The condition indices are computed as the square roots of the ratios of the largest eigenvalue to each successive eigenvalue. According to Hair et al (2010), values greater than 15 indicate a possible problem with collinearity; greater than 30, a serious problem. However, in table 5 above only two eigenvalues are greater than 15, indicating a mere problem.

Having satisfied that skill, education, training and knowledge are good predictors of human capital effectiveness and that the predictors are also highly intercorrelated, we therefore accept H1, H2, H3, and H4. As earlier noted, both training and skill are stronger predictors of human capital effectiveness than staff knowledge and education, where they are correlated as independent predictors of human capital effectiveness (see table 3). Taken as a whole (since they have a high collinearity), table 1 show that the four predictors contribute significant ( $F = 69\%$ ;  $p = .000$ ) and predict approximately 47% (i.e approximation of  $R^2 = 0.469$ ) of the variations in human capital effectiveness. Note that  $R^2$  shows the combined effect of four independent variables and indicates that 47% of the movement in human capital effectiveness is brought about by movement in training, skill, education, and knowledge. The 47% explanation is considered good for a behavioural science research (see Ndubisi, 2005; Hair et al, 2009).

### 5.3. Consider Analysis Result for H<sub>5</sub> and H<sub>6</sub>

Having established that training, skill, education, and knowledge are predictors of human capital effectiveness, we, on one hand, proceed to determined if human capital effectiveness is a predictor of Non-financial performance of small scale enterprises. On the other hand, we determine if human capital effectiveness is a predictor of financial performance of a small scale enterprise.

We use a one-way ANOVA because we want to determine the equality of means of two variables. The result of the calculated F-distribution on table 6 shows that  $f$  is 14.014. However, the table value of  $f$ -distribution at 0.05 significant level, the  $f$  is 2.69. Therefore, we reject the null hypothesis of H<sub>5</sub> and accept the alternate hypothesis that human capital effectiveness is a strong predictor of financial performance of small scale enterprise.

**Table 6:** ANOVA<sup>b</sup>

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.815	1	6.815	14.014	.001 <sup>a</sup>
	Residual	11.185	23	.486		
	Total	18.000	24			

a. Predictors: (Constant), Human Capital Effectiveness

b. Dependent Variable: Financial Organizational Performance

A confirmatory test could be performed using t-test (since the sample respondents size is less than 30) as per table 7 below. The calculated  $t$  result is 3.744, while the  $t$  table value at 0.05 significance level and 23 degree of freedom is 2.069. We, again, accept the alternate hypotheses since the calculated value is greater than the table value.

**Table 7:** Coefficients<sup>a</sup>

	Model	Unstandardized coefficients		Standardized coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	2.121	.625		3.396	.002
	HUMAN CAPITAL EFFECTIVENESS	.559	.149	.615	3.744	.001

a. Dependent Variable: FINANCIAL ORGANIZATIONAL PERFORMANCE

At this juncture, it will make sense to determine the strength of the correlation between human capital effectiveness and financial organization performance. To do this, we adopt the Pearson Product Moment Correlation Coefficient model as per table 7 below.

**Table 7:** Correlations

		HUMAN CAPITAL EFFECTIVENESS	FINANCIAL ORGANIZATIONAL PERFORMANCE
HUMAN CAPITAL EFFECTIVENESS	Pearson Correlation	1	.615**
	Sig. (2-tailed)		.001
	N	25	25
FINANCIAL ORGANIZATIONAL PERFORMANCE	Pearson Correlation	.615**	1
	Sig. (2-tailed)	.001	
	N	25	25

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient measures the linear association between two scale variables. The correlation reported in table 7 is positive (0.615 or 62%), although significantly different from 0 because the p-value of 0.001 is less than 0.10. This suggests that small scale business owners who aim at financial performance should emphasize human capital effectiveness as it has appreciable effect on financial performance of the firm.

The result of the calculated F-distribution on table 8 shows that f is 16.683. However, the table value of f-distribution at 0.05 significance level is 2.69. Therefore we reject the null hypothesis of  $H_0$  and accept the alternate hypothesis that human capital effectiveness is a strong predictor of non-financial performance of small scale enterprise.

**Table 8:** ANOVA<sup>b</sup>

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.173	1	8.173	16.683	.000 <sup>a</sup>
	Residual	11.267	23	.490		
	Total	19.440	24			

a. Predictors: (Constant), Human Capital Effectiveness

b. Dependent Variable: Non-Financial Organizational Performance

A confirmatory test using t-test (since the sample respondents' size is less than 30) as per table 8 below. The calculated t result is 4.084, while the t table value at 0.05 significance level and 23 degree of freedom is 2.069. We again accept the alternate hypotheses since the calculated value is greater than the table value.

**Table 9:** Coefficients<sup>a</sup>

	Model	Unstandardized Coefficient		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.824	.627		2.910	.008
	HUMAN CAPITAL EFFECTIVENESS	.612	.150	.648	4.084	.000

a. Dependent Variable: Non-Financial Organizational Performance.

The correlation reported in table 10 is positive (0.648 or 65%), although significantly different from 0 because the p-value of 0.000 is less than 0.10. This suggests that small scale business owners who aim at non-financial performance should emphasize human capital effectiveness as it has appreciable effect on non-financial performance of their firm.

**Table 10:** Correlations

		HUMAN CAPITAL EFFECTIVENESS	NON FINANCIAL ORGANIZATION PERFORMANCE
HUMAN CAPITAL EFFECTIVENESS	Pearson Correlation	1	.648**
	Sig. (2-tailed)		.000
	N	25	25
NON FINANCIAL ORGANIZATION PERFORMANCE	Pearson Correlation	.648**	1
	Sig. (2-tailed)		.000
	N	25	25

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## 6. Discussion

### 6.1. Findings

The results of this study provide some useful insights and information on the effect of investment on human capital on both the financial and non-financial performance of small scale enterprise as extant literature on this link is still very scanty. The analysis started first to determine if four popular variables (i.e. skill, education, knowledge and training) can adequately proxy of human capital effectiveness and if they are also good predictors of human capital effectiveness. The results are straightforward. Training and skills are found to be stronger predictors of human capital effectiveness in the small scale enterprise context, though there is high intercorrelation among the four variable measures.

The study also revealed a strong relationship between, on one hand, human capital effectiveness and financial performance of small scale firms and, on the other hand, a strong relationship between human capital effectiveness and non-financial performance of small scale firms.

### 6.2. Conclusion, Implications, and Recommendations

The findings of this study corroborate previous studies (see Katou, 2009; Agarwala, 2003; Chadwick, 2007) establishing a linear relationship between human capital and organizational performance. The value of this study lies in the fact that it reveals the importance of training and skills to small business owners if they desire significant financial and non-financial performance of their firm. To achieve high performance, they have to continuously train and retrain their staffers to acquire cognate and state-of-art skills to deliver services, which, in turn, can lead to high firm performance and competitive advantage. Paradoxically, most small scale businesses do not emphasis staff training wherein lies strategy for firm success and performance.

### 6.3. Limitations and Direction for Future Research

This study does not pretend to recognize the fact that several variables, apart from skill, education, knowledge, and training, are predictors of human capital effectiveness. Similarly, this study does not pretend to realize that a number of other factors can also predict organizational performance for small scale firms. In the main, to relate the two constructs (ie human capital effectiveness and organizational performance) this study assumed other factors to be constant. The foregoing shortcomings of this study uncover potential areas for further research in that other variables apart from the current four can be studied to unearth their predictability of small scale firm's performance.

## References

- [1] Agarwala, T., 2003. "Innovative human resource practices and organizational commitment: An empirical investigation". *International Journal of Human Resource Management* 14, pp. 175 – 197.
- [2] Bantel, k., 1993. "Strategic clarity in banking: Role of top management-team demography". *Psychology Reports* 73, pp. 1187-1203.
- [3] Barney, J. B., 1995. "Looking inside for competitive advantage". *Academy of Management Executive* 9, pp. 49-61.
- [4] Bates, T., 1990. "Entrepreneur human capital inputs and small business longevity". *The Review of Economics and Statistics* 72, pp. 551-559.
- [5] Becker, B. E. and B. Gerhart, 1996. "The impact of human resource management on Organizational performance: progress and prospects". *Academy of Management Journal* 39, pp.779 801.
- [6] Becker, B. E. and M. A. Huselid, 1998. "High performance work systems and firm Performance: A synthesis of research and managerial implications" In G.R. Ferris (Ed.), *Research in personnel and human resources*. Stamford, CT: JAI Press.
- [7] Bontis, N. and J. Fitzenz, 2002. "Intellectual Capital ROI: A current map to human capital antecedents and consequences". *Journal of Intellectual Capital*, 3, pp. 223-247.
- [8] Chadwick, C., 2007. "Examining non-linear relationships between human resource Practices and manufacturing performance". *Industrial and labor Relations Review* 60, pp. 499-521.
- [9] Collis, D.J. and C. A. Montgomery 1995. "Competing on resources: Strategy in the 1990s". *Harvard Business Review*. July & August, pp.118-28.
- [10] Delaney, J. T., and M. A. Huselid, 1996. "The impact of human resource management practices on perceptions of organizational performance". *Academy of Management Journal*, 39(4), 949-969.
- [11] Dooley, E., 2000. "Intellectual capital in the software industry: An empirical test". PhD dissertation, College of Business Administration, University of Washington, Tacoma, WA.
- [12] Doucouliagos, C., 1997. "The aggregate demand for labor in Australia: A Meta-analysis". *Australian Economic Papers*, Blackwell Publishing 36 , pp. 224-242.
- [13] Dibua, E. C. and E. C. Dibua, 2005. "Elements of Business Statistics" (Vol.2). Onitsha: Good Success Publishers.
- [14] Ezejelue, A.C., Ogwo, O. E., and A. D. Nkamnebe 2008. "Basic Principles in Managing Research Projects". Aba: Afritowers Ltd.
- [15] Garavan, T. N., Morley, M., Gunnigle, P., and E. Collins, 2001. "Human Capital Accumulation: The role of human resource development". *Journal of European Industrial Training* 25, pp. 48-68.
- [16] Goetz, S. J. and D. Hu, 1996. "Economic growth and human capital accumulation: Simultaneity and expended convergence tests". *Economics Letter* 51, pp. 355-362.
- [17] Green, F. 1993. "The determinants of training of male and female employees in Britain". *Oxford Bulletin of Economics and Statistics* 55, pp. 103-122.
- [18] Grossman, R. J., 2000. "Measuring up: Appropriate metrics help HR prove its worth". *HR Magazine* 45, pp. 28-35.
- [19] Hambrick, D. C., and P. A. Mason, 1984. "Upper echelons: The organization as a reflection of its top managers". *Academy of Management Review* 9, pp. 193-206.
- [20] Hair, J.F., Jr., Anderson R. E., Tatham, R. L., and W. C. Black, (2009). "Multivariate Data Analysis" (7<sup>th</sup> ed). New Jersey: Prentice Hall.
- [21] Hsu, I. C., Lin, C. Y. Y., Lawler, J. J., and S. H. Wu, 2007. "Toward a model of organizational human capital development: Preliminary evidence from Taiwan". *Asia Pacific Business Review* 13, pp. 251-275.

- [22] Huang, G. Z. D., Roy, M. H., Ahmed, Z. U., Heng, J. S. T. & J. H. M. Lim, 2002. "Benchmarking the human capital strategies of MNCs in Singapore". *Benchmarking* 9, pp. 357-373.
- [23] Iles, P. A., Mabey, C., and I. T. Robertson, 1990. "HRM practices and employee commitment: Possibilities, pitfalls and paradoxes". *British Journal of Management* 1, pp.147-157.
- [24] Lucey, T. 1996. "Quantitative Techniques" (5<sup>th</sup> edn). London: DP Publications.
- [25] Katou, A. 2009. "The impact of human resources development on organizational performance: Test of a causal model". *Journal of Behavioural and Applied Management* 5, pp. 335 –356.
- [26] Kanji, G. 1997. "Total quality culture". *Total Quality Management* 8, pp. 417-428.
- [27] Kaplan, R. S. & D. P. Norton, 1994. "Balanced scorecard: Translating strategy into action". Boston, MA: Harvard Business School Press.
- [28] Maimunah, I. and A. Lawrence, 2008. "Workforce Diversity: A human resource development perspective towards organizational performance". *European Journal of Social Sciences*. 6, pp. 244-269.
- [29] Lumpkin, G. G. and G. T. Dess, 2005. "The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship". *Academy of Management Executive* 19, pp. 147-156.
- [30] Lynham, S. A., 2000. "Theory building in the human resources development profession". *Human Resource Development Quarterly* 11, pp. 159-178.
- [31] Lopez, S. P., Peon, J. M. M., and C. J. V. Ordas, 2005. "Human resource practices, organizational learning and business performance". *Human Resources Development International* 8, pp. 147-164.
- [32] Maran, M. (2008). "Ethnic diversity on boards of directors and its implications on firm financial performance". *The Journal of International Social Research*, 1(4), 431-445.
- [33] Marimuthu, M., Arokiasamy, L., and M. Ismail, 2009. "Human Capital Development and its impact on firm performance: Evidence from development economics". *The Journal of International Research* 2, pp. 265 – 272.
- [34] Michel, J. G., and D. C. Hambrick, 1992. "Diversification posture and top management team characteristics". *Academy of Management Journal* 35, pp. 9-37.
- [35] Mincer, J. 1997. "The production of human capital and the life cycle of earnings: Variations on a theme". *Journal of Labor Economics*, 15, pp. 26-47.
- [36] Noe, R. A., Hollenbeck, J. R., Gerhart, B., and P. M. Wright, 2003. "Human resource management: Gaining a competitive advantage" (4<sup>th</sup> ed.). Boston: McGraw-Hill.
- [37] Nordhaug, O., 1998. "Competencies specificities in organizations". *International Studies of Management and Organization* 28, pp. 8-29.
- [38] Ndubisi N. O., 2005. "Effectiveness of Sales Promotional Tools in Malaysia: The Case of Low Involvement Products". *Proceedings of the Academy of Marketing Studies* 10, pp. 41-47.
- [39] Schultz, T.W., 1993. "The economic importance of human capital in modernization". *Education Economics* 1, pp. 13-19.