



GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D  
ACCOUNTING AND AUDITING  
Volume 14 Issue 2 Version 1.0 Year 2014  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals Inc. (USA)  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

## Human Capital Elements and their Influence on Performance: Evidence from Uganda's Manufacturing Firms

By Sulait Tumwine, Sentrine Nasiima & Dr. Nixon Kamukama

*Makerere University Business School, Uganda*

**Abstract- Purpose-** The purpose of this paper is to establish the elements of human capital that are influential in steering the performance of medium and large manufacturing firms (MLMC). **Design/methodology /approach:** A valid research instrument was utilized to conduct a survey on 359 MLMCs (256 Medium firms and 103 large manufacturing companies) and 897 respondents that are representative of 397 MLMCs and 1,087 respondents. Correlation and regression analysis were conducted to ascertain the validity of the hypotheses.

**Findings-** It was established that human capital elements (employee educational level, experience and motivation) are associated with MLMC's performance. Furthermore, human capital as a whole accounts for 55.9 percent of the variation in performance Uganda's MLMCs.

**Research limitations/implications-** Only a single research methodological approach was employed, future research through interviews could be undertaken to triangulate. Multiple respondents in MLMCs (CEO, finance manager and human & administrative manager and senior employees) were studied neglecting others. Furthermore, the study used the cross-sectional approach- a longitudinal approach should be employed to study the trend over years. Finally, human capital was studied and by the virtual of the results, there are other factors that contribute to MLMC's performance that were not part of this study.

**Keywords:** *human capital, education, experience, motivation, medium & large scale manufacturing companies and performance*

**GJMBR-D Classification :** *JEL Code: J24, H83*



*Strictly as per the compliance and regulations of:*



# Human Capital Elements and their Influence on Performance: Evidence from Uganda's Manufacturing Firms

Sulait Tumwine <sup>α</sup>, Sentrine Nasiima <sup>σ</sup> & Dr. Nixon Kamukama <sup>ρ</sup>

**Abstract- Purpose-** The purpose of this paper is to establish the elements of human capital that are influential in steering the performance of medium and large manufacturing firms (MLMC). **Design/methodology /approach:** A valid research instrument was utilized to conduct a survey on 359 MLMCs (256 Medium firms and 103 large manufacturing companies) and 897 respondents that are representative of 397 MLMCs and 1,087 respondents. Correlation and regression analysis were conducted to ascertain the validity of the hypotheses.

**Findings-** It was established that human capital elements (employee educational level, experience and motivation) are associated with MLMC's performance. Furthermore, human capital as a whole accounts for 55.9 percent of the variation in performance Uganda's MLMCs.

**Research limitations/implications-** Only a single research methodological approach was employed, future research through interviews could be undertaken to triangulate. Multiple respondents in MLMCs (CEO, finance manager and human & administrative manager and senior employees) were studied neglecting others. Furthermore, the study used the cross-sectional approach- a longitudinal approach should be employed to study the trend over years. Finally, human capital was studied and by the virtual of the results, there are other factors that contribute to MLMC's performance that were not part of this study.

**Practical implications-** There is need to intensify initiatives to encourage greater understanding and acceptance of human capital, Select appropriate elements that includes employee education, experience and motivation in order to have quality workforce to establish and grow MLMCs, provide employment, be competitive and contribute to countries GDP.

**Originality/value-** This is the first paper in sub-Saharan Africa to test empirically the relationship between human capital and performance of MLMCs in the Ugandan context.

**Keywords:** human capital, education, experience, motivation, medium & large scale manufacturing companies and performance.

## 1. INTRODUCTION & MOTIVATION

Medium and large sized manufacturing companies (MLMC) dominate the manufacturing sector around the globe accounting for 80 percent of the total number of companies (OECD 2010,

European Commission 2007). In Uganda, the manufacturing sector has since 2000's to-date gained a commendable 6 percent growth per annum contributing 51 percent to Uganda's GDP and to its growth by 37 percent (MoFPED, 2012). The same is shared by many developing countries in Africa and on the globe. Coupled with their contribution to GDP, academic research highlights the importance of MLMC for employment creation and economic development (Drucker 1985; Birch 1987; Storey 1994a), their operation result in price increases for raw materials, market competition and competitiveness for the finished products resulting in reduced prices, improvement in product quality and technology to meet quality and demand (McDougal et., al 1992)

The manufacturing sector therefore provides important benefits to the Ugandan economy, for example employment provided to the skilled, semi skilled and unskilled changes their lives because they earn a living from it, boosts the country's GDP, and narrows the tax base among others. Because of these importances, most developing countries including Uganda have devoted their effort towards attracting investors by gazeting land and putting in place infrastructure. Because of this demonstrated potential, the importance of the manufacturing sector becomes of much interest to both the government and other stakeholders with regard to their survival especially brought about by the human capital (HC) they employ for them to gain reasonable assurance for survival and better performance. However, this great potential can only be guaranteed when the manufacturing firms have within them appropriate HC.

The challenges arising from HC in Uganda came to limelight in 2010 when the price of the products manufactured by leading manufacturing companies on the Mombasa auction sales market were half priced (from 3.55 USD per kilo to 1.98 USD) due to their poor quality compared to the market standards and pricing which was attributed to ineffective workers engaged in production (Daily Monitor, July 13, 2010, Maweje, 2010). This was in addition to most manufacturing firms investing huge sums of money to develop and manage their HC in order to better their performance but no tangible results have been shown on paper (Seleim et, al, 2006, Maweje, 2010). This has often led to some of

Author <sup>σ ρ</sup> : Makerere University Business School, Kampala –Uganda.  
Author <sup>α</sup> : Faculty Of Vocational & Distance Education, Makerere University Business School, Kampala – Uganda.  
e-mail: Stumwine@mubs.ac.ug

these firms closing business (see Kasita and Emojong, 2010; Tentena, 2010) and of recent Sembule steel rolling in Uganda which was been attributed to ineffective HC (Bagadawa, 2013).

In addition, the recent "meltdowns" of significant companies in the USA, UK and the late 1980s industrial crisis in Europe raised the finger to the HC of companies as in most cases; the top and middle managers were found lacking competences and intellectual agility as far as discharging their duties was concerned (Okpara, 2011). Therefore, effective HC has been noted to be of significant value for firms in developing countries because it can lead to managerial excellence (Okpara, 2011). According to the Intellectus model developed by Cic (2003), it's difficult to single out what drives an employee to perform although considerable efforts have been spent on studying HC (Kamukama et., al 2012, Seleim 2006), there is no single, competence and integrative model of effective HC that would act as a benchmark for effective HC in Uganda's manufacturing firms.

Accordingly, much of the research about HC have been carried out in the developed countries especially in Scandinavian countries (Sharabati et al.,2010), Asia, USA and North Africa; that it is expected to provide important information other than performance. However, none of the prior studies have investigated the contribution of different Human capital components in Less Developed Countries especially in the manufacturing sector. Besides, there is a great interest in advancing HC in developing countries and Uganda in particular because;

1. The adopted industrial approach that is aimed at liberalizing the private sector away from the states ownership; for which Uganda adopted following the World Bank recommendation in 2000, 2005 & 2010.
2. The increasing competition locally and internationally for quality products at affordable prices and market share (sales).
3. The idea that HC increases performance is generally accepted up to board room level in addition to the general agreement that accounting is backward looking at only physical assets, new methods are needed.

It is therefore within this framework that we consider the influence of HC as an important facilitator of performance in manufacturing firms which has never been exhausted in developing countries. The aim of this study thus is to contribute to the development of a strategy and mix of the firm`s HC that incorporates the impact of both employee competences and their motivation and the extent to which HC contributes to performance of manufacturing firms in less developed countries especially Uganda.

The paper is organized into five sections and begins with the brief overview of the research study

followed by the theoretical reviewed related literature and hypothesis, methodology, analysis of results and the last part gives discussions, conclusions, research implications, limitations and suggested areas for further research.

## II. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

### a) *Theoretical framework*

According to Becker (1993), Human Capital Theory explains that formal education is highly instrumental and necessary in improving the production capacity of the workforce. This is because the knowledge and education acquired increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability which is a product of innate abilities and investment in human beings (Schutz, 1997; Psacharoponlos & Woodwall, 1997). However, the application of the theory increases learning efforts by employees and requires a firm to recruit highly qualified employees, train them yet at one point they will live because the firm does not own them (Bronchi, 2003, Castronova,2002; Crepez and Moser, 2004). In addition, the theory provides little attention to natural ability of workers who end being influenced on what to do.

Advocates of human capital theorists argue that an educated population is a productive one, but the major problem lies with the application of the knowledge and education acquired in relation to the output of the workforce at the place of work. Education has been compromised by the political system particularly in developing countries thus affecting the quality.

The Learning Curve Theory by Wright (1987) and Baloff (1991) postulates that experience of workers coupled with confidence and knowledge leads to efficiency and productivity of a firm (Ham, 2000). Drawing from this theory, firm performance is directly proportional to the amount of experience accumulated by a staff in the course of performing his/her duties. However, this theory does not take into consideration the fact that technology can replace humans (BCG, 2005), even employees without experience can perform better than experienced ones if they are using machines (Wright, 1998)

According to Teece, Pisan and Shuen (1997) the Dynamic Capabilities Theory enables firms to integrate, build, and reconfigure internal and external competencies to address rapidly-changing environments. This theory attempts to provide an insight into how dynamic capabilities facilitate achievement of firm performance by responding fast to external and internal environmental changes. It presumes that the firm's capability to change depends on its ability to scan the environment, to evaluate markets, and to quickly

accomplish reconfiguration and transformation ahead of the competition (Winter, 2003; & Teece et al., 1997).

Schoemaker(1992), Parahald and Hamel(1990) and Teece et al.(1997) pointed out three dynamic capabilities necessary for the firm to succeed. First, employees need the capability to learn quickly and to build strategic assets. Second, new strategic assets, like knowledge, technology and customer-feedback, have to be integrated within the company. Third, existing strategic assets have to be transformed or reconfigured. Central to these capabilities are competitive advantage and firm performance as a function of industry analysis, organizational governance and firm effects in the form of resource advantages and strategies (Mahoney and Pandian, 1992).

The agency theory stipulates (Donaldson, L., & Davis, J. H. (1991)) that one party the principal delegates work and decision making authority to another party the agent. When the agent is acting on behalf of the principal, the behaviours and decisions exhibited ought to be like those of the principal to benefit the principal, however, the agent may not have the necessarily competences; a reason firm`s collapse while others perform better..

In light of the weaknesses of the reviewed theories, their application and relevance in articulating firm performance should be treated with much caution. This therefore leaves researchers and scholars with no unifying-strong theory to elucidate firm performance. Since firms are faced with an uncertain, competitive and dynamic business environment, there is a need for an approach that can provide a coherent framework to integrate existing conceptual and empirical knowledge to match environmental dynamism. In this case, the dynamic Capabilities Theory, which puts emphasis on resources development and renewal, can be seen as a tentative alternative theory that could be integrated with the theories reviewed above to explain firm performance.

## b) Literature review

### i. The concept of Human capital (HC)

Human capital (HC) represents the individual stock of an organization as represented by its employee's competences (Bontis et al., 2002, Roos et al 1997). Competence includes skills and education at workplace. It can further be looked at as the individual abilities, knowledge, know-how, talent, and experience of both employees and managers of a firm (Edvinsson and Malone, 1999). According to Kamukama, (2010) and Bontis, (1998) this capital is the most important asset a company owns since it is a source that creates competitive advantage though it is more risky and does not belong to the organization per se but to each individual that constitutes the organization.

According to Lafuente and Rabetino (2008), HC is comprised of individual attributes as formal education,

previous labour experience, individual well being at the place and even beyond, and the presence of partners who might provide additional expertise. This type of capital is considered unique since knowledge cannot be taken away from the individual as tangible assets and financial capital can. It can therefore be observed that the employee's knowledge brought about by their educational level, their abilities, and level of motivation provided by their employers constitutes a key determinant factor towards the success of any business (Honig, 2001 and Pena, 2004).

Therefore, for organization to get real value from their workforce, HC is central with its key elements of employee education level, experience and motivation.

### ii. Employee educational level

According to Ruzevicius (2006), the quality of knowledge and the level of education one has gone through, shapes him and overturns organizational performance if well utilized and passed on. This sharing of knowledge should become one of the essential values within an organization. According to Cooper et al., (1994); Gimeno et al., (1997), it is widely recognized that formal education positively impacts on managerial decisions that increases business growth opportunities. This indicates that more educated employees have the necessary skills, discipline, motivation, information and self-confidence to attain higher growth rates in their work place; hence, they are more likely to perceive and exploit business opportunities to better performance (Cooper et al., 1994; Ucbasaran et al., 2008). Secondary, education provides knowledge that may help overcome financial constraints (Evans and Leighton, 1989) and foster business growth (Honjo, 2004).

It therefore of no doubt that successful companies tend to be those that continually put emphasize on skills and knowledge of their employees, rather than on assets, such as plants or machinery (Maheran et al., 2009). Mavridis (2004) further observed that highly-skilled and qualified individuals are needed to facilitate the delivery of high value-added products and services as well as the competences to build consumers' confidence and trust. Maheran et al. (2009) crowned it all by stating that in an increasingly complex and more liberal environment, the competitiveness of manufacturing firms will depend critically on the quality of employee's qualification. Limited literature on the link between employee education level and performance of manufacturing firm`s calls for testing of the following hypothesis.

*H1: Employees education level positively influences performance of manufacturing firms*

### iii. Employee experience

Switzer and Huang (2007) argue that on job experience with the organization and overall industrial experience per se is one of the major HC characteristics



that lead to organizational performance. Studies by Lafuente and Rabetino (2011) describe HC comprising of labor experience and skills accumulated by individuals contributing to business performance. This implies that experience and skills of individual employees in the organization provide an organization with a mix of capabilities that makes it an organization of choice. Accordingly organization with an effort and commitment to HC formation should institute strategies in form of supportive policies tailored to organizational requirements

Furthermore, previous studies by Schutjens and Wever (2000) and Bosma et al. (2004) found out the relevance of experience as an integral component of HC contributing to the firm's growth. This therefore conforms to the notion that experience and skills is a positive predictor of firm performance. In Uganda, organizations continue to focus and insist on experience and skills as a key to acquire talented work force and a pre-requisite to getting a job, yet experience is not taught in institutions but nurtured among employees within the organization. This has created mixed feeling in relation to the quality of education provided by institutions of higher learning where they provide more theoretical knowledge than practical skills preferred by employers. Limited literature on the link between employee experience and performance of manufacturing firm's calls for testing of the following hypothesis.

*H2: Level of Employees experience positively influences performance of manufacturing firms*

iv. *Employee motivation*

According to Kamukama (2010), employees represent the most valuable and important asset of the organization that has to be harnessed and managed with care and maintaining a motivated and committed workforce is essential to the performance of any organization. McCoy (2012) states that motivation is the underlying reason a person has for acting or behaving in a particular way. In business, the typical default mechanism that management uses to "motivate" employees (to do what they want them to do) is to incentivize the goal by saying "if you do I will give you....". If the incentive is compelling enough to the employee, then the system works resulting in the employee reaping the incentive and management achieves its goal.

Additionally, maintaining competent workforce is costly in the short run and cheaper in the long run, but organizations also pay a significant cost when employees voluntarily leave. This talent drain, results in costly sourcing and development of new talent, but often hurts more in terms of productivity losses and inability to grow. Employee preferences and what they look for from work are determined not just at an individual level, but also over time. An organization that fails to recognize and meet those changing needs over

time will underutilize its employees which ultimately cripples its overall performance. As Stanford Professor Jeffrey Pfeffer discusses in his recent book about evidence-based management, pay for performance is a complex issue (Pfeffer and Sutton, 2006). Financial incentives have a motivational, informational and a selection effect, all are very powerful if designed correctly, but become a risky approach if not based on real data on performance. This was also a finding from a recent research effort investigating the linkage of pay-for-performance and financial performance (Berggren and Fitz-Enz, 2006).

Kamukama (2010), in his PhD thesis advanced that most people in the developed world today take food and shelter for granted, and that the job has become something more than simply a means to put food on the table. Many people in developed countries do not view their jobs solely as a means to support their basic needs and lifestyles, but are looking at work as a means to fulfill needs that are higher up in the Maslow Hierarchy of Needs pyramid. Based on his field experience, employees no longer look at salary and allowances as the only motivation, but look at other incentives such as training and staff development at the place of work. In reference to Berggren and Bernshteyn, (2007) work, employees' attitudes towards work and what motivates them appear to be dramatically different than some of their older colleagues. Thus, with increasing demands for competent and educated workforce and a shortage of such individuals, it is becoming more critical for organizations to understand and take into account in its strategic planning and utilization of HC which though has remained lacking in most firms in Uganda. Limited literature on the link between employee motivation level and performance of manufacturing firm's calls for testing of the following hypothesis.

*H3: Employee's motivation level positively influences performance of manufacturing firms*

v. *Human Capital and Financial Performance*

HC has been cited to be influential in reducing organizational costs in many ways. The educational level that an employee comes with, experience acquired while at the place of work coupled with the firm's motivational level may result in increased output and competitiveness. (Young & Snell, 2004). HC has equally been cited to be instrumental in enhancing customer benefits by helping to increase quality, reliability, and flexibility, creating value for the customers, through production and service delivery process innovations.

In global knowledge – based economy, the issue as to why some firms are more competitive and perform better than others has become a crucial one. This question is in the centre of analysis of many business disciplines and the subject of never - ending debate. In particular, strategic management field has traditionally focused on business concept that affects

firm competitiveness and firm performance. Since the mid 1980s the Resource Based View of the firm and subsequently the Dynamic Resource – Based View and the Dynamic Capabilities Approach are dominant paradigms explaining those issues. The Resource Based View of the firm focuses on internal, firm-specific factors and their effect on performance (Grant, 1991, Peteraf, 1993, Amit and Schoemaker, 1993, Collis, 1994).

The study of Bontis, Keow and Richardson (2000) show the positive significant relationship between HC and firm performance for both service and non service industries. Carmeli and Tishler (2004) and Riahi-Belkaoui (2003) proved the positive association between HC and firm future performance. On the other hand, the research suggests that the relationship might be industry and country specific. Bontis (1998) in his exploratory pilot study showed a valid, reliable, significant and substantive causal link between dimensions of HC and business performance. In addition, the study confirmed that those three constructs (motivation, education and experience) affect each other, for example education without the support of motivation is practically useless, experience without the support of education is also useless etc. Carmeli and Tishler (2004) go on further on the argument of the importance of interactions between HC elements and they found out that those relations enhance organizational performance.

In general the studies prove the main contention of the resource based view positive relationship between intangibles and firm performance (Bontis, Keow and Richardson, 2000, Riahi-Belkaoui, 2003, Li and Wu, 2004, Chen, Cheng and Hwang, 2005). Different dimensions of firm current and future performance are considered, like survival and profitability (Delios and Beamish, 2001) or firm's market value and financial performance (Chen, Cheng and Hwang, 2005). Ranzijn and Verboom (2004), understood firm performance to be the bottom line, which means profit. Thus, performance of a company depending on the users can be judged from the profit generating potential of an organization or the market share and or asset base. In order to communicate performance, financial analysts use a number of techniques to establish a firm's performance. For this study, such ratios as net profit margin (NPM), return on capital employed (ROCE) and earnings per share will be considered. This is in agreement with Spivey and McMillan (2002) who stated one way to know the organization that is doing well is through using the profitability ratios. Based on the inadequacy on the link between human capital and performance, calls for testing the following hypothesis.

*H4: Human capital positively influences performance of manufacturing firms in Uganda*

### III. METHODOLOGY

#### a) Design, population and sample

The study used a cross-sectional, qualitative and quantitative research designs to address the stated hypotheses. The study population included 49,000 registered MLMC`s in Uganda (UBOS directory, 2013). The sample size of 397 MLMCs with 1,087 respondents was generated using Yamanae (1973). According to Yamane (1973), the sampling tables indicate that with this range and at precision levels of  $\pm 5\%$  (confidence level of 95%,  $p = 5$ ), the average sample becomes 397 objects, at precision level of  $\pm 3\%$  (confidence level 97%,  $p = 3$ ) the sample becomes 1,087 objects and at  $\pm 7\%$  (confidence level 93%,  $p = 7$ ) it becomes 204 objects. We took the first and second level of 397 MLMCs at precision level  $\pm 5$  percent and 1,087 respondents (CEO`s, finance, production, human & administrative managers and senior employees) at precision level of  $\pm 3$  percent which was representative enough for such population and it fairly yields better results. Besides, the sample size generated using this approach fairly mirrors the results one would have got using a table of random samples by Krejcie and Morgan (1970) and Isreal (1992). Stratified and purposive sampling techniques were used based on a firm that was in existence for the last 5 years and employs at least 100 employees and above.

The unit of analysis was MLMCs and CEO`s, finance, production, human & administrative managers and senior employees acted as units of inquiry. The developed MLMCs strata included 286 medium manufacturing firms (MMF) and 111 large manufacturing companies (LMC). Out of the top managers and senior employees targeted per MLMC, five respondents (three top managers and 2 senior employees) were studied. The decision to accept a minimum of five respondents per MLMCs was based on previous scholars such as Baer and Frese (2003) and Ngoma (2009).

By opting for this methodological approach, perfect information symmetry is ensured as such respondents are perceived to know how the employees are handled and the financial gains a firm gates out of the employees hard work. Such symmetry of information could not be as easily achieved by collecting data from other stakeholders such as the public and other lower workers for instance shop attendants, store keepers because they were presumed to have little information regarding the subject matter.

The study variables were operationalized based on previous studies. In addition, a five-point Likert scale developed by Rensis (1930) was adopted for all item scales ranging from 1- strongly disagree to 5 - strongly agree. HC was measured on the basis of employee educational level, employee experience and employee level of motivation in line with the Intangible Asset Monitor (IAM) developed by Sveiby (2001), later

modified by Petty and Guthrie (2004). The main focus was on employee know-how, education, qualifications, work – related knowledge and work- related competence. Performance of manufacturing companies was measured using the works of different scholars such as Ledgerwood (2011), Glautier M W E & Underdown B (2001) together with the Performance Monitoring Tool (2006/2008). Financial performance ratios such as net profit ratio (NPM) and return on capital employed ratio (ROCE) were used for each MLMC.

The questionnaire was validated through expert interviews and by a panel of expert practitioners and was then physically delivered to the selected respondents at their work premises on appointment. A survey was adopted as the most appropriate method of data collection and previous research supports the reliability and validity of the self-report measures (Lechner et al., (2006). This approach consists of a selection of key information providers by virtue of their position, knowledge and information available (McEvily and Marcus, 2005).

#### IV. RESULTS AND DISCUSSION

##### a) Descriptive Statistics

Data from 359 MLMC`s (897 respondents) out of the targeted 397 (1,087 respondents) was received representing an average response rate of 91 percent (256 medium manufacturing firms and 103 large

##### b) Testing the hypotheses

Table 1 : Testing the hypothesis and Correlations

HC indicators	Correlation with export intensity:	Comment
H1 Employee educational level	.356** (.000)	Supported
H2 Employee level of motivation	.293* (.001)	Supported
H3 Employee level of experience	.257* (.001)	Supported
H4 Human capital	.714** (.000)	Supported

Note: Significance levels \*P<0.05 (95%); \*\*P< 0.01 (99%)

The findings in Table 1, show a significant and positive correlation between employee education level and firm performance ( $r=.356^{**}$ ,  $p<.01$ ; Sig.000), employee level of motivation and firm performance ( $r=0.293^*$ ,  $p<.05$ : Sig.001), employee level of experience and firm performance ( $r=0.257^*$ ,  $p<.05$ ; Sig.001). Thus our results support H1, H2 and H3.

As can be seen from the table above, HC (H4) as a whole is associated with firm performance ( $r=0.714^{**}$ ,  $p<.01$ : Sig.000). This implies that when shareholders invest more firm funds in recruiting employees with the required qualification and experience and then motivates them appropriately commensurate to their work efforts, the level of performance of manufacturing firm's increases in return.

manufacturing companies). The larger number of the respondents were males (512) representing 57 percent and females (385) representing 43 percent; 36 percent (319 respondents) had a bachelors degree as the highest qualification, 41 percent (371 respondents) had a diploma, 12 percent (111 respondents) had a certificate and the rest 11 percent (96 respondents) had a masters degree. The majority the MLMC`s 67 percent (241 companies) had been in operation for a period between 5 - 10 years while the rest 33 percent (118 MLMC`s) had been in operation for a period of more than 10 years. The mean score of the element of HC (employee educational level, employee experience and level of motivation) and performance were established as 4.2, 3.9, 3.8 and 4.1 and the standard deviation of 0.56, 0.67, 0.74 and 0.76 respectively and the CVI were established as 0.87, for the HC and 0.77 for performance. Given that the standard deviations are small compared to mean values, it is true that the computed means highly represent the observed data. In effect, the calculated averages are a good replica of reality (Field, 2006 & Saunders et al., 2007).

Principal component analysis for HC was performed (Field 2006) and yielded three factors namely employee education level accounted for 41.3 percent, employee motivation accounted for 32.8 percent and employee experience accounted for 25.9 percent) and performance of manufacturing firms was explained by 66.6 percent.

The research results are in line with those of Barney, (1991), Kamukama (2010) and strategic HRM by Huselid, et al., (2007), who argued that the organization-specific HC is of strategic importance to organizational performance. Thus, the collaboration of HC (Fitz-end 2006) results in the improvement and establishment of efficient and productive systems and processes, and/or the innovation of new products and services.

##### c) Regression results and interpretation

A regression analysis was performed in order to establish the relationship HC has towards the overall performance of MLMC in Uganda. The results are given in tables below

Table 2 : Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% confidence interval for B	
	B	Std. Error	Beta			Lower	Upper
(Constant)	18.737	8.769		2.137	.000	1.272	36.202
1 Education	.241	.081	.285	2.743	.000	.097	.483
Motivation	.346	.095	.378	3.637	.001	.156	.535
Experience	.272	.078	.331	2.245	.001	.108	.511

a. Dependent Variable: Firm performance

Regression Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742 <sup>a</sup>	.551	.559	4.35648

Regression results in Table 2 show that HC elements (education level, experience and motivation) explain 55.9 percent of the variance in performance of MLMC's in Uganda.

## V. DISCUSSION AND CONCLUSION

### a) Employee educational level and performance of manufacturing firm

The findings revealed that Employee educational level improves performance; the key attribute of employee education is that it is measured by the qualification at various levels an employee has entered the company with. The results imply that firms which invest capital to strengthen their recruitment process by way of advertising available jobs, short listing candidates based on job requirement and qualification, and then orientation, job description and job specification properly laid down to employees; benefit the organizations in one way or the other.

These results are in agreement with the findings made by Huselid et al., (2005), who found out that employees represent the most valuable and most costly variable in the execution of organizational performance. He concluded that they must have the right qualification in order to be fit on the right jobs. Otherwise it would be disaster to recruit a wrong person amidst the cost involved, and he or she does improper things.

Therefore, it is important for manufacturing firms in Uganda to recruit employees who have the right qualification for the job.

### b) Motivation and performance of manufacturing firms

The study revealed that there exist a significant and positive relationship between employee motivation and firm performance. Therefore, boosting an employee by a way of providing him/her with recognition awards, availing employees' overtime and flexible work schedule, staff development and incentive pay between the lowest and high performing employees are deemed to improve organizations performance but in the long

run are a waste of organizational resources because they are seen as de-motivators since they form a basis for further demands. There therefore a need for policy on incentives to streamline rewards. In addition, financial rewards are associated with costs to an organization and if not properly regulated; can significantly reduce the profits of an organization there by affecting organizational performance.

Our findings are in agreement with those of earlier scholars such as Berggren and Fitz-Enz, (2006) and Huselid et al., (2005), who argued that maintaining well motivated employees are essential to the success of every organization and that the lack of understanding by those in authority on how to motivate their employees will hurt the organization. Successful organizations are the ones that can find the potential on an individual basis and act upon that potential to fully exploit it.

### c) Employee experience and performance of manufacturing firms

Results from the study revealed that there exists a significant and positive relationship between employee experience and performance. This goes hand in hand with the education level and the number of years has served either in other organizations or within the same company itself or in addition to other trainings attained. The results imply that firms which invest capital to strengthen their employees level of experience through training and by use of qualified persons, use of several training methods, training based on employee training needs and needs requirement of employees leads to significant performance returns and enables the organization to achieve its goals because an experienced and qualified employee can turn the company round.

This result is in line with the earlier findings and recommendations made by Schutz, (1997); Sakanota & Powers, (1995), in the cognitive theory who stated that employees contain a stock of knowledge that is not an end to its means but needs continuous harnessing



through training in order to keep the employees updated on work requirements and dynamics of quality.

*d) Human Capital and performance of manufacturing firms*

The study findings from the correlation established a significant relationship between HC and firm performance ( $r=0.714^{**}$ ;  $p\text{-value}<0.01$ ). This implied that when firms invest capital in strengthening their recruitment process to tap qualified employees based on their level of education and experience and then motivates them appropriately, performance increases.

Our results are in line with the findings of the resource-based view (RBV) of the firm developed by Barney, (1991), and strategic HRM by Huselid, et al., (2007), who argued that the organization-specific HC is of strategic importance to organizational performance. Thus, the collaboration of HC (Fitz-end 2006) results in the improvement and establishment of efficient and productive systems and processes, and/or the innovation of new products and services.

The results are further supported by the findings of Olaniyan and Okenakinde (2008), who asserted that HC is a key factor in the performance of an organization. He further argued that it comes up as a result of the process that must be enshrined in the company human resource policy of ensuring that an organization has the right people, who are rightly placed, remunerated and ultimately managing them within, such that they do not resign or exit.

## VI. SUMMARY AND CONCLUSION

As a result of the discussion, the study confirms that, HC elements (education level, motivation and experience) are significant predictors of performance in the MLMC`s of Uganda. Of the HC elements, employee education level has the highest significance and therefore is more important in influencing performance of MLMC`s. Thus, a combination of all the HC elements predicts 55.9 percent of the variation in performance of MLMC`s.

## VII. IMPLICATIONS FOR MANAGEMENT AND RESEARCHERS

*a) Managerial implications*

The study has introduced a comprehensive understanding of the effect of HC elements on performance of MLMCs. This promotes management effort to improve on their performance that can be facilitated through recruiting employees based on the right qualification and experience in relation to the job requirement and strategic firm objective (profit or wealth maximization and quality objective) and motivating employees appropriately and on time in a more economical and efficient way taking into account the

inflationary pressure. The management of MLMCs further needs to encourage greater understanding and acceptance of the HC mix across board in order to create an improved performance, promote economic growth and provide employment to the unemployed.

Since MLMCs are meeting a number of costs when recruiting, training and motivating employees that are becoming unavoidable and making the operation costs high that eventually affects their performance, manufacturing companies should devise a mechanism that can enable cost cutting their other spending areas in order to provide enough to HC development because it is a core to the functionality of any company. This will attract competent workers that will be utilized to improve on output and quality thereby improving on the financial performance of manufacturing companies.

*b) Theoretical implications*

The study has addressed practical issues that have not been attended to for long by both literature and by practitioners and has further shown that HC is essential for the survival and performance of MLMCs in addition to the employment they provide, improvement in GDP among others. Thus, the study has contributed to the on-going debate concerning the HC in the field of intellectual capital and performance.

From the literature, scholars have different views concerning HC and business management dimensions. This study has brought out the key HC elements (education level and experience of an employee and motivational levels) as crucial elements if MLMCs are to attain better performance. This therefore widens the literature on HC.

*c) Limitations of the study*

The findings of this study have some limitations that provide the initiatives for future research; and some of these include:

- Due to the confidentiality of the required information, the data provided were based on top managers and senior employees who self-reported on their own MLMC. Therefore, the measures were not based on raw data.
- A single research methodological approach of data collection was used (structured questionnaire). This limited respondents' scope of answering since their views were predetermined.
- Thirdly, a multiple regression for HC elements was done producing a single percent for all the studied components. In addition the result (55.9 percent) for HC is just above average an implication that there are other factors that contribute to performance that needs a further study.
- Finally, the present study is cross-sectional; it is possible that the views held by individuals may change over the years.

In spite of the limitations, policy makers dealing with service provision, academicians, politicians, heads of MLMCs and general public interested in the field of HC might find this study important.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Barnes, P. (1987). The analysis and use of financial ratios: A review article. *Journal of business finance & accounting*, Vol.14, No. 4, pp 449-461.
2. Barney, J. (1991); Firm resources and sustainable competitive advantage; *Journal of Management*, Vol. 17, pp 771-792.
3. Bernstein, L.A. (1989). Financial statement analysis: Theory, application, and interpretation (4<sup>th</sup> Ed.). Homewood, Illinois: Richard D. Irwin, Inc.
4. Bontis, N. (1998), "Managing organizational knowledge by diagnosing intellectual capital: framing and advancing the state of the field", *International journal of technology management*. 18 (5): 433-462.
5. Bontis, N., Keow, W. and Richardson, S. (2000), "Intellectual capital and business performance in Malaysian industries", *Journal of Intellectual Capital*, Vol. 1 No. 1, pp. 85-100.
6. Bosma, N., van Praag, M., Thurik, R. and de Wit, G. (2004), "The value of human and social capital investments for the business performance of start-ups", *Small Business Economics*, Vol. 23 No. 3, pp. 227-36.
7. Chen, M., Cheng, S., Hwang, Y. (2005), "An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance", *Journal of intellectual capital*. 6 (2): 159-176.
8. Cooper, A., Gimeno-Gascon, F.J. and Woo, C. (1994), "Initial human and financial capital as predictors of new venture performance", *Journal of Business Venturing*, Vol. 9 No. 5, pp. 371-96.
9. Cronbach, L.J. (1951), "Coefficient alpha and the internal structure of tests", *Psychometrika*, Vol. 16 No. 3, pp. 297-334.
10. Donaldson, L., & Davis, J. H. 1991. Stewardship Theory or Agency Theory: CEO governance And Shareholder Returns. *Australian Journal of Management*, Vol. 16: 49-65.
11. Edwards, W. (2004). Interpreting financial performance measures. *Journal of business finance & accounting* pp 23-56.
12. Edvinsson, L. and Malone, M. (1999), *Le Capital Immateriel de l'Entreprise: identification, mesure, management (Immaterial Capital of the Enterprise: Identification, Measure, Management)* E'ditions Maxima, Paris.
13. European Commission (2007), Green Paper: Entrepreneurship in Europe, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, COM (03) 27, available at: [http://ec.europa.eu/enterprise/entrepreneurship/green\\_paper/17022003-1](http://ec.europa.eu/enterprise/entrepreneurship/green_paper/17022003-1)
14. Field, A. (2006), *Discovering Statistics Using SPSS*, 2nd ed., Sage, London.
15. Honig, B. (2001), "Human capital and structural upheaval: a study of manufacturing firms in the West Bank", *Journal of Business Venturing*, Vol. 16 No. 6, pp. 575-94.
16. Honjo, Y. (2004), "Growth of new start-up firms: evidence from the Japanese manufacturing industry", *Applied Economics*, Vol. 36 No. 4, pp. 343-55.
17. Kamukama N, Ahiauzu A. and Ntayi J. M (2010), "Intellectual capital and performance: testing interaction effects" *Journal of Intellectual Capital*/Vol. 11 No. 4, 2010 pp. 554-57,
18. Kamukama N. (2011), "intellectual capital elements and financial performance in microfinance institutions in Uganda" PhD thesis, Makerere University, Kampala. .
19. Krejcie, P. & Morgan, D.W.(1970),"Determining sample size for research activities",*Educational and Psychological Measurement*, Vol.30 No.3, pp.607-10.
20. Lafuente E. and Rabetino R. (2011), "Human capital and growth: Romanian small firms" *Journal of Small Business and Enterprise Development* Vol. 18 No. 1, 2011 pp. 74-96.
21. Maheran, N.M., Khairu, A.I. (2009), "Intellectual capital efficiency and firm's performance: study of Malaysian financial sectors", *International Journal of Economics and Finance*, Vol. 1 No.2, pp.206-12.
22. Macmillan, J.F (2002); Value creation and the entrepreneurial business: Available online: <http://www.business.clemson.edu/spiro/images/pdf/WP02-03.pdf>fat1506.2004
23. McGregor, J., Tweed, D. & Pech, R. (2004). Human capital in the new economy: Devil's bargain? *journal of Intellectual capital*, 5 (1),153-64.
24. Ministry of Finance, Planning and Economic Development-MoFPED (2012 – 2013). Background to the Budget; Kampala.
25. Ngoma, M. (2009), "Internationalization of services in less developed countries", PhD thesis, Makerere University, Kampala.
26. Ntoumanis, N. (2001), "A self determination approach to the understanding of motivation in physical education", *British Journal of Educational Psychology*, Vol. 4 No. 2, pp. 234-45.
27. Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw Hill, New York, NY.
28. Pandey, I.M. (1996). *Financial management* (7<sup>th</sup> Ed.). Delhi: Ram Prasad. Pp 103-124.
29. Riahi-Belkaoui, A. (2003), "Intellectual capital and firm performance of US multinational firms – a study

- of the resource-based and stakeholder views”, *Journal of Intellectual Capital*, Vol. 4 No. 2, pp. 215-26.
30. Roos, J., Roos, G., Dragonetti, N. and Edvinsson, L. (1997), *Intellectual Capital: Navigating in the New Business Landscape*, New York University Press, New York, NY.
  31. Schutjens, V. and Wever, E. (2000), “Determinants of new firm success”, *Papers in Regional Science*, Vol. 79 No. 2, pp. 135-59.
  32. Storey, D. (1994a), *Understanding the Small Business Sector*, Routledge, London.
  33. Teece, D.J (2000). *Managing Intellectual Capital*, *Oxford University Press, Oxford*.
  34. Uganda Bureau of Statistics (UBOS 2013): *A Report on the Ugandan Business Register*.
  35. Ucbasaran, D., Westhead, P. and Wright, M. (2008), “Opportunity identification and pursuit: does an entrepreneur’s human capital matter?”, *Small Business Economics*, Vol. 30 No. 2, pp. 153-73.
  36. Vesper, K. (1984), *Entrepreneurship and National Policy*, Heller Institute, Chicago, IL.
  37. Wang, W. and Chang, Ch. (2005), “Intellectual capital and performance in casual models. Evidence from information technology industry in Taiwan”, *Journal of intellectual capital*. 6(2): 222-236.
  38. Wolff, J. and Pett, T. (2006), “Small firm performance: modelling the role of product and process improvements”, *Journal of Small Business Management*, Vol. 44 No. 2, pp. 268-84.
  39. Yamane, T. (1973), *Statistics: An Introductory Analysis*, 3rd ed., Harper and Row, New York, NY, .