Human capital, social capital and performance of commercial banks and insurance firms in Kenya

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The purpose of the study was to establish whether the influence of human capital on the performance of insurance firms and commercial banks in Kenya is moderated by social capital. The study adopted a descriptive cross-sectional survey design and a census survey was carried out on all the 43 licensed commercial banks and 45 insurance firms in Kenya. The target respondents were the Human Resources Managers and the questionnaire was the data collection instrument that was used. Out of the 88 firms that were targeted, 54 responded, constituting a response rate of 61%. Hypotheses were tested using regression analysis. Descriptive statistics were computed for organizational data and the main characteristics of the study variables. Data was presented in form of tables. The findings revealed that social capital does not moderate the influence of human capital on firm performance, but has a mediating effect. This study contributes to understanding the link between human capital, social capital and firm performance. Nishantha (2011) found that social capital moderates the relationship between human capital and firm growth. This study has contributed to existing knowledge by empirically confirming that social capital is not a moderator but a mediator of the relationship between human capital and firm performance. Organizations can enhance their performance by building their human capital base through rigorous selection procedures and matching the right people with the right jobs. Work experience should be considered alongside academic qualifications during selection. Firms should strengthen their social networks and linkages so as to maximize on resources that may be obtained through such networks. Employees with the relevant knowledge, skills and competencies should be encouraged to obtain and share information through the established social networks to achieve greater synergy in increasing competitiveness.

Key words: Human Capital, Social Capital, Firm Performance, Commercial Banks, Insurance Firms, Kenya

INTRODUCTION

A firm’s human capital is an important source of sustained competitive advantage (Hitt et al., 2001) and therefore investments in the human capital of the workforce may increase employee productivity and financial results (Pfeffer, 1998). Helping individuals to develop knowledge, skills and competence increases the human capital of the organization. People are better equipped to do their jobs and this is generally of value to the organization (Cunningham, 2002). The resource-based theory argues that firm performance is a function of how well managers build their organizations around resources that are valuable, rare, inimitable, and lack substitutes (Barney, 1991). Human capital as resources meet these criteria, hence the firm should care for and protect resources that possess these characteristics, because doing so can improve organizational
performance (Crook et al., 2008).

Individuals who accumulate greater human capital will occupy central positions in the social network of organizations and also reap the benefits of social capital. Moreover, those with higher social capital will enhance their value by facilitating the exchange of information across the organization and thereby achieve superior outcomes (Mehra, Kilduff and Brass, 2001). An organization’s human and social capital influence the quality of decisions made. In order to develop an assessment of the decision situation, central decision makers gather most of their information through social ties in their direct environment, which constitute their social capital.

One of the problems that insurance firms and commercial banks in Kenya face is low human capital. A study done by PriceWaterHouseCoopers (2010) on Kenyan insurance firms found that there is a human capital challenge facing insurance firms, where many insurers are facing mounting skills shortages. Yet, investment in recruitment, training and career development often trails behind other financial sectors. The primary focus can often be short-term demands rather than securing the talent companies need to meet longer term strategic objectives. Looking ahead, demographic shifts, evolving aspirations and accelerating globalization are set to transform the shape of the labour market and could make it even harder for insurance firms to attract and retain a high quality workforce.

In the last few decades the Kenyan insurance industry has flourished with the industry leading within the East Africa Community, and is a key player in the COMESA region (Common Market for Eastern and Southern Africa). The Industry is governed by the Insurance Act, Cap 487 and regulated by the Insurance Regulatory Authority (IRA) as the regulatory body. The IRA is an autonomous government agency established to oversee Kenya’s insurance industry for the benefit of the Kenyan public (Insurance Regulatory Authority Annual Report, 2010). Over the years, the insurance industry in Kenya has worked hard at reclaiming its rightful image by embracing a new strategy that is aimed at ensuring the industry commands the respect they deserve, and that more customers are taking up the services so as to counter the limiting perceptions that insurers are out to fleece the public with little or no likelihood of making a return from the lucrative covers offered.

Insurance firms compete for a limited market characterized by low penetration. Kenyans’ uptake of insurance cover, both at corporate and personal level, remains predominantly in the motor, fire, industrial and personal accident (mainly group medical cover) classes. This illustrates a poor attitude towards personal insurance cover in general. With the debt crisis in 2011, there was a notable drop in the overall premiums, a rise in claims and a decline in investment income. The gross direct premium income dropped from 25% in 2010 to 18% in 2011. This forced companies, especially those transacting in non-life business to change their strategy and not heavily depend on investment income to sustainprofit, but instead to reduce operational and acquisition costs (Insurance Regulatory Authority Annual Report, 2011).

The performance of insurance firms is dependent on human capital attributes such as knowledge, experience and skills because these have a clear impact on organizational results and can build a long-term competitive advantage. Social capital is a key driver of sales performance, especially in knowledge intensive contexts (Ustuner, 2005). With the rise of the networked economy, the ability to build social capital across networks becomes critical (Lesser, 2000). Insurance firms strive at increasing their social networks (formal and informal ties), social skills, and social identity in form of status, identity and reputation because these are critical in enhancing their performance.

As at 31st December 2012, the banking sector consisted of the Central Bank of Kenya as the regulatory authority, 43 commercial banks and 1 mortgage finance company, 5 representative offices of foreign banks, 8 Deposit-Taking Microfinance Institutions (DTMs), 2 Credit Reference Bureaus (CRBs) and 112 Forex Bureaus. Out of the 44 banking institutions, 31 locally owned banks comprise 3 with public shareholding and 28 privately owned, while 13 are foreign owned. During the year 2012, banks increased their branch network by 111, which translated to a total of 1,272 branches. The increase is an indication of increased provision of banking services. The banking sector registered an increase in staff levels by 1580 from 30,056 in 2011 to 31,636, representing an increase of 5.3 percent. All the cadres of staff increased with the exception of supervisory level which reduced by 84 (Central Bank of Kenya Bank Supervision Annual Report, 2012).

It has been demonstrated empirically that the human capital of a firm becomes a strategic asset when that knowledge is valuable and unique, thus generating greater competitiveness and ultimately more profit (Subramaniam and Youndt, 2005). Employees with the relevant knowledge, skills and competencies are encouraged to obtain and share information through the social networks that organizations establish to achieve greater synergy in increasing competitiveness. Social capital may reduce transaction costs, enhance cooperation, facilitate entrepreneurship and formation of start-up companies, and strengthen supplier relations, regional production networks, and inter-firm learning (Knack and Keefer, 1997).

One major challenge facing the financial services sector in Kenya is low human capital. There is a human capital challenge facing insurance firms where many insurers are facing mounting skills shortages (www.pwc.com). High labour turnover has also been cited as one of the predictions of failure of insurance
firms in Kenya (Kibandi, 2006). This could be due to the low human capital in the insurance industry as well as how human resources are managed. While banks have traditionally emphasized shrewd use of financial assets, the increasingly competitive global marketplace is causing financial institutions to take a fresh look at the way they manage human capital. The banking industry is being buffeted by a storm of trends and challenges. Customers perceive banking products and services as commodities; shareholders demand healthy growth and fat margins; employee turnover is a persistent problem; and skilled talent is in short supply.

The banking and insurance industries were of interest in this study because these are industries where sales performance largely depends on repeat business and the social networks that the firms have established.

A study by Nishantha (2011) examined the effect of entrepreneur’s human capital and social capital on the growth of Small Enterprises (SEs) in Sri Lanka. Specifically, the study sought to establish the moderating effect of social capital on the relationship between human capital and firm growth. Social capital was found to moderate the relationship between human capital and firm growth. The study focused on small organizations only, yet organizational size as a characteristic may yield different results. Another study by Lin and Huang (2005) on the role of social capital in the relationship between human capital and career mobility found that the relationship between human capital and career development potential in the organizations was completed through the effect of social capital, supporting the mediation model. The study considered the influence of human and social capital on individual’s career mobility and not firm performance. The study also covered three Taiwanese financial institutions which is an inadequate sample hence the findings may not be generalized to the entire financial sector or even across sectors. Ottosson and Klyver (2010) carried out a study on the effect of human capital on social capital among entrepreneurs. The study revealed that human capital and social capital were co-productive, and increased human capital seemed to increase the level of social capital concurrently. The study however did not focus on the combinative effect of social and human capital on firm performance. This study therefore was aimed at filling up the identified gaps in previous studies and attempted to answer the research question, does social capital moderate the influence of human capital on the performance of insurance firms and commercial banks in Kenya?

This study will shed light on the importance of human capital and social capital, hence organizations will devise strategies for building strong ties with internal and external networks that would be resourceful in making quality decisions. Effective communication systems would be put in place that would enhance information sharing and social interactions that in turn build on social capital geared towards increasing firm performance.

This study will allow insurance firms and commercial banks to critically evaluate their practice of building social networks and the extent to which these networks facilitate information sharing as well as provision of other resources geared towards firm performance improvement.

**Literature Review**

**Theoretical foundation**

The theories that are relevant to this study are the human capital theory and the social capital theory. Human Capital theory was proposed by Schultz (1961) and developed extensively by Becker (1964). Human capital theory suggests that education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising workers’ future income by increasing their lifetime earnings (Becker, 1994). It postulates that expenditure on training and education is costly, and should be considered an investment since it is undertaken with a view to increasing personal incomes. Human capital theorists argue that firms will invest significantly to develop unique and non-transferable (that is firm-specific) skills through extensive training initiatives (Hatch and Dyer, 2004; Lepak and Snell, 1999). The human capital approach is often used to explain occupational wage differentials. In his view, human capital is similar to “physical means of production”, for example, factories and machines: one can invest in human capital (via education, training, medical treatment) and one’s outputs depend partly on the rate of return on the human capital one owns. Thus, human capital is a means of production, into which additional investment yields additional output. Human capital is substitutable, but not transferable like land, labor, or fixed capital.

The social capital theory was advanced by an economist, Loury in 1977. The theory of social capital focuses on the resources embedded in one’s social networks and how access to and use of such resources benefits the individual’s actions. The theory assumes that the social structure has a pyramidal shape in terms of accessibility and control of such resources. The higher the position, the fewer the occupants, and the higher the position, the better the view it has of the structure. In terms of both number of occupants and accessibility to positions, the pyramid suggests advantages for positions closer to the top. A position closer to the top of the structure has greater access to and control of the valued resources not only because more valued resources are intrinsically attached to that position, but also because of the position’s greater accessibility to positions at other (primarily lower) rankings. Thus, an individual occupying a higher position, because of its accessibility to more positions, also has a greater command of social capital.

**Human capital**

There have been a number of efforts to define and
investigate human capital. One stream of research defines human capital as the abilities individuals possess (Burt, 2000). Another stream of research incorporates education and experience into human capital. Human capital is formed by aptitudes, competences, experiences and skills of internal members of the organizations (Bontis et al., 2002). Pil and Leana (2009) define Human capital as an individual’s cumulative abilities, knowledge and skills developed through formal and informal education and experience. From an organizational perspective, human capital is the result of a firm’s deliberate investment through the selective hiring of employees with high general skills (or formal education) plus a firm investment in training of more specific skills through in-house training activities (Lepak and Snell, 1999, 2002; Skagg and Youndt, 2004). Human capital is formed by aptitudes, competences, experiences and skills of internal members of the organizations (Bontis, 1999; Bontis et al., 2002). Organizations can increase their human capital by attracting individuals with high skills from the external labor market and/or by internally developing the skills of their current members.

Social capital
Social capital has been defined as the structure of individuals’ contact networks, the pattern of interconnection among the various people with whom each person is tied (Raider and Burt, 1996). Social capital consists of the stock of active connections among people: the trust, mutual understanding and shared values and behaviours that bind the members of human networks and communities and make cooperative action possible (Cohen and Prusack, 2001). The concept of social capital refers to social networks and reciprocity norms associated with them (Putnam, 2000). This form of capital springs from stable relationships maintained by individuals, groups and organizations in society. Baron and Markman (2000) observe that social capital consists of social networks (formal and informal ties), social skills (interpersonal and communicative ability), and social identity (status, identity and reputation). Social capital exists in the relationships between and among persons and extends the more that the position one occupies in the social network constitutes a valuable resource (Friedman and Krackhardt, 1997).

According to Bourdieu (1980) social capital is built from two components: the social relationship that an individual has and that gives access to the resources of these relationships, and the amount and quality of these resources. The people a person is connected to are the actual sources of social capital. The donation of social capital can happen because of an expected reciprocity in a relationship when the donor expects to receive some return on their investment or through solidarity that derives from identification in the same group. These actions and reactions are not necessarily only actions between two people, but they can be deposits of social capital in a common pool of social structures and withdrawals by other people from the same common pool. This leads to positive outcomes such as access to information or more effective sharing of information.

Nahapiet and Ghoshal (1998) identify three dimensions of social capital: structural, relational, and cognitive dimensions. The structural dimension of social capital concerns the overall architecture and the pattern of relationships that define a partner’s position in a network. Relational social capital captures the norms and quality of dyadic relations which is determined by the history of interactions between individuals. Cognitive social capital refers to “those resources providing shared representations, interpretations, and systems of meaning among parties”. From the network perspective, the amount of social capital possessed is determined by whether individuals can occupy an advantageous network position where they get tied to others who possess desirable resources, such as information and financial support, in order to achieve positive work-related and career outcomes.

Firm performance
Firm performance is defined as “the economic outcomes resulting from the interplay among an organization’s attributes, actions and environment” (Combs et al., 2005). The conceptual domain of firm performance can be specified only by relating this construct to the broader construct of organizational effectiveness. Organizational effectiveness is defined as “the degree to which organizations are attaining all the purposes they are supposed to” (Strasser et al., 1981). Organizations obtain different effectiveness assessments based on diverse constituencies. Therefore, organizational effectiveness encompasses firm performance and other performance concepts (that is, corporate environmental or social performance), which are relevant for practice and research.

Venkatraman and Ramanujam’s (1986) performance-measurement framework focuses on multiple indicators of organizational performance. These indicators are financial performance, operational performance and overall effectiveness. Financial performance includes overall profitability (indicated by ratios such as return on investment, return on sales, return on assets, and return on equity), profit margin, earnings per share, stock price and sales growth. Operational performance refers to non-financial dimensions, and focuses on operational success factors that might lead to financial performance. Operational performance includes both product-market outcomes (including market share, efficiency, new product introduction and innovation, and product or service quality) and internal process outcomes (productivity, employee retention and satisfaction, and cycle time). Measurement of overall effectiveness reflects a wider conceptualization of performance and includes reputation, survival, perceived overall performance,
achievement of goals, and perceived overall performance relative to competitors (Lewin and Minton, 1986; Venkatraman and Ramanujam, 1986).

**Human capital, social capital and firm performance**

Adler and Kwon (2002) highlight information as being the first direct benefit of social capital. They argued that social capital facilitates access to broader sources of information and improves information's quality, relevance and timeliness. These conditions allow individuals to enhance their knowledge through everyday interactions with colleagues. Similarly, Reed et al. (2006) state that the inimitable value of human capital can be enhanced by social relations. Their argument is that, given competent and credible participants from a diverse set of disciplines, a network of rich, social connections can reduce the amount of time and investment required to gather information and can serve as a valuable conduit for knowledge diffusion and transfer.

Human capital and social capital embedded in employees are viewed as the fundamental components of intellectual capital, because intelligence is created through knowledge exchange among organizational members (Nahapet and Ghoshal, 1998). Individuals with more investments in their human capital could develop professional expertise, increase productivity at work, and then get positive rewards from organizations (Wayne et al., 1999). Individuals gain social capital because, in comparison to others, they occupy more advantageous network positions, which allow access to a variety of people with the necessary information and the chance to contribute to organizational functioning, thereby gaining more positive career outcomes, such as faster promotions (Burt, 1992) and career success (Seibert et al., 2001).

Subramaniam and Younct (2005) concluded that an organization's efforts in hiring, training, designing work and implementing other HRM practices may need to focus not only on maintaining their employees' functional or specific technical skills and expertise but also on developing their abilities to network, to collaborate and to share information and knowledge. Tsai and Goshal (1998) demonstrate that the relational dimension of social capital positively influences resource exchange and the co-ordination among the people involved, which, at the same time, creates value for the firm through its effects on product innovation. Development of new products and services results not from individual effort (at the individual level of knowledge) but from creative cooperation (at the social level).

Consequently, social capital and human capital are not independent variables; rather, they interact to improve innovative performance. Cabello-Medina, Lopez-Cabrerales and Valle-Cabrera (2011) argue that high levels of social capital can enhance the skills and capabilities of individuals (human capital). Moreover, Baldwin et al. (1997) have indicated that an individual who is central in the social network is, over time, able to accumulate knowledge about task-related problems and workable solutions. This expertise not only enables the central individual to solve problems readily, but also serves as a valued resource for future exchanges with coworkers. Although human capital may be the origin of all knowledge, learning requires that individuals exchange and share insights, knowledge and mental models, which represent social capital (Senge, 1990). Given that innovation is essentially an exercise in collaboration, social capital plays a key role both directly improving human capital and stressing its effects on innovation. Therefore improving individual knowledge and creating the conditions for sharing it are issues that deserve attention.

A firm's human capital also improves the firm's learning and innovation abilities. Firms involved in innovation processes often use external knowledge. This ability is shaped by the firm's access to knowledge workers who receive information, evaluate the importance of it, and use it to innovate successfully (Hansen, 2001). Furthermore, spillovers from other firms' knowledge can more easily be adopted and imitated by firms with higher levels of human capital (Ballot et al., 2001). Other factors that facilitate this absorption are knowledge acquired through previous experiences, a common language, and the ability to recognize, assimilate and apply new information (Cohen and Levinthal, 1990).

The main sources of human capital are education and experience. Firms are better able, using human capital, to adapt continuously to changing circumstances in the external environment, to perceive new opportunities and threats, and to gain competitive edge. Social networks are important because achieving new skills and capabilities may be facilitated by interaction in social networks, and enhance a person's knowledge capture and understanding. Social capital can be perceived as the sum of actual and potential resources a person/organization can access or derive through membership in networks (Kogut and Zander, 1992; Nahapet and Ghoshal, 1998). Preferential knowledge access is one such resource (for example, Inkpen and Tsang, 2005), and may facilitate international learning, however, social networks are not always producing benefits in terms of resources (Elfving and Hulsink, 2003; Hughes et al., 2007). Networks may, for example, be too tight with all partners connected to each other, or too homogeneous regarding the social background of the partners, thereby missing the virtues of social capital.

There are some contradictory results in the empirical literature on the influence of human capital and social networks on firm performance (Florin et al., 2003), and this is a reason why it seems necessary to broaden the scope with the innovation level of firms. The support gained from human and social capital may be highly diverse for firms that have chosen to be a first mover or a
late follower in their industry sector, or to hold a position in-between, because their need for resources is different (Lieberman and Montgomery, 1988; Finney et al., 2008). What may also make a difference is the development stage of the product/process and whether the firm already has a solid market position or is still engaged in development activities (Gilsing and Duysters, 2008).

Investments in the human capital of the workforce may increase employee productivity and financial results (Pfeffer, 1998). As the level of employee human capital is fostered, people develop more efficient means of accomplishing task requirements, thereby increasing productivity. Adler and Kwon (2002) argue that social capital facilitates access to broader sources of information and improves information’s quality, relevance and timeliness (figure 1). The amount of knowledge, skills and competencies possessed by the workforce, the ability of employees to share information and ideas through the established social networks, as well as the contributions that they make in strategic decisions determine firm performance. This leads to the hypothesis that:

**H1:** The influence of human capital on firm performance is moderated by social capital

**RESEARCH METHODOLOGY**

The research design that was used is descriptive cross-sectional design. The target population of this study was all the 45 insurance companies and 43 commercial banks in Kenya, where a census survey was carried out on all the 88 firms. The study made use of both primary and secondary data. The secondary data was obtained through a review of financial statements where the Return on Assets (ROA) and Return on Equity (ROE) were obtained for a three year period as financial indicators of firm performance, after which an average score was computed. The organization was the unit of analysis and the target respondents were the Human Resource Managers, Operations Managers and Marketing Managers of the commercial banks and insurance firms. The Human Resource Manager responded to the sections on the organization data and Human Capital, the Operations Manager responded to the section on Social Capital, while the Marketing Manager responded to the section on the non-financial indicators of firm performance. The Baron and Kenny approach was used to test the hypothesized relationship. Descriptive statistics such as frequencies and percentages were computed for organizational data and multiple choice questions in order to describe the main characteristics of the variables of interest in the study. Mean scores were computed for likert type of questions. Data was presented in form of tables.

**DATA ANALYSIS AND RESULTS**

This study sought to establish whether the influence of human capital on firm performance is moderated by social capital. The tests were carried out using multiple regression analysis. The tests were done at 5% significance level ($\alpha = 0.05$). To test the hypotheses, it was necessary to compute composite scores for variables that had several measures. In this regard, overall non-financial measures of firm performance (quality of service, customer satisfaction and efficiency in

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**Figure 1: Conceptual model**

- **Social Capital**
  - External networks
  - Internal networks
  - Resources obtained through social networks

- **Moderating Variable**

- **Human Capital**
  - Education level
  - Tenure
  - Job-related skills

- **Independent Variable**

- **Firm performance**
  - Financial indicators
  - Non-financial indicators

- **Dependent Variable**
Table 1: Regression results for the moderating effect of social capital on the influence of human capital on return on assets

<table>
<thead>
<tr>
<th>Model</th>
<th><strong>R</strong></th>
<th><strong>R Square</strong></th>
<th><strong>Adjusted R Square</strong></th>
<th>Std. Error of the Estimate</th>
</tr>
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<td>1</td>
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<td>.104</td>
<td>.025</td>
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**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
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<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
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<td>Regression</td>
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<td>.285</td>
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<td></td>
<td>Residual</td>
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<td>.003</td>
<td></td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
<td>37</td>
<td></td>
<td></td>
<td></td>
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**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th><strong>Unstandardized Coefficients</strong></th>
<th><strong>Standardized Coefficients</strong></th>
<th><strong>T</strong></th>
<th><strong>Sig.</strong></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Constant)</td>
<td>-.025</td>
<td>-.319</td>
<td>.751</td>
</tr>
<tr>
<td></td>
<td>human capital</td>
<td>-.153</td>
<td>-1.084</td>
<td>.286</td>
</tr>
<tr>
<td></td>
<td>social capital</td>
<td>.217</td>
<td>1.926</td>
<td>.062</td>
</tr>
<tr>
<td></td>
<td>XZ</td>
<td>.005</td>
<td>.534</td>
<td>.597</td>
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</table>

Predictors: (Constant), XZ (product of Zscore human capital and Zscore social capital), human capital, social capital.
Dependent Variable: return on assets

service delivery) were collapsed into one composite index. Similarly, composite scores were calculated to represent the responses to the various attributes that defined human capital and social capital, which were used as input to the evaluation. The outline and the results from the evaluation were as discussed below:

**H1a:** The influence of human capital on return on assets is moderated by social capital

The Baron and Kenny approach in testing for moderation was employed for the purposes of this study guided by the equation:

\[ Y = \beta_0 + \beta_1X + \beta_2Z + \beta_3XZ \]

Where X= Independent variable (human capital)

Z= Moderator (social capital)

XZ= Product of the standardized scores for the independent variable and the moderator

Y= Return on Assets

A z-score specifies the precise location of each value within a distribution. The sign of the z-score signifies whether the score is above the mean (positive) or below the mean (negative). The numerical value of the z-score specifies the distance from the mean by counting the number of standard deviations between X and \( \mu \).

The z-score is calculated as:

\[ Z = \frac{X - \mu}{\sigma} \]

Z = the standardized score

X = the X value

\( \mu \) = the mean of the distribution

\( \sigma \) = the standard deviation of the distribution.

The resultant scores give a distribution that has a mean score of zero and a standard deviation of one.

The above hypothesis would be supported if the effect of the interaction between human capital and social capital (XZ) on return on assets is statistically significant. The regression analysis based on the standardized scores for the independent and moderating variables yielded the results presented in table 1.

The results presented in table 1 indicate that the influence of human capital on return on assets is not affected by social capital (R Square = 0.104, F = 1.317, p > 0.05). The \( \beta \) depicting the coefficient for the interaction (XZ) was also not significant (\( \beta = 0.05, t= 0.534, p> 0.05 \)), therefore not supporting the condition for moderation which states that the effect of the interaction between human capital and social capital (XZ) on firm performance should be statistically significant. The hypothesis that the influence of human capital on return on assets is moderated by social capital was therefore not confirmed.

**H1b:** The influence of human capital on return on equity is moderated by social capital

Hypothesis 1b sought to establish whether the influence of human capital on return on equity is moderated by social capital. The Baron and Kenny approach in testing for moderation was employed for the purposes of this study guided by the equation:

\[ Y = \beta_0 + \beta_1X + \beta_2Z + \beta_3XZ \]

Where X= Independent variable (human capital)

Z= Moderator (social capital)

XZ= Product of the standardized scores for the independent variable and the moderator

Y= Return on Equity

The moderator hypothesis would be supported if the interaction XZ in predicting return on equity would yield a statistically significant coefficient. The regression analysis based on the standardized scores for the independent and moderating variables yielded the results presented in table 2.

The results presented in table 2 indicate that the influence of human capital on return on equity is not affected by social capital (R Square = 0031, F = 0.367, p > 0.05). The \( \beta \) depicting the coefficient for the interaction (XZ) was also not significant (\( \beta = 0.011, t= 0.326 \)),
Table 2: Regression results for the moderating effect of social capital on the influence of human capital on return on equity

<table>
<thead>
<tr>
<th>Model</th>
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<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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<td>.017</td>
<td>.367</td>
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<td></td>
<td>Residual</td>
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<td>34</td>
<td>.047</td>
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<td></td>
<td>Total</td>
<td>1.664</td>
<td>37</td>
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Coefficients

<table>
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<tr>
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<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
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<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.215</td>
<td>304</td>
<td>.070</td>
</tr>
<tr>
<td></td>
<td>human capital</td>
<td>-.525</td>
<td>.537</td>
<td>-.240</td>
</tr>
<tr>
<td></td>
<td>Social capital</td>
<td>.411</td>
<td>.428</td>
<td>.251</td>
</tr>
<tr>
<td></td>
<td>XZ</td>
<td>.011</td>
<td>.035</td>
<td>.060</td>
</tr>
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</table>

Predictors: (Constant), XZ (product of Zscore human capital and Zscore social capital), human capital, social capital
Dependent Variable: return on equity

Table 3: Regression results for the moderating effect of social capital on the influence of human capital on non-financial firm performance

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.542</td>
<td>.293</td>
<td>.220</td>
<td>.092978</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.104</td>
<td>3</td>
<td>4.012</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.251</td>
<td>29</td>
<td>.009</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.355</td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.428</td>
<td>.148</td>
<td>2.894</td>
</tr>
<tr>
<td></td>
<td>human capital (X)</td>
<td>.184</td>
<td>.242</td>
<td>.159</td>
</tr>
<tr>
<td></td>
<td>social capital (Z)</td>
<td>.332</td>
<td>.194</td>
<td>.367</td>
</tr>
<tr>
<td></td>
<td>XZ</td>
<td>.017</td>
<td>.017</td>
<td>-.171</td>
</tr>
</tbody>
</table>

Predictors: (Constant), product of Z score human capital and Z score social capital, human capital, social capital
Dependent Variable: non financial performance

p > 0.05), therefore not supporting the condition for moderation which states that the effect of the interaction between human capital and social capital (XZ) on return on equity should be statistically significant. The hypothesis that the influence of human capital on return on equity is moderated by social capital was therefore not confirmed.

H1c: The influence of human capital on Non-financial Firm Performance is moderated by social capital

Hypothesis 1c sought to establish the moderating effect of social capital on the influence of human capital on non-financial firm performance. The Baron and Kenny (1986) approach in testing for moderation was employed for the purposes of this study guided by the equation:

\[ Y = \beta_0 + \beta_1X + \beta_2Z + \beta_3XZ \]

Where \( X \) = Independent variable (human capital)
\( \beta = \) Coefficient of variation
\( Z = \) Moderator (social capital)
\( XZ = \) Product of the standardized scores for the independent variable (human capital) and the moderator (social capital)

The hypothesis would be supported if the effect of the interaction between human capital and social capital (XZ) on non-financial firm performance is statistically significant. The regression analysis based on the standardized scores for the independent and moderating variables yielded the results presented in table 3.

The results presented in table 3 indicate that the influence of human capital on non-financial firm performance was significantly affected by social capital (R Square = 0.293, F = 4.012, p < 0.05). The \( \beta \) depicting
Table 4: Mediating effect of social capital on human capital and firm performance (First step)

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.391</td>
<td>.153</td>
<td>.129</td>
<td>.101316</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.067</td>
<td>1</td>
<td>6.494</td>
<td>.015(a)</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.370</td>
<td>36</td>
<td>.010</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.436</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.452</td>
<td>.147</td>
<td>3.065</td>
</tr>
<tr>
<td></td>
<td>human capital</td>
<td>.473</td>
<td>.186</td>
<td>2.548</td>
</tr>
</tbody>
</table>

Predictors: (Constant), human capital
Dependent Variable: non financial performance

Table 5: Mediating effect of social capital on human capital and firm performance (Second step)

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.719</td>
<td>.517</td>
<td>.503</td>
<td>.091146</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.320</td>
<td>1</td>
<td>38.500</td>
<td>.000(a)</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.299</td>
<td>36</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.619</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.024</td>
<td>.121</td>
<td>.199</td>
</tr>
<tr>
<td></td>
<td>human capital computed as a composite</td>
<td>.960</td>
<td>.155</td>
<td>.719</td>
</tr>
</tbody>
</table>

Predictors: (Constant), human capital computed as a composite
Dependent variable: social capital computed as a composite

The coefficient for the interaction (XZ) was however not significant (β = -.017, t= -1.054, p> 0.05), therefore not supporting the condition for moderation which states that the effect of the interaction between human capital and social capital (XZ) on firm performance should be statistically significant. The hypothesis that the influence of human capital on non-financial firm performance is moderated by social capital was therefore not confirmed.

In the hypothesis above the test for moderation was not significant. This prompted the researcher to carry out a test for mediation on an exploratory basis. The Baron and Kenny approach was employed in the testing of social capital as a possible mediator and results were as indicated in the tables 4-6.

The results presented in table 4 indicate that the influence of human capital on firm performance is significant (R Square= 0.153, F= 6.494, p<0.05) and the beta is also significant (β= 0.473, t= 2.548, p<0.05) thus satisfying the first condition in testing for mediation, which states that the independent variable should be significantly related to the dependent variable in the absence of the mediating variable. The results presented in table 5 show that the second condition which states that the independent variable should be significantly related to the mediator variable was also satisfied, because human capital indeed significantly influenced social capital (R Square= 0.517, F= 38.500, p<0.05) and the beta was significant (β= 0.960, t= 6.205, p<0.05). The results for the third and fourth steps as presented in table 6 show that in the third step social capital influences firm performance significantly (R Square= 0.258, F= 10.775, p<0.05) and the beta is also significant (β= 0.460, t= 3.283, p<0.05) thus satisfying the third condition which states that the mediator variable should be significantly related to the dependent variable. The fourth condition stating that when controlling for the effects of the mediating variable on the dependent variable, the effect of the independent variable on the dependent variable should be insignificant in the presence of the mediating variable was also satisfied because the influence of human capital on firm performance in the presence of social capital was not significant (R Square= 0.266, F= 5.442, p<0.05). The beta was also not significant (β= 0.139, t= 0.582, p>0.05).
Table 6: Mediating effect of social capital on human capital and firm performance (Third and Fourth Step)

**Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.508</td>
<td>.258</td>
<td>.234</td>
<td>.092150</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.516</td>
<td>.266</td>
<td>.217</td>
<td>.093149</td>
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</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.092</td>
<td>1</td>
<td>10.775</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.263</td>
<td>31</td>
<td>.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.355</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>.094</td>
<td>2</td>
<td>5.442</td>
<td>.010</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.260</td>
<td>30</td>
<td>.009</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.355</td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.461</td>
<td>.113</td>
<td>4.096</td>
</tr>
<tr>
<td></td>
<td>social capital computed as a composite</td>
<td>.460</td>
<td>.140</td>
<td>.508</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>.407</td>
<td>.147</td>
<td>2.774</td>
</tr>
<tr>
<td></td>
<td>social capital computed as a composite</td>
<td>.388</td>
<td>.187</td>
<td>.429</td>
</tr>
<tr>
<td></td>
<td>human capital computed as a composite</td>
<td>.139</td>
<td>.239</td>
<td>.120</td>
</tr>
</tbody>
</table>

Predictors: (Constant), social capital
Predictors: (Constant), social capital, human capital
Dependent Variable: non financial performance

**DISCUSSION AND CONCLUSIONS**

The objective of the study was to determine whether the influence of human capital on firm performance was moderated by social capital. The study revealed that social capital does not moderate the influence of human capital on firm performance, considering both financial and non-financial measures. The Baron and Kenny approach in testing for moderation was employed and the results yielded an insignificant interaction between human capital, social capital and firm performance in spite of a statistically significant model. The hypothesis that the influence of human capital on firm performance is moderated by social capital was therefore not confirmed.

The researcher further tested for mediating effect of social capital on the influence of human capital on firm performance on an exploratory basis and the tests yielded positive results for mediation.

These findings seem to agree with previous studies that have found a link between human capital, social capital and firm performance. Cabello-Medina, Lopez-Cabrales and Valle-Cabrera (2011) argue that social capital and human capital are not independent variables; rather, they interact to improve innovative performance. High levels of social capital can enhance the skills and capabilities of individuals (human capital). Moreover, Baldwin et al. (1997) have indicated that an individual who is central in the social network is, over time, able to accumulate knowledge about task-related problems and workable solutions. This expertise not only enables the central individual to solve problems readily, but also serves as a valued resource for future exchanges with coworkers. Although human capital may be the origin of all knowledge, learning requires that individuals exchange and share insights, knowledge and mental models, which represent social capital (Senge, 1990).

There are still very insufficient results regarding the impact of social capital on human capital. Although some authors (Florin et al., 2003) make the distinction between human capital and social capital, both Coleman (1988) and Nahapiet and Goshal (1988) recognize that conceptually and in practice they are difficult to disassociate. Burt (1997) argues more vehemently that human capital needs social capital, saying that human capital becomes worthless without the opportunities to apply it afforded by social capital. Moreover, he suggests that there is an interactive effect whereby managers with more social capital obtain greater benefits from their human capital. There is minimal empirical evidence of moderating effect of social capital on the influence of human capital on firm performance. However, Lin and Huang (2005) did a study on the role of social capital in the relationship between human capital and career mobility, where the moderating and mediating effect were tested. The findings revealed that social capital mediates the relationship between human capital and career mobility.

**Recommendations and policy implications**

The research findings revealed that social capital mediates the influence of human capital on firm
performance. The implication of this to practice is that firms should strengthen their social networks and linkages so as to maximize on resources that may be obtained through such networks. Employees with the relevant knowledge, skills and competencies should be encouraged to obtain and share information through the social networks that organizations establish to achieve greater synergy in increasing competitiveness. Organizations should enhance the quality of strategic decisions by obtaining as much information as possible through their social networks. The quality of strategic decisions depends on the amount of human capital possessed by the social networks whose input organizations heavily rely on.

REFERENCES


Elfring T. and Hulsink W (2003). Networks in entrepreneurship: The case of high-technology