`Intellectual capital and competitive advantage in Uganda's microfinance industry

INTRODUCTION

The mushrooming and wide spread of institutions engaged in providing diverse financial services to both organizations and communities have caused stiff competition in the microfinance industry. Players in the Microfinance industry are facing stiff competition than ever before (CGAP, 2002; Adongo & Christopher, 2005). Notwithstanding its adverse effects, competition is seen as health a phenomenon that is capable of improving quality of service and efficiency in firms. Majority of financial institutions has recognized that a sustainable solution to a competitive environment lies in building more efficient and strong financial institutions that are capable of cultivating strategic assets that are firm specific. Barney (1991) regards such assets are those that are internally controlled and permit the firm to formulate and implement strategies that expand its efficiency and effectiveness. Stiles and Kulvisaechana (2004) observed that such assets are valuable, rare, and hard-to-imitate, and, above all, they are firm specific. Competitive advantage is, thus, dependent not, as traditionally assumed, on such bases as natural resources, technology or economies of scale, since these are increasingly easy to imitate. Rather, competitive advantage is, according to the resource-based view, dependent on the valuable, rare, and hard-to-imitate resources that reside within an organization (Barney, 1991; Stiles & Kulvisaechana, 2004). They are indeed the assets which Stewart (1997) referred to as ' invisible assets,' which in a real sense is intellectual capital.

Intellectual capital, therefore, encompasses resources and capabilities that are uncommon, inimitable and non-substitutable, which re-present a lasting competitive advantage to the firm (Barney, 1991; Prahalad & Hamel, 1990). In a related case, Wang and Chang (2005) acknowledged that intellectual capital is a fundamental determinant of a firm's current and future competitiveness as well as a firm's value growth. Tovstiga and Tulugurova (2009) further affirmed that the firm's internal resource base, and foremost its intellectual capital, is a determining factor of competitive performance in medium and small firms. Central to these observations, competitive advantage is achieved by those firms that succeed in

mobilizing their intellectual assets in the form of knowledge, technological skills, experience and strategic capabilities.

To match the competitive and commercial environments, Ugandan microfinance industry adopted market – oriented and enterprise development approach and suspended a social – mission- oriented activity that could no longer be undertaken on a commercial basis (Fernando, 2007). Besides, Ugandan microfinance firms took a drastic measure to increase their investments and management of intellectual assets that are firm strategic (Baguma, 2007; Nannyonjo et al., 2004). Surprisingly, the competitive position of Ugandan Microfinance firms has continued to deteriorate despite the increased investment in intellectual capital assets (Baguma, 2008; Kalyango, 2004). While there are sufficient theoretical assertions connecting intellectual capital to competitive advantage, empirical literature linking the two is scarce. Notwithstanding the question of substance of intellectual capital to competitive advantage, the individual contribution of intellectual capital elements (Human, relational and structural capital) to competitive advantage in the Microfinance Industry is limited in the Microfinance literature. Insufficient literature on the above matters, therefore, is matter of great concern in this study.

This study is expected to enable scholars and practitioners to have a more definite and direct understanding of the implication of individual intellectual elements on competitive advantage of the Microfinance institutions in the industry. This will probably guide the decision makers in the optimal intellectual resource allocation to maximize firm value.

This paper is divided into five main sections including this introduction as the first section. The second section covers the theoretical and conceptual literature on intellectual capital and competitive advantage. It also addresses the hypotheses to be tested. The third section presents the research methodology, while the fourth section reports the empirical results. The fifth section concludes the paper and makes recommendations

LITERATURE REVIEW

Theoretical Literature Review

A number of theories advanced to explain what influences the firm's competitive position include, among others, Resource-Based View of the firm (RBV), Human Capital Theory, Dynamic Capabilities Theory and Social Network Theory. All these theories provide a detailed account of firm competitiveness.

According to Messo and Smith (2000), sustained competitive advantage is attributable to strategic assets which Barney (1991), the brain behind the resource-based view, regards as the assets that are internally controlled and strategic to the firm. According to the resource-based view, sustained competitive advantage is as a result resources that are valuable, rare, non-substitutable and hard-to-imitate; such assets reside within an organization (Barney, 1991; Stiles & Kulvisaechana, 2004). The Resource-based view assumes that the firm is a pool of hard-to-copy resources and capabilities (Conner, 1991). Accordingly, the discrepancies in size distribution and competitiveness of firms occur from their distinctive capabilities (Amit & Schoemaker, 1993).

Related to RBV is the dynamic Capabilities Theory (DCT), which puts emphasis on resources development and renewal. 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 competitive advantage 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 accomplish reconfiguration and transformation ahead of the competition (Winter, 2003; & Teece et al., 1997).

Schoermaker(1992), Parahald and Hamel(1990) and Teece et al.(1997) analyzed 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 is competitive advantage, which is a function of industry analysis, organizational governance and firm effects in the form of resource advantages and strategies (Mahoney and Pandian, 1992). For example, human capital is the source of innovation and strategic renewal (Bontis, 1998), structural capital is competitive intelligence encompassing product innovation, process optimization, and innovation among others (Halima, 2010) and relational capital is mutual trust and acquaintance that promote the networks in business environment.

Drawing from the social capital theory by Nahapiet and Ghoshal (1998), networks of relationships constitute a valuable resource for the conduct of social affairs and much of this capital is embedded within networks of mutual acquaintance. Social capital, with its stress on linkages between individuals, creates the conditions for networks, which are non-imitable, tacit, rare and durable (Burney, 1991). Thus, integrating the dynamic capabilities theory with social capital theory and RBV, among others, can make better intellectual capital base and ultimately, superior competitive advantage in microfinance institution.

Scholars like Zigan, Macfarlane and Desombre (2008) conceptualized intellectual capital as a holistic or meta-level capability of an enterprise to co-ordinate, orchestrate and deploy its knowledge resources to create value in pursuit of its future vision. According to Z'eghal and Maaloul (2010, p.41), intellectual capital is "the sum of all knowledge a company is able to use in the process of conducting business to create value- a VA for the company". From the financial perspective, intellectual capital is the group of knowledge assets that are attributed to an organization and most significantly, contribute to an improved competitive position of the organization by adding value to the defined stakeholders, but are not normally captured and included in the financial accounts(Maheran & Kairu, 2009; Patricia, 2004; Marr & Schium, 2001).

Empirical Literature Review

The intellectual capital discipline has undergone rapid growth in recent times, in line with increasing evidence that the drivers of value creation in modern competitive environment lie in a firm's intangible resources rather than in its physical and financial capital (F-Jardon and Martos, 2009; Kiong Tang and Lean,2009). Goh and Ryan (2005) stated that physical capital is no longer crucial in influencing performance of different firms because they are not strategic, since any firm can acquire them. However, they are necessary for the achievement of firm goals because intellectual and tangible assets must co-exist to cause an effect (F-Jardon and Martos, 2009).

Many scholars appreciate that intellectual capital as an invisible, valuable asset and most powerful competitive weapon in influencing firm performance (Stewart, 1997, 1998).

Hazline and Zubaidah (2008) summed it up and argued that intellectual capital is a source of competitive advantage, which can increase profit of a company.

While there is broad consensus that intellectual capital influences firm competitive advantage (Wang & Chang, 2005; Stewart, 1997; 1998, 2001; Edvinsson & Malone, 1997), some scholars such as Firer and Williams (2003) and PekChen (2005) argued that the effect of intellectual capital on firm's competitive advantage may be industry - and country-specific. In support of this, F-Jardon and Martos (2009) observed that the existence of some element differentials in the companies condition the effect of intellectual capital on competitive advantage. Villalonga (2004) extended the debate and argued that, in some industries and countries, intellectual capital resources can even lock firms in persistent disadvantages.

Though earlier scholars may not agree on the precise configuration of intellectual capital, there is broad consensus that it contains human capital, relational capital and structural capital (Tovstiga & Tulugurova, 2009; Bontis, 2002; Stewart, 1997; Edvinsson & Sullivan, 1996, Lynn, 1998).

According to Halim (2010, p.63) human capital is "what a single employee brings into the value adding processes, consisting of four indicators, that is, professional competence, social competence, employee motivation, and leadership ability. Organizations with superior manpower and learning capability are therefore able to coordinate and combine their traditional resources and capabilities in new and distinctive ways to provide better services to its customers than their competitors (Teece, 2000). The findings of Prieto and Revilla (2006) extend this argument, and assert that such an act can yield advantages to the firm, which may include employee satisfaction, customer retention and improved organizational reputation. The firm's growth is therefore, enhanced by human capital if the system in place promotes knowledge generation and transfer, which is source of firm's sustainable competitive advantage (Landeiro, 2003, & Barne, 2000).Competitive success, as observed by Jonathan and Stonehouse (2000), is governed by an organization's ability to develop new knowledge assets that create core competences.

In a related case, Namasivayam and Basak (2006) observed that structural capital is "what happens among the people, how the people are connected within the company, and what stays when the employee leaves the company". Halim (2010) further argued that structural capital is a stock of knowledge owned by the firm and encompasses corporate culture, information technology and explicit knowledge, product innovation, process optimization, and innovation among others. Research study by Stiles et al. (2005) observed that structural capital links the resources of the organization together into processes that create value for customers and sustainable competitive advantage for the firm. Collins and Porras (1998) extended the argument and observed that supportive organizational culture, internal processes, coupled with strong corporate purpose, and compelling values are responsible for major corporate success. Organizational culture influences teamwork, which, in turn, affects firm competitive advantage. Ultimately, the simple point is that organizational cultures, structures and processes, that support the purpose of the organization, enhance efficiency and thus a firm's competitive advantage (Edvinsson, 2005).

According to Bontis et al. (2000), the routines and processes that act as the glue for organizations can either enhance or disable co-operative working and the development of knowledge, both of which are sources of competitive advantage. The findings of Patricia (2004) are consistent with Bontis et al. (2000) observations, except that the former emphasized that structural capital can add value if it enhances services of high quality or promotes characteristics of the products which can influence the level of services provided. The findings of Ronald and Parhizgari (2000) confirm that organizations that provide supportive structures and processes to their front- line employees, top quality services and products extended to customers. This signifies that to provide an enduring customer service excellence, organizations need to have internal structures and processes in place that enable employees to succeed in carrying out the tasks they do to create products and customer support services (Ronald, et al., 2000).

Following the cost-transaction theory, companies normally get a competitive advantage when they have organization-specific assets that are hard to copy. The uniqueness of such assets increases the firm's productive potential, and therefore, differences in competitive and service quality levels.

Similarly, Stewart (1997) and Barry (2001) take relational capital as the value of an organization's external relationships with other organizations and people with whom it does business. It is knowledge embedded in the marketing channels and customer relationships that an organization develops through the course of conducting business (Bontis, 1999; 2001; Choo & Bontis, 2002). Relationships, not just people, drive new sales and extend contracts. Thus, the relationship among employees is embodied in attributes like a shared code or a shared paradigm that facilitates a common understanding of collective goals and proper ways of acting in a social system (Tsai, Ghoshal 1998). It is true that within an enterprise a set of common values helps firms to develop strong relationships that can erase the possibility of opportunistic behavior. Besides, the compatibility of individuals' values with an enterprise's values allows the employees to trust one another and pursue the collective goals by sharing knowledge and team working. It is this synergic effect that makes the firm unique and enables it build the firm's competitive position in the market (Bontis, 1998). In this case, the relationships

the firm's employees carry with them on behalf of the firm, as well as their level of engagement and willingness to go beyond, are not easy to replicate (Welbourne 2008). Consistent with the social capital theory, Bontis (2000) argued that social relationship increases the efficiency of action and aids co-operative behavior. However, Hinge (2006) argued that networks of relationships yield tangible results if the parties involved are capable and willing to do so.

Whereas there is consensus that intellectual capital encompasses human capital, relational capital and structural capital (Tovstiga., 2009; Bontis, 2002; Stewart, 1997; Edvinsson et al., 1996, Lynn, 1998), the three intellectual capital elements are not equally important in influencing the firm's competitive advantage (Bontis, 1998; Stewart, 1997; & Martos et al., 2009). Empirical studies done so far on the individual contribution of intellectual capital elements to the firm's competitive advantage in different industries provided diverse results. Central to these contradictions, the individual effect of human capital, structural capital and relational capital to the firm's competitive advantage in most industries and microfinance industry in particular, remains unclear. Because of this, we tested the following hypotheses.

H1: *Structural capital positively influences competitive advantage in Uganda microfinance industry.*

H2: *Human capital positively influences competitive advantage in Uganda microfinance industry.*

H3: *Relational capital positively influences competitive advantage in Uganda microfinance industry*

METHODOLOGY

This study took cross-sectional and quantitative research approaches to address the formulated hypotheses. Population consisted of 78 registered Microfinance Institutions, which are members of Association of Microfinance institutions (AMFIU) in Uganda (*Microfinance Directory* 2014/15). The sample size of 65 firms was studied and the number was arrived at by adopting Yamane (1973) sample selection approach. Under this approach, sample size was determined using the formula: $n = N/1+N (e)^2$.

Where: n -represents a sample size

N -represents total population

e - represents tolerable error

Simple random sampling was used for sample selection. The selection procedure involved picking of pieces of paper in box without replacement until 65 firms were selected. The survey unit of analysis composed of microfinance institutions whose directors, senior members of staff were the units of inquiry. On the basis of Ntoumanis (2001) and Field (2006) guidelines, this study covered a minimum of five senior staff per MFI. However, out of 65 MFIs, 51 firms responded, hence giving a response rate of 78.4%.

Questionnaires earlier developed and tested by Bontis (1998) and Sveiby (2001), were adopted and modified to match the Ugandan study context. Intellectual capital elements included human capital, structural capital and relational capital. Each dimension was operationalized with 10 items that measured employees' perception of that variable. Human capital was measured using Intangible Asset monitor developed by Sveiby (2001) later modified by Petty and Guthrie (2004) and the main focus was on employee know-how, education, vocational qualifications, work - related knowledge, work- related competence, entrepreneurial spirit, innovations, proactive and reactive abilities, and changeability.

Structural capital was measured using the works of many dimensions. They included company's culture, orientation to quality, innovation, continuous improvement, information systems and teamwork (Wang and Chang, 2005; Brooking, 1996; Roos et al., 1997; Sveiby, 1997; Bontis et al., 2002 and Kaplan and Norton 1997).

Relational capital was measured using a combination of instruments developed by Edvinsson and Malone (1997); Rindfleisch and Moorman (2001), modified and used by Heng-Chiang and Chia-wen (2007). The main dimensions included among others network levels, customer capital and level of marketing channels.

Competitive advantage was measured using instruments developed by Sharma (2005) and Porter (1985); specific dimensions covered cost leadership, product differentiation and outreach levels. All items were anchored on a five-point Likert–type scale ranging from 5 (strongly agree to 1 (strongly disagree). Questionnaire was validated through expert

interviews and a panel of practitioners. All the variables registered content validity index of greater than .80.

We further tested the reliability of the instrument (using internal consistency approach) to find out whether it consistently measured the study variables on the scales used (Anastasi, 1982 & Nunnally, 1978). Item–total reliability (a measure of internal consistency) and Cronbach alpha coefficients of study variables were computed. The Cronbach alpha coefficient results of intellectual capital and its elements together with competitive advantage were all above .75 respectively signify that the scales used were reliable.

Data were checked, recorded, cleaned and negatively worded scale items were reversed coded. Data were aggregated to a firm level. Completed questionnaires were further checked for missing values and inconsistencies in responses given by the respondents. Simple frequency runs were made to screen the data so as to identify missing values using series of means value replacement method (Field 2006 & Vanata, 2002). Data screening exercise aimed at establishing the distribution of data to assess whether the assumptions of parametric data were tenable. Specific assumptions tested included normality of the distribution of the data, homogeneity of variance, linearity of the data and multi-collineality. We tested multi-collinearity by running the Variance Inflation Factor (VIF) and the tolerance levels. Multi-collinearity results for this study was VIF and Tolerance value of 1.23 and .81 respectively. This result indicated that multi-collinearity problem among the predictor variables did not exist because all the values were below the cut-off value as per the rule of 10; which advocates for a threshold VIF of less than 10 or tolerance ratio of greater than 0.1 (Obrien, 2005; Scott, 2003; Kutner, 2004 & Chong Ho Yu, 2008).

The computation of Skewness and Kurtosis statistics for all variables was done to test the normality of data distribution. The generated Skewness and Kurtosis statistics in Table III also indicate normal distribution of the data. Accordingly, Skewness and Kurtosis statistics obtained were large enough, as opposed to their standard errors. Field (2006), Morgan and Griego (1998) observed that as long as the Skewness or Kurtosis statistic measure is 2.5 times its standard error, then the assumption of normally distributed data would be violated study.

Scatter plots generated to test the homogeneity of data looked like a random array of dots evenly dispersed around zero, and the fact that there was no clear trend in the distribution, assumption of stable variance (homogeneity) and linearity were met. Since the dots did not follow a funnel-shaped manner (funnels out) or form a curve-

linear pattern, it signifies the absence of heteroscedasticity in the data and residual errors are not random (Field, 2006).

The regression analysis was conducted to test the model fit and to establish the predictive power of the models in criterion variable. We used hierarchical regression approach because of its capacity to indicate precisely what happens to the model as different predictor variables are introduced in the model (Field, 2006). This gave us chance to systematically asses the contribution of each independent variable in explaining the predictive power of the model.

We addressed common methods bias in order to reduce the measurement error (random and systematic errors) which normally threatens the validity and conclusions about the relationships between measures (Podsakoff, Mackenzie & YeonLee, 2003). Measurement error caused by consistency motif (Johns, 1994; Podsakoff & Organ, 1986) or consistency effect (Salancik & Pfeffer, 1997) was addressed in this study by collecting data from at least five senior managers of each Microfinance institution. The approach is supported by Podsakoff et al., (2003). He argues that one way of controlling common methods variance is to collect the measures of both predictor and criterion variables from different sources. We endeavored to reduce the potential effects of response pattern biases by incorporating negatively worded or reversed – coded items on the questionnaires (Hinken 1995 & Drasgow & Idaszak, 1987). According to Hinken (1995) the logic is that reversed –coded items are like cognitive "speed bumps" that require respondents to engage in a more controlled, as opposed to automatically cognitive processing.

PRESENTATION OF THE RESULTS

Out of 65 MFIs 51 responded, hence representing a 78.5% response rate. Of these, 47% were from central, 29% western region, 10% Northern and 14% Eastern region. The majority (82%) of microfinance institutions' capital structure consists of Equity& Loans and their average capital size was greater than 2 billion.

Content validity index (CVI) results were all above 0.80. According to Nunnually (1978), these ratios are acceptable since they are above the cut-off point of 0.70.
The Cronbach's alpha results for the actual study are all above 0.8. These values are in line with results of Bollen et al. (2005), Bontis (1998), Bin Ismail (2005).

Principle component analysis was conducted with varimax rotation. All variable items were confirmed valid since their factor loading values were more than 0.5. This result mirrors previous studies conducted by Bontis (1998), Bollen et.al., (2005) and Bin Ismail (2005). The elements of intellectual capital including human, relational and structural capitals were extracted and accounted for 62.5% of the variance in intellectual capital (see Appendix A.

The mean scores of each variable were above 3.0 and standard deviations do not deviate significantly from the means. These results are not far from the previous studies conducted by Bontis (1998), Wang and Chang (2005) and Serenko and Bontis (2009).

Pearson's bi-variate correlation coefficient was used to test the relationship between predictor and dependent variables. Results are depicted in Table I in the appendix.

Table I: Zero order correlation between intellectual elements and competitive advantage

The results shown above indicate that human capital has a substantive and significant relationship with competitive advantage ($r = .34$, $p < 0.01$). It is also evident that positive and significant relationships between structural capital and competitive advantage existed in Microfinance institutions($r = .36$, $p < 0.01$). More so, relational capital significantly associates with competitive advantage ($r = .52$, $p < 0.01$).

TESTING PREDICTIVE POWER OF STUDY VARIABLES

Hierarchical regression method was preferred because of its clarity in pointing out the contribution of each predictor in the regression model (Field, 2006). Besides, application of this method helped us to test the theoretical assumptions and examine the influence of

HC, SC, and RC variables in a sequential way, such that the relative importance of a predictor is judged on the basis of how much it adds to the prediction of a criterion variable. The regression results are provided in Table II in the appendix.

Table II: Hierarchical regression of intellectual capital elements on competitive advantage

The results reported in Table II reveal that: In Mode 1, it is evidenced that the sample characteristics (capital size and number of years in operation) did not significantly affect competitive advantage, and none of the variables was statistically significant. The combine control variables in Model 1, explain up to 0.1% of the variance in the MFIs' competitive advantage.

In model 2, structural capital accounted for 20% of variance in competitive advantage (F-Change = 13.11, P < .01) and caused a statistically significant standardized coefficient (B =0.46, P <0.01); this finding supports hypothesis one (H1). In model 3, the inclusion of human capital in the equation yielded an additional 14% to the explanatory power of the model. This implies that human capital accounted for an additional 14% of the variance in competitive advantage (F- change= 11.34, p < .01) and caused a statistically significant coefficient (B =0.43, p <0.01); this finding supports hypothesis two (H2).

In model 4, the inclusion of relational capital in the equation yielded an additional 11% to the explanatory power of the model. This means that relational capital explained an additional 11% of the variance in competitive advantage (F-change = 9.48, P < .01) and caused a statistically significant coefficient (B =0.34, P <0.01); this finding supports hypothesis three (H3).

DISCUSSION AND CONCLUSION

The state of Intellectual Capital in Uganda Microfinance Institutions

Intellectual capital was found to be a multi-dimensional predictor, with a number of elements, which coincide with earlier studies on intellectual capital. The study revealed that intellectual capital is made of the combination of human capital, structural capital and relational capital, which operate in a synergetic manner to cause an effect. This composition of intellectual capital is consisted with works of Kiong Tang (2009); Bontis

(1996, 1998); Roos, Dragonetti and Edvinsoson (1998); Stewart (1994, 1997); Dzinkowski (2000); Stovel and Bontis (2002); and Marr and Karim (2005) on different intellectual capital studies. In this study, intellectual capital elements (i.e. human, structural and relational capitals) were found to account for 62.5% of the variance in intellectual capital variable (Appendix A). However, findings have indicated that human capital constitutes the biggest percentage as compared to the rest of intellectual capital dimensions; a discovery that mirrors the findings of Ahonen (2009) & El- Bannany (2008).

Relationships between intellectual elements and competitive advantage

Results of the study indicated a positive and significant relationship between human capital and competitive advantage. These findings indicate that an increased human capital base is associated with high competitive advantage in microfinance firms. Thus, an increased base of human capital is associated with strong and better competitive advantage and service delivery in Microfinance Institutions. It is important to note that competent staff, with unique qualities can provide better services than their counter-parts in the market place, which can put the firm in better competitive position. This finding supports the observations of Teece (2000) and Zott(2003), who argued that organizations with superior manpower and learning capability are able to coordinate and combine their traditional resources and capabilities in new and distinctive ways to provide more value to their customers and, in general, to stakeholders than their competitors. This point of view is also consistent with Prahald and Hamel (2000), who argued that the best way to win in a competitive world is to build up long-term core competences that can stand the test of time. Other scholars who shared the same view included Haynes (2000), who specifically noted that customer perceptions of satisfactory service have been shown to be directly influenced by the behaviour of service providers, which, in turn, appears to be influenced by human capital. In the same vein, George and Shirley (1997) revealed that human behaviour significantly affects the quality of an organization and its offerings, and it is more evident in service organizations. Owing to the study findings and conclusions of earlier scholars, it can be concluded that the climate for employee well-being acts as a foundation for climate for service.

Furthermore, a positive and significant relationship was established between relational capital and competitive advantage. This finding reveals that Microfinance Institutions' efforts to strengthen their relationships with the stakeholders are highly associated with their competitive advantage. This is true because the mutual trust and friendship that are created with customers, suppliers and employees can strengthen networks and boost Microfinance Institutions' competitive advantage. The findings of earlier scholars, like Zahra (1999), Kennerley & Neely (2000), Baldwin and Danielson (2002), and Goh and Ryan (2002), also support the fact that long-term relationships between the company and stakeholders strengthen the networks and create channels through which a firm can gain competitive advantage over others in the industry.

On the other hand, a significant and positive relationship was established between structural capital and competitive advantage. This finding implies that a positive change in the structural capital base is associated increased competitive advantage in Microfinance industry. This is true because strong internal processes, networks and organizational culture can promote the firm's efficiency levels, which, in turn, can influence low costs and unique products in the market that may be difficult to be reproduced by others. This finding is in agreement with observations made by Edvinsson (2005), who established that organizational cultures, structures and processes that support the purpose of the organization can promote efficiency, and thus, the firm's competitive advantage. Besides, study by Stiles et al. (2005) concluded that structural capital links the resources of the organization together into processes that create value for customers and sustainable competitive advantage for the firm. Therefore, the findings of this study affirm that supportive organizational culture, internal processes, strong corporate purpose and compelling values are necessary for the competitive position of MFIs. To provide enduring customer service excellence, firms need to have internal structures and processes in place that enable employees to succeed in carrying out the tasks they do to create products and customer support services.

Notwithstanding the foregoing paragraph, the study established the extent to which intellectual capital elements predict the competitive advantage of microfinance industry

in Uganda. Using hierarchical multiple regression analysis, predictive power of each variable was established.

Overall, the research results indicate that all the three intellectual capital elements (HC, SC & RC) significantly influence the competitive advantage of the microfinance industry in Uganda. Accordingly, the three intellectual elements combined account for 45% of variance in microfinance performance levels. In this case, structural capital, human capital and relational capital are important predictors or determinants of competitive advantage in microfinance industry. Besides, findings have also shown that relational capital accounts for the biggest variance, followed by structural capital and lastly human capital. Since the findings specifically indicate the relative importance or weight of individual intellectual capital elements in influencing competitive advantage, the purpose of this study is, thus addressed. This finding supports the works of Pfeffer (2000) and Uzzi (1996) who found that the three intellectual capital elements play a very important role in enterprise competitive advantage and survival of the business.

CONCLUSION

In the nutshell, the study has thrown more light on the relative contribution of intellectual capital elements in influencing competitive advantage. This study has established the leading elements of intellectual capital in influencing Microfinance Institutions competitive advantage. Their relative contribution to competitive advantage in descending order (basing on their standardized beta values) is: relational capital, structural capital, and human capital. Thus, knowing the strength or weight of the individual intellectual capital elements to competitive advantage can direct the effort of managers to deploy the intellectual resources to benefit of the organization.

MANAGERIAL IMPLICATIONS

First, the study has introduced a clearer understanding of the extent to which intellectual capital elements influence competitive advantage in Microfinance industry. Thus, management efforts could be directed towards the improvement of leading elements of intellectual capital in advance by allocating more resources to the most crucial elements of intellectual capital to boost competitive advantage.

The managers of microfinance firms need to appreciate that the rise of intellectual capital in the industry is inevitable, given the competitive and technological forces that are sweeping the 21st Century. It is important to note that current and future managers must know that a contemporary company changes so rapidly, that everything is dependent on its talents, the dedication of its people (human capital), the quality of stock of knowledge (structural capital) and the strength of networks with its stakeholders(relational capital). Management's efforts should therefore, be vested in intellectual capital resources because sustainable competitive advantage is no longer rooted in physical assets and financial capital, but in effective channeling of intellectual capital (F-Jardon & Martos, 2009; Tang & Lean, 2009; Balaji & Makhija 2001).

These findings also hold far-reaching implications for accounting profession. The profession should seize the opportunity to assist in measurement and auditing of what makes companies valuable. Rather than the historical, and supposedly objective, approach that has characterized financial reporting to date, valuation of intellectual capital requires immediate and precise measures (Fairer & Stainbank, 2003).

LIMITATIONS OF THE STUDY

The findings of this study are subject to some limitations that provide the initiatives for future research.

First, only a single research methodological approach was employed and future research through interviews could be undertaken to triangulate.

More so, future studies could use the same basic hypotheses and regression construction, but implement the study in terms of a longitudinal rather than a cross-sectional design. The longitudinal study would need to correct changes in data relative to time element. Despite possible limitations of using single-period data, the results of the present study provide valuable insights into the effect of intellectual capital on Microfinance firm's competitive advantage.

REFERENCES:

Barney, J. (1991), "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, Vol.17, No.1, pp 99 – 120.

Bontis,N. and Serenko,A. (2009), "A causal model of human capital antecedents and consequent in the financial services industry", *Journal of intellectual capital*, Vol.10,No.1,pp. 53 – 69.

Bontis,N. (1998), "Intellectual Capital: an exploratory study that develops measures and models", *Journal of intellectual capital,* Vol.36 No.2,pp63 -76

Bontis,N. (1996), "There is a price on your head: managing intellectual capital strategically", *Business Quarterly,* Vol.60No.4, pp.40 – 47.

Bontis,N. (2001), " Assessing knowledge assets: a review of the models used to measure intellectual capital", *International Journal of Management Reviews*, Vol.3, No.1, pp.41-60.

Bontis, N., Chong C. K and Richardson (2006), "Intellectual capital and business performance in Malaysian industries", *Journal of Intellectual capital*, Vol.1 No.1pp 85- 100.

Bontis,N., (2002), There is a price on your head: managing intellectual capital strategically, *Business Quarterly, summer*, pp.40 – 47.

Boston Consulting Group (BCG) (2005), "Perspectives on experience", *Journal of Management Accounting, No.3, Vol.5,pp,23 – 34.*

Brooking, A. (1996), Intellectual capital: Core Asset for the Third Millennium Enterprise*,* International Thomson Business Press, London*.*

Cabrita,M, Vaz,J and Landeiro (2006), Intellectual capital and Value Creation: Evidence from the Portuguese Banking industry, *The Electronic Journal of Knowledge Management* Volume 4 Issue 1, pp 11-20.

Chang, S.C and Lee, M.S. (2008), "The linkage between knowledge accumulation capability and organizational innovation", *Journal of Knowledge Management*, Vol. 12 No. 1, pp.3-20

Edvinsson, L. (1996), "Measuring intellectual capital at Skandia", Long range planning, Vol.30 No.3,pp.266 – 373.

Edvinsson, L. and Malone, M. (1997), Intellectual capital: Realizing your company's true value by finding its hidden brain-power, Harper Collins, New York, NY.

F-Jardon, C.M. and Martos, M.S. (2009), "Intellectual capital and performance in wood industries of Argentina", *Journal of intellectual capital*, Vol.10 No.4, pp.1469-1930.

Field, A. (2006), Discovering Statistics using SPSS, Second Ed., Sage, London.

Firer, S. and Stainbank, L. (2003), "Testing the relationship between intellectual capital and company's performance: Evidence from South Africa". *Meditari Accountancy Research, Vol.11, pp.25 – 44.*

Firer, S. and Williams, S.M. (2003), "Intellectual capital and traditional measures of corporate performance" *Journal of intellectual capital*, Vol.4 No.3, pp.348- 60

Goh, S.C., and Ryan, P.J., (2002), Learning capability, organizational factors and firm performance, paper presented at the 3rd European Conference on organizational knowledge, learning and capabilities, Athens, 5-6 April 5-6.

Golafshani, N. (2003), "Understanding Reliability and Validity in qualitative research", *The Qualitative Report*, Vol.8, No.4, pp.597 – 607.

Halawi, L., A., Aronson, J., E. and McCarthy, R. V.(2005), " Resource – Based View of Knowledge Management for Competitive Advantage", *Journal of Knowledge of Management* .Vol.3No.2,pp75-86.

Heng-cheng and Chin-wen, (2007), Embedded ties and the acquisition of competitive advantage, *Journal of Intellectual capital*, Vol.9, No.1, pp.105- 121.

Kaplan, R.S. and Norton, D.P. (2004), Measuring the strategic readiness of intangible assets, *Harvard Business Review*, Volume, Vol.82 No.2, pp.52 -63

Lev, B. (2001), "Intangibles: Management, measurement and reporting", Brookings Institution Press.

Li, D.Q., Wu, X.B. (2004), "Empirical study on the linkage of intellectual capital and firm performance", International Engineering Management Conference.

Likert, R. (1932), A technique for measurement of Attitudes, New York, Archives of Psychology.

Maaloul, A. and Zeghal, D. (2010), "Analyzing value added as an indicator of intellectual capital and its consequences on company performance", *Journal of intellectual capital*, Vol.11 No.1, pp. 39-60.

Ntoumans, N. (2001), "A self determination approach to the understanding of motivation in physical education",*British Journal of Educational Psychology*, Vol.17.pp. 225 – 242.

Nunnally, J.C. (1978). Psychometric Theory. New York: McGraw-Hill Book Company

Organization for Economic Co- operation and Development (OECD),(1999), Measuring what people know: Human capital accounting for knowledge economy, OECD, Paris.

O'Donnel, D., O'Regan, P. and Coates, B. (2000), "Intellectual capital: a Habermasian introduction", *Journal of intellectual capital,* Vol. 1No.2, pp.187 – 200.

Ordonez de Pablos, P. (2004), Evidence of intellectual capital measurement from Asia, Europe and Middle East, *Journal of Intellectual capital*, Vol.3 No.3,pp.287-302.

PekChen,G.(2005),"Intellectual Capital Performance of Commercial Banks in Malaysia", *Journal of Intellectual capital*, Vol. 6 No.3, pp.385-396

Petty, R. and Guthrie.J. (2004),"Intellectual capital literature overview: measurement, reporting and management", *Journal of Intellectual Capital*, Vol.1 No.2, pp.155-76

Pfeffer,J. (1994), "Competitive Advantage through People, Harvad School Press, Boston,MA,.

Podsakoff,P.M., Mackenzie, S.B. and Lee,J.Y.(2003), "Common Method Biases in Behavioural Research: A Critical Review of the Literature and Recommended remedies" *Journal of Applied Psychology*, Vol. 88, No.5, pp.879 – 903.

Rindfleisch, A and Moorman, C.(2001), "The acquisition and utilization of information in new product alliances: A strength –of- Ties perspective", *Journal of Marketing,* Vol.65, No. 2,pp.1-18.

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.

Stewart, T. (1998), "Intellectual capital: The new wealth of organizations", available at: http://members.aol.com(accessed 21st September 2007).

Stewart, T.A. (1997), *Intellectual Capital: The new wealth of organizations, Bantam Doubleday Dell Publishing Group, New York, NY.*

Sveiby, K.(1997), *The New Organizational Wealth: Managing and Measuring Knowledge-based Assets,* Berret-Koehler Publishers, San Francisco,CA.

Tovstiga, G. and Tulugurova, E. (2009), "Intellectual capital practices: a four- region comparative study", *Journal of Intellectual Capital*, Vol.10, No. 1, pp.70-80.

Ting,W.I, and Lean, H.H. (2009), "Intellectual capital performance of financial institutions in Malaysia" *Journal of intellectual capital*, Vol.10 No.4,pp.588-599.

Uzzi, B. (1996), "The sources and consequences of embeddedness for the economic performance of organizations: the network effect", *American Sociological Review*, Vol.61 No. 4, pp.674-98.

Villalonga, B. (2004), "Intangible resources, Tobin's q, and sustainability of performance differences", *Journal of Economic Behavior & Organization*, 54: pp.205 – 230.

Wang, W., Changa, C. (2005), "Intellectual capital and performance in causal models. Evidence from the information technology industry in Taiwan", *Journal of intellectual capital*, Vol.6 No.2, pp.222-236.

Welbourne, T.M. (2008), "Relational Capital: Strategic Advantage for Small and Medium-Size Enterprises (SMEs) Through Negotiation and Collaboration, Journal of Business and Econimics, Vol.18, No.5 pp. 438 – 492.

Zigan,K., Macfarlane, F. and Desombre, T. (2008), "Intangible resources as performance drivers in European hospitals", *International journal of productivity and performance management,* Vol.57 No.1, pp.57-71.

Appendices

Table I: Zero order correlation between intellectual elements and competitive advantage

	Means	*Std Dev.*	*Structural*	*Human*	*Relational*	*Competitive Adva*
Structural Cap	4.3	.56	1			
Human Capital	4.1	.47	.32**	1		
Relational Cap	3.1	.81	.10	.28**	1	
Competitive Ad	3.2	.69	.36**	.34**	.52**	1

Table II: Hierarchical regression of intellectual capital elements on competitive advantage

	Model 1	***Model 2***	***Model 3***	***Model 4***	***Collinearity***	
		B	B	B	**Tolerance**	**VIF**
Constant	0.291	0.35	-1.53	-2.44		
Years of operation	-0.12	0.21	0.13	0.17		
Size of capital	0.11	0.23	0.22	0.21		
Structural Capital		0.46**	0.28*	0.33*	0.99	1.01
Human Capital l			0.43**	0.32**	0.83	1.21
Relational Capital				0.34**	0.92	1.09
Adj R squared	0.01	.20	.34	.45	na	na
R squared change	0.002	.19	.14	.11	na	na
F statistics	2.02	13.11	13.61	13.84	na	na
F change	2.01	11.12	11.34	9.48	na	na
Sig. F change	0.762	.00	.00	.01	na	na
Sig.	0.43	.00	.00	.01	na	na

Table III:
Skewness and Kurtosis Statistics:

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Structural Capital	51	-.174	.333	.116	.656
Human Capital	51	-.574	.333	.224	.656
Relational Capital	51	-.396	.333	.482	.656
Competitive Advantage	51	-.494	.333	.282	.656
Valid N (listwise)	51				

Table IV: Factor Results: Intellectual Capital

	Intellectual Capital Components		
	Human Capital	Structural Capital	Relational capital
Working under pressure	.86		
Knowledgeable employees	.83		
Creative employees	.74		
Competent employees	.64		
Staff with high skills	.62		
Good at problem handling	.60		
Clear structures in the firm		.88	
Staff complement each other		.78	
Staff are in touch with each other		.72	
Teamwork exists in the firm		.63	
Firm processes are fast		.61	
Firm has networks with others			.87
Employees are committed to clients			.64
Mutual trust exists between firm			.62
Have many channels with clients			.61
Eigenvalues	5.07	1.78	1.29
Percentage of variance	27.38	20.95	14.15
Cumulative Percentage	27.38	48.33	62.48
Extraction Method: Principal Component Analysis: KMO			0.76
Determinant of Matrix			0.002