European Journal of Business and Management
ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)
Vol.10, No.24, 2018

Human Capital Deployment and Competitiveness: The Case of Small and Medium-Sized Practices in East Africa

Albert Otete
Doctorate Candidate, University Institute for European and International Studies, Heyendallaan 64646 Kerkrade, Netherlands and ESAMI Business School PO Box 3030 Arusha, Tanzania

Abstract
Purpose: The perception that small and medium-sized practices (SMPs) are unable to handle medium and large assignments has continued to place a lingering cloud over most similar sized firms. This study aimed to find out how human capital deployment strategies influences the competitiveness of SMPs in East Africa. Although a practitioner/partners are the owners of the accounting firm, they alone cannot accomplish the objectives of the firm. They need to deploy the right quantity and quality of supervisory-level and assistant-level staff. Big-4 of Deloitte, EY, KPMG and PwC are excluded from this study to ensure homogeneity of population.**Methodology:** Using the lists obtained from the websites of the National Board of Accountants and Auditors of Tanzania (NBAAT), the Institute of Certified Public Accountants of Uganda (ICPAU) and the Institute of Certified Public Accountants of Kenya (ICPAK), a random sample of 360 SMPs were selected. 280 firms responded fully to all the questions and these were processed for this study.**Results:**Exploration factor analysis confirmed reliability of the data collection instrument with Cronbach $\alpha = 0.78$. The sampling adequacy was 0.78 using KMO guideline. The threat of multicollinearity was low given variance inflation factors were less than 10. Utilization ratio was 60% for assistants, 59% for supervisors and 53% for partners. The utilization ratio had a direct impact on the chargeable days on client assignments. The study revealed that an additional 100 chargeable days would increase clients billed per annum by 5. The same increase of 100 days would add USD 21900 to firm revenue. In terms of the total number of professional staff, one additional staff would lead to increase in clients billed by 4. That additional staff would add USD 27032 to revenue. There were statistically significant differences in the mean clients billed by SMPs that had 1,2 or 3 partners compared to the others with 4 or more partners. There was also a statistical significant difference in mean annual revenue (in USD) between SMPs with four partners and the rest of the other firms. There was one firm with 5-10 partners but earned less significantly lower revenue that firms with four partners. The was no statistically significant differences in mean variables between SMPs in each of the countries, implying that the population of SMPs in the three countries is close to homogenous and any statistical differences arise from other factors.**Significance of study:** This study will hopefully stimulate more and more research into SMPs in Africa in general and East Africa in particular (extending the study into Rwanda, Burundi and South Sudan at the appropriate time). The recruitment and development of human capital is accomplished internally within the firm. However, the clients can only judge the performance of the SMP through interaction with the professional staff deployed on the assignment.
Keywords: Human capital, deployment, competitiveness, small and medium-sized practices, Big-4

1. Introduction

Professional accounting firms earn their revenue by deploying their human capital to client assignments to accomplish the terms of reference set out in the engagement letter or contract. This paper is not focused on the dominance of the Big-4 but studies that have been undertaken involving them are informative in shaping the discourse for research on small and medium-sized practices (SMPs). Just like the Big-4, the SMPs grapple with a delicate balance between the quantity/quality of their human capital and the volume of work where their time/skills can optimally be deployed. A high level of human capital that is not deployed or deployable is a burden to any accounting firm, moreso to an SMP. To accomplish the terms of reference, the SMP must have a leader who is typically the partner/practitioner who commits the firm into a contract with the client to deliver a specific kind of service. The SMP also needs a second layer in the form of a supervisor to lead the team on the ground (client's premises) as the partner/practitioner is most times engaged in firm administration or seeking new client opportunities. The SMP must have a third layer called assistants; these do not have any subordinates and are often referred to as "foot soldiers" deployed at client premises to gather and document evidence that the firm will use to base its conclusions in the report to the client.

Despite their numerical advantage over the Big-4, the SMPs have failed to counter the dominance of the former. In addition, the perception that most SMPs are unable to undertake medium to large assignments has continued to block other aspiring SMPs from being considered for similar assignments. The main objective of this study was to determine the influence of human capital deployment strategies on the competitiveness of SMPs in East Africa. The scope includes Tanzania, Uganda and Kenya and only those accounting firms that are regulated by their respective institutes, that is National Board of Accountants and Auditors of Tanzania (NBAAT), the Institute of Certified Public Accountants of Uganda (ICPAU) and the Institute of Certified Public

Accountants of Kenya (ICPAK). This study provides useful and new evidence that has not previously been published in the world. The structure of this paper includes a literature review pertaining to competitiveness of firms and human capital. The study methodology is presented under Section 3 followed by the discussion of the statistical results in Section 4. The paper presents a number of conclusions and recommendations under Section 5. Details of statistical tables and graphs are included as Appendix.

2. Literature review

Concept of Competitiveness

Competitiveness is inevitable whenever a product or service is being provided by one firm. In the case of the professional accounting firm market, competitiveness is pronounced at both the Big-4 level and at the SMP level. Given that the consumer does not have a glimpse of the internal quality processes of the audit firms, it is really difficult for the clients to determine which SMP is better than the other. On the other hand, each SMPs may not have sufficient competitive intelligence to determine which specific strategies to apply to be on top of the market. Nonetheless, the top accounting firms in the world are measured based on annual revenues, the split between audit/assurance, tax and consulting; and revenue per professional staff. In a time-series study of UK accounting firms from 2009-2012, it was observed that the standard deviation of the measurement variables was to high implying that the sample was heterogenous (Djerdjouri & Kandiel, 2013). In an attempt to mix Big-4 with other smaller/medium firms, it was inevitable that only the Big-4 had a high level of productivity determine through data envelopment analysis and Malmquist productivity index. To extend the dependent variable of revenues further, concentration ratios were used to rank accounting firms into Top4, Top6, Top8 and Top10 in Malaysia (Abidin & Mohamad-Nor, 2015). The oligopolistic market structure observed in Malaysia is not very different from many other countries, Uganda inclusive. This is why a study on competitiveness requires a comparison between apples and apples, that is, between SMPs and SMPs.

Human capital has a positive impact on productivity which can be considered a surrogate of competitiveness (Ambastha & Momaya, 2014). However, diversification from the traditional audit/assurance services to tax and consulting, often referred to as non-audit services (NAS) led to productivity growth (Chang, Chen, Duh, & Li, 2011). However, the skills required to provide NAS are different and require significant exposure and experience, and if not handled well can compromise audit quality of the same client (Duboff & Giulioni, 2017; Kowaleski, Mayhew, & Tegeler, 2018). One of the challenges SMPs face is ability to attract new clients with 41% of firms complaining about this hurdle (IFAC, 2017). Some SMPs have joined Accounting Association or Network (AAN) to increase their perception of internationality and human capital clout (Ahn, Akamah, Bills, & Saunders, 2018). The study noted that firms that were part of AAN had gained more clients over a period of time either through referrals from networked firms or snatching from competitors. The local SMP often rode on the reputation of the association or network.

Competitiveness can be judged from another angle. Whenever bids are put out for firms to submit technical and financial bids, the perception from most SMPs is that they must compete on the financial front. Given that there are many SMPs in every country, there has been pressure from clients to lower the fees or else the job is given to another firm (IFAC, 2017). Nonetheless, from the same IFAC survey, 52% of the SMPs had reported increase in revenues from the previous year probably on account of new clients and extra opportunities from the same client. Deployment in NAS led to a contribution of over 30% of the firm's revenues and is one of the ways in which SMPs can increase their competitiveness (Blackburn & Jarvis, 2010; IFAC, 2017)

Concept of Human Capital Deployment

SMPs, like other professional accounting firms, are highly people intensive and dependent on knowledge and information. The partners are the founders and owners of the SMPs and they need to recruit a support team, especially at the Supervisor-level if they are to compete favourably in the market place (Otete, 2018b). SMP have a challenge of ineffective utilization of their professional staff with 45% of these firms possessing less than 70% utilization ratio, which is the chargeable hours divided by the total man-hours (IFAC, 2017).

Optimal deployment of partners, supervisors and assistants (all of them professional staff and revenue generators) is critical to the performance of an SMP. Excessive workload on the professional staff due to tight deadlines and staff shortages can lead to compromised work quality. This arises from short-cuts (not following the standards of the work). Outrageous overtime up to 20 hours above the normal threshold was observed during peak of busy seasons for auditing financial statements of companies in the USA (Persellin, Schmidt, & Wilkins, 2015). Audit procedures were compromised, professional skepticism plummeted and some skilled staff members resigned. Time constraints, especially on audits, led to incorrect acceptance of verbal client explanations instead of seeking written and more reliable evidence as required by the International Standards on Auditing (ISAs). In that same study among auditing firms in Uganda, the lack of sufficient supervision was cited as one of the causes of the dysfunctional audit behaviour which was itself a result of over-selling the capabilities of the firm (Kasigwa, Munene, Ntayi, & Nkote, 2013; Svanström, 2016). Deployment of experienced staff who can execute assignments on time positively impacts on audit fees realizable from that client. This eventually improves audit

quality as sufficient resources are deployed to match the audit fees that will be earned (Cahan & Sun, 2015; Otete, 2015)

In the current environment, most businesses have adopted information technology (IT) and moreso the Enterprise Resource Plan (ERP) systems which integrate most business facets with the core accounting module. Many SMPs in Uganda have begun recruiting professional staff who gradually develop skills in IT auditing through becoming a Certified Information Systems Auditor (CISA) which is increasingly becoming crucial in the era of ERPs deployed by medium and large clients (Otete, 2018b). In order to deploy personnel to audit ERP systems, the SMP must have embraced IT in its internal environment. Lack of time and internal expertise in IT inhibits SMPs from investing in technology and will be ill-prepared to audit ERPs and Big Data (Cao, Chychyla, & Stewart, 2015; Kee, Khalid, Kok, Lau, & Yu, 2013). Consequently, innovation, knowledge and information sharing among team members is weak leading to sub-optimal deployment of resources (Jardon & Martos, 2012; Meihami & Meihami, 2014) and stunted growth of the firm (Mohr & Garnsey, 2011; Penrose, 1959)

Deployment of human capital reduces the level of defects in products when a team of people are involved in a process (Ambastha & Momaya, 2014; Hatch & Dyer, 2004; Kasigwa et al., 2013; Su, Linderman, Schroeder, & Van De Ven, 2014). Each member of the semi-conductor manufacturer team kept learning and the hierarchy was such that operators (troubleshooters) were closely supervised by the engineers. In the professional accounting market, deployment of staff with technical skills and sector specialization is key to quality work for the client and increase chances of retention as auditors (Olowookere, 2016; Otete, 2018a). These technical skills extend to compliance with the norms of the assignment. As SMPs typically are more suited to undertake audit/assurance assignments, the work undertaken by the team deployed must comply with ISAs and they check whether the financial statements have been prepared in line with International Financial Reporting Standards (IFRSs). Each team member deployed impacts on the quality of the audit, including perception of auditor independence (Gul, Wu, & Yang, 2013; Kaawaase, Assad, Kitindi, & Nkundabanyanga, 2016)

In the survey conducted by the International Federation of Accountants (IFAC), SMPs worldwide cited a number of major challenges, among others (i) attracting new clients (ii) keeping up with new standards and regulations (iii) differentiating from the competition and (iv) experiencing pressure to lower fees. Although the 2018 survey results are yet to be published, the challenges remain similar. In the East African region, the three top economies of Tanzania, Uganda and Kenya are home to over 1100 SMPs. There are no significant barriers of entry into the accounting firm market as there is no minimum financial capital requirement nor minimum human capital threshold. All that is required is evidence of post-qualification experience (years after completion of accounting examinations, mostly CPA and ACCA in the case of East Africa) of at least three years and inspection of the firm's proposed premises before practicing certificate is granted to the practitioner or partners.

Gaps in Literature

The previous studies have linked human capital to organizational performance which is a good starting point in building the theory. Manufacturing of goods has also received sufficient coverage in terms of teams deployed on the production or assembly lines. When it comes to services, little is published about the deployment of teams and how that translates into performance. In the case of accounting firm research, the human capital has been linked to revenues. However, there is a gap in the middle. The clients will not pay fees unless that have received value, typically in the form of a written report. This report cannot be generated unless professionals have been deployed on the assignment to gather data, collate it, synthesize it, interprete it and communicate to the client. In addition, the costs of generating revenue have been ignored in previous studies of accounting firms. Human capital is the biggest cost in any accounting firm and leaving it out of the equation would be a huge gap. Hence, this study into the deployment of human capital in SMPs will be a first step in addressing the aforementioned gaps.

3. Methodology

Population and Sample

A random sample of 360 SMPs was selected from the lists (sampling frames) of approved accounting firms in Kenya, Uganda and Tanzania (ICPAK, 2017; ICPAU, 2017; NBAAT, 2017). This number was arrived at using renown sample size determination matrix (Krejcie & Morgan, 1970) after clustering the SMPs per country. With Tanzania having 210 firms, Uganda 210 firms and Kenya 700 firms, it was determined that 360 would be sufficient sample size. A structured questionnaire was used to collect primary data during the year the last quarter of 2017 and part of 2018. Only one response was collect from each SMP (sampling unit). Self-administered questionnaires were availed to the partners (unit of inquiry) via email, weblink or hard copy. Face-to-face interviews were held upon requests from some of the partners. The research was quantitative given the plan to generalize the findings across the entire population of the 1120 SMPs in Kenya, Uganda and Tanzania. The SMPs from Rwanda were excluded due to the fact that the Institute of Certified Public Accountants of Rwanda (iCPAR) was less than ten years in operation and there were less than 50 registered accounting firms in the country. Burundi and South Sudan were excluded as they had not yet joined IFAC membership by the time

the study commenced.

Variable Description

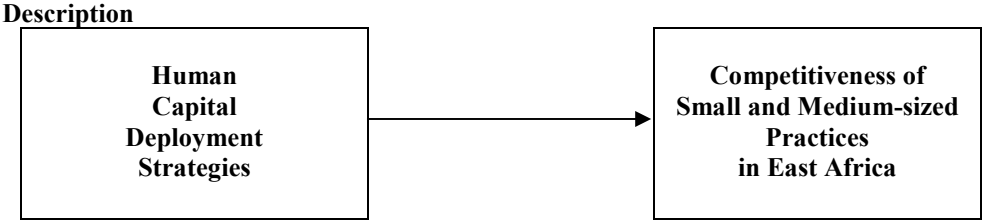


Figure 1: Conceptual framework

Dependent Variable

The dependent variable is the total annual clients billed and annual revenues of the SMPs in the three countries. From the pre-testing of the questionnaire and informal discussions with partners of SMPs, it was noted that a firm billing over 90 clients a year in each of the three business lines would be one of the best in the country.

In terms of average audit fees per client, it was noted that clients (most of whom are SMEs) cannot afford very high fees. In addition, the cut-throat competition among the SMPs had led to price competition and fees for audit jobs was often low. The questionnaire had a maximum of USD 11250 as the average fee per client. Amounts near or above that figure would be considered outliers for purposes of this study.

Level of competitiveness

To be competitive, an SMP must have clients, provide required services and bill them. Therefore, SMPs have been classified as either possessing "low", "medium" or "high" based on this model. Categories: "Low: Less than 90 clients billed in a year", "Medium: 90-180 clients" and "High: More than 180 clients"

However, quality is equally as important as quantity. The second criterion is annual revenues and the firms are classified based on this model. Categories: "Low: Less than USD 1,000,000 earned in revenue per year" across all three main business lines, "Medium: USD 1,000,000-2,000,000" and "High: More than USD 2,000,000"

Independent Variables

The independent variables are the human capital deployment measures which includes the utilization ratio (UR) which is the chargeable hours divided by the total man-hours. The total man-hours are assumed to be based on a 52-week year, with each week comprising five (5) working days. Each working day has eight (8) standard hours which means that in a year, there are 2080 total man-hours (52 x 5 x 8). However, the assumption is that the UR is part of the firm's key performance ratios, so the SMPs had to indicate that ratio in the questionnaire ranging from 10% (very low ratio) to 90% (very high ratio).

The second variable is the total number of professional staff (partners, supervisors and assistants). SMPs often deploy part-time staff to undertake some of the assignments. This human capital element cannot be ignored. For this study, these part-time staff are assumed to be at assistant-level who are deployed as "foot soldiers" at client premises, especially during peak times during auditing of financial statements.

The third independent variable is the charge-out rates for each of the professional staff (partners, supervisors and assistants). These rates will be multiplied with the UR to determine the annual cost of the time of the professional staff and this will then be compared to the annual revenues to assess the level of competitiveness. These rates vary per SMP depending on their internal policy but from experience and during the pre-testing of the questionnaire, it was observed that these rates vary from USD 15 per man-hour to USD 150 per man-hour. This translates to USD 120 per day to USD 1200 per day. Amounts above USD 1200 would be considered outliers as these are typically charged by the Big-4.

Hypothesis testing methodology

Exploratory Factor Analysis (EFA) was to identify a list of possible variables (due to lack of *a priori* knowledge) that would be for hypothesis testing. Reliability of the data collection instrument was tested using Cronbach alpha (α) aiming for a composite $\alpha>0.60$ and an inter-item correlation from the Likert-scale of at least 0.30. Multicollinearity of independent variables was examined using Variance Inflation Factors (VIF<10.0) while the adequacy of the sample was determined using the Kaiser-Meyer-Olkin (KMO) index. Where KMO>0.60, variables from EFA were processed through Confirmatory Factor Analysis (CFA) upon which the initial set of variables was reduced with the guidance of Eigenvalues. To test the influence of the independent variables on the dependent variable, the Analysis of Variance (ANOVA) was preferred to simple linear regression. The Tukey's *post-hoc* testing model was deployed to identify where differences lay between groups of interest.

The following hypothesis were tested using STATA 15® statistical software:

i. $H1_0$: Human capital deployment strategies have no influence on the competitiveness of SMPs
ii. $H2_0$: The number of partners in the SMP does not lead to differences in human capital deployment strategies or competitiveness
iii. $H3_0$: There are no country differences in human capital deployment strategies or competitiveness among the SMPs

4. Results and discussions

Descriptive statistics

The overall response rate was 77% (based on 280 complete cases out of target of 360). Of the 280 responses, 125 (45%) were from Ugandan firms, followed by 103 (37%) from Kenya and then 52 (18%) from Tanzania **(Appendix: Table 1**). In terms of the number of years that the SMPs have spent in operation, 66% of them (186 firms) were less than 10 years old. This means that in the last decade (from 2008), the number of SMPs has more than doubled which is an important observation regarding the competitiveness of that market segment. Only 12% (33 firms) had exceeded the 20-year mark in business **(Appendix: Table 2**). There is a growing trend of SMPs joining an Accounting Association or Network (AAN). 36 firms (13%) were members of an AAN. The exact number of AANs worldwide is not readily known but the Institute of Chartered Accountants of England and Wales (ICAEW) regularly publishes the Top 40 through its *AccountancyAge* magazine. Respondents were not asked to reveal which AAN they belong to and those names were not the main thrust of this study. The SMPs that had a sole practitioner were 135 in number (48%) while those with two partners were 121 (43%). Those with four or more partners were not common and represented only 2% (5 firms in total).

The mean age of the SMPs was nine years with two-thirds below the mean. The mean practice experience of partners was 13 years while the working experience of supervisors was nine years and that for assistants was five years. The mean age of partners was 45 years, supervisors 34 years and assistants 27 years. The human capital in the SMPs was such that on average four professional staff possess CPA qualification and one has ACCA. Six have a Bachelor's degree as their highest academic achievement while two have Masters. The statistics on the academic, professional qualifications and work experience of the human capital is formidable. These have to be deployed optimally to translate into value for the SMP. Only an average of two inter-firm collaborations were executed with 84 firms not participating at all. The SMPs experienced a 2.1% increase in average fees in the area of audit/assurance, 1.1% increase in tax fees and a drop of 0.4% in consulting.

In terms of the respondents, 127 were Managing Partners in their SMP. 145 of them held the position of Partner while only eight of them were ISQC Partner (in charge of International Standard on Quality Control). Male respondents were 256 compared to 24 Female. Whereas the respondents had spent nine years in practice with their SMPs, their mean work experience was 20 years. Most partners and practitioners gain work experience from elsewhere before setting up their own practice. 10 of the respondents had Doctorate degree as their highest academic attainment, 174 Masters' degree, 78 Bachelor's degree while only 18 had no degree yet. All the respondents had CPA (it is compulsory that each practitioner or partner must be a member of the local institute) and 90 of them also had ACCA certification. In terms of other certifications, 25 were Certified Information System Auditors, 21 respondents were Certified Fraud Professionals, 21 were Certified Internal Auditors, 19 were Certified Tax Advisors and only four were Certified Public Finance Accountants.

Factor analysis

The EFA had five factors under human capital deployment strategies and another five factors defining competitiveness of SMPs as far as the partners are concerned. The data collection instrument (the questionnaire) was reliable as all the of the coefficients of the Cronbach $\alpha > 0.60$ **(Appendix: Table 3**) with the composite for human capital deployment $\alpha = 0.78$ while that for competitiveness was $\alpha = 0.76$. The sampling adequacy was confirmed using the renown KMO statistic of 0.78 which is higher than threshold of 0.60 **(Appendix: Table 3**). The risk of multicollinearity of independent variables was low. The VIF statistics were used to test this problem. All the VIF were less than 10 **(Appendix: Table 3**) which means that the risk of inflation of the variances and distortion of standard errors in the five independent observed variables was minimized. A correlation matrix was constructed of all the 10 variables and all of the coefficients were positive indicating a good foundation for further analysis **(Appendix: Table 4**)

Eigenvalues were used as a benchmark to confirm which factors were critical for this study. The target was Eigenvalues >1.00 and only one factor passed this hurdle. To attain a simple structure, variables with loadings >0.50 onto this single factor were adopted **(Appendix: Table 5**). Regarding the variables of human capital deployment, it is observed that having all the three levels of professional staff (partner, supervisor-level and assistant-level) are important if an SMP is to be competitive. The deployment of the professional staff is evidenced on timesheets where the time spent (typically measured by standard hours = 8 per day, that is, from 8:00am to 5:00pm) on each client assignment is captured by each staff. Non-chargeable hours are also captured – this is time not spent on client assignment, for example, leave, office administration, study and so on. The chargeable hours divided by the total available hours in a month gives what is terms as the utilization ratio (UR).

Costing of time – deployment on client assignments

The chargeable hours from timesheets are multiplied with charge-out rates (per professional staff category). For this study, the UR as a percentage was preferred to actual number of days because it was easier for respondents to estimate the proportion their staff are deployed on client assignments. With the average UR data, the number of days deployed on client assignments was calculated using the baseline of 260 standard days per annum. The methodology involved calculation of average cost of chargeable time for assistant-level staff, supervisor-level

and partners. The annual costing of time is a function of the UR where the study revealed that assistant-level staff had average UR of 60.68%, supervisor-level 58.82% and partners an average of 52.64%. When the different UR are multiplied by the baseline of 260 standard days per annum, the product was an indication of the man-days that each staff category was deployed on client assignments. Not only does deployment gradually increase the work experience of the professional staff, but it also results into billable time and revenue to the SMP. The end result was that assistant-level staff were deployed on client assignment in about 158 days (60.68% x 260 standard) per annum, supervisor-level on 153 days per annum and partners on 137 days per annum.

In the questionnaire, partners were asked to reveal the average charge out rate for each professional staff category. This variable was also among those identified during EFA to be used in hypothesis testing. From the data, the charge-out rates were as follows: assistant-level staff USD 143.75 per day, supervisor-level USD 230.36 per day and partners USD 383.04 per day. The results show that the time cost (chargeable days x charge-out rate) of an assistant-staff staff was USD 22970.50 per annum, supervisor-level USD 36899.10 per annum and a partner USD 53067.90 per annum.

Hypothesis 1: Human capital deployment strategies have no influence on the competitiveness of SMPs

The study deployed regression analysis, whereby:

$Y_1 = \alpha_1 + \beta_1 X_1 + \beta_2 X_2$ ……..Equation 1

$Y_2 = \alpha_2 + \beta_3 X_1 + \beta_4 X_2$ ……..Equation 2

Y_1 = Total number of clients billed per annum

Y_1 = Total annual revenue earned, in USD

α_1, α_2 = constants

X_1 = Total number of professional staff (partners, supervisors and assistants)

X_2 = Total number of chargeable days per annum using three levels of professional staff

$\beta_1, \beta_2, \beta_3, \beta_4$, = Regression coefficients

Results based on detailed tables **(Appendix: Table 6, Table 7**)

Equation 1

Y_1: Total number of clients billed per annum = -18.942 + (4.042* Total number of professional staff) + (0.05* Total number of chargeable days per annum)

Equation 2

Y_2: Total annual revenue earned, in USD = -276000 + (27032* Total number of professional staff) + (219.43* Total number of chargeable days per annum)

The positive regression coefficients show evidence that the human capital deployment strategies have a positive influence on the competitiveness of SMPs whether measured on the basis of number of clients billed or annual revenue. The data reveals that there were six SMPs that had the lowest number of professional staff at 10. The same six SMPs also had the lowest chargeable days at 78 per annum across the three levels of the professional staff. If those figures are plugged into the two equations, the results would be as follows:

Equation 1

Y_1: Total number of clients billed per annum = -18.942 + (4.042*10) + (0.05*78) = 24 clients

Equation 2

Y_2: Total annual revenue earned, in USD = -276000 + (27032*10) + (219.43*78) = USD 11435.62

Hypothesis 2: The number of partners in the SMP does not lead to differences in human capital deployment strategies or competitiveness

ANOVA method was adopted to test this above hypothesis. Regarding whether the total of chargeable days per annum differs depending on the number of partners in the SMP, there were no statistically significant differences, as detailed under **(Appendix: Table 8**). The F (4,275) = 0.515; p = 0.725 (not significant at α = 0.05, hence accept null hypothesis of no differences)

On perspective of total clients billed per annum, ANOVA revealed significant differences. Under **Appendix: Table 9, t**he F (4,275) = 10.88; p = 0.000 (significant at α = 0.05, hence reject null hypothesis of no differences). To determine where the differences lie, Tukey's post-hoc tests were conducted and the results detailed under **Appendix: Table 10.** The results show that there are no statistically significant differences between SMPs that have one practitioner, two or three partners. Likewise, there are no statistically significant differences between SMPs that have 4-10 partners. However, there are statistically significant differences between SMPs that have three partners or less and those that have 4-10 partners.

On total annual revenue, ANOVA revealed significant differences. Under **Appendix: Table 11, t**he F (4,275) = 12.586; p = 0.000 (significant at α = 0.05, hence reject null hypothesis). To determine where the

differences lie, again Tukey's post-hoc results are shown under **Appendix: Table 12.** There are no statistically significant differences between SMPs that have one practitioner, two or three or above four partners. The SMPs with four partners are statistically different from the rest.

Hypothesis 3: There are no country differences in human capital deployment strategies or competitiveness among the SMPs

ANOVA was used to identify whether there are indeed no differences based on country of the SMP. The two composite human capital deployment strategies were (a) total number of partners and professional staff and (b) the total number of chargeable days per annum. The two composite measures of competitiveness were (c) total number of clients billed per annum and (d) the total annual revenue earned, in USD. All the four ANOVA tables **(Appendix: Table 13)** revealed no statistically significant differences based on the country of the SMP, as per the following summary:

(a) $F(1,278) = 0.83$; $p = 0.4352$ (not significant at $\alpha = 0.05$, hence accept null hypothesis of no country differences)
(b) $F(1,278) = 0.08$; $p = 0.9247$ (not significant at $\alpha = 0.05$, hence accept null hypothesis)
(c) $F(1,278) = 0.36$; $p = 0.7009$ (not significant at $\alpha = 0.05$, hence accept null hypothesis)
(d) $F(1,278) = 0.79$; $p = 0.4560$ (not significant at $\alpha = 0.05$, hence accept null hypothesis)

Given that the differences were not statistically different, post-hoc tests are usually not recommended. Nonetheless, one post-hoc test using Scheffe; one of the renown methods of adjusting the significance levels to take into account the multiple pair-wise comparisons. When Scheffe was run on the ANOVA on total number of partners and professional staff, the differences in the countries were not significant at 5% **(Appendix: Table 14**). This confirms the view that post-hoc tests are not relevant when ANOVA indicates lack of significance as a whole.

5. Conclusion

The main objective of the study was to ascertain how human capital deployment strategies influence the competitiveness of the SMPs in the East African countries of Tanzania, Uganda and Kenya.

A rule of thumb is that 260 standard days are the maximum every year for each professional staff. Out of this, annual leave takes about 20 days, development (training) another 20 days and public holidays consume about 10 days. This leaves 210 days available for client assignments (chargeable time) which translates into a utilization ratio of about 80% (210 divided by 260). For this study, an average UR< 30% or less is considered "low", a UR of 30%-60% is "medium" while above 60% is "high". Deployment of professional staff is critical to an accounting firm as the assignment cannot be completed without spending time performing relevant procedures to reach a conclusion and produce a report. The data revealed that 12 (4% of the firms) SMPs had a "low" UR, while 129 (46%) had "medium" UR and 139 (50%) had "high" UR **Appendix: Table 15**

During CFA, the portfolio size (number of clients in terms of quantity) and portfolio base (diversity into audit/assurance, tax and consulting) were identified as having high loading (above 0.50) on the construct of competitiveness. In line with previous study on competitiveness of SMPs in Uganda, SMPs that billed less than 90 clients per annum were considered to be possessing "low" competitiveness. The same model is used in this study because billing less clients can lead to low UR, less work exposure/experience for the professional staff (especially assistant and supervisor-level) and less revenue for the SMP. The middle category of SMPs that billed 90-180 clients per annum are considered "medium" competitive and above 180 clients per annum is "high" competitiveness.

The study revealed that 210 SMPs (75% of the firms) have "low" competitiveness, 55 (20%) have "medium" competitiveness while 15 (5%) are "highly" competitive **Appendix: Table 16**

The average fees earned per client was among the variables with a loading above 0.50 on the construct of competitiveness. SMPs that earn less than USD 1,000,000 per annum are in "low" competitiveness regime. The middle category of SMPs that earned USD 1,000,000-USD 2,000,000 are tagged as "medium" competitive while those that earn above USD 2,000,000 are "highly" competitive. The study revealed that 272 SMPs (97% of the firms) have "low" competitiveness, five SMPs have "medium" competitiveness while only three SMPs are "highly" competitive **Appendix: Table 17**

	Conclusions	**Recommendations**
Influence of human capital deployment strategies on competitiveness	The positive regression coefficients show evidence that the human capital deployment strategies have a positive influence on the competitiveness of SMPs both measured on the basis of number of clients billed and annual revenue in USD.	SMP have to gradually increase human capital and deployment on client assignments. Increasing profession staff by one person can increase firm revenue by USD 27032, and if that person had a utilization ratio of 50%, another USD 28470 would be added to firm's revenues.

Difference in human capital development strategies depending on number of partners	No statistically significant differences in chargeable days per annum between the SMPs. *Total clients billed per annum*: No statistically significant differences between SMPs that have 1,2 or 3 partners. No statistically significant differences between SMPs that have 4-10 partners. There are statistically significant differences between SMPs that have three partners or less and those that have 4-10 partners. *Annual revenue earned*: No statistically significant differences between SMPs that have 1-3 and 5-10 partners. The SMPs with four partners are statistically different from the rest.	SMPs need to realize commensurate value from time spent on client assignments. Sub-optimal returns mean inefficiency or less rewards. SMPs have to calculate the recovery ratio (fees earned from client divided by the time cost of professional staff deployed on that client. A recovery ratio of at least 67% is recommended to enable higher billing and revenue.
Whether country differences exist in human capital deployment and competitiveness of the SMP	No statistically significant differences based on the country of the SMP.	SMP need to note this as some of them consider opening branches in other countries.

Future research: Empirical studies focused on SMPs are hard to find in published journals. This is a virgin area of research with several other questions remaining unanswered. Future research could pursue a mixed approach (qualitative and quantitative) to identify determinants of mergers and inter-firm collaborations, specific to SMPs and determine how the merged model influences competitiveness of the concerned firms. For example, the study revealed that inter-firm collaborations (where two or more SMPs join hands to accomplish an assignment) were only 3% yet there could be more benefits from such a human capital deployment strategy even before considering a full merger. In addition, a longitudinal (time-series) approach can be adopted for the future to isolate influence of human capital deployment strategies over a period of time. In this study, SMPs realized a 4.5% increase in annual revenue (compared to previous year) but the study did not cover the determinants of that increase.

6. Appendix

Table 1: Distribution of SMPs based on years in operation

Number of years the SMP has been in operation

Country	1-5 years	6-10 years	11-15 years	16-20 years	>20 years	Total	%age
Kenya	45	34	15	2	7	103	37%
Tanzania	21	10	6	3	12	52	18%
Uganda	37	39	25	10	14	125	45%
Total	**103**	**83**	**46**	**15**	**33**	**280**	**100%**

Source: Author compilation from dataset

Table 2: Distribution of SMPs based on number of registered partners

Number of registered partners in the SMP

Country	1 practitioner	2 partners	3 partners	4 partners	5-10 partners	Total	%age
Kenya	70	26	5	1	1	103	37%
Tanzania	15	30	6	1	0	52	18%
Uganda	50	65	8	2	0	125	45%
Total	**135**	**121**	**19**	**4**	**1**	**280**	**100%**

Source: Author compilation from dataset

Table 3: Reliability, Sampling Adequacy and Multicollinearity Testing

Variable	Description	Cronbach α	KMO	VIF
depl_skills	Deployment based on skills of professional staff	0.7847	0.7671	1.39
depl_3levels	Deployment of all three levels of professional staff	0.7290	0.8143	1.64
depl_tmsheets	Timesheets used to monitor/track staff deployment	0.7357	0.8093	1.75
depl_chgrates	Charge-out rates used determine professional fees	0.6984	0.7056	2.38
depl_chrgtime	Professional fees commensaurate with chargeable time	0.7565	0.6985	1.71
	Overall reliability of *Deployment* scale	0.7826		
comp_partners	Competitiveness: Number of partners and staff	0.7306	0.8659	
comp_workexp	Competitiveness: Number of partners and staff	0.7736	0.8066	
comp_portsize	Competitiveness: Portfolio size	0.6912	0.7609	
comp_portbase	Competitiveness: Portfolio diversity	0.6839	0.8120	
comp_avgfees	Competitiveness: Average fees per client	0.7063	0.8210	
	Overall reliability of *Competitiveness* scale	0.7617		
	Overall KMO		0.7834	

KMO = Kaiser-Meyer-Olkin measure of sampling adequacy
VIF = Variance Inflation Factor measure of degree of multicollinearity
Source: Author compilation from statistical output from STATA15®

Table 4: Matrix of correlations of the variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) depl_skills	1.000									
(2) depl_3levels	0.505	1.000								
(3) depl_tmsheets	0.337	0.412	1.000							
(4) depl_chgrates	0.299	0.444	0.627	1.000						
(5) depl_chrgtime	0.185	0.413	0.349	0.617	1.000					
(6) comp_partners	0.176	0.321	0.373	0.322	0.213	1.000				
(7) comp_workexp	0.204	0.176	0.280	0.249	0.099	0.418	1.000			
(8) comp_portsize	0.185	0.244	0.191	0.065	0.080	0.329	0.239	1.000		
(9) comp_portbase	0.222	0.372	0.287	0.161	0.170	0.380	0.270	0.616	1.000	
(10) comp_avgfees	0.187	0.299	0.291	0.138	0.045	0.349	0.209	0.563	0.527	1.000

Source: Author compilation from statistical output from STATA15®
All correlations coefficients are positive

Table 5: Factor loadings after varimax rotation (only loading >0.50)

Variable	Description	Loading	Mean	SD
depl_3levels	Deployment of all three levels of professional staff	0.6496	3.8	1.144
depl_tmsheets	Timesheets used to monitor/track staff deployment	0.6534	3.1	1.549
depl_chgrates	Charge-out rates used determine professional fees	0.6354	3.2	1.357
	Mean score		3.4	
comp_partners	Competitiveness: Number of partners and staff	0.5707	3.7	1.158
comp_portsize	Competitiveness: Portfolio size	0.5291	3.7	0.951
comp_portbase	Competitiveness: Portfolio diversity	0.6188	3.7	0.894
comp_avgfees	Competitiveness: Average fees per client	0.5423	3.3	1.096
	Mean score		3.6	

SD = Standard deviation

Source: Author compilation from statistical output from STATA15®
Orthogonal rotation (using varimax option) was adopted, assuming non-correlation between the factors.

Table 6: Multi-regression of number of professional staff and chargeable days on total annual billing

tot_client_bill	Coef.	Standard Error	t-value	p-value	Sig.
tot_prostaff	4.042	0.357	11.33	0.000	***
tot_charge_days	0.050	0.018	2.87	0.004	***
_cons	-18.942	8.591	-2.21	0.028	**

Mean dependent variable	62.929	SD dependent variable	48.134
R-squared	0.371	Number of observations	280
F-test	81.760	Prob > F	0.000
Akaike information criteria (AIC)	2839.130	Bayesian information criteria (BIC)	2850.035

*** p<0.01, ** p<0.05, * p<0.1
Source: Author compilation from statistical output from STATA15®

The AIC and BIC are renown fit indices used when researcher is comparing non-nested models using same data to determine which model is most parsimonious. The smaller the fit indices, the more superior. AIC and BIC indices are recommended for samples >200 and are also mentioned in other subsequent tables.

Table 7: Multi-regression of number of professional staff and chargeable days on total annual revenue (USD)

tot_rev_all	Coef.	Standard Error	t-value	p-value	Sig.
tot_prostaff	27032.055	2473.485	10.93	0.000	***
tot_charge_days	219.431	122.058	1.80	0.073	*
_cons	-276000.000	59554.854	-4.64	0.000	***

Mean dependent variable	218482.143	SD dependent variable	325323.687
R-squared	0.339	Number of observations	280
F-test	70.882	Prob > F	0.000
Akaike information criteria (AIC)	7791.725	Bayesian information criteria (BIC)	7802.629

*** p<0.01, ** p<0.05, * p<0.1
Source: Author compilation from statistical output from STATA15®

The AIC and BIC indices are higher than previous table, suggesting an inferior fit compared to those in Table 6

Table 8: ANOVA of total chargeable days, by number of partners in the SMP

tot_charge_days	Coef.	Standard Error	t-value	p-value	Sig.
1b.num_partners	0.000	0.000	0.00	0.000	***
2.num_partners	-4.148	16.916	-0.25	0.806	
3.num_partners	14.150	33.109	0.43	0.669	
4.num_partners	85.993	68.555	1.25	0.211	
7.num_partners	46.993	135.623	0.35	0.729	
_cons	447.007	11.630	38.44	0.000	***

Mean dependent variable	447.571	SD dependent variable	134.652
R-squared	0.007	Number of observations	280
F-test	0.515	Prob > F	0.725
Akaike information criteria (AIC)	3547.025	Bayesian information criteria (BIC)	3565.199

*** p<0.01, ** p<0.05, * p<0.1
Source: Author compilation from statistical output from STATA15®

Table 9: ANOVA of total clients billed per annum, by number of partners in the SMP

tot_client_bill	Coef.	Standard Error	t-value	p-value	Sig.
1b.num_partners	0.000	0.000	0.00	0.000	***
2.num_partners	9.936	5.640	1.76	0.079	*
3.num_partners	28.187	11.038	2.55	0.011	**
4.num_partners	125.556	22.856	5.49	0.000	***
7.num_partners	135.556	45.215	3.00	0.003	***
_cons	54.444	3.877	14.04	0.000	***

Mean dependent variable	62.929	SD dependent variable	48.134
R-squared	0.137	Number of observations	280
F-test	10.880	Prob > F	0.000
Akaike information criteria (AIC)	2931.897	Bayesian information criteria (BIC)	2950.071

*** p<0.01, ** p<0.05, * p<0.1

Source: Author compilation from statistical output from STATA15®

Table 10: Tukey's pairwise comparisons of SMPs based on number of partners (critical value = 3.8834)

			Group means – clients billed per annum			
Group	vs	Group	First Group	Second Group	Mean Diff	HSD	Sig.
1	vs	2	54.4444	64.3802	9.9357	0.4295	
1	vs	3	54.4444	82.6316	28.1871	1.2186	
1	vs	4	54.4444	180.0000	125.5556	5.4279	**
1	vs	7	54.4444	190.0000	135.5556	5.8602	**
2	vs	3	64.3802	82.6316	18.2514	0.7890	
2	vs	4	64.3802	180.0000	115.6198	4.9984	**
2	vs	7	64.3802	190.0000	125.6198	5.4307	**
3	vs	4	82.6316	180.0000	97.3684	4.2093	**
3	vs	7	82.6316	190.0000	107.3684	4.6416	**
4	vs	7	180.0000	190.0000	10.0000	0.4323	

Source: Author compilation from statistical output from STATA15®

** Sig, p<0.05

Tukey Honestly Significant Difference (HSD) pairwise comparisons for variable num_partners
studentized range critical value (.05, 5, 275) = 3.8834347 uses harmonic mean sample size = 3.793

Table 11: ANOVA of total annual revenue, by number of partners in the SMP

tot_rev_all	Coef.	Standard Error	t-value	p-value	Sig.
1b.num_partners	0.000	0.000	0.00	0.000	***
2.num_partners	60593.817	37714.254	1.61	0.109	*
3.num_partners	234000.000	73817.916	3.17	0.002	***
4.num_partners	989000.000	153000.000	6.47	0.000	***
7.num_partners	301000.000	302000.000	1.00	0.320	
_cons	161000.000	25928.549	6.22	0.000	***

Mean dependent variable	218482.143	SD dependent variable	325323.687
R-squared	0.155	Number of observations	280
F-test	12.586	Prob > F	0.000
Akaike information criteria (AIC)	7864.373	Bayesian information criteria (BIC)	7882.547

*** p<0.01, ** p<0.05, * p<0.1

Source: Author compilation from statistical output from STATA15®

Table 12: Tukey's pairwise comparisons of SMPs based on number of partners (critical value = 3.8834)

Group means – total annual revenue					
Group vs Group	First Group	Second Group	Mean Diff	HSD	Sig.
1 vs 2	161203.70	221797.52	60594.00	0.3917	
1 vs 3	161203.70	395394.74	234200.00	1.5139	
1 vs 4	161203.70	1150000.00	988800.00	6.3920	**
1 vs 7	161203.70	462500.00	301300.00	1.9477	
2 vs 3	221797.52	395394.74	173600.00	1.1222	
2 vs 4	221797.52	1150000.00	928200.00	6.0003	**
2 vs 7	221797.52	462500.00	240700.00	1.5560	
3 vs 4	395394.74	1150000.00	754600.00	4.8781	**
3 vs 7	395394.74	462500.00	67105.00	0.4338	
4 vs 7	1150000.00	462500.00	687500.00	4.4443	**

Source: Author compilation from statistical output from STATA15®
** Sig, p<0.05
Tukey Honestly Significant Difference (HSD) pairwise comparisons for variable num_partners
studentized range critical value (.05, 5, 275) = 3.8834347 uses harmonic mean sample size = 3.793

Table 13: Summary ANOVA tables using four composite variables

Analysis of variance based on total number of professional staff in the SMP

	Mean	Standard deviation	F-statistic	Prob> F
Tanzania	15.577	6.658		
Uganda	14.736	6.640	0.83	0.4352
Kenya	14.126	6.655		

Analysis of variance based on total chargeable days per annum

	Mean	Standard deviation	F-statistic	Prob> F
Tanzania	454.000	129.690		
Uganda	446.992	135.410	0.08	0.9247
Kenya	445.029	137.352		

Analysis of variance based on total clients billed per annum

	Mean	Standard deviation	F-statistic	Prob> F
Tanzania	61.154	49.056		
Uganda	61.040	44.101	0.36	0.7009
Kenya	66.117	52.473		

Analysis of variance based on total annual revenues, in USD

	Mean	Standard deviation	F-statistic	Prob> F
Tanzania	215385.620	345405.910		
Uganda	243700.000	386981.390	0.79	0.4562
Kenya	189441.750	214821.210		

Source: Author compilation from statistical output from STATA15®

Table 14: Total number of professional staff by pair-wise country comparisons (Scheffe post-hoc test)

Row mean - Column mean	Tanzania	Uganda
Uganda	-0.840923 Pr: **0.746**	
Kenya	-1.45071 Pr: **0.440**	-0.609786 Pr: **0.789**

Pr = Probabilities not significant at 5%
Source: Author compilation from statistical output from STATA15®

Table 15: SMP competitiveness based on utilization ratio for its human capital deployment

Number of partners in SMP	Low <30%	Medium 30-60%	High >60%	Total number of SMPs	Percentage of SMPs
1 practitioner	8	59	68	135	48%
2 partners	4	60	57	121	43%
3 partners	-	10	9	19	6%
4 partners	-	-	4	4	2%
5-10 partners	-	-	1	1	1%
Total number	12	129	139	280	
Percentage	4%	47%	49%		100%

Source: Author compilation from statistical output from STATA15®

Table 16: SMP competitiveness based on total clients billed per annum

Number of partners in SMP	Low <90 clients	Medium 90-180 clients	High >180 clients	Total number of SMPs	Percentage of SMPs
1 practitioner	107	24	4	135	48%
2 partners	91	24	6	121	43%
3 partners	12	5	2	19	6%
4 partners	-	2	2	4	2%
5-10 partners	-	-	1	1	1%
Total number	210	55	15	280	
Percentage	75%	20%	5%		100%

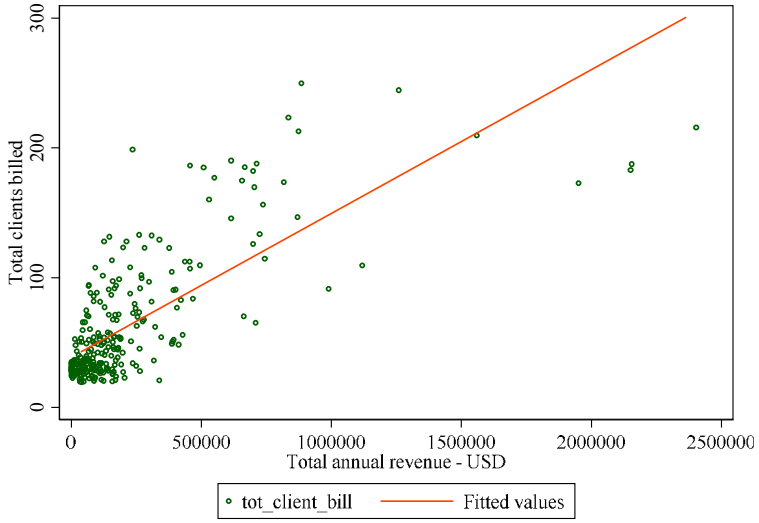
Source: Author compilation from statistical output from STATA15®

Table 17: SMP competitiveness based on total annual revenue earned, in USD

Number of partners in SMP	Low <USD 1Mn	Medium USD 1-2Mn	High >USD 2Mn	Total number of SMPs	Percentage of SMPs
1 practitioner	132	1	2	135	48%
2 partners	119	2	-	121	43%
3 partners	17	2	-	19	6%
4 partners	3	-	1	4	2%
5-10 partners	1	-	-	1	1%
Total number	272	5	3	280	
Percentage	97%	2%	1%		100%

Source: Author compilation from statistical output from STATA15®

Figure 2: Scatter diagram of total clients billed versus total annual revenue



Source: Author compilation from statistical output from STATA15®
Both variables have positive skewness.
Mean clients billed in a year = 63
Mean annual revenue = USD 218,482
Most observations clustered towards the bottom left-corner of the graph

References

Abidin, S., & Mohamad-Nor, M. N. (2015). Competition in Malaysian Audit Industry: What the Market is Telling Us? *Mediterranean Journal of Social Sciences*, *7*(1), 306–311. http://doi.org/10.5901/mjss.2016.v7n1p306

Ahn, J., Akamah, H. T., Bills, K. L., & Saunders, K. K. (2018). Accounting Firm Association Membership and Audit Firm Growth. http://doi.org/10.2139/ssrn.3120493

Ambastha, A., & Momaya, K. (2014). Competitiveness of firms-review of theory, frameworks and models. *Singapore Management Review*, *26*(1), 45–61. http://doi.org/10.1002/ccd.10430

Blackburn, R., & Jarvis, R. (2010). *The role of small and medium practices in providing business support to small- and medium-sized enterprises*. Retrieved from http://web.ifac.org/publications/small-and-medium-practices-committee/information-papers-3#the-role-of-small-and-mediu

Cahan, S. F., & Sun, J. (2015). The effect of audit experience on audit fees and audit quality. *Journal of Accounting, Auditing & Finance*, *30*(1), 78–100.

Cao, M., Chychyla, R., & Stewart, T. (2015). Big Data analytics in financial statement audits. *Accounting Horizons*, *29*(2), 423–429. http://doi.org/10.2308/acch-51068

Chang, H., Chen, J., Duh, R.-R., & Li, S.-H. (2011). Productivity growth in the public accounting industry: the roles of information technology and human capital. *Auditing: A Journal of Practice & Theory*, *30*(1), 21–48.

Djerdjouri, M., & Kandiel, E. A. (2013). An Analysis of Productivity Changes of Chartered Accounting Firms in the UK, 2009-2012. *Journal of Business and Accounting*, *6*(1), 120.

Duboff, R., & Giulioni, P. R. (2017). The marketing and selling of consulting services. In *Management Consulting Today and Tomorrow* (pp. 51–70). Routledge.

Gul, F. A., Wu, D., & Yang, Z. (2013). Do individual auditors affect audit quality? Evidence from archival data. *The Accounting Review*, *88*(6), 1993–2023. http://doi.org/10.2308/accr-50536

Hatch, N. W., & Dyer, J. H. (2004). Human capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal*, *25*(12), 1155–1178. http://doi.org/10.1002/smj.421

ICPAK. (2017). ICPAK CPA Directory, 2017. Retrieved February 3, 2018, from https://www.icpak.com/cpa-directory/

ICPAU. (2017). ICPAU Accounting Firms, 2017. Retrieved February 3, 2018, from http://icpauportal.com/index.php/external_portal/firms

IFAC. (2017). *2016 IFAC Global SMP Survey Report & Summary*. Retrieved from https://www.ifac.org/publications-resources/2016-ifac-global-smp-survey-report-summary

Jardon, C. M., & Martos, M. S. (2012). Intellectual capital as competitive advantage in emerging clusters in Latin America. *Journal of Intellectual Capital*, *13*(4), 462–481. http://doi.org/10.1108/14691931211276098

Kaawaase, T. K., Assad, M. J., Kitindi, E. G., & Nkundabanyanga, S. K. (2016). Audit quality differences amongst audit firms in a developing economy: The case of Uganda. *Journal of Accounting in Emerging Economies*, *6*(3), 269–290. http://doi.org/10.1108/JAEE-08-2013-0041

Kasigwa, G., Munene, J. C., Ntayi, J., & Nkote, I. (2013). Reduced Audit Quality Behavior Among Auditors In Uganda. *African Journal of Accounting, Economics, Finance and Banking Research*, *9*(9), 25.

Kee, P. L., Khalid, S. N. A., Kok, C. H., Lau, A., & Yu, C. C. (2013). Internet technologies usage by audit firms in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, *9*(1), 47–66.

Kowaleski, Z. T., Mayhew, B. W., & Tegeler, A. C. (2018). The Impact of Consulting Services on Audit Quality: An Experimental Approach. *Journal of Accounting Research*, *56*(2), 673–711. http://doi.org/10.1111/1475-679X.12197

Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, *38*(1), 607–610. http://doi.org/10.1177/001316447003000308

Meihami, B., & Meihami, H. (2014). Knowledge Management a way to gain a competitive advantage in firms (evidence of manufacturing companies). *International Letters of Social and Humanistic …*, *3*, 80–91. http://doi.org/10.18052/www.scipress.com/ILSHS.14.80

Mohr, V., & Garnsey, E. (2011). How Do High-Growth Firms Grow? Evidence From Cambridge, Uk. *Economics, Management & Financial Markets*, *6*(4), 29–59. http://doi.org/10.2139/ssrn.1923033

NBAAT. (2017). *Audit Firms Registered by the Board - October 2017*. Retrieved from http://www.nbaa.go.tz/audit201706.pdf

Olowookere, J. K. (2016). Determinants of external auditor choice in Nigeria. *Kuwait Chapter of Arabian Journal of Business and Management Review*, *5*(9), 10–22.

Otete, A. R. (2015). The impact of academics and work experience on the quality of the accounting profession in Uganda. ESAMI.

Otete, A. R. (2018a). The Influence of Human Capital Development Strategies on Competitiveness of Small and

Medium-Sized Practices in Uganda. *European Journal of Business and Management*, *10*(20).

Otete, A. R. (2018b). The influence of human capital recruitment strategies on the competitiveness of small and medium-sized practices (SMPs) in Uganda. *International Journal of Entrepreneurship and Project Management*, *3*(1), 58–74.

Penrose, E. (1959). The theory of the firm. *NY: John Wiley & Sons*.

Persellin, J., Schmidt, J. J., & Wilkins, M. S. (2015). Auditor perceptions of audit workloads, audit quality, and the auditing profession. *Audit Quality, and the Auditing Profession (September 3, 2015)*. http://doi.org/10.2139/ssrn.2534492

Su, H. C., Linderman, K., Schroeder, R. G., & Van De Ven, A. H. (2014). A comparative case study of sustaining quality as a competitive advantage. *Journal of Operations Management*, *32*(7–8), 429–445. http://doi.org/10.1016/j.jom.2014.09.003

Svanström, T. (2016). Time pressure, training activities and dysfunctional auditor behaviour: evidence from small audit firms. *International Journal of Auditing*, *20*(1), 42–51. http://doi.org/10.1111/ijau.12054