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Frugality, Family-Cohesiveness and Firm Growth; A Case of Small Firms around Oil & Gas Fields in Uganda

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Abstract: A common impression is that most small firms largely face resource scarcity challenges that inhibit firm growth. This study concentrates on the elements of frugality, operationalized as spending discipline and delaying gratification as well as family cohesiveness, operationalized as family member supportiveness and usefulness in firms. This study is focused around Uganda's oil and gas fields and these natural resources are expected to influence to small firms growth. In the current study, firm growth is measured in terms of asset value accumulation over time. Empirical findings on frugality, family cohesiveness and growth aim essentially to answer the overarching dilemma of small firm recurrent failures in Uganda. Results in study show that there is a mild relationship between frugality and family cohesiveness thus augmenting the existing perspectives of the resource based view theory. However, the random effect logistic regression results show contrasting results on the predictor effects of; family financing support, oil and gas operations, frugality, and family cohesiveness on the outcome variable - small firm asset growth.

Keywords: *Frugality, family-cohesiveness and small firm growth*

1. Introduction

Firm growth in small enterprise especially in developing economies appears more troubled, yet more firm growth literature largely focuses on large entities in developed economies. The few studies on SMEs often incline manufacturing firms (e.g. Chaston and Mangles, 1997). Generally, small firms have largely been highlighted to face more resource challenges not only in the developed economies (Welsh and White, 1981), but also more prominently in the developing economies, more especially in the sub-Saharan African region (Fjose et al., 2010; Charles, 2014). Besides firm growth, world over, firms tend to gravitate towards natural resource endowments, irrespective of size and age. Thus, direct and indirect oil and gas reserve opportunities may attract a diversity of firms. Norway, a country well known for her oil and gas resources revealed higher firm growth around the oil and gas fields (Nordbø and Stensland, 2015), but in such advanced countries most of the economic activities and firms are robustly formalized, unlike the developing economies (Webb et al., 2015).

East Africa has become the latest spot in oil and gas discovery, Uganda, Tanzania and Kenya have recently been recognized to be endowed with huge oil and gas natural resources. In Uganda, the oil and gas endowments are confirmed in the Lake Albertine Basin. Largely, the oil basin region is in Hoima district (Olingo, 2016). Subsequently, Hoima has recently been tagged as 'oil city' given the mushrooming economic activities related to oil reserves in the district. The Principal Economist also indicates that Hoima as district used to be a 'closed economy' only focused on fishing and some agricultural outputs especially in the pre-oil discovery and exploration period, now it is an 'open economy' and even the landing sites such as Kaiso, Kyeholo, Sebigolo and Buhuka have grown. With major oil camps within Kaiso region, Kaiso landing site remains busiest with many SMEs cropping up. Historically, petroleum exploration activities in Uganda are reported to have started through geological mappings in 1925 (Wamono et al., 2012). Between 1983 and 1992 five sedimentary basins were identified and the Albertine Graben was identified as most prospective (Ministry of Energy and Mineral Development, 2010). Uganda's oil reserves in the Graben region were estimated at 2 billion barrels of oil equivalent (National Planning Authority, 2010). However, According to the Hoima DPP (2015), Uganda's reserves are at 6.5 billion barrels in the Albertine Rift valley (Taitai, Runga, Kibiro, Toonya, Kaiso, Nkondo, Buhuuka and Nzizi).

The Principal Economist of Hoima indicated that, three major international companies will extract oil in Uganda, 1) Tullow from UK in the Kaiso region, Hoima2) CNOOC from China in Buhuka, Hoima and 3) Total from France in Bullisa District. Each of these will have a central processing facility (a mini-refinery). All will

feed into the oil refinery earmarked at Kabaale in Hoima. It is estimated that the building of the refinery will take a minimum of 150,000 workers; the refinery is estimated to refine 60,000 barrels per day while the 200,000 barrels will be exported in crude form. The oil pipeline is proposed to be built from Hoima via Masaka District to Tanzania. In addition, a thermo plant to use crude oil and gas is gazzeted around the Kaiso – Kabaale region. The Hoima District Economist envisages that all these developments have positive effects on SMEs. Uganda's formal sector is largely (up to 80 percent) small and medium enterprises oriented (UBOS, 2010). Studies in Uganda have highlighted SMEs as the backbone of economic development (Ariyo, 1999; Ihua, 2005). At an estimate of 800,000 firms in urban and rural areas, SMEs play a vital role in the Ugandan economy. For instance, a study in 2007 in Uganda revealed that MSMEs[1] accounted for 90 percent of the private sector and employed over 1.5 million people (Common Wealth Secretariat, 2007). One of Uganda's NDPII strategies aims at increasing employment and employability through supporting private sector investment along the value chains especially through the boosting the small and medium scale firms (NPA, 2015).

In particular, a small enterprise is defined as an enterprise employing maximum 49 people (Bid 2008). UBOS (2010) reported that 30 percent of 458,106 enterprises in Uganda were small and medium enterprises. Small firms tend have unique agility characteristics in tapping available opportunities (Schumpeter, 1934), is it the same case in developing countries? In Uganda's oil and gas sector, the small firms' participation has remained low (Wamono et al., 2012), despite the sector's potentiality to influence small firm growth. These oil economics are essential for Uganda which was ranked the 21st poorest country in the World (Aneki, 2010) and 91 of the 135 countries in respect to human poverty (United Nations Development Program, 2009). Uganda's oil resources have been deemed significantly sufficient to elevate her amongst the top 50 producers of oil in the world (Wamono et al., 2012). The ongoing petroleum operations expected to expand business opportunities in the region. The huge business potential in the sector has consequently begun attracting substantial Foreign Direct Investments. For instance, FDIs to Uganda were in a range of US $ 46 million in 2006 to US $ 436 million in 2009. More so, in 2011 investments in seismic and drilling subsectors alone attracted $ 900 million (Mwakali and Byaruhanga, 2011). Again, are the small firms anywhere close to such financial attractions?

SMEs in Uganda in the past have provided support services to other large commercial and primary sectors (Wamono et al., 2012). Like in other avenues in the past, opportunities that the SMEs could tap around the oil and gas regions include supply of products and services to support big oil entities. Moreover, evidence from the older oil producing economies including Niger, Nigeria, and Sudan indicate outstanding opportunities from "primary activities" such as inbound logistics: exploration activities, initial civil and well constructions, test production, research and development (Wamono et al., 2012). Additionally, investments in support activities especially administration, infrastructure management, human resource management, and procurement (Mwakali and Byaruhanga, 2011), provide more business opportunities to small entities. However, it was noted that majority of Uganda`s SMEs are unable to meet quality standards, are inconsistent with volumes of goods supplied, pricing and breach business contracts (Wamono et al., 2012).Meanwhile, views of the Hoima District principal economic planner, Mr. Byakagaba J. W obtained during the current study in Hoima, indicated that the major reason SMEs are not growing in the oil and gas territory is that SMEs do not have capacity, they are not fitting in that the oil firms' supplies require high level of quality standard accreditation. Byakagaba further indicates that the oil firms use relatively big entities that have international links that will be able to provide logistical support, food supplies as well as hospitality services, these firms tend to contract the service providers at national level which leaves out the small firms. Local content is left out given these multinational firms taking up the jobs otherwise would have been captured by the small firms. On the other hand, hotel industry and clubs particularly in Hoima have sprung up and many more are coming up. SMEs internal weaknesses especially in record keeping, credit utilization and repayment, additionally may encumber the possibilities of acquiring business contracts and sub contracts with Trans-national oil corporations and large domestic companies respectively (Wamono et al., 2012).

Although the over dominance of the big oil firms have increased advocacy that a big portion of oil income should accrue to the respective producer countries (World Bank, 2007). In many African oil producing states

[1] MSME micro small medium enterprises.[Micro enterprises < 5 workers, small 5-49, medium 50 -100] UBOS 2010

a few local firms have fully competitive capacity to dominate the oil and gas value chain (Wamono et al., 2012). For instance, in Nigeria it was revealed that although the oil and gas industry has been functional for over 50 years, very minute proportion of the accruable profit is available to indigenous firms, especially SMEs (Ugwushi, 2010). It has been argued that the indigenous firms failure to accrue the profits emanates from internal constraints especially lack of requisite skills, technical expertise and high value investment capacity (Aneke, 2002; Ariweriokuma, 2009). In particular to SMEs, Heum et al. (2003) summarized the constraints of local SMEs to competitively participate in the oil and gas operations as low technological capacity, lack of funding from financial institutions, inadequate and incoherent policies/legislation; inadequate infrastructure; unfavorable business climate; and lack of partnerships between indigenous contractors and technically competent foreign. Moreover, studies have largely highlighted that small firms tend to fail due to more of the external factors such as the limited financial access from financiers (Eyakuze et al., 2013; Namatovu et al., 2010) and inadequate institutional support, that has recently been referred to as the institutional voids, that have been highlighted to be dominant in the sub Saharan African settings (Webb et al., 2015).

Growth difficulties are reported in several studies. It is noted that more than 40 percent failure rates have existed among some SMEs sectors in Uganda (Bakunda, 2008). Similarly, five out of every ten firms in Uganda are reported to only have one year of existence (UBOS, 2011), and that most firms in Uganda remain small in nature (Bakunda et al., 2013). The small business interventions especially on firm growth as well as business development services seem not to yield firm growth remedies. Therefore the current study aims at filling this gap through investigate the extent of frugality and family cohesiveness in relation to the small firm's growth. Precisely, this paper aims at investigating the effect of small business operator's level of spending discipline and delaying gratification as enshrined in the frugality literature that pivots on thoughtful use of business resources (e.g. Lastovicka et al., 1999; Tatzel, 2014). In addition, the level of family member's supportiveness and usefulness in bolstering small enterprises growth as highlighted in family closeness in business literature (Van Wyk, 2012). Findings on these variables in relation to small firm growth may extend the perspectives of the resource based view theory.

2. Literature Review

There are contrasting views regarding firm operators on matters regarding firm resources. The current study is mainly built on the resources based view (RBV) tenets. Barney (1991) following Penrose (1959) reasoning of firm resource use other than mere possession, popularized the wider spectrum of the firm resources, though more of the perspectives not only concentrated on the big firms but scarcely mentioned the dimensions of frugality and family cohesion. RBV's theoretical framework, Penrose (1959) for instance was one of the first scholars to recognize the importance of resources to a firm's competitive position. Penrose underscored that: *'a firm consists of a collection of productive resources' (Penrose, 1959: 24).*That a firm's growth (both internally and then externally) is due to the manner in which its resources are employed and suggested that firm resources may only contribute to a firm's competitive position to the extent that they are exploited in such a manner that their potentially valuable services are made available to the firm (Penrose, 1959). The RBV perspectives to the present date have largely linked the diverse line up of the suggested resources reserves towards the overall performance of the firms. However, the theory is silent on matters regarding the level of frugality, family cohesiveness in small businesses. Small firms examined taking a keen look at these variables creates new paradigms that will extend the perspectives in which resources are appreciated in firms, more so the effect of such variables on the small firm growth. The prior empirical works on the frugality, family cohesiveness, and firm growth as well as the respective author positions are presented in table 1 below:

Table 1: Study Variable Prior Works

Variable	Position/finding	Author(s) and year
Frugality	Validated spending discipline, delaying gratification and resource reuse to measure individual frugality in the spectrum of consumer behavior.	Lastovicka et al. (1999)
	Using Lastovicka et al. (1999), frugality dimensions tested the variable in corporate entities, inclining to frugality as a corporate culture investigated in USA	Anderson & Lallis (2010)
	Spending lifestyles under frugality focused on adult learners in USA	Tatzel (2014)
	Frugality as a cultural value under the competing values framework comparable to organizational values	Quinn, & Rohrbaugh (1981)
	SME Business owners reported to involve family members in business affairs	Eyakuze et al. (2013)
Abundant investigations of frugality facets in the spectrum of customers amidst continued contradictions on taking frugality as a cultural value yet business owners are seen to involve family members on small business affairs necessitated the current study.		
Family cohesiveness	family closeness highlighted as source of human resource based family capital, suggested need for inquiries on family capital in terms of finance	Van Wyk (2012)
	Idiosyncratic capacity, advantages and disadvantages for family businesses emanating from family closeness.	Harbashon et al. (2003); Eddleston, & Kellermanns, (2007).
	Validation of scale on family cohesion with 16 item instrument in a family and marriage study. Supportiveness and usefulness emphasized as facets of cohesion.	Olson et al. (1982)
	Family closeness as a family business foundation in firms based Italy	Schillaci et al. (2013)
	Compared Competiveness in family and non-family SMEs in Tanzania	Charles (2011)
	Family resource and patient capital linked to family business in Tanzania	Charles (2014)
The disharmony on the positive and negative attributes of family cohesion in family and marriage spheres yet existing family business studies that largely pivot the family element on the business competitiveness of enterprises necessitated current research on family cohesiveness as a unique resource in small businesses.		
Firm growth	Asset value, number of employees and sales as measures of firm growth	Lokhande (2011), Rahman (2001)
	The gender of founder, amount of capital required at start of firm, and growth strategies are important factors explaining firm growth.	Korunka et al. (2011).
	Core capabilities as predictors of growth potential in small manufacturing firms.	Chaston, & Mangles (1997).
	In a survey on SMEs in East Africa, SMEs highlighted to suffer from financial inadequacies and infrastructural disadvantages, Ugandans highlighted top spenders on phone airtime, and attribute to affect firm performance	Eyakuze et al. (2013)
	more than 40% mortality rates exist among some SMEs in Uganda	Bakunda (2008)
	most firms in Uganda are not only small but are often new due to the high mortality rates experienced among SMEs	Bakunda et al. (2013).
	Micro and small firms' underprivileged to financing unlike medium and large firms in developing economies.	Fjose et al. (2010)
	Highlighted finance and other factors affecting SME prosperity under the GEM study	Namatovu et al. (2010)

Institutional voids highlighted to affect SME growth in sub Saharan Africa	Webb et al. (2015)

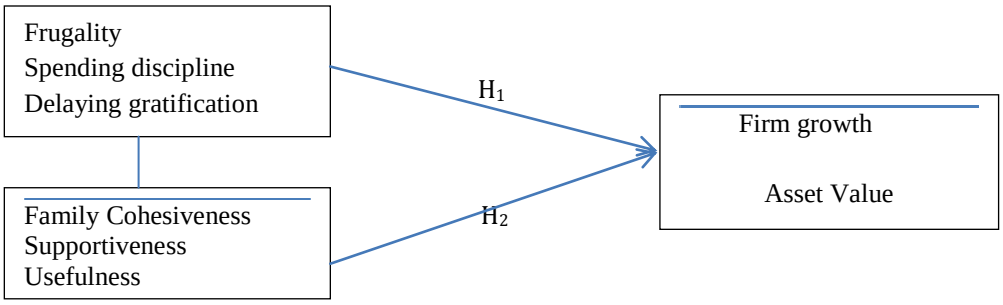
With extant studies that present diverse predictors to firm growth, more so pegged on firm size and the unique spending behavior of adults in Uganda amidst East Africa, the current study seeks to investigate the role of family cohesion and frugality attributes on small business growth in Uganda.

Hypotheses Preposition: In building the first hypothesis, it is worth noting that resource vitality in firms has been largely emphasized (e.g. Barney, 1991; Penrose, 1959).More so, the link between family resource and SMEs competiveness exists (Charles, 2011;0Charles, 2014; Schillaci et al., 2013). There is limited literature on the correlation of thoughtful-use of resources (i.e. frugality) and family cohesiveness with its embedded facets of supportiveness and usefulness of family members. Existing evidence on Ugandans being top on the overspending habits compared to other Africans especially in East Africa(Eyakuze et al., 2013) gives impetus in testing the following prepositioned hypothesis:
H_1 : there is a correlation between family cohesion and frugality in small firms

Secondly, although extant firm growth literature has dwelt on investigating the determinants of firm growth (e.g. Chaston, & Mangles, 1997; Korunka et al., 2011; Lokhande, 2011, Rahman, 2001), more so based in developed economies' contexts, there is implicit recognition of the influence of firm internal resources optimization for firm growth (e.g. Chaston, & Mangles, 1997; Rahman, 2001), more especially on the founder's knowledge and financial resources (Korunka et al., 2011). Given that individual firm operators blend self-control that could drive spending discipline and firm resource use applying the tenets of delaying gratification (e.g. Hoerger et al., 2011), that fall under individual frugality (Lastovicka et al., 1999), yet family cohesion is esteemed in yielding more resource advantages through family member usefulness and supportiveness (Olson and Gorall, 2003), then frugality and family cohesiveness effects on firm growth are necessary. Moreover in the Ugandan context, the SMEs are reported to continuously derail on firm growth despite the firm failure interventions (e.g. Bakunda, 2008; Bakunda et al., 2013; UBOS, 2010). Therefore there is an urgent need to test the following prepositioned hypothesis:
H_2 : there is an effect of frugality and family cohesion on firm growth

Conceptual framework: The outcome variable in the current research is firm growth, operationalized by the three often applied dimensions of firm growth (i.e. Asset value, number of employees and profits) as noted in firm growth literature(e.g. Chaston, & Mangles, 1997; Korunka et al., 2011; Rahman, 2001). The predictor variables include frugality and family cohesion. Frugality is operational used as spending discipline and delaying gratification often applied in frugality studies (e.g. Anderson and Lallis, 2010; Tatzel, 2014). Family cohesiveness is operationalized based on the family cohesion scale by Oslon (1982) as widely applied in family firm oriented studies (Lim, 2011;Olson and Gorall, 2003). Figure 1 shows the conceptual framework.

Fig. 2: Effect of Frugality and Family cohesion on firm growth conceptual framework



H_1 andH_2 denote the prepositioned hypotheses in the current research.

3. Methodology

This research is under the positivism paradigm and a cross section of heterogeneous small enterprises around the Albertine region (i.e. oil and gas fields) in Uganda is units of analysis. Please see the map of

Uganda in figure 2. The owners and or business managers constitute the units of inquiry. Although largely, a positivist paradigm was followed, and data was collected using a structured questionnaire, qualitative data from selected respondents was captured in order to obtain deeper insights on the study variables.

Figure 2: Map of Uganda

Study variable operationalization is based on the existing empirical works, in which tested scales on the variables**.** Frugality in measured using spending discipline and delaying gratification as validated by Lastovicka et al. (1999), and applied in business firms (Anderson and Lallis, 2010). Family cohesiveness was validated by Lim 2010 in business firms from the widely applied family cohesion scale (Olson et al., 1982), that highlights usefulness and supportiveness of family members in the 16 items scale. Firm growth was measured by value of assets, at both establishment year and current year (2016) and the element of time was taken into consideration. The respective items per variable were adopted with amendments to fit the current paper's scope, and the data collected using administered questionnaire. Besides the data analysis on socio-demographic factors of the respondents, Chi-Square test was applied in testing the relationship of the frugality and family cohesiveness. Since panel data was captured in this study, random effects logistic regression was executed. In statistics panel data refers to multi-dimensional data frequently involving measurements over time (Frees, 2004). Panel data contains observations of multiple phenomena obtained over multiple time periods for the same firms or individuals. In statistics random effects models are used in the analysis of panel data (Frees, 2004; Hsiao, 2003). Random effects logistic regression model is utilized in the current study.

Random effects logistic regression is part of the generalized linear mixed models (GLMM).Generalized linear mixed models are widely used in social sciences and several other fields (Agresti, 2002; McCulloch and Searle, 2001). Random effects logistic regression models the individual (subject-specific) probabilities(Agresti, 2002). There are two common assumptions made about the individual specific effect, the random effects assumption and the fixed effects assumption (Wooldridge, 2013). The random effects assumption (made in a random effects model) is that the individual specific effects are uncorrelated with the independent variables. The fixed effect assumption is that the individual specific effect is correlated with the independent variables. Random effects method of logistic regression was preferred given that the asset value was captured at the business establishment year and at the current year of business operation.

4. Findings

From a cross section of 147 small business owners in Hoima region, responses on the study variables were collected, supplemented by key stakeholder informants especially from the Hoima district officials and selected small business owners in the Albertine region.

Socio-demographic profiles and business profiles: Respondent's data on age, sex category, education level, were obtained; the results are shown in Table 2. Similarly, data on the business profile was collected, particularly, the year of establishment, nature of legal form, and main business activity were collected.

Table 2: Socio-Demographic profiles

Respondents Education	Freq.	Percent
Primary education	35	23.29
O level	39	26.71
A level	15	10.27
Post-secondary	9	6.16
Advanced dip/university degree	35	23.97
Post graduate	1	0.68
No formal education	13	8.9
Total	147	100
Sex Category	Freq.	Percent
Male	98	66.67
Female	49	33.33
Total	141	100
Respondents Age	Freq.	Percent
20-29	1	0.68
30-39	28	19.05
40-49	56	38.10
50-59	37	25.17
60-69	21	14.29
70 & above	4	2.72
Total	145	100

Regarding education level, it was reported that majority of respondents had O-level education followed by those with university degree/ advanced diploma and primary level education. However, some respondents, close to 9 percent of the total respondents didn't have formal education. Regarding the sex category, it was found out that majority of small business operators were male at a percentage of 66.7 percent and remaining were female respondents. These results are in line with recent study by Hoima District that shows that the males supersede female in being economically active; male are at 66% while female are at 54% in economic activity (DPP, 2015). The Hoima DPP (2015) also highlights that Women own about 55 per cent of private enterprises in the district, mostly at small and micro enterprise, informal sector. In terms of the respondent's age, the age bracket with highest frequency of respondents was 40-49 years followed by the 50 -59 age bracket and the 30- 39 age bracket, respectively. Only one respondent fell in the age bracket of 20 -29 years. Generally, the respondents with advanced age (60-69) were 21; only four respondents fell in the range of 70 or more years. These results show that majority of business operators are relatively young. Table 3shows the business profile characteristics.

Regarding firm age, most of the small firms were in the age bracket of 3-9 years, followed by the firm's age bracket of 10-19 years and 20 -29 years, respectively. Minute numbers if firms fall in the firm age bracket of 30-60 years. Thus small firms are relatively young but many firms have more than three years, which dispels the usual perspective by some studies(e.g. UBOS, 2010; Bakunda et al., 2013), that most small firms do not go beyond their first three or five years of existence. Regarding firm location, most respondents were located in Hoima town and the rest in Kaiso region. The results are largely in line with findings from the Hoima DPP 2015 which highlighted that individuals involved in business enterprises are higher in urban areas than in rural areas at 29 percent and 5 percent respectively. The main business activity that most firms are engaged in include: trade, agriculture, accommodation and food services. The distribution of the key business activities is not far from the UBOS 2010 study that indicates that most small firms engage in trade. In addition the Hoima DPP 2015 highlights that Hoima district is richly endowed with natural water resources and this has made fishing a major economic activity, in this study fishing was captured under the agricultural activities. More so, the DPP (2015) indicates that 11 percent of households in urban areas live on subsistence

farming compared to 74 percent in the rural areas. Other sources of livelihood per residence in Hoima are shown in Table 4 below.

Table 3: Business Profile characteristics

Firm Age	Freq.	Percent
1- 2	4	2.81
3 – 9	81	57.04
10 – 19	38	26.76
20 – 29	13	9.15
30 – 39	2	1.40
40 – 49	2	1.40
50 - 60+	2	1.40
Total	142	100
Firm Location	Freq.	Percent
Urban(Hoima town)	94	63.95
Rural(Kaiso)	53	36.05
Total	147	100
Main activity of firms	Freq.	Percent
Recreation and personal service	9	6.16
Accommodation and food	16	10.96
Other manufacturing	2	1.37
Trade	67	45.89
Transport	2	1.37
Real estate	4	2.74
Other services to business	9	6.16
Agriculture and forestry	25	17.12
Education, health & social services	12	8.22
Total	146	100
Legal form of business	Freq.	Percent
Sole proprietorship	110	74.83
Partnership	20	13.61
Private ltd	17	11.56
Total	147	100
Position in FIRM	Freq.	Percent
Manager	24	16.33
Owner	121	82.31
Others	2	1.36
Total	147	100

Table 4: Major Economic Activities by Residence in Hoima

Source of Livelihood	Rural	Urban	Total
Subsistence farming	74.3	11.5	67.1
Employment income	11.0	42.7	14.7
Business enterprise	5.3	28.6	8.0
Cottage industry	0.3	0.5	0.3
Property income	1.0	1.1	1.0
Family support	5.5	14.1	6.5
Organizational support	0.0	0.2	0.1
Other	2.5	1.3	2.3
Total	100.0	100.0	100.0

Source: 2002 Population and Housing Census Analytical Report, Hoima

According to the Hoima DDP (2015), trade activities in Hoima revolve around mainly trading in agricultural crops and produce as well as retail trade in various merchandize; the potential for trade in the district is big

with the expected oil and gas industry taking off soon. The current study indicated that 60.54 percent (89) of the small firm operators reported that oil and gas related activities so far have not enhanced their firm performance, while only 58 firm operators reported that the ongoing oil and gas activities have enhanced firm performance. The current study reports that the legal form of most the small firms interviewed was sole proprietorship and most of the respondents were owners and managers. Similarly, the DDP (2015) indicated that the private sector activities are not yet fully developed in the district. It is quickly picking up and most of its activities revolve around small-scale enterprise. The DDP (2015) suggests a need for the district through the Trade and Industry department to make deliberate efforts to organize and promote the private sector.

Study variables field results: Together with the socio-demographic and business profile characteristics, family cohesiveness, frugality and firm growth were substantive variables in the current study. In addition, the influence of family on farm financing, and impact of oil and gas activities on firm growth were investigated. The section below shows the field results on the variables, starting with family cohesiveness.

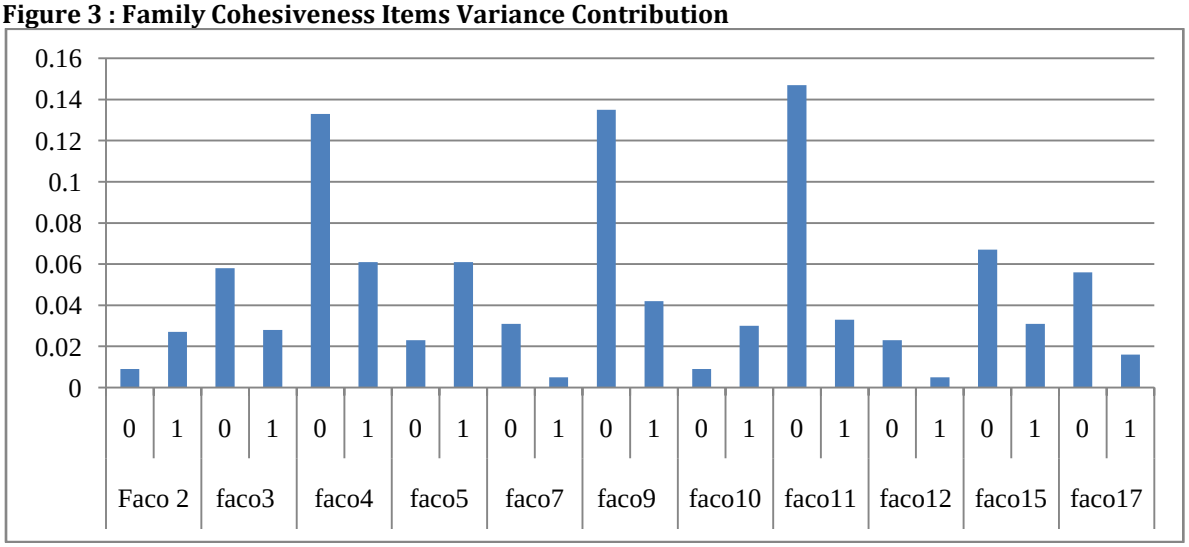
Family Cohesiveness Results: Using 18 items of family cohesion used to capture the attitudes on family cohesion in this study. The multiple correspondence analyses were applied to extract the dimension to be used in further analysis and Table 5 shows the MCA results.

Table 5: Family cohesiveness MCA results

Dimension	Principal Inertia	Percent
Dim 1	0.920	96.25
Total	0.956311	100
MCA Method	Joint Correspondence Analysis	
Number of observations	147	
Number of axes	1	

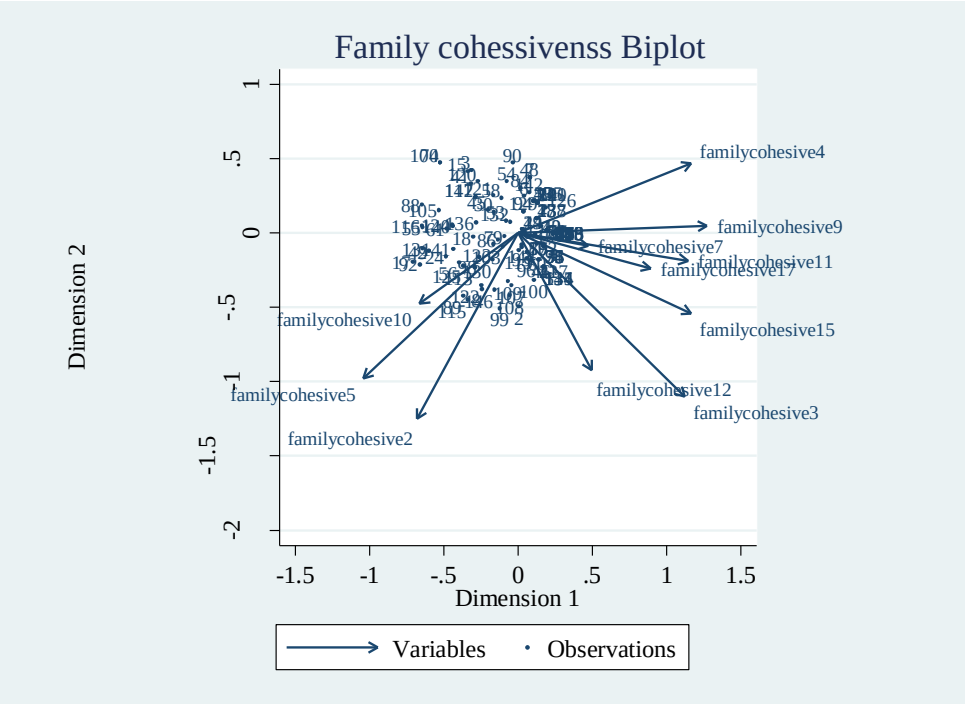
From the study one dimenion that exlained 96 perecent varaibnace infamily cohesion was obtained and figure 3 shows the manin iuirtems that had great contribution of the variance in family cohesion.

Figure 3 : Family Cohesiveness Items Variance Contribution



Amongst the family cohesiveness items, those that greatly indicated high level of contribution to the family cohesiveness variance in this study included: faco4(my family and I do business activities together), faco5 (me and my family go separate ways in business), faco9(my family and I feel very close to each other in business), faco11(my family and I go along what we decide to do in business). The clustering of the items with similar variance in Figure 4 below.

Figure 4: Family Cohesiveness Items Biplot



From the biplot, above it can be seen that items that have similar dispersion include facob 10(my family feel closer to outsiders than our family members), facob 5 (my family and I go our own separate ways in business) and facob 2(it is easier to discuss business problems with outsiders than my family members) - these took the negative quadrant. The rest of the items are presented in the positive quadrants and are not far from each other in dispersion.

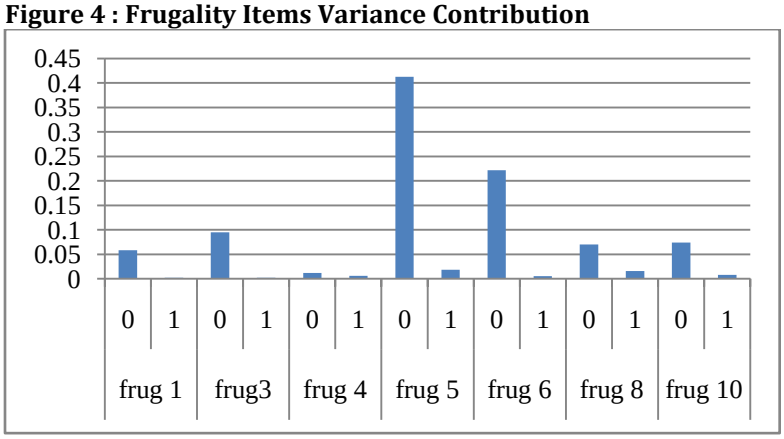
Frugality Results: From the 10 items used to capture the attitudes on frugality in this study, multiple correspondence analyses was applied to extract frugality dimension to be used in further analysis and Table 6 shows frugality MCA results.

Table 6: Frugality in Business MCA results

Dimension	Principal Inertia	Percent
Dim 1	0.0361756	75.04
Total	0.482054	100
MCA Method	Joint Correspondence Analysis	
Number of observations	147	
Number of axes	1	

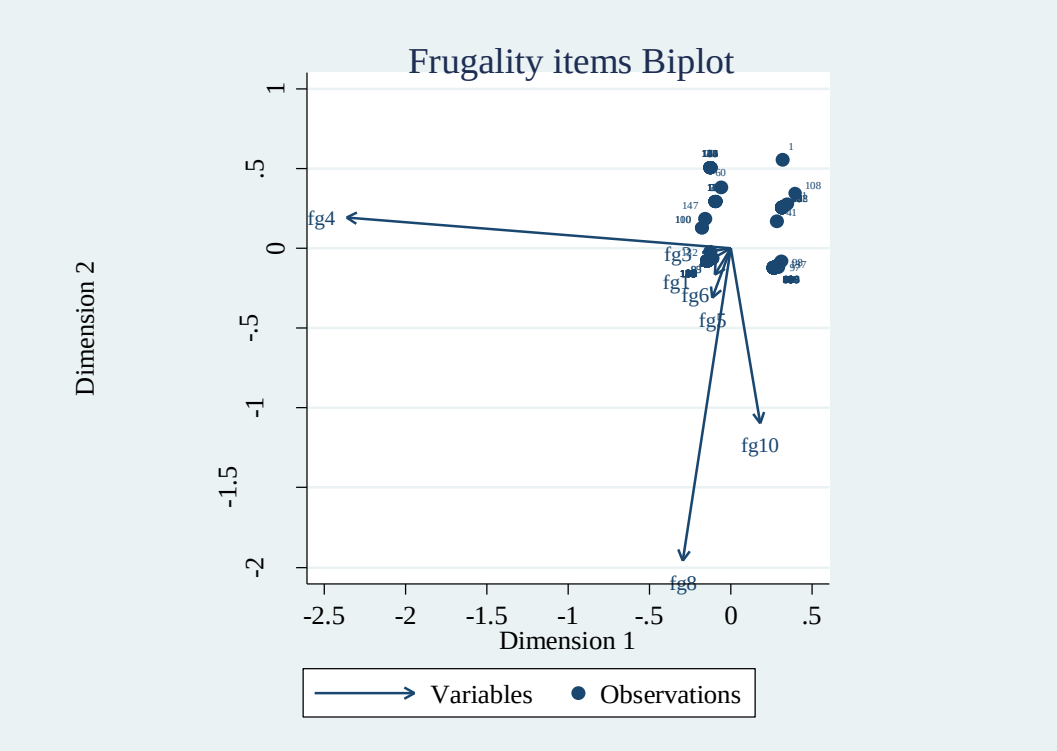
From the study one dimenion that exlained 75% perecent variance in frugality was obtained and figure 4 shows the main items that had great contribution of the variance in family cohesion.

Figure 4 : Frugality Items Variance Contribution



Amongst the frugality items that greatly indicated high level of contribution to the frugality variance in this study included: frug5(I beleve in being careful ho I spend my business money), frug6 (I discipline my self to get the most out of my business money), frug3(making better use of business money makes me feel better), frug10(I enjoy bargain hunting for this business firms resources).

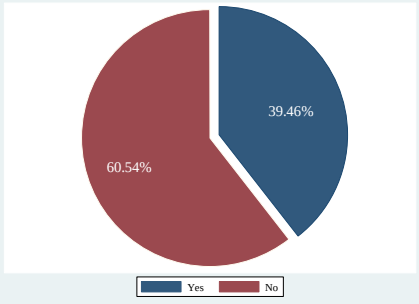
Figure 5: Frugality Items Biplot



From the biplot above it is seen that frg 4(reuse of resources no need to buy something new) is an isolated frugality item. However, many frugality items i.e.: frg3 (making better use of my business resources makes me feel good), frg 1(taking good care of business resources makes one save business money), frg 6(I discipline myself to get the most from my business money), frg5(I believe in being careful how I spend my business money), frg8 (there are business things I resists buying today so that I can save for tomorrow). On the other hand, frg 10 (I enjoy bargain hunting), was also an isolated item. In this study it is seen than more of the items that explain the frugality variance fall under spending discipline unlike resource reuse or delaying gratification.

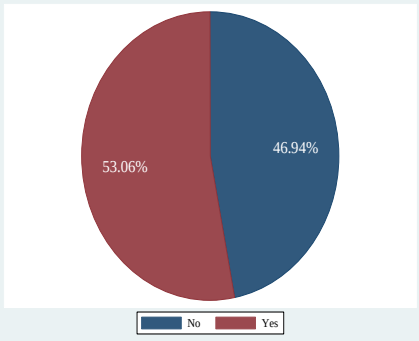
Additional Inquiries: Two additional Standalone questions were included in the questionnaire i.e. has oil and gas influenced your firm performance? And does your family influence your firm financing? The results for these questions are indicated in Figure 6 and figure 7.

Figure 6: Responses on oil and gas influence firm growth



Out of the total of 147 respondents, 58 respondents indicated that oil and gas has influenced their firm growth, while majority (89 business operators) indicated that oil and gas has not influenced the firm's growth.

Figure 7: Responses on family influence firm financing



Out of the total of 147 respondents, 78 respondents indicated that family has influenced their firm financing, while 69 business operators indicated that family has not influenced their respective firm financing.

Firm Growth: To measure firm growth asset value was used. Two levels of assets were collected per firm; the assets at the year of establishment (Year 0) and the current year of business operation (Year 1 (i.e. 2016). In this case two panels of data were taken into consideration. Field results of the two sets of assets values are presented in Table 7.

Table 7: Asset Values at year of establishment and current year

	Asset Year 0	Asset Year 1
N	147	147
Mean (UGX)	12,095,403	29,241,837
Median (UGX)	2,000,000	4,500,000
Mode (UGX)	12,100,000	29,200,000
Minimum (UGX)	30,000	50,000
Maximum (UGX)	500,000,000	930,000,000

From the table above it is noticed that the median asset value in year 0 was UGX 2,000,000 while in year one the median asset value was UGX 4,500,000 this shows that there was generally an increase in asset values in this sample of Hoima based small firms.

The relationship between Frugality and family cohesiveness in business: The first objective of the study was to determine whether there exists a correlation between frugality and family cohesiveness in business in firms operating around oil and gas fields. Using the Chi-square technique, the relationship between frugality and family cohesiveness was executed as shown in table 8 below.

Table 8: One Panel Chi-Square of family cohesiveness in business and frugality in business

Family cohesiveness (row score(dim=1; Standard norm.))	Frugality in business (row score (dim=1;standard norm.))		
	Disagree	Agree	total
Disagree	18	33	51
	35.29	64.71	100
Agree	20	76	96
	20.83	79.17	100
Total	38	109	147

From the Pearson Chi – square results (1) = 3.6336 and Pr = 0.057, it observed that there is an association of the two variables.

The Effect of frugality, family cohesiveness oil and gas, on firm growth: In order to determine effect of the predictor variables on the asset values over the period, the median for the base year (the year of establishment) was pivotal in regression analysis. The panel data was segregated using this median (UGX 2,000,000) and random effects logistic regression was executed.

Table 9: Regression Analysis

Fitting comparison model:

Iteration 0: log likelihood = -203.34968
Iteration 1: log likelihood = -194.90026
Iteration 2: log likelihood = -194.88419
Iteration 3: log likelihood = -194.88419

Fitting full model:

tau = 0.0 log likelihood = -194.88419
tau = 0.1 log likelihood = -192.27024
tau = 0.2 log likelihood = -192.46017
Iteration 0: log likelihood = -192.2496
Iteration 1: log likelihood = -192.23621
Iteration 2: log likelihood = -192.23621

Random-effects logistic regression	Number of observation	294
Group variable: panel	Number of groups	2
Random effects u_i ~ Gaussian	Observations per group: min	147
	average	147
	max	147
Integration method: mvaghermite	Integration points	12
	Wald chi2(4)	16.28
Log likelihood = -192.23621	Prob > chi2	0.0027

Asset1	Odds Ratio	P>z	[95%	Conf.Interval]
FamFinancing	2.108907	0.003	1.297907	3.426661
Family cohesiveness	1.201035	0.484	0.718932	2.006427
Oilgasimpact	1.98907	0.007	1.206123	3.280262
Frugality	1.083287	0.779	0.619344	1.894764
/lnsig2u	-2.053094		-4.47635	0.37016
sigma_u	0.3582419		0.106653	1.203315
rho	0.0375452		0.003446	0.305618

Likelihood-ratio test of rho=0: chibar2(01) = 5.30 Prob >= chibar2 = 0.011

Family influence on financing and oil and gas had significant effects on firm assets unlike other variables. Using the odds ratio, it is seen that, small business holders who received family support in terms of financing had 2.1 times likelihood of increasing their asset value as compared to those who never received family financing support, family support in form of financing had significant effect on small firm asset growth(p.value = 0.003). Similarly, odds of increasing asset value were 1.9 among small firms whose discovery of oil and gas had impact on firm performance, oil and gas impact had significant on small firm asset growth (p.value = 0.007). Time effect is explained by rho, in this case from the year of establishment to the present date, the asset value was increased by 3.8% (i.e. rho = 0.0375).

Qualitative Insights from respondents: Some lengthy details regarding oil and gas activities and influences and business in the region were obtained and the following section highlights three reports on the developments and insights on Hoima vs. Kampala Based supplies. "In the last five years, Kaiso has been fast tracked in the years before there was no rapid growth for this town like it is today. The new road often referred to as the Kaiso -Tonya road explains such advancements. Besides this tarmac road, the whites related to the oil businesses have established social support services in the region. These include schools, markets, and hospitals among others. The white factor explains the high fuelling of development in the region. On the side of business, fish-mongers, self-retail goods, traders take goods to Congo, others take silver fish to Kampala more shops are prevalent in the area. However the oil resource has affected the cultural sides the strength of cultural goodwill is being affected. In the family households, there are reduced cultural assets. In the past, fish used to be harvested in huge quantities unlike now. In the past more fishing business was engaged in the big fish, now most people are engaged in silver (*Mukene*) fish. The whites of oil firms have affected the resource avenues especially fish and some people in Kaiso are likely to shift from this area in the near future. The intermediaries do not help the locals and the oil may not help since the needy men that link the locals and the top most authorities do not appropriately take the interests of the locals." Male Respondent, 53, Resident of Kaiso

"The people who are engaged in oil and gas are not buying from the locals they instead source their products from Kampala, the capital city, since they believe the products in Hoima do not fit their standards" Female Business owner, 48 years, Hoima Town. "Our children are not getting money, our people are losing land, since they, the outsiders have come and bought our land, we have no more of our land. Even hotels there is a unique problem, the outsiders have built these hotels and therefore they are the ones benefitting. Item are being bought from supermarkets based in Kampala. We have not benefited from this oil and gas project, 'outsiders are stealing us Female Restaurant owner, 59, Hoima Town

Discussion of findings: Majority small business operators engage in trade and most operators are in the age bracket of 30 - 60 years. However, it is noted from both district officials and other respondents that quality standards are a major challenge for small firms in Hoima. Similarly, Sandra Uwera, the Chief Executive of COMESA business council indicated that quality standards are widespread challenge which impacts small firms in the COMESA region (Barigaba, 2016). Whereas, the standards issue is presented as a huge challenge, some respondents indicated that large entities are operating in a predatory approach that does not enhance small firms to attain the required quality standards. It is observed that majority of business operators are male, thus, the gender related challenges on business assets growth may not be ruled out. Although family

support features in the livelihoods of the adults in Hoima the imbalance amongst the male and female business ownership may affect the family cohesiveness in business.

The relationship between frugality and family cohesiveness in small business: The results indicated that a marginal significant relationship between family cohesiveness and frugality existed amongst small enterprises. Thus, the elements of family supportiveness and usefulness embedded in family cohesiveness and spending discipline and delayed gratification seem to move in minute similar pattern in small business operator's behavior in Hoima. However, family support in livelihoods amongst the residents in Hoima was reported; the urban dwellers appear to have more family support than the rural dwellers in Hoima DDP (2015). This finding corroborates an empirical study by Hoerger et al. (2011) that indicated that there is a correlation between frugality especially delaying gratification and social wellbeing of individuals. Building on exiting perspectives of the resource based view of the firm, the elements of frugality and family cohesiveness can augment the firm resources. Moreover the link between family resource and SMEs performance has been documented. In studies based in Tanzania (Charles, 2011; Charles, 2014) reported that the small firms derived competitive support from family involvement. Similarly, in a study based in Italy, Schillaci et al. (2013) indicated a strong correlation between family closeness and firm strategic orientations, the growth of a firm can thus be enhanced as one of the strategic orientations.

The effect of frugality and family cohesiveness and other factors on firm growth: It was reported that family influences financing, one strong element in firm growth. The oil and gas operations factor also had significant effects on firm assets in the small firms in this study. Given that, family closeness is widely highlighted as source of human resource based family capital (Van Wyk, 2012), this finding extends the family significance into family capital in terms of finance. With asset values positively linked to family financial support as revealed in this study. So the role of family cannot be under estimated in small firms. However, with a significant correlation of family cohesiveness and frugality there is a likelihood that the family support in firm financing could have some indirect relationship with frugality. This is envisaged especially given that most firm operators indicated strong agreements in matters regarding spending discipline. More so, family support in livelihoods was as also highlighted the District Development plan (DDP, 2015). The findings of frugality and family cohesion insignificant effect on asset growth draws one to ponder on whether family cohesion and frugality in Hoima are utilized in firm asset buildup, or mainly limited to the livelihoods of the individual owners of the business.

Building from Eyakuze et al. (2013) findings that indicated that Ugandans were among the top most spenders in East Africa, then one can largely justify the current frugality and family cohesiveness inability to influence asset values of the small firms in Hoima region. On the other hand, other studies have documented that frugality influences firm growth and performance (Anderson and Lallis, 2010) and family cohesiveness or closeness in business also influences firm growth (Harbashon et al., 2003; Schillaci et al., 2013; Charles, 2011; Charles, 2014), Other studies (e.g. Hoerger et al., 2011) also indicate that the merger of components embedded in frugality (i.e. delaying gratification) and social cohesiveness further expand individual wellbeing. Therefore, if frugality and family cohesiveness are well natured may enhance small firms' asset growth. In all, this paper reveals that the time effect empirically causes some increase in asset value. In this case from the year of establishment (year 0) to the present date (year1), the asset value in small firms was increased by 3.8%. So, with exiting reports that have shown that most firms do not live beyond their first birthday in Uganda (Bakunda et al., 2013), since more than 40% mortality rates exist among some SMEs in Uganda (Bakunda, 2008; UBOS, 2010), the current findings contribute in building confidence of firm operators and stakeholders that the time factor exclusively can influence asset growth. Therefore, the elements of frugality that involve delaying gratification or endurance if natured may abate the reported failure rates of small firms.

Implications: Given the country wide strategy embedded in supporting the small enterprises as noted in the NPD 11 (2015), small firms need to be protected from the suffocation of the large firms which have capacity to fulfill the quality standards requirements. However, the existing institutional voids highlighted to affect SME growth in sub Saharan Africa (Fjose et al., 2010; Webb et al., 2015), should be handled in a stakeholder approach. The central government together with the Hoima district local government the private sector firms can be streamlined and boosted to acquire the necessary capacity to fulfill the quality standards that the oil

and gas operators demand. On the issues of frugality and family cohesiveness, the existing empirical evidence of frugality and family cohesiveness to bolster firms need not to be downplayed. Even if the current findings show that the two variables do not influence asset growth, at least the family support on financing is shown to influence asset growth in firms. So small firms operators should embrace the family cohesion tenets as well as frugality facets.

5. Conclusion

Frugality and family cohesiveness have slight association. Family support on firm financing and oil and gas effects on asset growth are significant in Hoima District. The existing empirical evidence from previous studies supports the argument that frugality and family cohesiveness can bolster firm's growth. Even if the current findings show that the two variables do not influence asset growth, at least the family support on financing is shown to influence asset growth in firms. So small firms operators should embrace the family cohesion tenets as well as frugality facets.

Limitations and Future Research: This study was focused on the small firms around the Albertine region in Uganda, so the generalization on small firms examined may be limited to this region. So, there is need for more studies in regions around the oil and gas fields especially in Kenya and Tanzania. Apart from the oil exploration activities, the mainstream drilling of crude oil has not yet started and so the effects of oil and gas activities are limited in the Albertine region. Therefore additional studies in relation to small businesses will be required in future when mainstream oil and gas extraction process is ongoing. In addition, the gender of founder was noted as one of the core factors explaining firm growth(Korunka et al., (2011), the current study found that most of the small businesses were owned by male, a finding that corroborates the results in the DDP (2015). Therefore, there is need for more studies to investigate the role of gender on growth more especially in rural based small firms.

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