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# Kinship in Entrepreneur Networks: Performance Effects of Resource Assembly in Africa

Jane N. O. Khayesi  
Gerard George  
John Antonakis

**We examine the relationship among structural social capital, resource assembly, and firm performance of entrepreneurs in Africa. We posit that social capital primarily composed of kinship or family ties helps the entrepreneur to raise resources, but it does so at a cost. Using data drawn from small firms in Kampala, Uganda, we explore how shared identity among the entrepreneur's social network moderates the relationship between social capital and outcomes. A large network contributed a higher quantity of resources raised, but at a higher cost when shared identity was high. We discuss the implications of these findings for the role of family ties and social capital in resource assembly, with an emphasis on developing economies.**

## Introduction

A prominent literature on family business addresses the formation, governance, and importance of family businesses in the global economy. Scholars have examined characteristics such as family involvement, control, and governance with respect to agency costs and benefits, among others (Chrisman, Chua, & Litz, 2004; Dyer, 2006; Fiegner, 2010; Gómez-Mejía, Haynes, Nuñez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Gómez-Mejía, Nuñez-Nickel, & Gutierrez, 2001; O'Boyle, Pollack, & Rutherford, 2012). Scholars are beginning to examine social capital in family firms with respect to its creation (Arregle, Hitt, Sirmon, & Very, 2007; Khavul, Bruton, & Wood, 2009) and impact on firm performance (Dyer). Social capital and social networks facilitate the acquisition of resources (Kotha & George, 2012) that are utilized to exploit entrepreneurial opportunities (Baker & Nelson, 2005), and impact performance and value creation (George, 2005).

Social capital and networks are particularly important to small, family firms that tend to draw heavily on family or kinship ties for resource acquisition especially at the nascent firm formation phase (Arregle et al., 2007; Davidsson & Honig, 2003; Greve & Salaff, 2003; Khayesi & George, 2011; Maurer & Ebers, 2006). Defined loosely, kinship ties

include relationships by blood and marriage (Peredo, 2003; Stewart, 2003), and comprise one's spouse, parents, children, and other relatives like siblings and in-laws (Kotha & George, 2012; Renzulli, Aldrich, & Moody, 2000). In African societies, kin relations are extensive and include nuclear as well as extended families (Khavul et al., 2009; Smith, 2009), numbering sometimes into hundreds or even the size of a tribe (Mbiti, 1969).

Despite increasing research on social capital, family firms, and entrepreneurship research in general, developing countries continue to receive little research attention in comparison to developed economies (Bruton, Ahlstrom, & Obloj, 2008; Khavul et al., 2009). Our study draws from literature on family firms, kinship, and social capital to examine the influence of family and kin-induced social capital on entrepreneurs' resource accumulation efforts in an under-researched context, that of a developing economy. Whereas the positive contribution of social capital and networks to resource acquisition is widely acknowledged, there is growing theoretical recognition of risks of social capital (Adler & Kwon, 2002)—for example, the cost of capital associated with raising resources from the social network (Uzzi, 1999; Uzzi & Gillespie, 2002), the hindrance of new information flowing into the network, and problems of free riding from network members (Portes & Sensenbrenner, 1993). This cost implies that maintaining a vibrant network that yields resources also requires investment of one's time, effort, and resources in meeting the demands of the network members. Such risks can be detrimental to small firms that rely heavily on family and kinship ties.

We examine the aggregate cost of raising resources, which includes the cost of social capital comprising interest paid on money that is borrowed (Uzzi, 1999; Uzzi & Gillespie, 2002), plus the cost of maintaining the network. We use our empirical research to draw implications for small, family firms because they rely heavily on or involve kin relations in their social networks (Arregle et al., 2007; Chrisman, Chua, & Steier, 2005). The fact that “network ties among family create constraints, as well as opportunities for entrepreneurship” (Steier, Chua, & Chrisman, 2009) makes our research particularly applicable to family firms whose social capital can generate resources as well as increase costs of maintaining the network, thus affecting the aggregate cost of raising resources. Unlike the Western concept of “family” comprising close, immediate relatives, such as first cousins, a family in Africa comprises kin members from extended families (Ayisi, 1979; Khavul et al., 2009; Mbiti, 1969).

Our empirical research is conducted in Uganda, an African country. This African setting, a developing economy context, adds insight into theories that have been developed predominantly in high-income economies by reflecting on a contextual constraint of social capital. Additionally, there remains limited management research on emerging economies, especially in Africa (Bruton et al., 2008; George, McGahan, & Prabhu, 2012; Hoskisson, Eden, Lau, & Wright, 2000; Khavul et al., 2009). Entrepreneurs operate within settings characterized by multiethnic or cultural diversity (Marris, 1971; Mbiti, 1969) and high dependency<sup>1</sup> reflecting the proportion of individuals who do not work (World Bank, 2007). High dependency implies that entrepreneurs not only pursue profit-making goals but also have to satisfy the needs of dependents, including community welfare objectives.

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1. The total dependency ratio in developing countries is much higher than that of developed economies. For example, in 2005, the total dependency ratio in least developed countries was 80% while that of North America was 49%, Northern Europe 51%, and Southern Europe 48%. In Africa, East Africa had the highest dependency ratio (90%) compared with other parts of Africa (Western: 86%, Central: 83%, Northern: 61%, and Southern: 58%). Even within East Africa, Uganda's total dependency ratio was the highest (108%) compared with Kenya (83%), Tanzania (91), Rwanda (82%), and Burundi (79) (United Nations Population Division, 2008).

High dependence on other community members is likely to affect resource assembly efforts; entrepreneurs often find that they have to meet the social and financial needs of community members, thus limiting their ability to accumulate resources in order to invest in their business ventures.

The findings inform organizational and family business research in the following areas: (1) the importance of analyzing the cost implications of acquiring resources using one's social capital, particularly from family members or kin relations; (2) the need to go beyond analyzing firm performance effects arising from the amount of resources assembled, to examining performance implications associated with the cost of raising resources; and (3) the implications of cost associated with the extent of involvement of family members in an entrepreneur's network.

## **Theory Development and Hypotheses**

Social capital theory assumes that economic action is embedded in social relations (Coleman, 1988; Granovetter, 1985). The premise is that networks of relationships are a resource that facilitate as well as constrain social and economic activities and outcomes (Adler & Kwon, 2002; Bourdieu, 1986; Nahapiet & Ghoshal, 1998). Although there is no universally accepted definition of social capital, researchers agree that social capital is a valuable resource that is embedded in a network of relationships, and facilitates the realization of other resources for individuals and/or organizations (Adler & Kwon; Coleman, 1990). We define social capital as a focal actor's (individual or group) network of relationships, including the structural, relational, and cognitive dimensions that may facilitate and/or constrain its actions and outcomes.

### **Network Size and Quantity of Resources Raised**

Network size reflects the capacity of an individual's social network (Burt, 2000), and is made of first-order network contacts of that individual (Greve & Salaff, 2003). We focus on first-order contacts because benefits from second- and third-order contacts accrue to the entrepreneur through the first-order contacts. The size of one's network reflects the extent of resources that that individual can access (Hoang & Antoncic, 2003; Kotha & George, 2012). Therefore, we expect the amount of resources to increase with an increasing network size. In the case of family firms, their social capital comprises, to a large extent, family members (Arregle et al., 2007). Including family and kin in one's network contributes to an increased network size, particularly in contexts where definitions of kinship extend beyond the nuclear family and immediate relatives, such as in Africa (Khavul et al., 2009; Mbiti, 1969; Smith, 2009). In addition to being a committed source of capital and other resources, family members and kinship relations are strategic in that they are a source of connections to weak ties (Arregle et al.; Stewart, 2003).

Network size facilitates acquisition of resources in different ways. First, having a large network increases the possibility of having a large number of weaker connections among network members (Burt, 1997, 2000), providing improved chances of receiving nonredundant information and resources. Second, having a large network facilitates resource acquisition by increasing the number of sources of resources, and resource accessibility (Uzzi, 1999). Compared with a small network, a large network gives an entrepreneur more chances of finding someone who is likely to be supportive or to provide resources. Indeed, kin relations enhance the size of one's network especially in family

firms characterized by strong family social capital (FSC). As the size of an entrepreneur's network increases, we expect the amount of resources raised to increase. We, however, note that this relationship will be weaker in high dependency contexts, where a majority of the network members may not be able to contribute financial resources given that they do not have an income, when compared with low dependency contexts, such as most Western countries.

**Hypothesis 1:** In networks dominated by kin, the size of a focal entrepreneur's network will be positively related to the quantity of resources raised through the network.

### **Network Size and Aggregate Cost of Raising Resources**

In raising resources, entrepreneurs incur certain costs that may affect their resource accumulation efforts. Often studied is the interest paid for finances received or the cost of capital (Uzzi, 1999; Uzzi & Gillespie, 2002). Aggregate cost of raising resources, however, goes beyond cost of capital in order to maintain one's network. Arregle et al. (2007) point out that a strong FSC may bring about high maintenance costs for family firms. Additionally, dysfunctional family realities or characteristics, such as norms, may deter the positive effects of FSC (Arregle et al.). In Africa, such norms may arise from cultural systems that are costly to entrepreneurs. Costs of maintaining a network can be largely explained by the cultural value systems that go with kinship. Societal norms that govern the roles of kinship could generate costs to a business—for example, family obligations that exert pressure on entrepreneurs to support members of their extended families. Family obligations comprise one of the forms of socioemotional wealth whose preservation is valued by family firms irrespective of its negative effects on firm performance (Gómez-Mejía et al., 2007). Such obligations may increase agency costs due to emotional attachment between the principal and the agent (Gómez-Mejía et al., 2001; Schulze, Lubatkin, Dino, & Buchholtz, 2001).

In Africa, maintenance costs may take the form of using entrepreneurs' financial resources to fulfill social obligations or demands placed on them by their social relations (Kiggundu, 2002). Responding to community demands or fulfilling family and social obligations using firm resources may be due to entrepreneurs' altruistic motives (Schulze et al., 2001), and may increase agency costs. Such costs are further heightened by a high dependency ratio implying a greater proportion of a nonworking population that exerts pressure on entrepreneurs to fulfill their financial needs using firm resources.

The kinship system in Africa exerts pressure on individuals to provide for the needs and obligations of other kin members (Ayisi, 1979; Mbiti, 1969). In East Africa, demands from one's social relations, particularly kin, may include financial contributions to community projects, paying school fees or medical expenses, and providing for financial expenses of social events like weddings and dowry payment (Luke, Munshi, & Rosenzweig, 2004; Mbiti). Such demands are necessitated by the fact that a good proportion of the population does not work and therefore does not have an income. Because of fear of consequences of nonconformity to the kinship normative value of "sharing without reckoning," for instance losing legitimacy, status, and a following, entrepreneurs are forced to comply with demands from their social relations (Stewart, 2003). Additionally, family firms in the cousin consortium phase of ownership, where cousins "can claim an owner-like control on the firm" (Smith, 2009), are faced with claims for money, resources, and other business assets by kin relations, hence enhancing costs to a firm. Using firm resources to fulfill family and kinship-related demands and allowing a

cousin consortium kind of ownership to exist in one's business may heighten the cost of maintaining one's network, hence interfering with the performance of firms (Stewart). We expect the cost of maintaining a network to increase relative to the size of the network, particularly in an African context where one's network is dominated by kin.

In Africa, the kinship system governs social relationships and connects an individual to several family members. Relationships in this context stretch far and wide to the extent that "each individual is a brother or sister, father or mother, grandmother or grandfather, or cousin, or brother-in-law, uncle or aunt or something else, to everybody else" (Mbiti, 1969, p. 104). This wide sense of the meaning of kinship implies that African entrepreneurs are likely to have large social networks comprising largely of kin members. Thus, whereas kin increases the size of an entrepreneur's network, this increase implies an increased cost of maintaining the network. Therefore, as the entrepreneur's network expands, likewise, we expect the cost of maintaining a network to increase relative to the network size. Therefore, we expect that:

**Hypothesis 2:** In networks dominated by kin, the size of a focal entrepreneur's network will be positively related to aggregate cost of raising resources through the network.

### **The Role of Shared Identity**

Shared identity in a network reflects commonality and cohesion among members in the network. The commonality may be based on personal or social identification (Hite & Hesterly, 2001), for instance, culture and norms (Inkpen & Tsang, 2005), professions (Maurer & Ebers, 2006), shared codes and language (Nahapiet & Ghoshal, 1998), or bounded solidarity (Portes & Sensenbrenner, 1993). This commonality is a guiding factor in the exchange of resources in identity-based networks, and may facilitate or hinder resource accumulation. Often, identity-based networks comprise dense, cohesive networks of embedded ties (Hite & Hesterly).

The guiding principle of shared identity networks, particularly bounded solidarity, is the support of individual goals of group members. Shared identity creates goodwill and mutual understanding among network members, which in turn encourages network members to support each other. Thus, through shared understanding, shared identity facilitates social exchange and distributive justice (Cropanzano & Mitchell, 2005), thus enabling the exchange of resources among firms. In relation to costs, embedding transactions in social relations promotes shared values and beliefs for parties involved, which in turn helps reduce the cost of capital or interest paid on borrowed finances (Uzzi, 1999). Hence, entrepreneurs often make use of their relatives as sources of start-up capital because of lower costs of capital compared with the professional money providers (Stewart, 2003).

The willingness of relatives to provide finances at a lower cost can be attributed to shared identity arising from common social identity. However, shared identity that is based on shared norms may create "excessive expectations of obligatory behavior and possibly result in problems of free riding and unwillingness to experiment beyond the network" (Inkpen & Tsang, 2005, p. 153). Thus, coupled with high dependency of kin relations on entrepreneurs who are often perceived as wealthy individuals in Africa, such norms imply that entrepreneurs have to incur heavy costs in fulfilling demands from their network members. The high dependency ratio in Uganda would seem to imply that entrepreneurs may not benefit from the low costs of capital since most of their network



contacts may not have an income, and consequently little money to lend the entrepreneurs. Instead, entrepreneurs would incur high costs maintaining these network members. Thus, we expect that:

**Hypothesis 3:** In networks dominated by kin, the greater the shared identity between a focal entrepreneur and his/her network contacts, the higher the quantity of resources raised through the network.

**Hypothesis 4:** In networks dominated by kin, the greater the shared identity between a focal entrepreneur and his/her network contacts, the higher the aggregate cost of raising resources through the network.

Social capital features and dimensions are likely interrelated (Nahapiet & Ghoshal, 1998), and some social capital variables reinforce or amplify the effects of other social capital variables. In this regard, we propose that shared identity, a measure of cognitive social capital, will amplify the effects of structural social capital on resource accumulation. Nahapiet and Ghoshal present cognitive social capital as a facilitator of resource acquisition by providing “access to people and their information.” Moreover, Hite and Hesterly (2001) have argued that an individual (the focal entrepreneur, in our case) achieves advantages from his/her network ties because of the identity of the ties. Further, Maurer and Ebers (2006) reiterate that shared identity (language and meanings) facilitates accessibility to information and resources of network ties. Overall, therefore, shared identity facilitates accessibility to the resources of the social relations that form the size of an entrepreneur’s network. We expect shared identity to amplify the effects of network size on the amount of resources raised through the network.

In relation to costs, shared values and beliefs among networks help reduce the cost of financing (Uzzi, 1999), hence encouraging entrepreneurs to look for finances from their family members and friends rather than professional money providers or financial institutions (Stewart, 2003). On the contrary, high dependency along with free riding behavior will imply heavy costs of maintaining a network. Thus, if an entrepreneur has a large network size, greater social cohesion due to shared identity will likely amplify the cost effects of network size, especially in the African context as described earlier. Therefore, we suggest that:

**Hypothesis 5:** In networks dominated by kin, the relation between network size and quantity of resources raised through the network is moderated by shared identity such that this relation is positive when shared identity is high and negative when shared identity is low.

**Hypothesis 6:** In networks dominated by kin, the relation between network size and aggregate cost of raising resources through the network is moderated by shared identity such that this relation is positive when shared identity is high and negative when shared identity is low.

## **Resource Accumulation and Firm Performance**

Resource accumulation is a function of the resources acquired by a firm (resource inflows) minus those being drained from the firm in the form of costs of acquiring resources (resource outflows) (Knott, Bryce, & Posen, 2003). Whereas resources acquired facilitate firm performance, the costs associated with raising those resources reduce the amount of resources available for firm activities. In effect, this reduction of available resources may limit firm performance. Indeed, the relationship between resources and

firm performance has been widely researched (Coleman, 2007; Mishina, Pollock, & Porac, 2004). However, lacking in these studies is an analysis of the influence of the cost of raising those resources on firm performance, and this from a social capital perspective. Of course, from an accounting point of view, such theorizing is self-evident; however, these social costs to which we are referring affect the entrepreneur in the future (so they are not accounted for in the short term, if accounted at all). We, therefore, posit that:

**Hypothesis 7:** The greater the amount of resources raised by an entrepreneur through the network, the higher will be the firm performance.

**Hypothesis 8:** The greater the aggregate cost of raising resources through the network, the lower will be the firm performance.

## Sample and Method

We collected data on 242 small- and medium-sized entrepreneurs in the garment-making and information and communication technology (ICT) industries in Kampala, Uganda. Of these, data from 188 entrepreneurs were usable for this study. The participants consisted of indigenous Ugandans of diverse ethnicity; to ensure maximum variability on the variables of interest we also sampled entrepreneurs of Asian origin. Such diversity, coupled with variation in firm size, yielded variation in social aspects of our study (e.g., social networks and the fulfillment of social obligations). We account for industry differences across a dynamic, high-technology (ICT) and a low-technology industry (garment making). We used a structured questionnaire to collect data through face-to-face interviews. Key measures on our questionnaire were derived from literature to the extent possible. We used six postgraduate students at Makerere University Business School in Kampala, Uganda, to review the initial questionnaire, and pretested it on 15 entrepreneurs in Kampala and revised it accordingly.

In developed economies, there are often lists and directories of businesses registered in a geographic area or industry. As one might expect, the Ugandan authorities had no such data. Because of the lack of a listing of firms, we used industry associations and university sources to construct our initial list. A follow-up telephone call and physical visits to verify the existence of these firms revealed that the existing lists were not up to date; many firms were nonexistent, and others could not be found at the indicated addresses. Furthermore, there were firms clustered in different parts of Kampala that did not appear on any of the lists. Because of the inability to establish the exact number of firms in our population, we visited all the firms in our population and conducted interviews with all who accepted to be interviewed, yielding a total of 128 garment-making entrepreneurs and 114 ICT entrepreneurs. All 242 surveys were completed in face-to-face interviews. Each interview took between 45 and 90 minutes. Overall, it took us 5 months, between our initial contact in our study area and the completion of data gathering.

## Measures

We used several dependent, independent, and control variables to explore the relationship among structural social capital, resource accumulation, and firm performance.

**Dependent Variables (DVs).** We used three DVs to explore the relationship among structural social capital, resource accumulation, and firm performance: quantity of resources raised, aggregate cost of raising resources, and firm performance.



*Quantity of resources raised* was measured as the total amount of money (in millions of Ugandan shillings: U.S.\$1 = approximately 2,000 Uganda shillings) that the entrepreneur had received in the past year from different contacts in his/her network. We asked respondents to indicate the amount of money received from different contacts then added it up to get the total amount of finances raised. Such resource generator techniques are used to gather information on resources received and resource providers (Renzulli & Aldrich, 2005).

*Aggregate cost of raising resources* was measured as the total amount of money (in millions of Ugandan shillings) that the entrepreneur had incurred in the process of raising both financial and nonfinancial resources for the firm. These included interest paid and money spent on network contacts, for example, business lunches and dinners, and social activities expenses, such as weddings and funerals. We asked respondents to indicate the amount of money they had spent on each of these expenses then added it up to get the total costs. To minimize problems associated with recall, respondents were asked to indicate expenses incurred in the past year.

*Firm performance* was measured using an objective financial performance measure, the volume of sales (in millions of Ugandan shillings) achieved by the entrepreneur's firm in the past year. Sales is described as a single, most preferred measure of firm performance (Delmar, Davidsson, & Gartner, 2003). We used the log-transformed value of sales given the large variance and skewed distribution.

***Independent Variables.*** We used network size as an independent variable: We measured *network size* as the total volume of the respondent's social network (Burt, 2000). We asked respondents to indicate by category of relationship the number of people they interact with regularly for resources for their businesses. This study focused on egocentric networks, hence our interest in the first-order contacts of respondents (Greve & Salaff, 2003).

We explored both direct and moderating effects of *shared identity* in this study. We measured shared identity using three statements reflecting the extent to which respondents have similar cultural beliefs and value systems, and language with their network contacts. We modeled this scale of shared identity ( $\alpha = 0.69$ ) after Nahapiet and Ghoshal (1998), borrowing concepts from the social psychology literature on social identity.

***Control Variables.*** We included three firm-level control variables (industry, firm size, and firm age) and one entrepreneur-related variable (religion). We chose these firm demographic features as control variables consistent with previous research (Delmar et al., 2003), which indicates that these firm characteristics influence firm performance. To control for any industry effects on network characteristics and resource accessibility, we measured *industry* using a dummy variable coded as 1 for garment-making entrepreneurs and 0 for ICT entrepreneurs. To control for firm size effects, we measured *firm size* as the number of full-time paid employees in 2007. Consistent with previous social capital studies (Saparito, Chen, & Sapienza, 2004; Yli-Renko, Autio, & Sapienza, 2001), we measured *firm age* as the number of years since the founding of the firm.

We included *religion* as a control variable in examining the relationship between structural social capital on the one hand, and finances raised and cost of raising finances on the other hand. We measured this variable categorically (using  $k - 1$  dummy variables for being Protestant, Catholic, Muslim, Christian, Hindu, and no religion). We included religion because it is an important determinant of the extent to which an individual gives financial support to other members of the community (Mbiti, 1969), as well as for the fact that it proxies for many social- and cultural-level variables (Guiso, Sapienza, & Zingales,

2006). Following this line of thinking, we expected that an entrepreneur's religious heritage has an important role in determining how much such an entrepreneur will give to community members in an effort to fulfilling social obligations, and how much he/she will avail for firm activities.

### Model Specification Tests

There is a potential endogeneity issue between the social capital variables and the DVs in the model due to possible omitted variables and simultaneous causality (i.e., the modeled independent variables may be caused by the DVs). For example, entrepreneurs who have raised more capital may consequently grow their network size. Thus, simultaneous causality may bring about correlation between an explanatory variable and the error term (Bascle, 2008; Davidson & MacKinnon, 1993), and thereby render the estimates inconsistent (Antonakis, Bendahan, Jacquart, & Lalive, 2010). In order to resolve the endogeneity problem and ensure that our estimates are consistent, we used an instrumental variable (referred to hereafter as IV) regression method (Bascle). To use IV methods, we had to find exogenous variables that we could use as instruments. Our literature search yielded two instruments: the *size of the immediate family* (total number of spouse/s, children, parents, and siblings), and a scale of *social participation* ( $\alpha = 0.69$ ), composed of four items reflecting the extent to which the respondent participated in social activities before founding the firm.

We also included *total kin* as an instrument because we expected it to correlate with network size. Thus, the characteristics and influence of the network largely emanate from the influence of kinship or family ties. We measured *total kin* as a count of all the kin (immediate and extended family), both resource providing and nonresource providing, in the entrepreneur's network. We also included the demographic characteristics as instruments: *gender* (1 for males and 0 for females), *marital status* (1 for married and 0 for unmarried), *race* (1 for Africans and 0 for Asians), *level of education* (1 for respondents who had attained some level of schooling and 0 otherwise), *age* (respondent's absolute chronological age in years), and *tribe* (1 for Muganda and 0 otherwise). Given the context, all these variables are theoretically exogenous in the sense that they are beyond the choice of the individuals and cannot be influenced by the other variables in the equation.

In addition, we included the following exogenous variables (that were available from our data) as instruments: entrepreneur's *prior work experience* (1 for respondents who had done formal jobs previously and 0 for those with no formal jobs), entrepreneur's *parents' business experience* (1 if the respondent's parents had business experience before the respondent started his/her business venture and 0 otherwise), and the *individual income* (in millions of Ugandan shillings). We included all control variables as instruments (Antonakis et al., 2010). Also, by including all possible sources that correlate with the DV, we anticipate that the model's estimates will be consistent, even if instruments might not be fully exogenous. Because we had multiple DVs being predicted by the same set of independent and control variables, as well as several equations, we estimated the model using three-stage least squares (3SLS) (Zellner & Theil, 1962). This is a full-information IV regression method that ensures the efficient analysis of all equations in the model (Davidson & MacKinnon, 1993).

## Results

Our sample consisted mainly of very small and young firms, with a mean firm size of three employees and an average organizational age of 5 years old (Table 1). The

Table 1

## Descriptive Statistics and Correlations

Variable	Mean	Standard deviation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Firm perf. <sup>†</sup>	2.02	3.68																			
2. Agg. cost of resources	2.54	4.70	-0.04																		
3. Quant. of raised resources	13.06	33.29	0.02	0.89*																	
4. Industry <sup>‡</sup>	0.53	0.50	-0.15*	-0.31*	-0.29*																
5. Firm size	3.25	4.47	0.17*	0.69*	0.66*	-0.28*															
6. Firm age	5.41	4.50	0.01	0.10	0.09	0.34*	0.25*														
7. Network size	43.53	27.73	-0.01	0.20*	0.11	0.17*	0.21*	0.24*													
8. Shared identity	4.02	1.47	0.02	-0.09	0.05	0.40*	-0.05	0.15*	0.07												
9. Total kin	69.93	16.84	0.00	0.05	0.01	-0.15*	-0.02	-0.12	0.19*	-0.27*											
10. Male <sup>§</sup>	0.62	0.49	0.08	0.15*	0.14*	-0.46*	0.05	-0.21*	0.07	-0.23*	0.11										
11. Marital status <sup>¶</sup>	0.69	0.46	-0.09	0.11	0.09	0.16*	0.09	0.20*	0.22*	0.11	0.09	-0.25*									
12. African <sup>§</sup>	0.96	0.20	-0.15*	-0.30*	-0.43*	0.22*	-0.33*	-0.11	0.12	-0.01	0.08	-0.12	0.04								
13. Education <sup>¶</sup>	0.97	0.18	0.11	0.08	0.07	-0.17*	0.13*	-0.01	0.17*	-0.02	0.00	0.10	-0.02	-0.04							
14. Work experience <sup>¶</sup>	0.52	0.50	0.10	0.16*	0.16*	-0.15*	0.17*	-0.04	0.25*	-0.09	0.13	0.31*	-0.06	-0.01	0.14*						
15. Entrepreneur's age	32.48	7.35	-0.04	0.38*	0.32*	-0.03	0.28*	0.36*	0.21*	-0.10	0.05	0.05	0.25*	-0.04	0.09	0.19*					
16. Parents' bus. exp	0.30	0.46	0.09	0.05	0.14*	0.10	0.18*	0.15*	0.16*	0.27*	0.01	-0.02	0.01	-0.13*	0.07	0.19*	0.01				
17. Individual income	1.54	1.02	0.12	0.34*	0.45*	-0.30*	0.38*	0.09	0.09	-0.03	0.15*	0.21*	0.04	-0.52*	0.10	0.17*	0.17*	0.10			
18. Social participation	4.86	1.13	0.11	-0.03	-0.01	0.21*	0.09	0.27*	0.30*	0.16*	-0.31*	-0.23*	0.18*	0.10	0.11	0.03	0.08	0.17*	-0.07		
19. Size of immediate fam	10.85	5.16	0.02	0.02	-0.03	0.28*	0.05	0.22*	0.62*	0.21*	0.22*	-0.04	0.35*	0.16*	0.01	0.14*	0.19*	0.10	0.14*	0.17*	0.17*
20. Tribe <sup>¶</sup>	0.67	0.47	-0.13*	-0.08	-0.15*	0.15*	-0.18*	-0.02	0.03	0.04	-0.02	-0.08	0.06	0.31*	-0.13*	-0.07	0.04	-0.11	-0.18*	-0.00	0.05

\* Correlations are significant at the 0.05 level.

<sup>†</sup> This firm performance variable (sales) is log-transformed.<sup>‡</sup> Male = 1 (0 = female).<sup>§</sup> African = 1 (0 = Asian).<sup>¶</sup> These are dummy variables coded as: industry (1 if garment making and 0 otherwise, i.e., information and communication technology), marital status (1 if married and 0 otherwise), formal education (1 if the respondent attended formal schooling and 0 otherwise), work experience (1 if the respondent has prior work experience and 0 otherwise), and tribe (1 if Bantu and 0 otherwise).

majority of the sampled firms had a large proportion of kin in their networks, averaging 70%; i.e., social networks of the respondents were dominated by family members or kin. For correlations and descriptive statistics, refer to Table 1.

We present results of the IV regression analysis (Table 2) from the simultaneous estimation of three equations where the DVs were the following: (1) quantity of resources raised, (2) aggregate cost of raising resources, and (3) firm performance. Additionally, we present results of the regression analysis using the ordinary least squares (OLS) estimator for comparative purposes (where social capital is assumed to be exogenous). It is evident in Table 2 that although the OLS estimator has higher explanatory power of the variance in firm performance ( $R^2$  of 0.10 versus 0.05 for the 3SLS estimator), the 3SLS estimator yielded a higher number of significant estimates compared with the OLS estimator. For example, for the firm performance model, both main effects yielded significant results with the 3SLS estimator ( $\beta = 0.11, p < 0.01$  for quantity of resources raised, and  $\beta = -1.17, p < 0.01$  for cost of raising resources) but only one significant main effect, cost of raising resources, with OLS ( $\beta = -0.54, p < 0.01$ ). Similarly, there were two significant control variables with 3SLS but only one significant control variable with OLS. Indeed, a Hausman test for OLS versus 3SLS showed a significant difference for cost of raising resources ( $t = -2.00, p < 0.05$ ) and amount of resources raised ( $t = 21.32, p < 0.001$ ). The significant difference between the OLS and 3SLS shows that the social capital variables are endogenous, thus justifying the use of IV regression (Antonakis et al., 2010).

To ensure that the 3SLS estimator was consistent *vis-à-vis* the two-stage least squares (2SLS) estimator, we conducted a Hausman test to determine whether the estimates differed (if they do, then the 2SLS estimator must be retained). The chi-square for all equations in our model was not significant ( $\chi^2[70] = 24.98, p > 0.05$ ). Similarly, a Hausman test for individual equations yielded nonsignificant chi-square for the cost model ( $\chi^2[11] = 3.25, p > 0.05$ ) and finances raised model ( $\chi^2[11] = 3.34, p > 0.05$ ). These results show that the estimates for the two models (2SLS and 3SLS) are not significantly different; we thus retained the more efficient estimator, 3SLS, which was also consistent. We performed a Hansen-Sargan's overidentification test; results revealed that the instruments were valid ( $\chi^2[48] = 56.88, p > 0.05$ ), and overidentifying restrictions indicated that this model was tenable (Baum, Schaffer, & Stillman, 2007).

Among the control variables used, firm size yielded significant results across the three models. Firm size had significant positive relationships with quantity of resources raised ( $\beta = 3.86, p < 0.01$ ), aggregate cost of raising resources ( $\beta = 0.55, p < 0.01$ ), and firm performance ( $\beta = 0.29, p < 0.05$ ). In addition to firm size, firm age had a marginal significant relationship with aggregate cost of raising resources ( $\beta = -0.13, p < 0.10$ ), whereas industry had a significant relationship to firm performance ( $\beta = -1.41, p < 0.05$ ). One religion categorical variable (being Hindu with respect to being Protestant) yielded positive significant relationships with quantity of resources raised ( $\beta = 73.65, p < 0.01$ ) and aggregate cost of raising resources ( $\beta = 5.24, p < 0.01$ ).

Next, we report the direct effects of the key variables (network size and shared identity) on the quantity of resources raised, and the aggregate cost of raising resources. We then move on to report the direct effects of the quantity of resources raised and the aggregate cost of raising resources on firm performance. Note that because of the presence of an interaction effect, the main effects are actually not interpretable as main effects usually because these effects are not constant and depend on the level of the moderator (Aiken & West, 1991). When holding shared identity constant at its mean, network size yielded positive significant relationships with quantity of resources raised ( $\beta = 0.27, p < 0.05$ ) and aggregate cost of raising resources ( $\beta = 0.04, p < 0.05$ ), providing support for hypotheses 1 and 2, respectively. As for shared identity, it showed no relationship with

Table 2

## Results of IV Regression Analysis

Variables	3SLS				OLS	
	Network size	Shared identity	Aggregate cost	Resources raised	Firm performance	Firm performance
Aggregate cost					-1.17*** (3.43)	-0.54*** (2.90)
Resources raised					0.11*** (2.75)	0.03 (1.41)
Industry <sup>†</sup>	7.77** (2.29)	0.93*** (3.88)	-0.53 (0.57)	-2.72 (0.42)	-1.41** (1.99)	-1.00 (1.50)
Firm size	0.80** (2.40)	0.01 (0.27)	0.55*** (7.05)	3.86*** (7.18)	0.29** (2.22)	0.28*** (3.09)
Firm age	-0.59* (1.71)	-0.00 (0.20)	-0.13* (1.72)	-0.80 (1.47)	-0.05 (0.61)	-0.02 (0.30)
Total kin	0.21** (2.49)	-0.03*** (4.60)				
Male <sup>‡</sup>	6.35** (2.07)	-0.27 (1.22)				
Marital status	-0.26 (0.09)	0.08 (0.41)				
African <sup>§</sup>	10.45 (1.33)	-0.33 (0.59)				
Education	19.23*** (2.94)	0.25 (0.53)				
Work experience	3.99 (1.50)	-0.13 (0.67)				
Entrepreneur's age	-0.34* (1.84)	-0.01 (0.79)				
Parents' bus. exp.	1.95 (0.70)	0.81*** (4.12)				
Individual income	3.55** (2.16)	0.11 (0.98)				
Social participation	3.58*** (2.80)	0.04 (0.40)				
Size of immediate fam. Tribe	3.05*** (9.80)	0.05** (2.29)				
1.62 (0.60)	-0.01 (0.08)					
Network size (1)			-0.28** <sup>¶</sup> (2.55)	-1.92*** <sup>††</sup> (2.52)		
Shared identity (2)			-3.78*** <sup>‡‡</sup> (2.83)	-22.96*** <sup>§§</sup> (2.48)		
(1) × (2)			0.08*** (2.71)	0.54*** (2.67)		
Constant	-55.71*** (4.07)	4.95*** (5.10)	14.44*** (2.84)	80.00** (2.27)	3.35*** (4.90)	2.53*** (4.38)
R-squared	0.58	0.40	0.28	0.41	0.05	0.10

\*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ ; \*  $p < 0.10$ .

Notes: z-statistics are in parentheses.  $n = 188$ . Religion dummy variables included. The simple main effects of these variables when the moderator (i.e., the variable with which it interacts) is held constant at its mean are, respectively (z-statistics in parentheses), <sup>¶</sup> 0.04 (2.21),  $p < 0.05$ ; <sup>††</sup> 0.27 (2.20),  $p < 0.05$ ; <sup>‡‡</sup> -0.44 (1.03),  $p > 0.10$ ; <sup>§§</sup> -0.12 (0.04),  $p > 0.10$ .

<sup>†</sup> Garment industry = 1 (0 = information and communication technology).

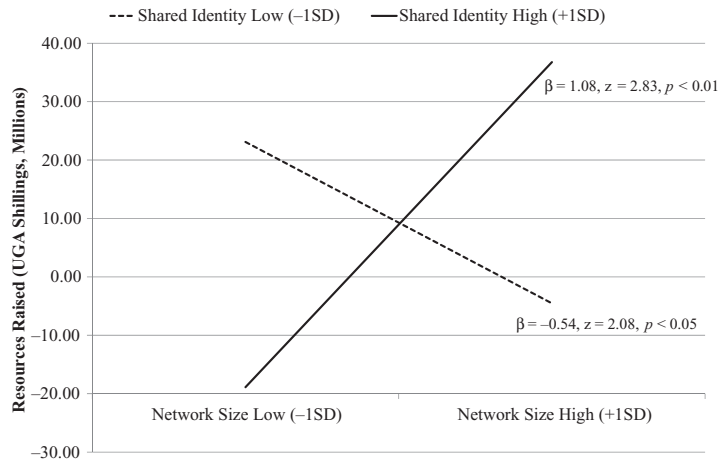
<sup>‡</sup> Male = 1 (0 = female).

<sup>§</sup> African = 1 (0 = Asian).

3SLS, three-stage least squares; OLS, ordinary least squares; IV, instrumental variable.

Figure 1

Effect of Network Size on the Amount of Finances Raised Moderated by Shared Identity



Note: All covariates were held at their constant means and pooled into the intercept.

quantity of resources raised ( $\beta = -0.12, p > 0.05$ ) and aggregate cost of raising resources ( $\beta = 0.44, p > 0.10$ ), showing lack of support for hypotheses 3 and 4, respectively.

Hypotheses 7 and 8 postulated the direct effects of quantity of resources raised and aggregate cost of raising resources on firm performance. As hypothesized, the quantity of resources raised yielded a positive significant relationship with firm performance ( $\beta = 0.11, p < 0.01$ ), whereas the aggregate cost of raising resources had a negative significant relationship with firm performance ( $\beta = -1.17, p < 0.01$ ), supporting hypotheses 7 and 8, respectively. To better understand how quantity and cost of resources affect firm performance, and to provide a measure of effects, and given that the DV is in logs, we can interpret the relation between the independent variables (IVs) and the DVs as follows: When quantity of resources is raised by 1 unit, firm performance increases by 11%. However, when cost of resources changes by 1 unit, firm performance drops by 117%. Note that a Wald test indicated that the coefficients of the cost of resources and quantity of resources are significantly different ( $\chi^2[1] = 11.63, p < 0.001$ ).

To test the moderating effect of shared identity on the relationship between structural social capital and resource accumulation, we examine the interaction effects of shared identity and network size. As expected, the interaction between shared identity and network size was positive and highly significant for quantity of resources raised ( $\beta = 0.54, p < 0.01$ ) and aggregate cost of raising resources ( $\beta = 0.08, p < 0.01$ ). To probe this interaction, we plotted the interaction effects graphs for high and low values of shared identity (Figures 1 and 2) and also tested the simple slopes. Both the regression analysis and interaction graphs support hypotheses 5 and 6.

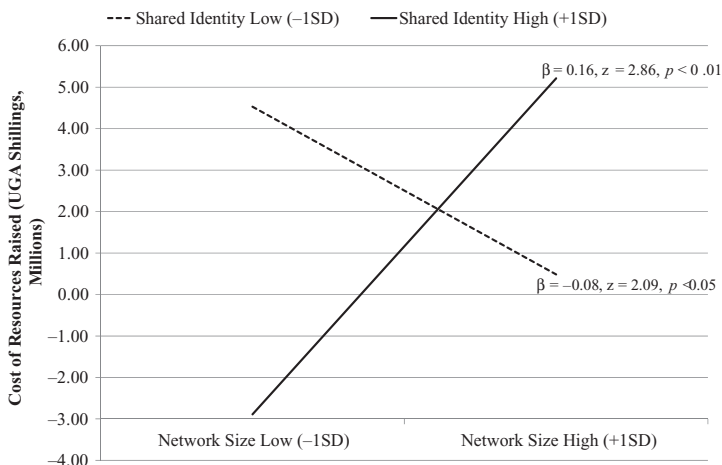
### Discussion and Implications for Family Firms

Seventy percent of the entrepreneurs' networks in our sample were kin and family members. Hence, we discuss our study results and draw implications for family firms. We



Figure 2

Effect of Network Size on Cost of Resources Moderated by Shared Identity



Note: All covariates were held at their constant means and pooled into the intercept.

set out to examine the moderating effect of shared identity on the relationship between structural social capital (network size) and resource accumulation (quantity of resources raised and the aggregate cost of raising resources). We further investigated the effect of resource accumulation on firm performance. The results reveal that shared identity moderates the relationship between network size and resource accumulation, with the interaction model yielding highly significant results as hypothesized. Finally, as postulated, the amount of resources raised significantly increased firm performance, whereas the cost of raising resources significantly reduced firm performance.

Our findings support the moderating effects for quantity of resources raised and aggregate cost of raising resources when shared identity is high. Hypothesis 5, which stipulated a positive relationship between network size and quantity of resources raised when shared identity was high, was supported. Likewise, hypothesis 6, which stipulated a positive relationship between network size and cost of raising resources when shared identity was high, was supported. Previous entrepreneurship studies (Kotha & George, 2012; Renzulli & Aldrich, 2005; Renzulli et al., 2000) have also found positive relationships between network size and resources accessibility and acquisition. The finding that shared identity moderates the relationship between structural social capital and resource accumulation is a step forward in unearthing conditions under which structural social capital may affect resource accumulation positively and negatively.

The evidence further supports our hypotheses on the relationship between the amount of resources raised and cost of raising those resources, and firm performance. Our findings reveal that more resources lead to higher firm performance, whereas higher costs reduce firm performance, and confirm prior studies (Baker & Nelson, 2005; Coleman, 2007; Mishina et al., 2004). Indeed, our analysis of marginal effects reveals that the cost of raising resources has far greater negative effects on firm performance in comparison to the positive effects of resources raised. These cost effects do outweigh the positive effects of resources raised. This finding on negative performance may serve as a further empirical evidence of Gómez-Mejía et al.'s (2007) proposition that poor performance by family firms may be

attributed to their willingness to preserve their socioemotional wealth irrespective of its negative consequences to the firm. Clearly, one of the objectives of family business research is to explain performance differences among family firms (Chrisman et al., 2005). O'Boyle et al.'s (2012) meta-analysis found no relationship between family involvement and firm performance when moderated by public versus private firms, firm size, and culture. Based on our finding of a negative relationship between cost of raising resources and performance, we suggest that family business researchers consider the cost of raising resources as a moderator/mediator when studying performance differences among family firms. There is, therefore, a need for family firm researchers to examine not only the amount of resources raised through an entrepreneur's network but also the cost implications of raising resources, in order to explain performance differences among family firms.

The emerging economy context, especially African economies, is gaining importance as these countries take more active roles in the global economy, development, and governance. Recent calls for research highlight entrepreneurship as a crucial tool to engender prosperity and improve social and economic well-being (e.g., Bruton et al., 2008; George et al., 2012). Our findings extend our empirical knowledge of the drivers of performance and survival of family firms in this context (Khavul et al., 2009). Equally important, this study provides fresh insight into how an entrepreneurs' social network could also impose significant costs. For family firms, these costs may be attributed to kinship and its associated family obligations (Stewart, 2003) arising from the heavy involvement of family members. We add to the emergent discussions in the management literature of how FSC can contribute positively and negatively to firm performance in an entrepreneurial setting in an emerging context.

The findings are of practical relevance to entrepreneurs, especially family firms. Entrepreneurs wishing to achieve higher performance *vis-à-vis* the resources raised ought to aim at maximizing resources raised from networks while reducing the associated costs. Our study reveals that within the context of an emerging economy, such a performance target requires a combination of a large network and lower shared identity with network contacts—our study showed that negative effects of costs outweigh positive effects of resources raised by far—in order to improve performance through minimizing costs. Indeed, this negative performance effect of costs in family firms in Africa can be attributed to the constraining role of extended family ties resulting from family obligations, opportunism, and agency (Khavul et al., 2009). Thus, our advice to family firm entrepreneurs is that they carefully consider network members with lesser shared identity. In essence, this means that family firms ought to include more nonfamily ties in their social networks in order to reduce the costs of raising resources.

Overall, our study reveals that the configuration of an entrepreneur's structural social capital can help us understand both positive and negative contributions of structural social capital to resource accumulation especially for family firms. By engaging the debate on the negative contributions of social capital, this study supports scholars (Adler & Kwon, 2002) who have argued for the need to go beyond overemphasizing the positive attributes of social capital to presenting a balanced analysis of both its risks and benefits. Within the Ugandan setting, the results of this study reveal the importance of shared identity as a moderator of the relationship between structural social capital and resource accumulation variables.

## **Limitations and Future Research Directions**

A collective, African communal context adds to family business research knowledge of how social networks could be a benefit that comes at a great cost especially when

entrepreneurs rely heavily on family members. Nonetheless, our study does have its limitations. First, we used cross-sectional data in our study. Given that social capital is a phenomenon that can change over time, our results do not capture this temporal effect. Future studies could attempt a longitudinal examination of whether the contribution of structural social capital to resource accumulation changes over time, and under what circumstances such changes may occur. Second, we utilized one measure of cost, total cost, in our study. Future studies could disaggregate this cost by investigating the relative contribution of different types of network members, such as immediate kin, extended kin, nonkin, and other members of the network, to cost rather than look at the cost of the network as a whole.

This study was conducted in an urban setting in a single country. An effort was made to include indigenous Ugandans from different ethnic groups, as well as Asians and other non-Ugandan entrepreneurs. Future studies, however, can benefit by including both a rural and urban sample within the same study so as to investigate whether social capital of entrepreneurs (and the related costs) differs based on the context—rural or urban. Although these data were collected in a developing country context, we believe that the results of this study are applicable to other contexts too. Our model includes contextual factors, such as race, gender, industry, and firm age, which make it possible to compare results across different contexts and countries. Again, a comparison of results from different countries and organizational contexts is necessary to explain cost-related and resource-related performance differences across firms in different contexts, and to further validate our model. These limitations notwithstanding, we believe that the insights gained by our findings have made a contribution to management and entrepreneurship research, particularly understanding how social capital enhances and limits resource assembly. This study has shown that it is important to take into account not only the amount of resources assembled, but also the cost of raising resources, in order to improve firm performance.

## Conclusion

This study examined the moderating role of shared identity on the relationship between structural social capital (network size) and quantity of resources raised, and the aggregate cost of raising resources. We further examined the effect of resources raised and the cost of raising those resources on firm performance. Results show that shared identity interacts with network size to facilitate resource accumulation, particularly the quantity of resources raised and the aggregate cost of raising resources. The findings show that the interaction effect of network size and shared identity significantly increases quantity and cost of raising resources. Ultimately, the resources raised and aggregate cost of raising those resources determine performance differences among entrepreneurial firms, especially family firms. The key contribution of this study lies in advancing our understanding of situations under which structural social capital might benefit or detract entrepreneurs' efforts to assemble resources to build and maintain a viable venture.

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