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CHAPTER 8

Social Networks of Mobile Money in Kenya

SIBEL KUSIMBA, GABRIEL KUNYU, AND ELIZABETH GROSS

Introduction

In 2010, among a Kisii polygynous family in Kenya, the oldest son used SMS messaging to organize a payment schedule among twenty-two siblings and half siblings for a father's prostate operation, which amounted to close to 300,000 Kenyan shillings (KES) (US $3000). Each child was expected to give at levels of 30,000 shillings (US $300), 20,000 (US$ 200), and so on. A sister in her late twenties named Julia explains:

> *Julia:* So now those who are able, they will pay 30,000, then they came to 20,000, 10,000, 5,000, 2,000, and 1,000. That was the least. Those who are looking for a job, they were told at least to look for 1,000 (US $10), and see that they have appreciated to contribute.
>
> *Sibel Kusimba:* Your sisters in the United States, how did you estimate their contribution, what did you decide?
>
> *Julia:* They were the ones given the highest of 30,000.

Julia went on to explain that her brother would use M-PESA, a mobile-money service based on text messaging, and a visit to Western Union to gather the contributions of his siblings, who live throughout Kenya and the United States.

In Kenya today, use of mobile phones and mobile-money services is creating new forms of social and communal life. Mobile-money systems, such as Safaricom's M-PESA money-sending service (Omwansa and Sullivan 2012), allow people to send money to friends and family securely and cheaply using mobile phone text messages. Using mobile money enables people to share resources and smooth uneven incomes (Suri et al. 2012). New forms of social interaction around mobile money recast long-standing traditions of reciprocity and are subject to cultural rules and debates;

in the example just mentioned, the oldest son took a leading role in organizing his younger siblings' participation but soon ran up against fault lines of resentment among half siblings in a polygynous family.

Kenya might be the only country in the world where mobile money has become a part of daily life. Five years after Safaricom first developed M-PESA in 2007, the government of Kenya reports that there are now more than 30 million mobile phones in this country of 40 million people and almost 20 million mobile-money accounts. Since May 2011, a Safaricom–Western Union partnership allows remittances from forty-three countries to the telephone handsets of M-PESA subscribers.

The purpose of this research is to examine cultural practices in the use of mobile money in Kenya, especially how remittances circulate in social networks and construct social relationships. Although mobile money has been implemented in Kenya and elsewhere in the hopes of financial inclusion and provision of banking services to the unbanked (Maurer 2012), most users in western Kenya utilize mobile money to access their social networks of friends and relatives. Although mobile-money technology is designed for person-to-person transfers, it is more accurately a tool of *individuals who see themselves as parts of groups or collectivities,* whether these be savings groups, groups of siblings and cousins, or extended families who amass contributions for public ceremonies. Sending and receiving mobile money is a part of a culture of entrustment (Shipton 2007) whereby people save through others, contributing to what effectively is a pool of resources. Mobile money strengthens and makes visible the ties among siblings, their mothers, and mothers' relatives in these patrilineal societies, revealing through "uterine kinship" (Wolf 1972) a support network of women and their children. These networks inspire questions about the relationship between mobile money and gendered flows of other forms of value.

Research reported here was conducted in the summer of 2012 in Bungoma and Trans-Nzoia Counties in Kenya, specifically the urban centers and agricultural hinterlands of Bungoma, Kitale, and Kimilili towns and in Naitiri market, a rural community. The region is Kenya's agriculturally productive and densely populated "breadbasket." About 80 percent of the residents are still rural farmers, although growing urban centers have important business communities and the civil service employs teachers and other government employees. Ethnically Bungoma County is dominated by the Luhya peoples, especially the Bukusu subgroup, although many other communities, including the Kikuyu, Luo, and Asian communities, participated. The research employed participant observation, research interviews, and survey questionnaires with more than three hundred Kenyans in and around the towns and agricultural hinterlands of Kimilili, Kitale, and Bungoma in western Kenya and the agricultural villages of Naitiri, a farming community about 60 kilometers (40 miles) northwest of Kitale in western Kenya. We also interviewed and collected questionnaire data from the United Kenyans of Chicago and the Kenyan Women's Support Group.

Mobile Phone Banking and Airtime in Daily Life

Safaricom's initial success with mobile-money transfer has spurred the interests of development economists, governments, and organizations in harnessing mobile phone technology for the purposes of "financial inclusion" of unbanked persons in developing settings (Donovan 2012). Mobile-money stakeholders such as development banks, development NGOs, and telecommunications companies have sought individual and female economic betterment through electronic money sending and payment services—the "Empowerment Story" (Maurer 2012). Safaricom and other companies have also developed other financial services for mobile phones. These include phone-to-bank money transfers, savings mechanisms such as mobile wallets or links to savings accounts, insurance, bill payment directly to utilities, companies and schools, pay-as-you-go solar power, and microloans. Most recently, a service called M-Shwari began offering mobile phone–based savings accounts and microloans in 2012. The hope of many mobile-money stakeholders in the private sector and in development organizations is to go beyond money sending to provide financial inclusion through bank-like or bank-lite services in a country where at least 60 percent of adults are unbanked.

Does mobile money serve financial inclusion? Our surveys in western Kenya show that a small number of Kenyans employ mobile-money services for diverse financial practices such as bank account access or direct payments to utilities or schools. In the Naitiri Village, where most people are subsistence farmers, we found only 1 to 2 percent of people have bank accounts. In Bungoma and Kimilili, where up to half of respondents report income to supplement or replace farming, from 8 percent of people had bank accounts. Most Kenyans explained that they did not have enough money to establish bank accounts, which are still seen as places to put large amounts of money not needed in daily life. Many were aware of prohibitive account fees. Our team found that at least 75 percent of transactions are used to send money to friends and relatives. Rather than using a mobile phone as an electronic wallet or bank liaison, people cash in and out quite quickly, and they purchase e-money in anticipation of sending, usually to a friend or relative. Johnson, Brown, and Fouillet (2012), working in Kenya's Central Province, found that on average users reported they kept about 300 KES (about US$4) on their phones.

Five years after the introduction of M-PESA, mobile money's persistent irony is its use in strengthening traditional economic support networks – friends and family – rather than its application to formal financial inclusion. The real "inclusion" twenty-first-century information and communication technologies (ICTs) provide is into a culture of entrustment (Shipton 2007) that is surely centuries old. In western Kenya men and women participate in frequent borrowing and lending of value in everyday and ceremonial contexts. Through these exchanges, value that is both economic and social is stored or saved through gifts to others until it is repaid at an unspecified time in the future – often in a different form or value. In practices of entrustment, ownership is a kind of temporary custody of wealth that circulates over time. In spite of an ethic of reciprocity, relationships are not equal – rights, obligations, and expectations of kin roles historically depended on seniority (especially among siblings), generation, and gender. Today prestige and its attendant responsibilities to carry others can also come from employment, education, assets, and urban or international migration. The use of mobile money in this culture of entrustment has a diversity of uses, including emergency or medical assistance, household consumption, school fees, investments, and contributions to savings groups, coming-of-age ceremonies, and funerals.

Effectively, mobile money circulates among individuals who see themselves as connected to extended families, savings groups, and other collectivities. Examples include groups of siblings who contribute to a parent's medical needs or to school fees for nieces and nephews; savings groups of neighbors, relatives, and coworkers; and extended families and communities who contribute at large ceremonies. Funerals and coming-of-age ceremonies amass contributions from hundreds or even thousands of people. The 2010 coming-of-age ceremony for one young man amassed livestock, gifts of blankets and clothing, contributions for a feast, and mobile-money gifts of 85,000 KES (about US$1,000), enough for his secondary school fees.

Financial inclusion and empowerment narratives seem to miss the mark on the fundamental importance of collectivities of people to the use of mobile money. Indeed, mobile-money systems were designed for person-to-person transfers, although they were avidly used by savings groups and by triads and collectivities to collect and pool funds. Furthermore the mobile phone handset allows people to make personal and private decisions about saving, sending, or cashing out mobile money, and to receive money directly and privately – features that are valued but that may produce conflict in African settings (Archambault 2013; Horst and Miller 2006; Kriem 2009; McIntosh 2010). We must turn to mobile communication and a study of social networks to understand the public and private spheres of remittances.

Mobile Money Is a Part of Mobile Communication

In its primary use to send remittances, mobile money is profitably understood not as "banking" but as an adjunct to the mobile phone as a social tool. First, consider mobile communication: it creates new kinds of relationships in a variety of cultural settings. In Kenya, as in many places and cultures, cellular phones strengthen close and intimate relationships, reach new connections, and help coordinate and plan the experience of time (Ling 2008; Shrum et al. 2011). Mobile communication creates an "absent presence" (Gergen 2002) and organizes community from moment to moment among a dispersed, transient, yet intimately bonded sphere of close contacts (Gergen 2010). Creative practices of mobile communication shape new communities and social bonds in Kenya and other societies (Hoflich and Hartmann 2006). For example, airtime gifts playfully enhance the intimacy of close relationships among Kenyan college students (Kusimba et al. 2013). Mobile technologies further individual privacy and agency, which are particularly appreciated but also potentially dangerous in African settings.

Mobile remittances strengthen the relationships of mobile communication. Anthropologists have long commented on the importance of economic transactions in Africa in the creation of social relationships. Remittances are a performance of kinship and friendship roles in many cultures, but in some African settings they actually create social relationships:

> [In East Africa] material transactions have long been considered very important to the creation of interpersonal relationships. . . . In contrast with the Western attitude that the emotional component in interpersonal relations is more important than any transfer of material goods involved (the latter being thought of as something incidental), Africans are frankly and directly concerned with the material transfer itself as indicative of the quality of the relationship. (LeVine, 1973)

That the material defines the social may explain the persistence of bridewealth, the importance of children in marriage, and other practices whereby people are equated with value (Guyer 1993). The equivalence of people and money is certainly relevant to the enthusiasm for e-money remittances among Kenyans, who will actually send a remittance in lieu of attending a wedding or funeral. That value that makes relationships "real" also explains the importance of remittances. For urban migrants from western Kenya in the 1960s, bringing or sending money home was often more important than physical presence in preserving relationships (Ross and Weisner 1977). In our study, a 62-year-old whose oldest son has lived in Kansas for twelve years described his ongoing presence in her life, insisting that "he is very useful around here – very useful. He bought me a gas cooker . . . and pays my workers."

By constituting an intimate sphere, the mobile connection may exclude others (Gergen 2010), as anyone who has been physically present but outside a mobile phone conversation can attest. Kenyan popular culture frequently satirizes the uncomfortable effects of mobile money sociality – disruption and exclusion. In a Safaricom television advertisement, a businessman appears to furtively sweet-talk several women via mobile while his secretary looks on suspiciously; the females are revealed to be egg-laying hens on his rural farm.

In western Kenya people relate to and understand mobile money for its social effects, which empower individuals to both create sociality and disrupt it. A woman farmer in her fifties had little to say about mobile money as an economic or financial tool. Instead, she passionately reproached the service M-PESA for disrupting relationships through inappropriate connections:

> Mostly marriages are breaking with this service. A man may send 1,000 without you noticing. . . . There is a bond that begins when you have sent the 1,000 to the other lady. It goes on until the marriage breaks. I wish it would be just for women. Or sometimes the SMS may get in; you find and say a certain amount has been sent to so and so. If you tried to inquire, that person is not related to him, not sister or cousin, how come you send money to her? It is really destroying marriages.

That mobile money is primarily social rather than economic in purpose has important implications for development. ICTs are rapidly diversifying and blurring the uses and meanings of telephones and computers in a variety of settings (Donner 2010). Many of these diverse uses are not instrumental but social or for pleasure or entertainment; a more holistic "capabilities" emphasis on personal value can better describe and understand peoples' engagement with these technologies (Rangaswamy and Cutrell 2013; Sen 1999).

Bitter Mobile Money and Marginal Gains

The culture of entrustment is not without its burdens. Part of the way in which people participate and shape mobile-money networks is not just in the maintenance or forging of connections but in the avoidance or refusal of ties. People use a variety of strategies to avoid the redistributive pressures of friends and relatives. Kenyans often have more than one phone or phones with multiple SIM card address books as a way of managing types of connections or types of requests. To avoid a call or connection, people will hide a phone, refuse to answer it, turn it off, discontinue their M-PESA registration, or feign having lost or misplaced a phone when the contact in question appears or finds them later on. One awkward meeting involved a claim that one's phone had fallen down the outhouse. On the international level especially, stay-behind relatives experience fear when they think their relations abroad have "become lost," which occurs when they no longer make contact or respond to phone or email messages. Excessive pressure to remit was thought to lead to "becoming lost," which can be countered by offering emotional support, starting a business for the relative, or building the relative a house on the family land as a symbol of belonging (see also Horst 2011).

"Nowhere to hide" and "It is a curse more than a blessing" are some of the sardonic idioms one hears about mobile money's relentless demands. Part of this ambivalence reflects the burden of dealing with requests from friends and relatives and the sense that people's affections have become monetized. Should one travel home or send the money one would use on transport to one's mother or brother? The ambivalence also emerges out of frustrated desires to make tangible and significant investments in the future: "the gift that keeps on giving." *Bitter Money* (Shipton 1989) described East Africans' mistrust of cash and capitalism in the early 1980s. The bitterness of e-money is the conflict it creates between personal and collective, between spending and saving. Many people avoid storing money on their phones, feeling that it leads to excessive purchases or capitulations to requests. Several people with bank accounts preferred to transfer money off their phones and into their bank accounts as often as possible, in spite of the significant fees for such transfers. A dentist in Kimilili earns about 2,000 KES a day – although he receives significant additional income from other sources – which he transfers into his bank account at the end of each day at a cost of almost one US dollar for each transaction. Most people explained to us that they keep very little money on their phones due to the temptation to cash it out and to respond to the many remittance requests they receive.[1]

In the face of the ubiquitous circulation of mobile money, another level of creative practice seeks to turn the culture of entrustment to one's advantage – that of using exchanges of different kinds of value to extract a small profit or "marginal gain" (Guyer 2004).[2] Unequal exchanges of value between mobile money and other kinds of currency or value – such as cash, airtime, and even their own persons in terms of their presence at family meetings or ceremonies – offer marginal gains.

The practice of airtime gifting can illustrate the concept. Kenyans go to great lengths to conserve their own airtime: many keep very little airtime on their phones regardless of economic station and grudgingly "top up" in small amounts of five to fifty shillings. Flashing (the caller hangs up after a few rings, saying "call me" without using airtime) can spur others with the appropriate social position or gender to pay for the call whenever possible (Donner 2007). Conserving airtime is also accomplished through short conversations with abrupt hellos and no goodbyes. Paradoxically, even as people seek to conserve their own airtime, they are avid senders of airtime gifts. A modest airtime gift is converted into a brief phone call to the sender, thereby rekindling a friendship or connection. Safaricom's advertising uses the image of a sliced cake to encourage people to use its *Sambaza* (Kiswahili: to spread) menu item to "Send airtime to friends and family!" Two internet advertisements aimed at Kenyans in the United States encourage them to "Send airtime to friends and family back home" and to "Surprise loved ones in Kenya: Recharge their mobile – fast and easy transfer!" The transformation of monetarily small amounts of airtime into valuable sociality and a preference for the gifting of airtime – and extracting greater social value at no extra cost – are examples of marginal gains.

The most entrepreneurial users will juggle the many registers of value to their advantage (Guyer 1993) – using marginal gains to lower the monetary costs of social networks while still staking their claim to the culture of entrustment. Wafula, a 50-year-old Nairobi resident, explained that at his age, he is reaching a high point of remittance demands, as nieces and nephews seek school fees and job placement and as elderly folk continue to need support. He explained that he has a "system" for dealing with celebrations. He explained how it worked during the 2012 circumcision of his nephew (who would refer to him as "father"), a ceremony that in western Kenya still draws hundreds or even thousands of attendees whose money and livestock gifts benefit the boy and his family:

> As the day approached I refused my brother's calls and those of my sister-in-law. I just kept quiet. I missed the whole thing. But then during the passing out [which took place three weeks later] I called my sister-in-law a few days before that. I asked her to prepare a shopping list of everything that would be needed for that meal. She sent me an SMS with the list that came to 6,000 shillings. I sent her that (via M-PESA). So there was a big feast, and that 6,000 paid for everything. My brother called me to say thank you.

By refusing to attend the ceremony, Wafula saved himself as much as 20,000 KES, avoiding the cost of transport and numerous requests for assistance before and during an event attended by several hundred people. He is expected to give money to older women for their "sugar"; many will need transport back home; churches will request donations; money will inevitably be short for food, the boy's medical costs, and so on. Wafula explained that his "system" allows him to extract maximum social capital with minimum expenditure. Initiating the call during the passing out and allowing his sister-in-law to set the price of the remittance makes him appear infinitely generous, even as his own estimates, he explained, would end up too high for the actual cost of groceries in the rural areas. All the attendees acknowledged his contribution of a public and shared feast.

Mobile money functions cannot be separated from the primarily social functions of the telephone of which they are a part. The conversion of the economic into the social and back again is one of the most widely appreciated functions of mobile phones and mobile money, and seems to be aimed at individual advantage. Through the creative use of mobile phones, social networks, and remittances, cobbled together into a "system," individuals extract marginal gains as they convert and balance their social and economic capital. Such conversions clearly have development impacts as people seek to keep more value for themselves and as ceremonies create more geographically dispersed, and perhaps less emotionally engaged, networks of contributors.

Social Networks

We use a social network perspective to examine how people are connected to others through mobile money transfers and how people's positions within social networks may influence their remittance decisions. A social network consists of a set of actors or nodes – in this case individuals – and the relations or a tie between them – in this case flows of mobile money transactions (Wasserman and Faust 1994). One approach to understanding how individuals create ties argues that individuals seek connections to maximize social capital, or "the sum of resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network . . . of mutual acquaintance" (Bourdieu 1985: 248). Simply put, social capital is about seeking advantage for oneself or others (Burt 2005). Individuals and groups maximize the benefit of their positions within groups, which shapes the social network.

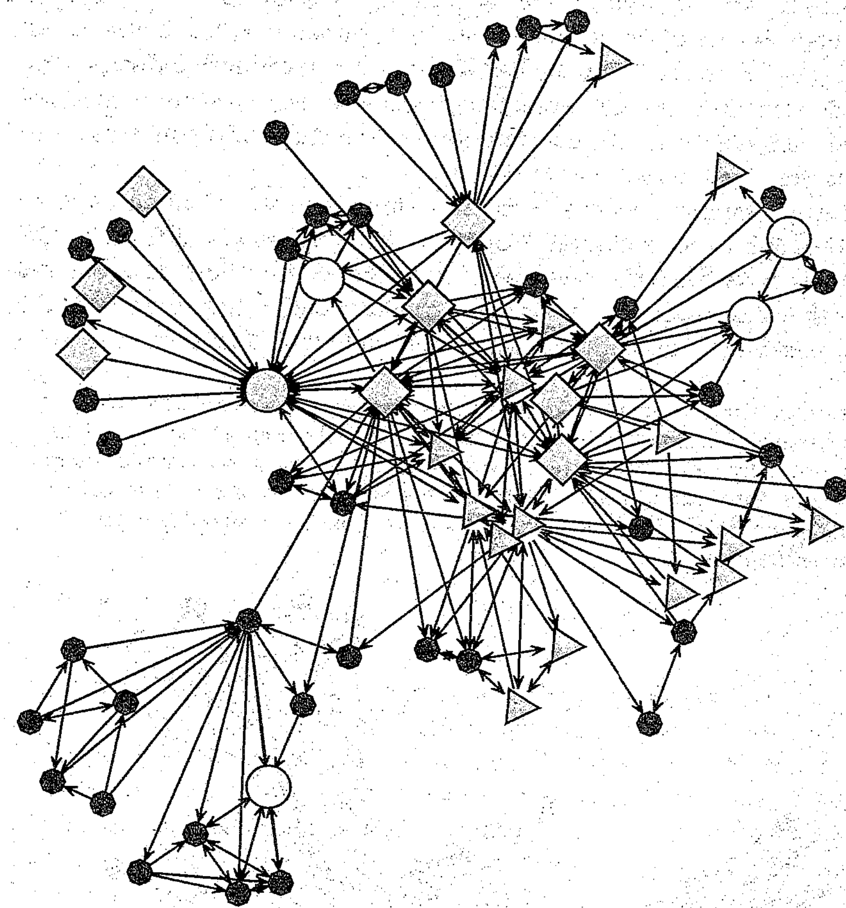
Remittance flows modeled as networks can reveal the density and patterns of social connections and document the potential for social capital associated with particular places in the social network. Two patterns in social networks imply social capital: closure and brokerage (Burt 2005). The more connections exist among a group of individuals, the more closure in the group. Groups of densely connected individuals are effective at distributing resources and information, evening out inequalities among the individuals concerned. These dense groups often represent the maintenance and strengthening of close ties (Lin 1998).

The second form of social capital in networks is brokerage. Weak connections – few ties – between groups are "holes" in the social structure. An individual whose network spans or connects the holes can broker flows of information or resources from one group to another, bringing information or resources across groups (Burt 2005; Lin 1999).

Social-network drawings were created for several families who send and receive mobile money by interviewing between three and ten individuals connected by mobile-money transfers. Each individual was asked to name relatives to whom they had sent and received money in the past year. Most individuals quickly named between five and nine individuals. Whenever possible, the individuals named by the first individual were contacted and the same questionnaire filled out, which resulted in the network diagrams that follow. Interestingly, several interviews the research team had with siblings demonstrated that many people in a group are aware of ties among their friends and connections; that is, they know quite a bit about who is sending money to whom within their close group of contacts. The resulting matrices were entered into the program R for the drawing of social networks.

For each individual, a list of persons they send money to and receive it from the most – in the past year – was collected. Figure 8.1 below allows us to examine the relationship between kinship and the sending and receiving of money. This polygynous family included twelve wives altogether, of which five (represented by large white circles) are part of the connections named by our ten interviewees. One wife (light gray circle) and her nine children form a dense network at the center of this diagram along with their children and in some cases their spouses. Certain individuals are important bridges to other co-wives and their children and grandchildren.

Figure 8.1. The Bungoma Family 1 network is based on cousin, sibling, and maternal ties. It is centered on a woman (light gray circle) and her nine children (squares) and their children (triangles), with paths to four co-wives (white circles) and their children. Connections to fathers and paternal uncles are rare or absent; instead, men are mothers' brothers, brothers, or cousins.



Counting the types of kin relationships that form paths in Bungoma Family 1 allows us to see what kinds of kin relationships are especially associated with mobile-money transfers as drawn in figure 8.1. Cousin, brother, and sister relationships are especially common means through which people send and receive mobile money. The preponderance of cousin ties is especially interesting, as in most kinship systems in East Africa there is no commonly used word for cousin, the term "brother" or "sister" instead being used. Most informants explained that when brothers and sisters have a close relationship, their children will have a close relationship in which no distinction between siblings and cousins is made.

Relatively rare bridges exist between the dense networks of support created by the children of one mother. Mothers are more central than fathers, who are often not named in questionnaires at all. Brothers, sisters, cousins, and occasionally half siblings are all connected through the bonds of mobile money. Sibling ties, maternal ties, and in some cases cousin ties are the most important kin relationships, while marriage and in-law ties are relatively rare.

Ties in Bungoma Family 2 connect siblings to the children of these siblings and to their parents. Note that the dense group of three sisters and a brother form the basis of a clique connecting their children, and that they also connect to their three brothers and in turn to these three brothers' wives and children (figure 8.2; table 8.1). Finally, several patri-

Figure 8.2. In Bungoma Family 2, significant asset and income inequality exists among seven siblings (in white). Three sisters and a brother are part of a dense network of frequent ties (center), giving individuals several pathways to share resources. Paths connect them to three other brothers and their wives and children (on right side of the drawing) and to a sibling's husband and his relatives (left side).

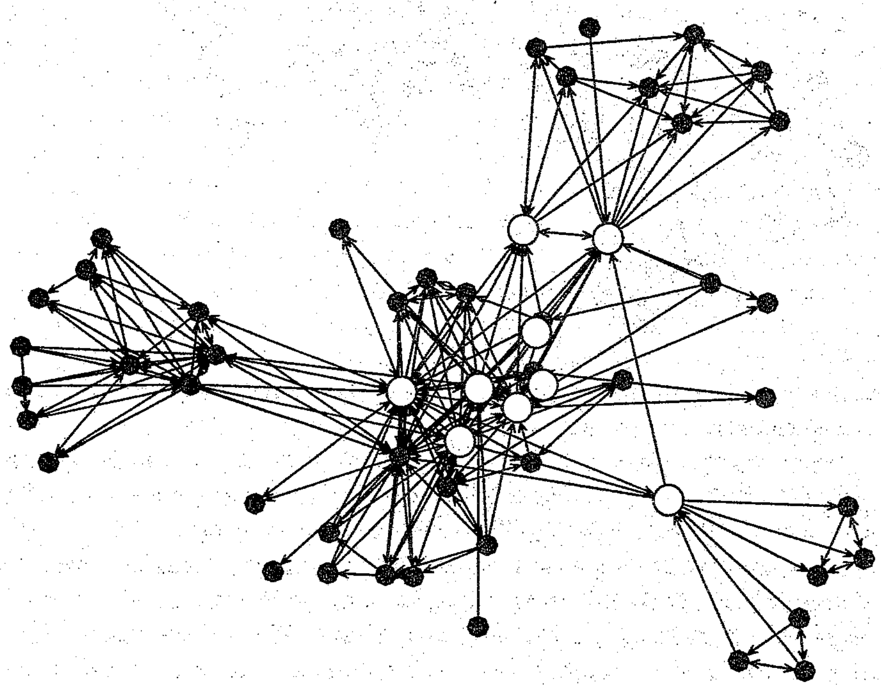


Table 8.1. Relationships of Receivers to Senders in Bungoma Family 2

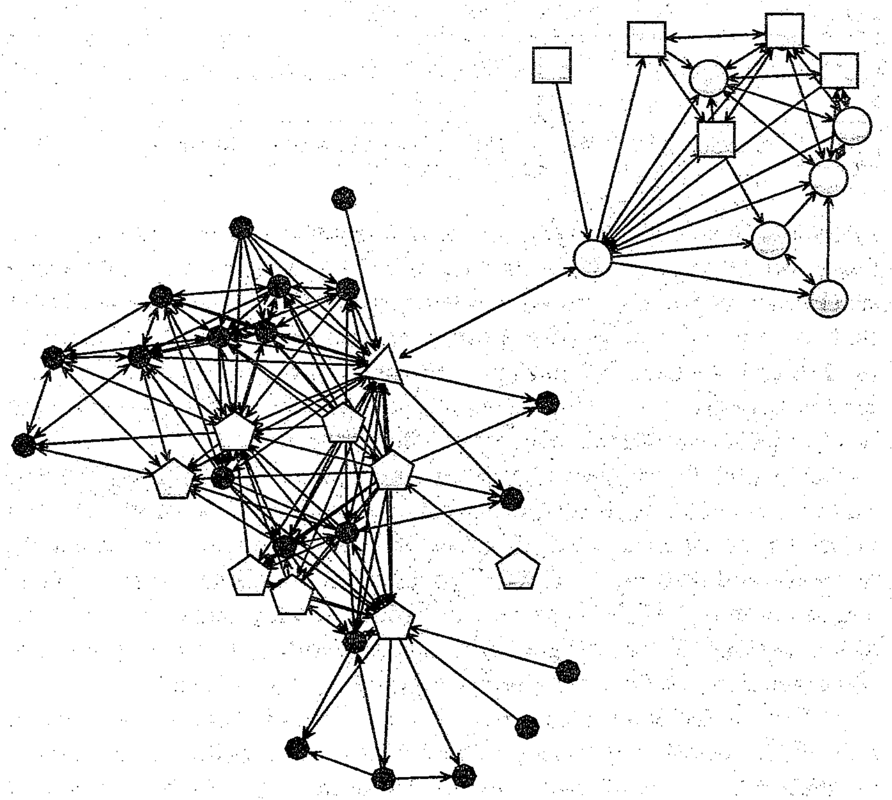
Mobile Money Transactions in Bungoma Family 2			
Number of Female Ties to a . . .		**Number of Male Ties to a . . .**	
brother	17	cousin	22
son	12	brother	16
cousin	9	sister	13
mother	8	maternal aunt	9
nephew	7	nephew	8
daughter	6	wife	8
brother-in-law	5	maternal uncle	7
maternal aunt	5	mother	7
sister	5	niece	6
husband	4	sister-in-law	4
niece	4	other	39
uncle	4		
other	28		
Total Female-Sent MM Ties	114	Total Male-Sent MM Ties	139

lineal and in-law ties connect the central group to one sister's husband's family on the left side of the diagram. In field interviews, one of the three sisters' sons explained that he sees his patrilineal relatives at funerals but that the men who have helped him with fees and other investments in his future have been his mother's brothers. Three brothers are bridges in this network, spanning the closed groups of their three sisters and brother with that of their own wives and children.

The Naitiri family includes as its matriarch a 67-year-old farmer, mother of eight, and grandmother of forty-four. In the network, she is a bridge connecting her network of children and grandchildren, including her sons- and daughters-in-law, to family of her deceased sister's oldest daughter, who in turn is connected through money transfers to her sisters and their children (figure 8.3). Her network also receives international remittances from two individuals in the United States.

In fact, the children of the two sisters in Naitiri Family have created a family association to collect school fees for the children and grandchildren of this pair of sisters. At the deceased sister's funeral (a type of event when social groups and generations often reconstitute themselves, and when discord is displayed and assuaged), the children of these two women, who live in Naitiri, Kimilili, Chicago, and Nairobi, discussed the high cost of education. On the spot, they formed a credit and savings group in which each of them agreed to contribute 1,000 shillings a month to a common savings account from which school fees would be paid on a rotating basis. The members meet once a month for a meal, where they also contribute 1,000 KES each toward a banked fund for school fees. Mobile-money services are used by some at the meeting to send mobile money to the treasurer; from Chicago, a daughter uses Western Union.

Figure 8.3. Naitiri Family is based in Naitiri, Nairobi, and Chicago. A 67-year old grandmother (triangle) is a broker (Stovel and Shaw 2012) connecting her children (pentagons), daughters-in-law, and grandchildren (dark gray) to her deceased sister's oldest daughter (light gray circle), her children (squares), and her other siblings (light gray circles). Her son and her daughter in Chicago are embedded within her network and send remittances via Western Union, sometimes directly to their relatives' M-PESA accounts.



The three families mapped here show important similarities in terms of structure and types of ties. All show an emphasis on maternal and sibling ties. Sets of siblings show "closure" or dense ties and include mothers and their children. In many of these families, certain individuals have regular salaries or income from farming, shops, or rental housing, while others do not. Mobile-money circulations serve as an equalizing mechanism whereby individuals have a greater number of potential ties or links through which they can access the wealth of a family. In both Bungoma family networks, matrilineal kin create dense networks of closure. Although patrilineal and in-law ties are rare, they are important, as weak ties often are, in filling structural holes. Weak ties over bridges move resources into and out of tightly connected groups and bring new resources into groups. In Bungoma Family 1, these bridges are between half siblings; in Bungoma Family 2, bridges are in-law and patrilineal ties. Naitiri Family is predominantly made up of matrilineal ties.

Anthropologist Margery Wolf, in patrilineal Taiwan in the late 1950s, described how women in patrilineal societies build their own social networks based on establishing ties to friends, siblings, and children, which she called "uterine kinship" (Wolf 1972). Uterine kinship often exists outside the public, patrilineal sphere and describes flexible and personal mother- and sibling-centered ties. At marriage, a young woman newly moved in to her husband's community creates her own social ties through friendship, through her children, and through preservation of ties to her own siblings, particularly her brothers. Uterine kinship involves both men and women equally, through ties among siblings to mothers and mothers' relatives.

The mobile-money networks' emphasis on uterine kinship is in contrast to the ties of patrilineal kinship that have a high profile at public events. At coming-of-age ceremonies, young men are officially welcomed as adults into a circle of patrilineal kin. Patrilineal ties are still the basis of systems of inheritance and rights to land and other value in western Kenya (Nasimiyu 1997). Cellular phones and mobile money restore the relationships of uterine kinship and, in so doing, disrupt relationships of marriage and affinal ties. Among thirty-three women farmers in the rural outskirts of Kitale town, the privacy, secrecy, and autonomy of mobile money was used to strengthen friendship and kinship ties with blood relatives at the expense of spouses and affines. These women hide money from husbands and privately send money to their mothers and sisters to educate nieces and nephews. The common occurrence of teenage pregnancy means role overload for maternal grandmothers as their daughters' husbands reject children not biologically their own (Kilbride and

Kilbride 1997); women leverage uterine kinship to support their children or grandchildren born before marriage. In many families, especially Bungoma Family 2 above, the greater part of remittances to mothers is used to support illegitimate children.

Polygynous marriage networks like Bungoma Family 1 are rapidly fragmenting into networks like Bungoma Family 2 that develop around siblings. Historically, half siblings shared several "mothers" and were brought together by rights of residency, inheritance, and seniority (Wagner 1975). In Bungoma Family 1, half-sibling and co-mother ties are relatively rare, but this is because weak ties connect the central clique to co-wives and half siblings (figure 8.1). More commonly today, polygynous marriage is contested or practiced secretly (Kilbride et al. 2000), and the oldest son or *simakulu* often provides economic support when a father has "moved on." The absence of fathers and husbands is a feature of both Bungoma families, but particular resentment seems to exclude the polygynous father from remittance networks. A Kisii woman in her late twenties working as a secretary described her ambivalence about remitting to her ill father:

> My father had four wives. Mother is number two. We are twenty-two altogether. In our family the co-wives did not work together. They are not on good terms. In our family we were sidelined by our father. It was my mom who used to support us with her farming. My father could support the last two families. So us, we were dependent on our mother until our firstborn brother, second in the family, joined the university and started paying our school fees with the university boom. . . . He [Father] was unfair to us. Since we were his children, we didn't take it kindly. Sometimes there is an occasion – right now Dad is on treatment. He needs that support. When you call people to come together . . . we are so bitter. You get called. So now, we are called upon . . . you get so bitter. He didn't help us.

The centrality of women in their mobile-money networks of children and matrilineal kin could empirically support the gendered "Empowerment Story" (Maurer 2012). Social networks do demonstrate the social capital of certain women. Mothers are often visible in network drawings as receiving many ties from others (figures 8.1, 8.2, and 8.3). In Naitiri Family, a grandmother brokers a structural hole, connecting resources from her network, which includes large international remittances, with that of her sister's children.

Both women and men leverage the social and economic capital of uterine kin. However, the secret and illicit nature of these ties challenges the "Empowerment Story." Uterine kinship ties are more likely to be secret and illicit, disrupting the public and often patrilineal sphere, particularly when it supports illegitimate children. This and other studies have found

that secrecy and privacy are salient aspects of women's phone usage (Hassan 2013). Women routinely keep secret phones and SIM cards from their husbands. In extreme cases husbands prevent women from accessing e-money services. For example, a 45-year-old lady is without an identity card, so she is dependent on her sister in Kansas for an account with M-PESA. Her husband destroyed the phone on which she received remittances from her sister, and she had to wait for that sister to visit and buy her a new phone, which she now hides from him. A second challenge to the Empowerment Story is the predominant use of remittances to circulate small transactions for consumption and emergency use. The average remittance among 47 people in Kimilili who reported 155 remittances in the past month was 1,800 KES (about US$20); in rural Naitiri 25 people reported 37 remittances, with an average value of 700 KES (US$9). Ethnographic data also show that at least one-third of remittances are sent for what are considered "emergencies," the asker being stranded without transport, sent home from school, or falling ill.

When I commented to one woman that she did not name her husband as an e-money contact, she clucked in annoyance – and pointed out her farm and chickens, entrusted to her by her husband and mother-in-law. Her reaction suggested that Kenyans themselves view remittances as a means of coping rather than true economic "empowerment" – what a 47-year-old father described as "a gift that keeps on giving: land and healthy animals . . . or a rental house . . . where it gives me something every month." A successful dentist in Kimilili town is nevertheless determined to develop farmland he inherited from his father. He explained, "With a real investment . . . you will never be poor." The visible and sharable wealth-building resources that the people of western Kenya truly value – such as productive farmland, real estate, or livestock – are still largely transferred through male inheritance (Budlender and Alma 2011; Nasimiyu 1997).

The uterine kinship of mobile money conveys the secrecy and marginality of connections to and through women as distinct from forms of wealth that are publicly entrusted, socially embedded, and appreciated on symbolic and emotional levels in this patrilineal society. In strengthening uterine kinship, then, mobile money may fix these relationships outside of the public sphere or even serve to justify exclusion. The relationship between the public and private sphere may hinge on the exchanges between them made by men, who participate in both the uterine and the public spheres of kinship. Time will only tell if mobile-money networks will eventually bring "the gifts that keep on giving" to the many who seek them in western Kenya.

Conclusion

Africans have long been comfortable with using different forms and registers of value through their involvement with regional, Indian Ocean, and European trade networks (Guyer 2004; Kusimba et al. 2005). Mobile money and airtime are the newest forms of value – value that can be offered in lieu of one's presence or emotional involvement, and that can be transformed one into the other or into goods, information, social relationships, or the emotional effect of connecting to a loved one. Traditions of entrustment – in which ownership is a kind of temporary safekeeping of wealth that circulates across the passing generations – reflect themselves in the new mirror of e-money. Using mobile money means storing or saving value through its entrustment to relatives, friends, or savings groups on a local, urban-rural, and even transnational scale. By recording one's gift in a public ceremony's record, a claim is staked toward a future recompense – as Mzee Nathan explained, this gift must be doubled upon its return. As long as Kenyan banks continue to charge prohibitive fees, the concept of saving through entrustment makes a great deal of sense.

Mobile money is an adjunct to the mobile phone and used in concert with the mobile phone. It is a social and economic tool (Donner 2009), used to shape social networks that express relationships and the economic value of entrustment (Shipton 2007) whereby people lend and borrow with others for needs great and small, thereby contributing to and drawing from what is effectively a pool of resources. Mobile-money networks make visible the ties among siblings, their mothers, and mothers' relatives in patrilineal western Kenya. Matrilineal flows of mobile money are often private and secret. The marginality of ties through women inspires doubts about the female betterment assumed by the Empowerment Story – yet they do not deny it outright. Mobile communication increases the redundancy of social networks and provides any mobile-money subscriber with the possibility of accessing and participating in the culture of entrustment, which has after all stood the test of time as real "financial inclusion."

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NOTES

1. On the other hand, our team heard from women in ROSCAs that mobile money was an aid to earmarking or saving for merry-go-round contributions.
2. I would like to thank Ivan Small for pointing out the relevance of Guyer's concept.

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