

Research Report on the Participatory Study of Rural Women Traders & Mobile Money Systems: Northern Ghana Women's Cognitive Understanding & Perceptions

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Executive Summary

The high expectation about mobile money's potential to positively impact the livelihoods of both women and men trapped in poverty is not adequately backed by evidence on rural women traders understanding, uses, and challenges. In this study we interviewed 100 rural women traders and conducted 9 focus groups in the Kasena Nankana Municipal Assembly to examine their locally self-sustaining eco-system and perceptions about mobile phones and money systems for extending and/or enhancing their livelihoods. Preliminary results showed that 90 percent of the traders rely on home savings, though about 80 percent indicated that if they had excess funds they would save with banks. About 77 percent of traders had used mobile phones for a period of between 1-5 years whilst 74 percent used the MTN mobile network. The reported challenge of rural women traders in mobile phone usage is poor network connectivity. In all, 82 percent of the respondents have no idea about mobile money and its perceived risk, and 81 percent of them reported that they don't use a barter system in their trading. The conclusion is that mobile money is still alien to rural women traders in the region we studied. Given the high mobile phone usage among rural women traders, there is potential for mobile money usage when the design is inclusive of, and responsive to, the saving needs of poor and marginalized rural populations.

Introduction

This study examined the locally self-sustaining eco-system of women traders in northern Ghana as well as the cognition and perceptions of the women in relation to their understanding and use of mobile money systems for extending and/or enhancing their livelihoods. The research explored the target community's current financial practices as well as addressed the potential for better-designed mobile money systems to impact those practices. While there are high expectations that mobile money has the potential to positively impact the livelihoods of both women and men living in poverty, there is currently sparse research showing such impact. The researchers utilized participatory, citizen-based research approaches, including key informants, focus groups, and an interface session to study rural women traders in the Kassena Nankana Municipal Area of northern Ghana.

Context

The research was conducted with women in rural northern Ghana in ten targeted communities in the Kassena Nankana Local Authority Area: Pungu, Nayagnia, Manyoro, Gia, Nogsenia, Namolo, Saboro, Vunania, Korania, and Doba. The choice of the study district was informed by the existence of an irrigation infrastructure for off-season economic activities and the long standing development of community-based trader association as well the researchers' earlier field engagements in the area.

Demographic and health conditions in the Kassena-Nankana District reflect the adverse ecological and economic circumstances of northern Ghana. Prior to the health interventions introduced with the development of the Navrongo Health Research Center, the district had one of the highest mortality levels in Ghana. Although health conditions

remained poor in the early 1990s, results from the most recent Ghana Demographic and Health Survey (GDHS) indicate that both infant and child mortality have declined in the Upper East region in recent years, while conditions have worsened in all other regions of the country. Fertility and mortality declines are particularly pronounced in the Kassena-Nankana District. Infant mortality declined from 129 deaths per 1,000 live births in 1995 to 85 deaths per 1,000 live births in 2003, representing a 34 percent decrease, while mortality of children younger than five declined from about 147 to 83 deaths, representing a 44 percent decrease over the period. Although childhood mortality remains high, and infectious diseases are the predominant cause of deaths, all causes of childhood illness have declined, including malaria, diarrheal diseases, acute respiratory infections, and immunizable diseases (Bawah, 2013).

The War Memorial Hospital located in the District capital (Navrongo) serves as a District Hospital and a referral centre for other health facilities at the Zonal and community level. Further, the District has two Health Centres, 17 functional CHP Compounds, one Health Research Centre, one Private Clinic and a Health Post which is operated by the Catholic Mission. The District currently has a Doctor/Patient ratio of 1:20,000 and Nurse/Patient ratio of 1:1,200 (KNDA, 2012). Life expectancy is below the national average of 55 years (KNDA, 2012). Malaria is endemic in the area, accounting for over 60 percent of all outpatients seen at health facilities and 25 percent of under-five mortality in the district. Of great concern are the non-communicable diseases like hypertension, which is now gaining grounds in proportion and ranking. Malaria remains the leading cause of hospital admissions, but with a significant reduction in proportion from 56.5 percent in 2008 to 36.9 percent and 42.4 percent in 2009 and 2010

respectively. Though the majority of pregnant women attend antenatal care in the district, only about 44 percent of these women get supervised deliveries in health facilities (KNDA, 2012).

The social, economic, and geographic circumstances of northern Ghana also constrain the delivery of social and health services. The mobility of health services is restricted by the lack of resources for facilities, supplies, fuel, and equipment. Services at stationary facilities in the district are underused because the cost of travel and of services and medicines at clinics is prohibitive for most rural families. Consequently, parents confronting their children's illnesses resort either to traditional medicine or self-medication involving the purchase of medicines from untrained village hawkers.

Methodology

The researchers' utilized participatory approaches--namely, interactive focus group discussions (FGDs), key informant interviews (KIIs), and "interface sessions"--as the main sources of data for the study. The data instruments were composed of both open-ended and closed questions. The KIIs were conducted by trained community relations workers. The 10 communities were selected on the basis of existing information at the Kassena Nankana Municipal Assembly on community-based women traders' association groups which have registered with the Assembly. The first ten communities with the largest membership of community-based women traders' associations were selected. A random sample of ten traders from each of the ten community-based women's traders' associations was drawn. Focused, individualized, and separate conversations were then arranged with each of the sampled community-based women traders' key informants (KIIs). A total of 100 KIIs were conducted.

An interface session was conducted as part of the action-research, where the regional representatives of the mobile telephony service providers--namely MTN, Vodafone, TiGo, GLO, Expresso and Airtel--and the leaders of rural women traders' associations shared a platform to dialogue on the key findings of the study. The dialogue addressed issues of service quality and how to make mobile telephone services responsive to rural women's trading needs and to design better quality commerce related services.

The research sought to answer questions related to:

- Local context/eco-system (e.g. current practices of women traders in relation to savings and other value storage mechanisms such as *susu*, a micro-credit, cash, bartering, and mobile banking system similar to a rotating savings and credit association (Aryeetey & Steel, 1995).
- Women's perceptions/cognition (e.g. understanding of value objects/agreements)

Ethical Issues

The research team conducted a comprehensive community entry, using existing traditional protocols prior to the commencement of fieldwork. Trained field staff explained the study objectives and estimated the duration of interviews and discussions to study participants before starting the interviews. They stressed the respondents' and discussants' rights to ask questions before, during, and after the conversations. The issue of confidentiality was addressed by ensuring that study participants were not identified by their names in connection to specific responses. Voluntary participation was the basis of study participants' involvement in the study, and they were informed of their rights to decline without any consequences.

Literature Review

There are several scholarly works in the field of mobile phone systems and theoretical models. Theories such as the technology acceptance model (TAM) explain perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes. Masinge (2010) adds the variables of risk, trust, and cost to the extended technology acceptance model (TAM2). Korten's theory that place, people, and resources are "bound into a locally self-sustaining human ecological system" (Zewde, 2010) has served as an important lesson that to better understand what women in northern Ghana perceive of mobile technologies, it is necessary to deeply understand their local ecosystem. Technology acceptance models typically focus on the individual and offer little insight into the context into which the technology is being introduced. This research focused on both individuals and the local eco-system.

This study explored in-depthly how rural women traders perceived the concept of mobile money applications, and how they think such applications could be better designed to serve their actual needs. Kendall, Godoy, Tortora, and Sonnenschein (2012) note that mobile money and major financial services have been initiated for the poor by the World Bank, Department for International Development (DFID), United States Agency International Development (USAID), the Bill & Melinda Gates Foundation, as well as others. This study thus contributes to understanding how the proposed benefits of mobile money can indeed be realized.

While some research has been carried out in this area of mobile money applications in Ghana, the research does not specifically look at cognitive dimensions of women's descriptions of valued objects/agreements, nor the cognitive dimensions of

women's descriptions of mobile money systems/banking. In a 2012 panel discussion on Mobile Financial Services in Ghana, researchers from Innovations for Poverty Action (IPA) noted: "Poor Ghanaians do not use mobile money, it is necessary to develop mobile money products accessible and appropriate for the poor." This study makes an important contribution towards understanding why "poor Ghanaians" are not using mobile money.

It is a commonly held belief that individuals have bartered across cultures since the very beginnings of civilization. The researchers are interested in exploring how individuals perceive the use of mobile phones to keep track of bartering or trading of services. This study uses both textual and graphical representations of value storage to capture the cognitive dimensions of women's descriptions of valued objects/agreements and contextualize the concept of "value storage" as understood by women traders in northern Ghana.

Schindler's (2007) work explores how informal credit system used by market women in northern Ghana serves as a strategy for managing risks. She noted that such systems involve "high transaction costs and prevents market women from growing out of poverty in the long term." While mobile money systems offer the potential for lowering such high transaction costs, there remain many questions as to whether women would trust a mobile system to replace the traditional system.

Research in Ghana in the area of informal financial system is focused on *susu*. Vonderlack and Schreiner (2001) found that market women using this informal financial system in Ghana, "make 30 small deposits per month (a trickle). After a month, they get back 28 times their daily deposit (a lump)". Richard notes that *susu* is a source of funding

for entrepreneurs “though it was the least patronized source of business fund in the study area for obvious reasons of mistrust” (Richard, 2010). The issue of trust has also surfaced in other African countries. For example, in a study of mobile banking adoption in Gauteng, South Africa, “trust was found to be significantly negatively correlated to perceived risk” (Masinge, 2010).

Neuwirth (2012) notes that women traders in most African markets bargain over prices as part of an “ancient tradition,” part of an indigenous economic system in these African markets. In looking at women traders in Northern Ghana this research will examine how important bargaining is to this local eco-system and whether mobile money systems are seen as a disruption to this local eco-system. There have been Mobile Payment System (MPS) in Ghana since 2006. The current MPSs have faced challenges with only a small number of mobile phone users adopting the systems. There are several mobile money platforms in Ghana and each has had limited success. For example, Davidson and McCarty (2012) report that MTN, a major telcom in Ghana, found that their approximately 60 percent of their customers did not understand the purpose of MobileMoney, or how to use it. Additionally, Krueger (2011) reveals another reason that mobile money may not be widely adopted may be that the tiered fees make it cost-prohibitive for the poor. This point out the need for a deeper understanding of how individuals perceive these services and the potential value that such services offer.

Alleman and Rappoport (2010) note that barter creates a problem, “the double coincidence of wants. That is, finding a farmer willing to exchange goat for wheat,” and argue “money facilitates commerce.” This study addressed the subject of additional problems mobile money creates in such proposed financial transactions from the

perspective of women entrepreneurs in northern Ghana, and whether there are ways that better designed mobile money systems can indeed better facilitate commerce.

Kendall, et al. (2012) noted that new research reveals that in sub-Saharan Africa men and women were “similarly likely to report sending and receiving money from family or friends.” The research examined trader attitudes towards mobile technologies as potential tools for enhancing commerce and their current practices of value storage; as well as their expectations of how mobile technologies may change value storage.

Boadi, Boateng, Hinson, and Opoku (2007) explore mobile livelihood services as “transaction spaces” and the potential of such services to deepen industry value systems. The potential for such systems to deepen value systems as opposed to being simply disruptive may make such systems more “appetizing” for adoption. Donner (n.d.) notes that Molony posits that mobile commerce in Africa works best with “a wrapper of face-to-face trust-building interactions.” This research sought to better understand the face-to-face trust-building interactions that currently exist among women traders in the informal economies of northern Ghana.

Study Findings

The findings of the study address socio-demographic characteristics; rural women’s trade characteristics (trade items, capital sources, employees); and savings culture.

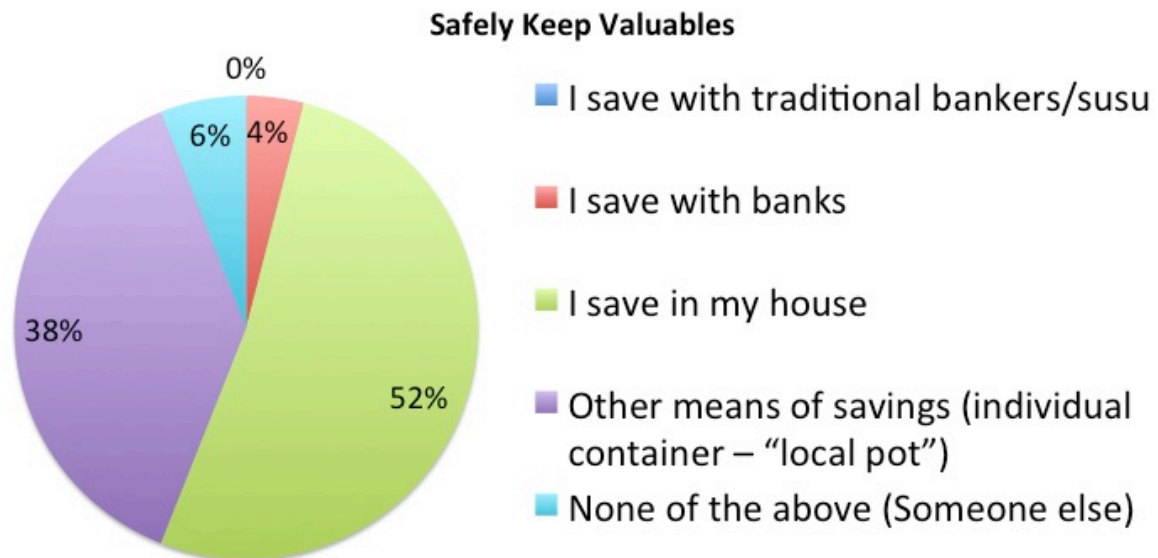
Socio-demographic Characteristics

The results indicate that 94 percent of the rural women traders in this study identify as married. The findings also reveal that 68 percent have been trading only 1–10 years, while 22 percent have been trading for 11-20 years. The women are engaged in a variety of trading activities including *dawadawa* (a local spice prepared from dawadawa tree)

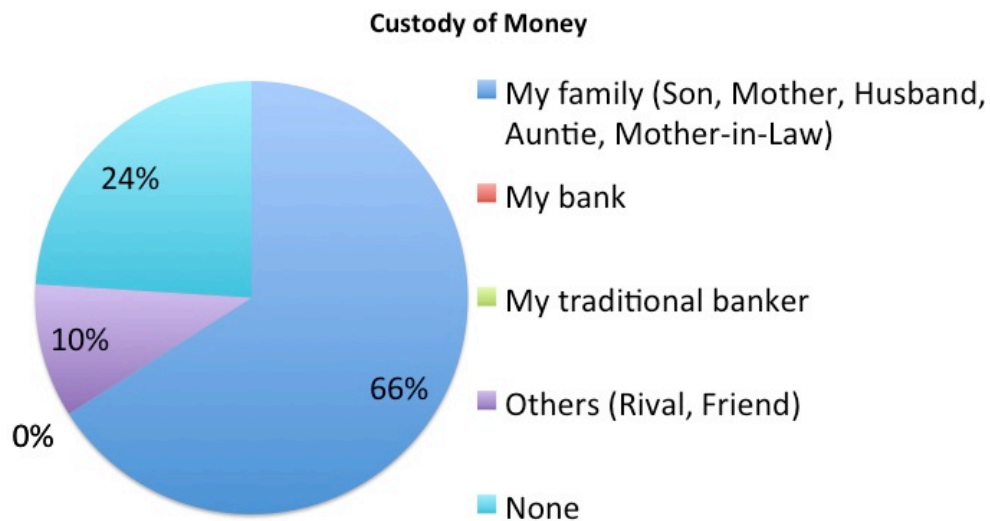
processing, petty trading, pito brewing, foodstuff retailing, and vegetable retailing. These activities are frequently small scale in nature and require a capital outlay as small as 100 Gh cedis (equivalent to US \$35). The women have limited sources of capital for trading activities. They rely more on personal and family based sources for small loans. The researchers have identified three key preliminary findings during the data analysis. The findings relate to: the savings culture of the rural women traders; mobile phone use/mobile money; and the bartering system.

1. Savings Culture of the Rural Women Traders

When asked “How does your household/individual keep items of value safely?” most of the women indicated that they save their money in their house, while 38 percent said that they had other means of savings including the local pot, a container designed for putting in money without an opening for easy access to money deposited by individual.



Contrary to what is known in the literature (Vonderlack and Schreiner, 2001) about other market women in Ghana, this study revealed that rural women traders in northern Ghana do not rely on *susu* as a reliable source of savings. Rather, they rely on trust.



In general the women felt that they preferred to trust family with their savings rather than a *susu* collector. With regards to custody of the money, 66 percent of the respondents said they chose family because of trust. This is similar to the conclusion of Richard (2010) that using *susu* can be a source of mistrust. The women, while acknowledging that there may be trust issues also when relying on family, felt that even if their savings were taken by family, the family would still benefit. An interesting finding is that some women even indicated that they would give custody of their money to a rival. In northern Ghana, where polygamy is a common cultural practice, some of the

women traders have reported that they give part of their money to their rivals, usually one of senior rank for safe keeping. The women explained that individual or private home-based savings are preferred to the use of *susu* collectors, their reason being that the trustworthiness of family/home savings is better than external *susu* collectors. They rarely use the formal banking system for savings, assigning reasons of small profit margins and poor knowledge about the requirements for operating formal savings systems as explanations for their non-participation.

A strong sentiment expressed about value storage that reflected the views of the respondents more generally is the contribution of a woman discussant during a focus group discussion at Manyoro when she said in her native Kasem: “*Wonno telo na jega lunem to mo de bam kaana di tinga lanyirane. Wonno tim konto yi dwoa bia, wudiu na lua wonno. Ko fi mo si de tinge ti jei silu noona na ba se ba kwei to-diyuu di zonno na sogo na kale wonne ne. Ko na dae konto chavira mow o ji emo ni wodiu.*” (Translation: “For us as women, things of value to us are basically those ingredients and foodstuff you will need to save for important family guests or for sick persons. This is the surest way to avoid shame. Also they include funeral items for burial rites and they are usually stored in *diyuu* (inner room) in and in *soggo* (a park of calabashes formed to save items of customary value) or *kale* (pot-like earth ware add-ons for purposes of ingredient storage as well as storage of other valuables”). Rural women traders indicated that they do not rely on a barter system for their trade transactions. Their largely treasured vaults for value storage are the traditional *soggo* and *zoongo* for storing special ingredients for special family guests such as in-laws, long distance cousins, and other family relatives, and for keeping customary items necessary for burial and funeral ceremonies. Other minor

valuables that are stored in a *daka* (chop box for keeping clothing) include clothing and food bowls.

2. Mobile phone use/mobile money

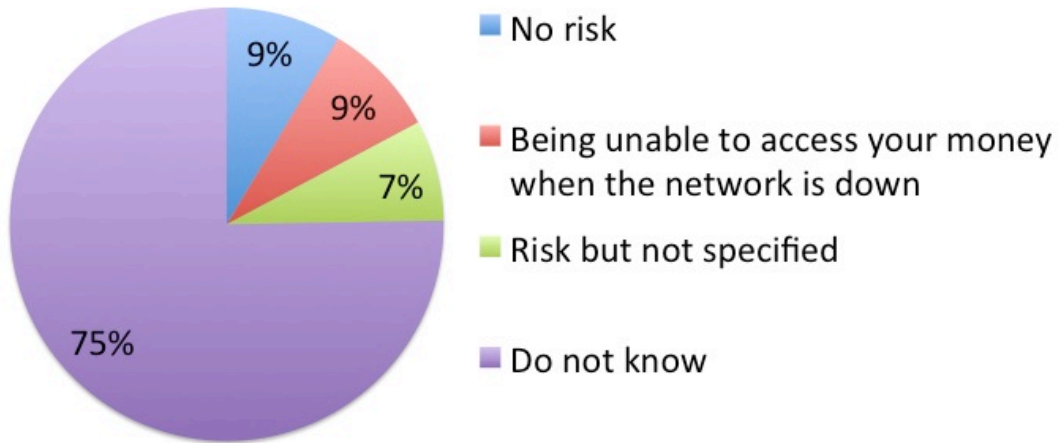
The use of mobile phones is common among the rural women traders, as almost 88 percent of them mentioned that they are using a mobile phone. Also 77 percent of the women interviewed said that they have had a mobile phone for only 1-5 years. 74 percent of the women said that they use MTN as their service provider. Most traders noted the use of mobile phones for contacting both business partners and relatives/family. The major challenges that were raised in most of the discussions had to do with the poor quality of the mobile network, followed by the lack of reliable power sources to charge mobile phones. The women said that the biggest challenge with their preferred network was low network services (64 percent), whereas only 12 percent indicated high tariff charges as a significant challenge. With regards to use of the mobile phone, 72 percent of the women indicated that they used the phone for communicating with customers, suppliers, and family. However only 10 percent indicated that the phone helped them to easily access goods and services.

The traders described the usefulness of the mobile phone in three main domains. The first is keeping contacts with sellers and buyers of their tradable items. The second is the social function whereby the phone is used for maintaining contacts with family members both near and far. Finally, the third is that most women use the phone to send money to their wards in schools far away from home. On the importance of the mobile phone to the trader one focus group discussant said:

“I am a millet malt processor, when I want to buy millet and I don’t have money, I will simply call the woman I have been buying from and talk to her in a manner that she will agree and send someone to bring it and I will pay later. There are certain days you will not have money and you want to buy the millet. You can call the woman you have been buying from and ask her to give you this number of bowls, so that you will pay later. As traders, we have the drivers' numbers, and when you need millet you can call the driver you trust to go to the woman you have been buying the millet from and collect this number of bags and bring them. The time and money you would have spent will be saved for something else; its only the driver that you will pay, and that helps a lot, since I myself when I go I will eat and pay my fare. All this will be saved”.

On the subject of mobile money, about 75 percent of the rural women traders mentioned that they do not have any idea about mobile money and its perceived risks. In a group discussion a discussant intimated, “I have never heard of the term mobile money except for you now mentioning it. Mobile, does it mean that you will be roaming with your money wherever you are going?” This clearly depicts the poor understanding of the mobile money system. Also, the women do not generally consider buying airtime cards or units as a means of storing value for later use.

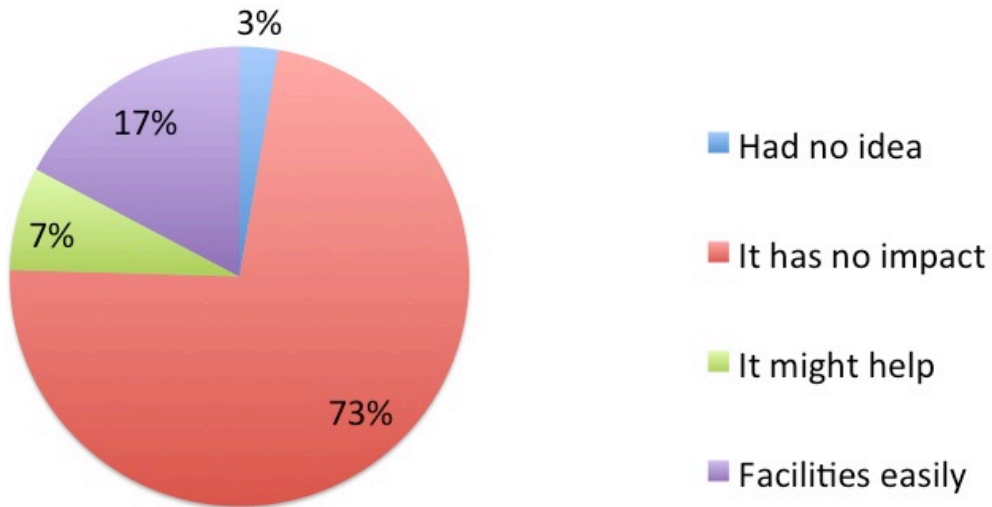
Perceived Risks of Mobile Money



.3. Bartering:

On the issue of bartering as a rural trade practice, almost 99 percent of the study participants reported that it is not a practice that they use. The reason given for the non-reliance on bartering for trade transactions is because of the reliability of currency as a medium of exchange.

Impact of Mobile on Bartering



When asked about the impact the mobile phone might have on bartering, 73 percent had no idea whereas 17 percent thought it might facilitate easy bartering. The data also revealed that only 19 of the traders said they engaged in bartering, while 81 said they had not.

Interface Meeting with Mobile Money Service Providers

The interface meeting offered a platform for representatives of mobile telephony service providers--including MTN, Vodafone, Airtel, TiGo and Glo--and selected leaders of rural women's trading groups to interrogate pertinent findings of the study. A total of 18 traders, 3 service providers and the 5-member research team took part in the session. The key findings that were presented during the session for interrogation included the following:

1. The use of mobile phone by rural women traders:

The participants validated the data indicating that the mobile telephone network that is mostly used by the traders is MTN and bemoaned the quality of network services in some remote parts of the study district. The service provider representative acknowledged the challenge, but indicated that an upgrade programme is currently underway. The explanation was that by June 2014 all of the report of the poor quality of network will be comprehensively addressed.

2. The usefulness of mobile telephones for trade transactions:

The second finding about the usefulness of mobile telephone for trade transactions was stressed by the participants. However, the traders' concern on this issue had to do with reliability and unsolicited network service promotion advertisements that eat up their call credit. Women traders were encouraged to report such problems to the service centre in

Navrongo for prompt redress. The women traders were of the view, however, that service centres should be made more easily accessible through community service centres instead of the current centralized approach that is costly both distance and time-wise. Service providers were also persuaded to consider extending small financial support to rural women traders to help them remain in business and to continue to have the capacity and ability to use mobile telephone services.

3. The mobile money services:

On mobile money services, there were few traders who reported in the session that they have used mobile phones to send funds to their wards/receive funds from family relations. They complained about the large crowds that are usually at the service centre in Navrongo, which contributed to timewasting. The need for community-targeted education on the mobile money system and its usefulness for rural traders will be beneficial. The service providers took the opportunity to explain that in order not to take over the function of the banks, the mobile service system is designed only for small transactions, not exceeding 500 Gh cedis (approximately US\$166).

Conclusion

In a 2012 panel discussion on “Mobile Financial Services in Ghana: Challenges and Opportunities,” researchers from Innovations for Poverty Action (IPA) noted: “Poor Ghanians do not use mobile money, it is necessary to develop mobile money products accessible and appropriate for the poor.” We propose that additional research needs to be conducted in order to better understand why it is that “poor Ghanaians” are not using mobile money. Some relevant findings that could guide such research include:

1. There is high mobile phone usage among rural women traders; Mobile money is still alien to rural women traders;
2. There is potential for mobile money usage among rural women traders; The mobile money system design must be inclusive of and responsive to the saving needs of women traders; and
3. We may need to explore further the reasons why rural women traders do not currently barter.

In general, mobile money is still alien to rural women traders. With the present high mobile phone usage among rural women traders, there is potential for mobile money usage when the design is inclusive of and responsive to saving needs of poor and marginalized rural populations.

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