



***Mobile Communications in Zambia***  
A demand-side analysis based on the AudienceScapes Survey,  
including insights on mobile money use

By David Montez, InterMedia

Based on the AudienceScapes survey research project conducted in Zambia by InterMedia  
October 2010

## About InterMedia

InterMedia ([www.intermedia.org](http://www.intermedia.org)) is a research-based consultancy providing strategic guidance and insight into the behaviors and views of people globally, especially among hard-to-reach populations. We provide counsel on effective engagement strategies in an increasingly complex media and communication environment, helping a diverse clientele map and measure how people gather, share and shape information.

Based in London, UK and Washington, DC, InterMedia works with partners across the developing world to strengthen local research capacity. On the ground in about 60 countries annually, InterMedia's research experts use innovative techniques to understand how information, communication and media resources can deliver impact.

For more information about InterMedia, visit [www.intermedia.org](http://www.intermedia.org) or contact us at [info@intermedia.org](mailto:info@intermedia.org).

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## The AudienceScapes Project

- *How can targeted research help members of the development community hone their information-sharing efforts at the policy level and at the grassroots level?*
- *What can members of the development community do to help improve the policy information flow in Africa, with a view toward supporting effective development policies?*

These questions are at the core of the multiyear AudienceScapes project launched by InterMedia in spring 2009. Its broad aim is to provide research and analysis to guide the information-sharing efforts of development practitioners at the grassroots and policy levels, thereby supporting more effective development outcomes.

AudienceScapes researchers gather and analyze data at two levels: *among citizens* - measuring their access to and use of media and communication technologies as well as word-of-mouth networks, and how these relate to citizens' exposure to information on key development topics (health, agriculture and personal finance); *within policy communities* - mapping the complex "information ecology" in which development policymakers operate.

This and other analytical reports, as well as a data query tool and other features, are available on the AudienceScapes website ([www.audiencescapes.org](http://www.audiencescapes.org)). These resources give development professionals and their local partners the means to provide critical information when and where it is needed to empower local communities and partners.

InterMedia received funding for AudienceScapes from the **Bill & Melinda Gates Foundation**. However, the findings and conclusions of this report are those of InterMedia and do not necessarily reflect the positions or priorities of the funder.

This report draws from a nationally representative survey of Zambian individuals conducted in spring 2010. The survey included modules on access to information sources generally, including mobile phones, as well as access to information about development and communication-related issues, plus questions about trust in various information sources and use of word-of-mouth networks to stay informed about development issues.

We hope you find this report useful, and we welcome your feedback.



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## **Report Methodology and Organization**

This report uses AudienceScapes data from a nationally representative survey of Zambia to focus on how people of various social groups access and use mobile communications. The report also showcases how the AudienceScapes survey data can help members of the development community to design and implement more effective programs in technological access, communications and information empowerment.

### **Methodology**

The survey was conducted in April-May 2010 among Zambian adults age 15 and above. Using the 2000 Zambian National Census as the sampling frame and a stratified random sampling design, a nationally representative probability sample of 2,000 respondents was selected. The estimated margin of error is +/-2.2 percent with a 95 percent confidence interval. The survey was administered through face-to-face personal interviews; the data are weighted by location (rural versus urban) and by age groups.

### **The report is divided into six chapters**

*Chapter 1 A Rapidly Growing Mobile Communications Market:* Summarizes mobile phone access, use, and activities by socioeconomic groups.

*Chapter 2 SMS Use and Its Role as an Information Exchange Tool:* Evaluates the prevalence of SMS as a tool for news and information, identifies who are the key groups who are using this tool and what demographic groups are most likely to be reachable via SMS.

*Chapter 3 Mobile Use Patterns by Service Provider:* Compares demographic profiles of the user bases of mobile network operators (MNOs) and the prevalence of multi-SIM card ownership.

*Chapter 4 Early Adopters vs. Recent Adopters: Determinants of Mobile Use Patterns:* Explores whether mobile phone adoption in Zambia has reached the disadvantaged and whether there are significant use differences between early and recent adopters.

*Chapter 5 Barriers to Phone Ownership and the Dynamics of Phone Sharing:* Examines barriers to Zambians owning or using a mobile phone and why some Zambians have never

used one. Compares the use patterns of mobile owners compared to mobile borrowers.

*Chapter 6 Mobile Banking- Who is it Reaching?* Profiles Zambia's m-money users and considers whether these services have reached those most in need. Are Zambians using the service for more than just money transfers?

### **A Note About The Income Variable Used For This Report**

AudienceScapes analysts define income levels based on a self-assessed qualitative measure.

Respondents are asked: "Which of these answers reflect your family's financial situation?" The available answers are: "We don't have enough money even for food" (identified as "Low-Income" respondents in this report, n=342); "We have enough money for food, but buying clothes is difficult" (Lower-Middle-Income, n=656); "We have enough money for food and clothes and can save a bit, but not enough to buy expensive goods such as a TV set or a refrigerator" (Upper-Middle-Income, n=521); "We can afford to buy certain expensive goods such as a TV set or a refrigerator", or "We can afford to buy whatever we want" (combined as High-Income, n= 409).

The AudienceScapes survey also includes a question asking respondents to state their average monthly monetary income, but the analysis team did not consider the responses to be sufficiently reliable for rigorous analysis. In general, monetary income questions confront two challenges: the uncertainty of some respondents about their income levels expressed in monetary terms alone, and the unwillingness of some respondents to divulge their monetary income levels. These issues create data distortions and risk misinforming users of the data.

Though the qualitative measures lack the specificity of monetary values, the former have the advantage of assessing respondents' incomes in the context of their own purchasing power. Even if respondents provide accurate figures on their monetary income, these do not reflect relative costs of living in different areas. For example, a rural inhabitant who earns \$50 a month may have considerably more purchasing power than an urban dweller who earns the same amount; prices of goods in the rural setting may be cheaper (or more expensive) than in urban areas.

## **Report Summary - Key Points**

### ***Zambians' Mobile Phone Use and Activities***

- **Young Zambians: Youth and young adults (15-29) are often assumed to be leaders in mobile phone use, but this is not entirely the case in Zambia.** While those 15 to 29 make up the largest segment of overall mobile phone users, they do not show the highest rate of weekly (regular) users – that is taken by those 30 to 44.
- **Geographic Breakdown: There are substantial differences in rates of mobile phone use among Zambia's nine provinces.** These differences reflect varying levels of human development around the country, but other factors come into play.
- **Cost Factors: When respondents were asked to agree or disagree that “using a mobile phone is expensive,” 63 percent answered in the affirmative. Even those residing in high-income households were more likely to agree than disagree with the statement.** The same can be said for frequent mobile users, with some 52 percent of daily users and 53 percent of regular users agreeing or strongly agreeing with the statement that mobile phone use is expensive.
- **Mobile Radio: A key feature of Zambian (and more generally, African) mobile phone use is an old-new media convergence phenomenon - handset-based radio listening.** Among regular mobile users, a third said they listen to the radio via their handset on a weekly basis, and 25 percent said they listen on a daily basis. Unlike the use of mobile internet, radio listening is more evenly spread across urban and rural users. Mobile-based radio listening may also continue to expand; given that youth and young adults (YYAs) are currently the most likely to do so and thus will set the pattern going forward.
- **Less-frequent users of mobile phones tend to restrict their activities to SMS and voice services.** The most likely reasoning behind this is that less-frequent users are often handset borrowers instead of owners.
- **SMS News: Of the Zambian survey respondents who said they have used a mobile phone, about 22 percent said they use a mobile phone to access news and information via SMS at least once a month; 12 percent do so at least weekly. Only about 16 percent of regular mobile phone users reported using a phone to access SMS news weekly.**

- **The three main factors influencing the intensity of use of SMS as a news and information source are respondent's location (urban vs. rural), level of education and whether they own a phone or SIM card.**
- **Trust in SMS Information Sources:** People do not tend to pay much heed to news or information that comes from sources they do not generally trust - hence the reason to ask respondents about their level of trust in SMS-delivered content. The survey showed that **demographic groups who are more trusting of SMS content are the same who are more likely to be frequent mobile phone users and weekly SMS news receivers.**
- **Information Sharing Patterns:** If SMS message sharing develops similar patterns as those of familial or communal word-of-mouth networks, mobile communication has the potential to be an extremely important means of disseminating important development information. However, **SMS forwarding in Zambia remains limited**; only 16 percent of regular mobile phone users said they use their phones at least weekly to receive SMS messages containing news and information. Of this group, only a quarter said that they forward these messages to other people either "often" or "always". In other words, **habitual SMS forwarders were only about 7 percent of all regular mobile phone users.**
- Demographically, **more privileged groups seem willing to incur the cost of forwarding a SMS.** That said, there is reason to expect that SMS forwarding will expand beyond this group, given that Zambians youth and young adults (YYAs) are again leading the way and the cost of mobile communications continues to fall in Zambia.
- **Use by Service Provider:** Examining mobile use from the perspective of service providers gives development practitioners a better idea of the demographic groups each provider reaches. Based on the survey data, Zain's service is used by 78.5 percent of Zambian mobile users, versus 38.5 for MTN and 7.4 percent for Cell Z. Note that many mobile phone users employ more than one service provider to take advantage of the lowest-cost service option at a given time or place. **Around 23 percent of mobile phone owners in the survey said they subscribe to more than one service provider.**

### ***Mobile Phone Adoption Patterns***

- **Gender Differences:** There are clear differences in the demographic makeup and media use patterns of early, intermediate and recent mobile phone "adopters" (those who own a phone). Urban, better-educated men were dominant among early adopters. Among recent adopters, however, the gender divide switches in favor of women in the higher socio-economic groups but males remain more predominant in lower groups.



- **Income Factors:** It might be assumed that early adopters would be among the more affluent members of society, but the AudienceScapes data show that some 30 percent of early adopters self-reported as being in the lower-middle income tier. High-income individuals were 38 percent of early adopters.
- **Inclusion: Mobile adoption has progressively expanded to the economically less-privileged demographic groups.** However, education remains a key element, as there appears to be a minimum level of literacy and numeracy needed to operate a phone at this stage of technical development.
- **The Role of Education:** Education level emerges as a key factor in determining early cell phone adoption; those respondents having achieved a post-secondary education dominate the early adoption category. That said, **education level appears to be less of a factor in mobile phone adoption than previously:** only 66 percent of recent adopters said they have at least some secondary education, compared to 94 percent for early adopters and 84 percent of intermediate adopters.
- **Early Adopter Use Patterns:** Early adopters appeared (perhaps logically) to be more innovative users of mobile phones. For example, they are much more likely than intermediate and recent adopters to be regular users of features other than voice calls or SMS-text messaging. Early adopters' greater use of mobile web services and other services requiring data services partly reflects the fact that the early adopters are well represented in higher-income households and in urban areas where data services are primarily available.
- **The Ownership Factor:** When asked why they do not use mobile phones, many non-users said the main reason is that they do not personally own a phone. **Eighty-one percent of non-users of mobile phones either agreed or strongly agreed with the statement, "I intend to buy a mobile phone in the future".**

### ***Mobile Phone Sharing***

- **Phone Lending:** Mobile phone sharing is a common practice that allows expanded access and use beyond owners themselves. **Some 26 percent of mobile phone owners (12.5 percent of all respondents) said they lend their phone to someone else at least once a month.** Mobile lending is not restricted to the most affluent phone users; in fact, lower middle-income phone owners were overall the most likely to lend their phone.
- **The User-Borrower Spread:** In each province of Zambia, the percentage of monthly mobile users exceeds the percentage of people saying they own a phone, with the

spread ranging from 5 percentage points (Northwestern) to as high as 28 percentage points (Western). The spread shows how many people are either borrowing phones or using fee-based services such as phone kiosks.

- **Free Versus Fee: A majority of those who lend their mobile phones said they do so for free, but one-fifth said they sometimes share for free, they sometimes require borrowers to pay a fee.** Rural phone lenders are much more likely than urban lenders (25 percent versus 14 percent) to say they either lend for free or for a fee. The likelihood that a mobile phone owner sometimes requires a fee for sharing their phone is generally constant across income groups. Only 1 percent of designated mobile lenders said they always demand a fee.
- **Location:** The urban or rural location of a mobile borrower plays a critical role in how they gain access to and use a phone. In urban areas, the ability to use a mobile phone at a local business, available to 41 percent of urban borrowers, is much more prevalent than in rural areas (available to only 10 percent).
- **SIM Card Use: About 31 percent of weekly (regular) mobile borrowers said they use SIM cards in other people's phones.** Zambians who own a SIM card are more likely than non-SIM card owners to be a regular mobile phone user, but this advantage only goes so far. The advantage held by SIM card users seems to be limited to basic phone functions, as only a small percentage of this group reports weekly use of more complex or time-consuming mobile functions.
- **Relying on Family and Friends: For Zambians who do not own a phone, gaining access through family and friends is the key driver to increasing the frequency of mobile phone use.** Having access to a local business that offers the use of a mobile phone (an option for about 20 percent of borrowers) is not a central enabler of frequent mobile phone use. This is especially the case for rural mobile phone users who have very little access to commercial establishments and are more dependent on communal access.

### ***Mobile Financial Services (Mobile Money)***

- **Growth Potential: Seventeen percent of respondents said they had used a money transfer service of some kind in the past 12 months,** revealing strong market potential for mobile money providers. But **only about a quarter of those who had used a money transfer service said they have used m-money.**
- **Users Are Predominantly Banked:** Mobile money users in the survey are predominantly urban, educated and “banked” (that is, using banking services). Ninety percent of m-

money users said they have at least some secondary education; 59 percent said they have some post-secondary education.

- **Money transfers are by far the most common activity conducted by m-money users.** In general, those who already have a bank account were more likely to conduct various m-money transactions, especially the payment of bills. This is not surprising considering the fact that m-money services until recently required a bank account and focused their campaigns on more advantaged groups.
- **The one exception is the management of savings.** What this tells us is that the unbanked who are using m-money, even though they encompass a smaller percentage of users, are taking the opportunity to do more than send and receive money transfers and adopt basic formal banking practices.
- **Mobile Money and Media Use:** M-money users generally have greater exposure to media, which means they have a greater chance of being exposed to information about mobile money services. Thirty percent of users said they have received information on m-money in the past week; 59 percent had received information in the past month. Only 11 percent of non-users had received information in the past week and 21 percent in the last month.
- **Need for Information to Reach the BOP:** If m-money in Zambia is to reach those at the bottom of the pyramid, better targeted information campaigns will be needed, whether through more-frequent advertising on popular outlets or the recruitment of network agents who can engage people through word-of-mouth networks. That face that of non-users are less educated also means that outreach will have to be thorough in explaining how individuals may benefit from m-money services.
- **Desire for More Information About Mobile Money:** When asked about their level of satisfaction regarding information on m-money services, 42 percent of respondents said they lacked sufficient information about m-money to even make a judgement. Only 22 percent of non-mobile money users said they were very or somewhat satisfied with the amount of information they were receiving.

## Chapter 1: A Rapidly Growing Mobile Communications Market

### 1a. Market History

Between 2004 and 2009, the number of mobile phone subscribers in Zambia rose from just 464,000 to some 4.4 million. Market liberalization in the telecommunications and other sectors played a leading part in this, while also helping Zambia to sustain economic growth averaging nearly 5 percent a year.

The Communications Authority of Zambia (now called the Zambian Information and Communications Technology Authority) began the gradual process of liberalization in 1991 when the only telecoms provider was ZAMTEL, then a state-owned entity. By 2004, the mobile telecoms market had been opened up to private sector competitors with the licensing of TELECEL (since acquired by MTN) and CELTEL (now branded as Zain, though Zain Zambia was acquired in 2010 by India's Bharti Airtel in a broader acquisition. But as of this writing, Zain Zambia had not been rebranded).

Figure 1.1

Zambia: Regular Mobile Phone Users among Demographic Groups Percent of that demographic group who use a mobile phone at least weekly			
Age		Education	
15-29	52%	University	94%
30-44	61%	Post-Secondary	87%
45-59	57%	Secondary	64%
60+	48%	Primary	37%
Gender	Men: 57% Women: 53%	No Formal Education	15%
Percentage of national Weekly Mobile Phone users: 55 percent			
AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) n=2000			

Competition led to lower access and use costs. By 2002, only a few years after mobile services were first introduced, the number of mobile phone subscriptions had leapfrogged fixed-line subscriptions - a landmark event in countries such as Zambia that never built up extensive landline infrastructure.<sup>i</sup> <sup>ii</sup> There were only 0.80 fixed telephone lines per 100 inhabitants in 2004, and the proportion has actually declined since then.

The International Telecommunications Union (ITU) says that Zambia has been one of the world's top ten performers in reducing the domestic cost of information and communication technologies in general; the ITU's "ICT Price Basket" index for Zambia declined from 53.4 in 2008 to 37.4 in 2009.<sup>iii</sup> Zambia's mobile cellular price sub-basket in the index fell from 18.50 percent of gross national income per capita to 16.07 percent. Even so, Zambia still sits in the middle of the pack among African nations in overall access and use of ICTs, according to the ITU's ICT Development Index, ranking 18<sup>th</sup> of 36 countries (this is a composite index made up of 11 indicators covering ICT access, use and skills).

Airtel's Zain has come to dominate Zambia's mobile phone market since liberalization, and the company claims to have a nearly 70 percent market share.<sup>iv</sup> However, South Africa's MTN reportedly has posted the fastest pace of subscriber growth in the past year.<sup>v</sup> Both Zain and MTN provide service coverage for nearly three-quarters of the population.<sup>vi</sup> Cell Z, the market's number three provider, is the mobile division of ZAMTEL, which is now controlled by Libya's LAP Green. According to demand-side statistics from the AudienceScapes survey, 78.6 percent of respondents who are mobile phone owners said they use the services of Zain, versus 38.5 percent for MTN and 7.4 percent for Cell Z. (The demographic profile of each provider's user base is discussed in Chapter 3.) Rollouts of third generation coverage are currently under way; with data services offered via general packet radio service (GPRS) and enhanced data rates for GSM evolution (EDGE) systems.

### ***Ib. Mobile Use – Demographic Trends***

As Figure 1.2 shows, **Zambians with limited disposable income are not entirely shut out of the mobile arena.** Even if lower-income individuals are unable or unwilling to purchase a handset, they may possess one or more subscriber identity module (SIM) cards for use in other people's phones; meanwhile, market innovations such as 'per-second' billing give low-income users greater visibility on, and control over, their mobile expenses.

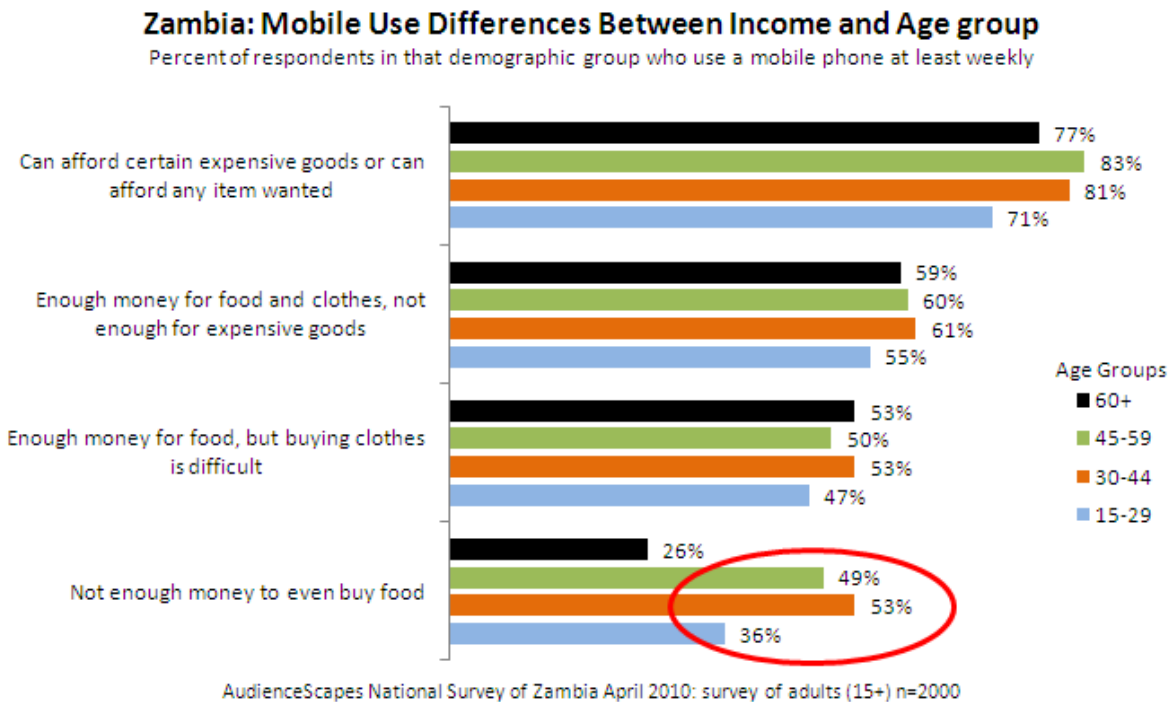
Figure 1.2

Zambia: Household Access to Mobile Phones among Demographic Groups Percent of that demographic group who have access to a mobile phone within their household			
Income		Education	
High	78%	Post-Secondary	88%
Upper Middle	56%	Secondary	60%
Lower Middle	47%	Primary	37%
Low	36%	No Formal Education	16%
Gender	Men: 56% Women: 50%	Setting	Urban: 78% Rural: 40%
Percentage of national survey respondents who have household access to a mobile phone: 53 percent			
AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) n=2000			

**Youth and young adults (15-29) are often assumed to be the leaders of mobile phone use, but this is not entirely the case in Zambia.** Although those 15 to 29 make up the largest segment of overall mobile phone users, they do not show the highest rate of weekly (*equivalent to "regular"*) use—that is found among those 30 to 44 (Figure 1.1), who probably have more disposable income than their younger counterparts to spend on phones. This age/use pattern holds true among various income levels, though it is most pronounced among the lowest income group, as shown in Figure 1.1.<sup>vii</sup>

Interestingly, **the mobile use differences between those 15-29 and 30-44 are less for men than for women.** There is a 6 percentage point difference between men 15-29 and men 30-44 (55 percent versus 61 percent), but the gap is even larger for women, at 14 percentage points (47 percent versus 61 percent).

Figure 1.3



### ***Ic. Breakdown by Province***

**There are marked differences in rates of mobile phone use among residents of Zambia's nine provinces**, with the relatively developed Copper Belt and Lusaka provinces (the latter is home to Zambia's capital city) leading in use rates. Indeed, there are parallels between mobile penetration and each province's level of socio-economic development (though the Northern province is an anomaly). Luapula and Western provinces, with use rates far below the national average, are both heavily rural and lack physical infrastructure. Luapula is primarily agricultural, though there has been a small boom there in manganese mining over the past two years.

Figure 1.4

Zambia: Mobile Phone Access and Use at the Provincial Level			
Percent of respondents in that province who use a mobile phone at least weekly, have household access or personal ownership			
Province	Human Development Index Score (2004)	Percentage with Household Access	Percentage of Regular Users
Northern	0.384 (Lowest)	51%	57%
Luapula	0.385	31%	27%
Western	0.386	47%	24%
Eastern	0.406	52%	55%
Northwestern	0.453	48%	50%
Central	0.458	55%	53%
Southern	0.469	41%	51%
Lusaka	0.513	85%	87%
Copper Belt	0.552 (Highest)	68%	70%

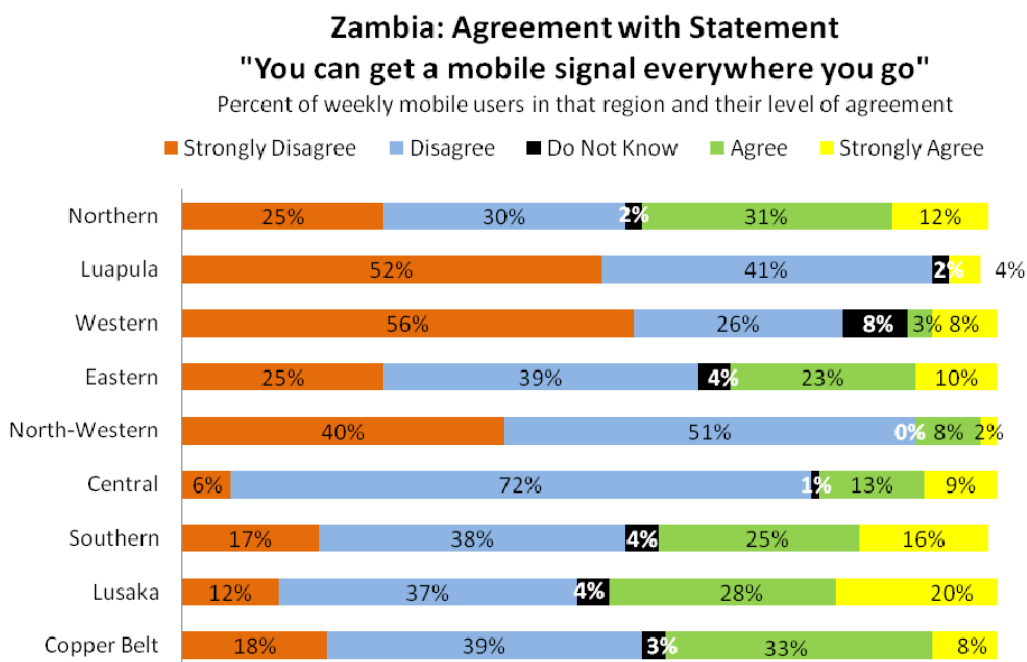
AudienceScapes Zambia 2010 national survey of adults (15+) n=2000

#### ***Id. Mobile Signals***

A potential concern for development organizations using mobile-based information services is the strength of mobile network signals in target areas. For example, in the largely agricultural Luapula, Western and North-Western provinces, at least 40 percent of regular mobile users strongly disagreed with the statement, “You can get a mobile signal everywhere you go”. Note that high levels of people perceiving signal problems were found among the urban population of these provinces as well. Overall, it seems that the regional variations in regular mobile phone users (Figure 1.4) draw parallels with respondent’s answers to questions about the quality of mobile signals available to them (Figure 1.5).



Figure 1.5



AudienceScapes Zambia 2010 survey of adults (15+) who use a phone at least weekly n=1158.

***1e. What are the Most Popular Mobile Phone Activities?***

**A large majority of mobile phone users are only exchanging SMS text messages and voice calls. Mobile web activity is minimal and limited mainly to higher-income urbanites in areas where mobile networks offer reliable data services. Development practitioners need to be aware that, at least for the time being, mobile web-based initiatives will only involve a narrow segment of the population.**

Figure 1.6

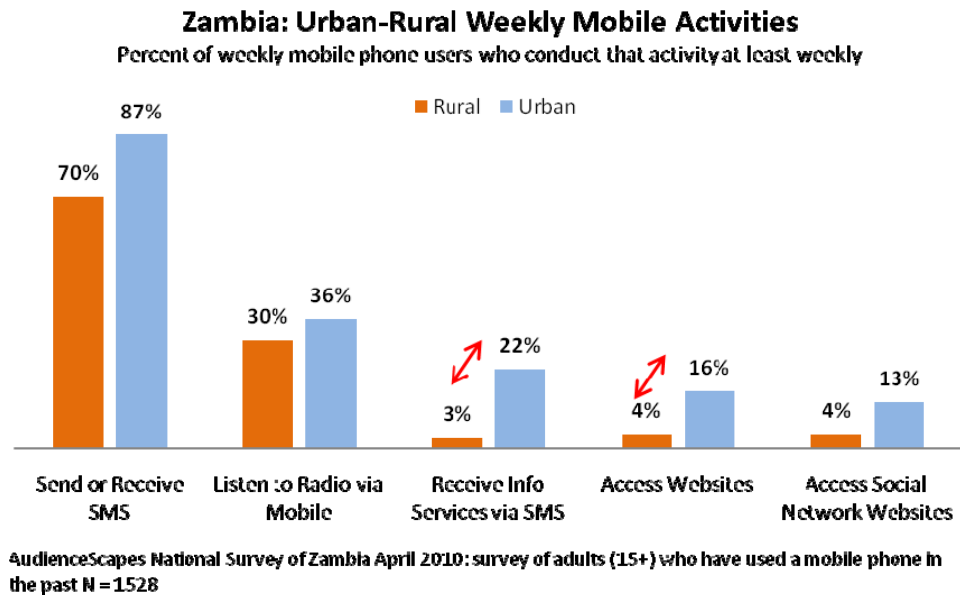


Figure 1.7 illustrates how those who are less frequent users of a mobile phone tend to restrict their phone use to SMS and voice services. This may be the case because less frequent users are more likely to be mobile borrowers instead of owners. Only 7 percent of infrequent (monthly) users reported owning a mobile phone.

Figure 1.7

<b>Zambia: Mobile Phone Activities</b> <i>Regular vs. Infrequent Users</i> Percent of respondents who conduct that activity either monthly or at least weekly		
Weekly or Monthly Use Patterns	Regular Mobile Users (Use Phone Weekly)	Infrequent Users (Use Phone Monthly)
SMS-Text Messaging (Sent or Received)	78%	54%
Listen to Radio via Mobile	33%	2%
Receive Info via SMS	16%	8%
Access Websites	12%	1%
Conduct Financial Transactions	9%	1%

AudienceScapes Zambia April 2010: national survey of adults (15+) who use a mobile phone at least weekly N =1158; only monthly n=115; have used a mobile phone in the past n=1528.

### *Mobile Radio Listening*

A key feature of African mobile phone use is its convergence with radio listening. Radio in general remains the principle source of news and information for hundreds of millions of people on the continent (indeed, the AudienceScapes Zambia survey indicated that about 56 percent of all respondents listen to the radio daily, and 72 percent do so at least weekly).

Among those who use their phone regularly (at least once a week), one third said they listen to the radio via their handset on a weekly basis, and 25 percent listen on a daily basis. Unlike the use of the mobile internet, radio listening is more evenly spread across urban and rural users. As with radio listenership in general, mobile radio listening is relatively popular even among lower-income users.

That said, **mobile-based radio listening seems to be limited mainly to mobile phone owners** (Figure 1.8). Some 34 percent of survey respondents who have used a mobile phone in the past still do not own a phone themselves. In addition, only 8 percent of monthly mobile phone users own a mobile phone personally. The lack of ownership of a mobile phone seems to be a key barrier to the use of more advanced phone activities like radio listening, accessing websites or conducting financial transactions. This is reflected in the rates of use for activities by mobile phone borrowers and of those who are in general less frequent users (see Figure 1.8 below).

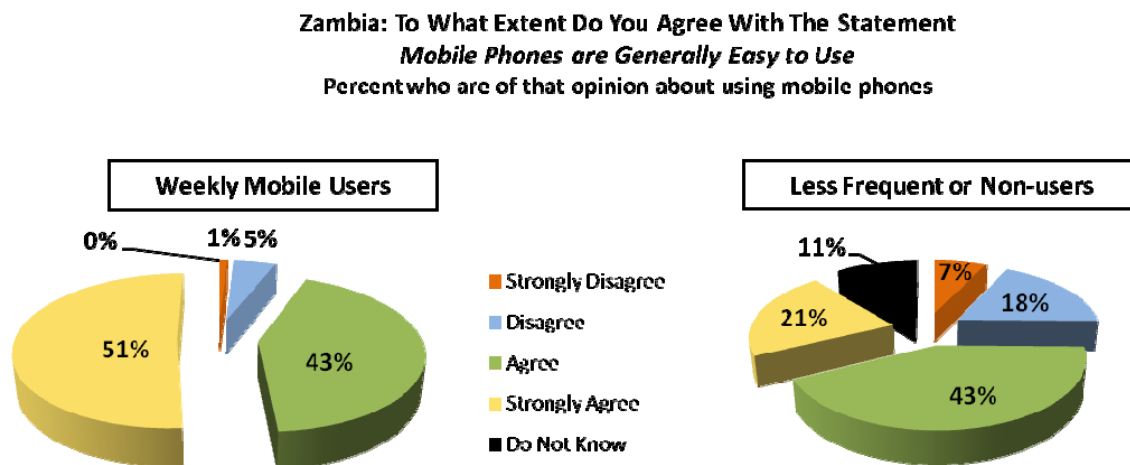
Figure 1.8

<b>Zambia: Weekly Activities According to Means Of Mobile Phone Access</b> Percent of respondents who conduct that activity at least weekly; by means of access			
	Personal Ownership	Owns SIM Card Borrower without SIM Card	Borrower without SIM Card
SMS-Text Messaging	81%	52%	23%
Listen to Radio	36%	10%	5%
Receive Information via SMS	16%	12%	2%
Take or Send Photo	13%	4%	0%
Access Websites	11%	3%	0%
Conduct Financial Transactions (Monthly)	9%	1%	1%

AudienceScapes Zambia April 2010: national survey of adults (15+) N=1010 who own a mobile phone; Owns SIM Card N= 110; Borrower without SIM card N = 398.

**Ig. Barriers to Mobile Phone Use**

Figure 1.9 Ease of Use



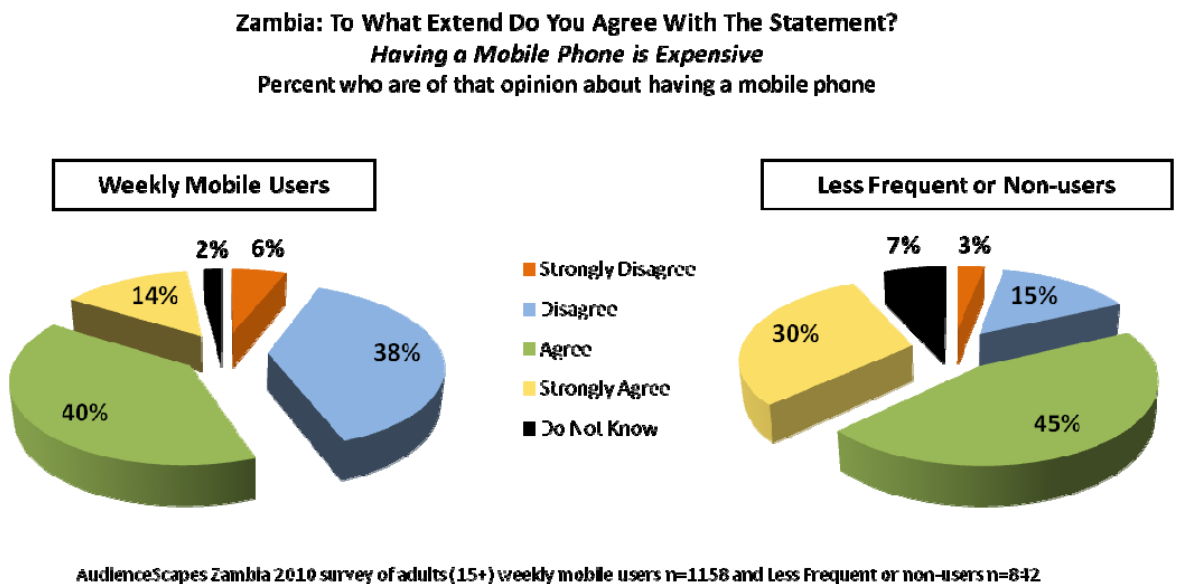
AudienceScapes Zambia 2010 survey of adults (15+); weekly mobile users N = 1158 and Less Frequent or non-users N = 842

The AudienceScapes survey asked a series of opinion questions regarding mobile phone use to identify potential barriers to adoption. When asked whether “mobile phones are generally easy to use,” 79 percent of all respondents agreed or strongly agreed. Those who disagreed with the statement tended to be less educated, suggesting that they may be lacking the functional literacy required to easily operate a mobile phone. These figures corroborate findings regarding mobile phone adoption that place an emphasis on the attainment of secondary education as a factor in mobile phone ownership.

*Cost of Use*

When respondents were asked whether “using a mobile phone is expensive,” overall, 63 percent answered in the affirmative. Even those residing in high-income households were more likely to agree than disagree with the statement. The same can be said for frequent mobile users, with some 52 percent of frequent (daily) users and 54 percent of regular (weekly) users agreeing or strongly agreeing with the statement that mobile phone use is expensive.

Figure 1.10

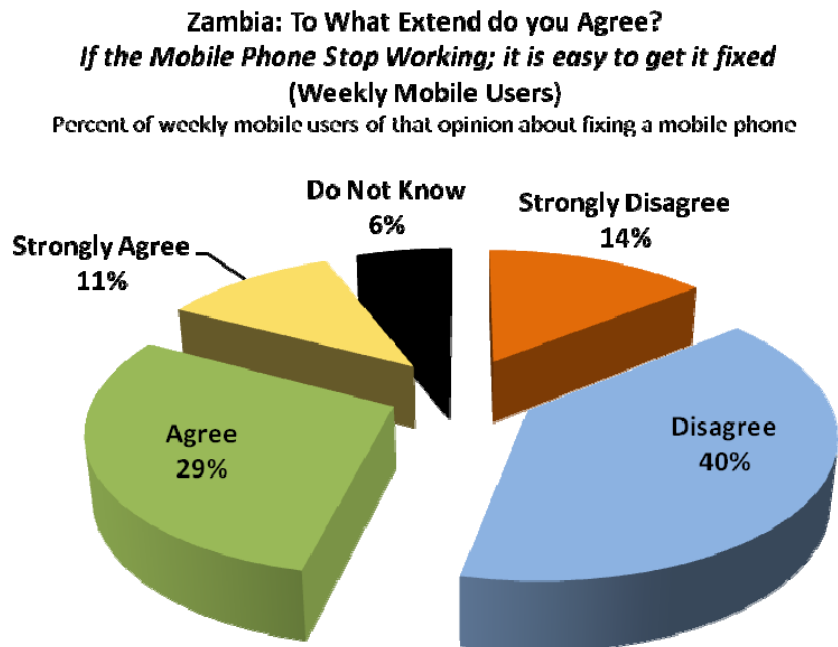


Frequent users may think that mobile use is expensive, but their continued use of the communication tool tells us that the cost is worth the benefit they receive. Among regular mobile users, there is little difference between income groups on whether they perceive mobile use to be expensive. Forty-eight percent of high-income regular users and forty-nine percent of low-income users disagree or strongly disagree with the statement that mobile phone use is expensive.

### *Easy to Fix*

Respondents were also asked about the ease of fixing a broken mobile phone. Understandably, urbanites were much more likely to report being able to easily fix a mobile phone, as they tend to have greater access to mobile phone shops. Forty-three percent of urban residents and only 27 percent of rural residents agreed or strongly agreed with the statement, “If the mobile phone stops working, it is easy to fix it”.

Figure 1.11



AudienceScapes Zambia National Survey of adults (15+) who use a mobile phone at least weekly N = 1158

Predictably, respondents’ agreement with the statement increased incrementally with income

level. Only 27 percent of low-income respondents agreed with the statement; reflecting this group's lack of mobile phone access, 19 percent did not know an answer for the statement. Overall, only 33 percent of survey respondents agreed or disagreed with the statement; 55 percent disagreed or strongly disagreed. Thirteen percent did not know.

## Chapter 2: SMS Use and Its Role as an Information Exchange Tool

As noted at the beginning of this report, mobile- and SMS-driven applications have become very popular tools for development implementers who want to deliver and share critical information to educate or empower local citizens. As such, it is helpful from a strategic point of view to know the frequency with which people use SMS to access news and information, whether or not key target groups are doing so on a regular basis, and if they are passing along this information to others.

Only about 16 percent of regular (weekly) mobile phone users said they access news and information via SMS at least weekly (Figure 2.1), with the percentage rising to 22 percent for urban users only, and falling to 9 percent for rural users only. Figure 2.1 and 2.2 highlights the gap in SMS news between both mobile phone owners and borrowers.

Figure 2.1

Zambia: Weekly Activities According To Means Of Mobile Phone Access Percent of respondents who conduct that activity at least weekly; by means of access			
	Personal Ownership	Owns SIM Card Borrows Phone	Borrower without SIM Card
SMS-Text Messaging	81%	52%	23%
Listen to Radio	36%	10%	5%
Receive Formal Information Services via SMS	16%	12%	2%
Take or Send Photo	13%	4%	0%
Access Websites	11%	3%	0%
Conduct Financial Transactions (Monthly)	9%	1%	1%

AudienceScapes Zambia April 2010: national survey of adults (15+) N = 1010 who own a mobile phone; Owns SIM Card N = 110; Borrower without SIM card N = 398.

Our analysis reveals three main factors determining the use of SMS as a news and information source: location (urban vs. rural), level of education, and ownership of a phone



**or SIM card. Education is a key factor - a minimum level of functional literacy is needed for a mobile consumer to sign up for or access SMS information services.**

Twenty-nine percent of regular mobile users with a secondary education said they receive SMS news at least monthly, versus only 16 percent of regular users with a primary education or less. Formal information services received via SMS can range from news updates provided by mobile service providers to business-related services, such as crop price updates from the Zambia Farmers Union (funded by the UN's International Fund for Agricultural Development).

**Indeed, some 9 percent of farmers and agricultural workers in the Zambia survey said they receive SMS news and information at least weekly, versus 17 percent at least monthly.**

Finally, regular users who are a phone owner or possess a SIM card are well over twice as likely as mobile borrowers without a SIM card to access SMS news at least weekly (Figure 2.1). Zambians who own a mobile phone or a SIM card have the advantage of possessing a personal phone number, allowing them to join SMS listservs; of course, mobile phone owners have the freedom to access their phone whenever needed.

**Knowledge may also play a role in the urban/rural SMS news and information divide. Urban mobile phone borrowers are equally as likely to access information via SMS as those in rural areas who own a mobile phone. This indicates either a large gap in service or a lack of effort to sensitize mobile phone users in rural areas to information services.** Understandably, rural residents in our survey are in general less likely to be high-intensity media consumers compared to urban dwellers, making them less exposed to information campaigns promoting SMS services.

**To inform mobile phone users about SMS-based information services, it is crucial that development organizations also publicize via mass media outlets to make their target audiences aware of the services.** With the growing prevalence of scams perpetuated via SMS, lower income Zambians are logically less likely to sign up for or even trust SMS updates if they do not know anything about the service.

Word-of-mouth is another effective conduit for informing a target audience about a new SMS or phone service - though it is also often the most difficult to tap into. Some 50 percent of low-income respondents and 57 percent of those with a primary education said they get news and information from other people in their community (outside their friends and family) at least weekly.

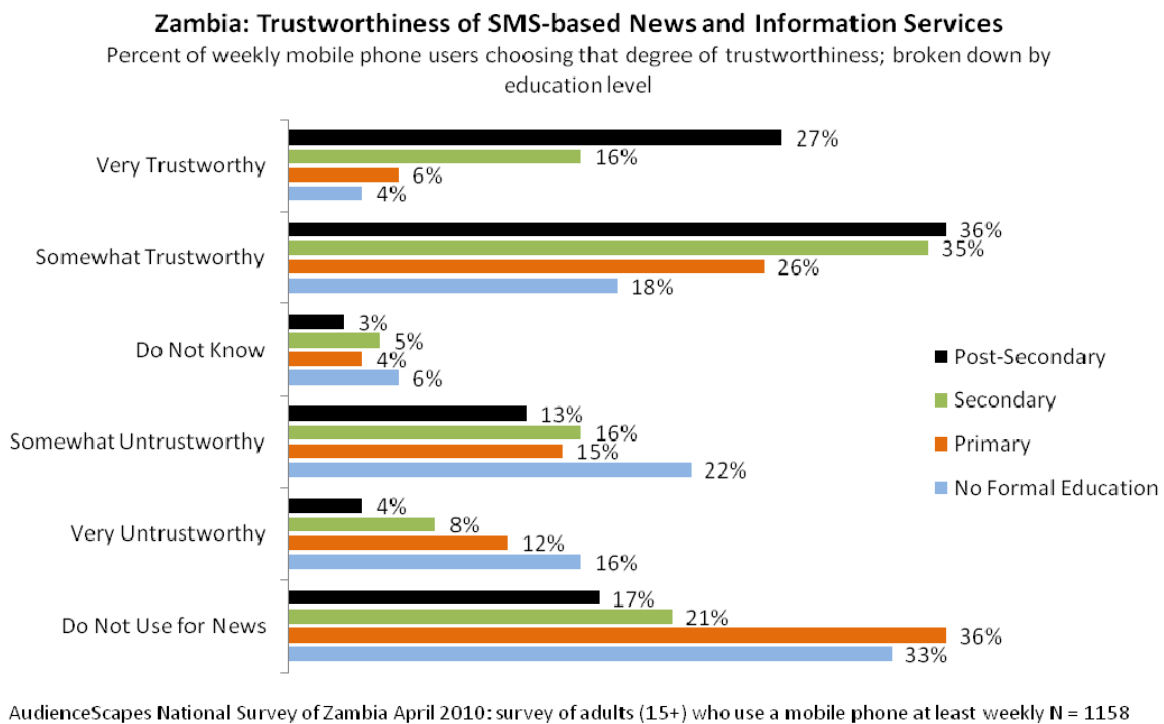
**Mobile kiosk operators and local mobile phone content and service providers have the potential to be conduits for mobile communication information in communities. These community actors are often the most likely individuals to know how to troubleshoot when a**

phone malfunctions or to be that crucial interlocutor who helps transfer top-up credits between phones. Being able to identify and inform these formal and informal service providers about a SMS-based or other mobile-based service can go a long way in reaching a target audience.

***Ila. Trust in SMS***

People may not pay much heed to news or information delivered from sources that they do not generally trust - hence our reasoning for asking respondents about their level of trust in SMS-delivered content. **The survey results suggest demographic groups who are more trusting of SMS content are those who are more frequent mobile phone users and weekly SMS news receivers. The implication is that familiarity with mobile communications has sensitized Zambians to the notion that a mobile phone can be a trustworthy information-gathering tool.**

Figure 2.2



Those with less education, for example, tend to have less familiarity with the SMS news concept and are thus more likely to have less trust in it (or to say that they "do not know" whether they trust it). **There was little difference in trust levels between urban and rural respondents among those who have familiarity with the SMS news concept.** The lack of difference between these groups, even though SMS news is not heavily used in rural areas, leaves room for

optimism, that they are more exposed, rural mobile phone users and the less privileged will take up these services or have greater trust in them.

***IIb. Spreading the Word: SMS Message Sharing Patterns and their Development Potential***

Given the importance of word-of-mouth communication as a conduit for spreading information, researchers recently have begun to look at how such networks replicate and/or extend through mobile communications. Much of this research has a commercial focus on the impact for m-commerce and mobile viral marketing.<sup>viii</sup>

From a development perspective, if SMS message exchanges develop similar patterns as familial or communal word-of-mouth networks, mobile communications have the potential to be an extremely potent means of sharing important development information.

**To explore the potential of SMS messages as an information dissemination and sharing tool, the AudienceScapes research team tried to determine the extent of SMS forwarding activities** - how many and which types of people are passing along messages to others, how frequently they are doing so, and what sorts of message topics tend to be shared.

**SMS forwarding appears to be a limited activity in Zambia so far; SMS forwarders are only about 7 percent of regular mobile phone users. Some 44 percent of regular mobile users who receive SMS news reported “never” forwarding a message. Another 30 percent said they do so “rarely”.**

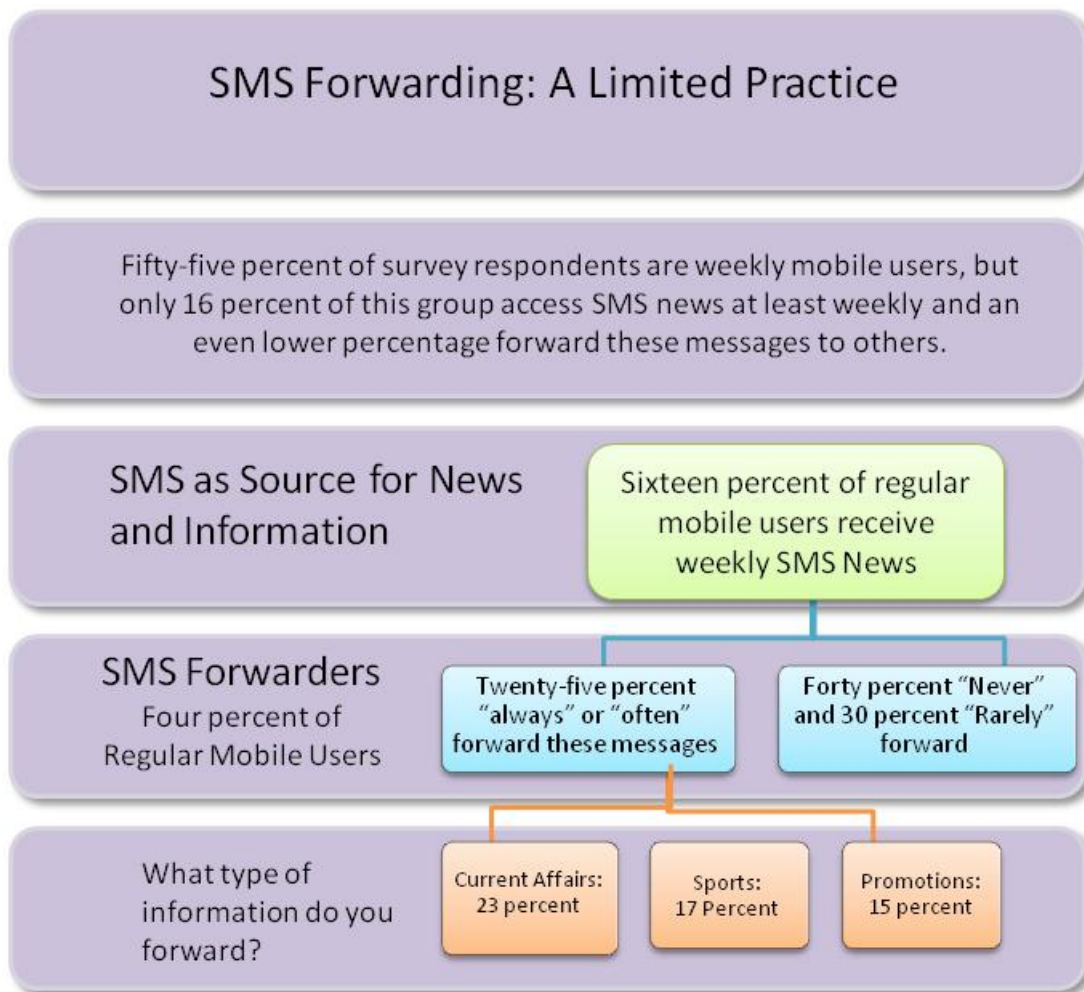
Figure 2.3

Zambia: Demographic Makeup of SMS Forwarders Percent of SMS Forwarders within that demographic group			
Percentage of Weekly Mobile Phone users: 7 percent			
Age		Education	
15-29	64%	Post-Secondary	53%
30-44	23%	Secondary	40%
45-59	10%	Primary	7%
60+	3%	No Formal Education	0%
<b>Gender</b>	Men: 69% Women: 31%	<b>Location</b>	Urban: 60% Rural: 40%
AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) who “often” or “always” forward SMS news to other individuals N =88			

Demographically, SMS forwarders are predominantly youth/young adults (or YYAs, those 15-29), male, and have at least some secondary education (Figure 2.3). The majority of the group is relatively affluent, with nearly 73 percent residing in either upper-middle- or high-income households. Thus, the more privileged demographic groups seem willing to incur the cost of forwarding an SMS. That said, there is room for optimism that SMS forwarding will expand beyond this group, given that YYAs are again leading the way and the cost of mobile communications continues to fall in Zambia.

Respondents were also asked to identify what types of news and information they typically forward to other people. Although the range of topics was fairly broad, those leading the pack included current affairs, sports and cell phone promotions. Other less popular topics were entertainment, business, and politics.

Figure 2.4



## Chapter 3: Mobile Use Patterns by Service Provider

*This section focuses on mobile use from the perspective of service providers, to give development practitioners a clearer picture of the demographic groups each provider reaches. In general, subscriber bases tend to be concentrated among wealthier individuals in urban areas, while customer bases beyond this core group depend on such factors as coverage areas, advertising campaigns, and the types and cost of services offered by the provider.*

As mentioned above, Zain is used by about three quarters of the market (78.5 percent according to the AudienceScapes survey), versus 38.5 percent for MTN and 7.4 percent for Cell Z. The numbers highlight that **many mobile phone owners use more than one service provider in order to take advantage of the lowest-cost service option at a given time or place.** Around 23 percent of mobile phone owners in the survey said they use more than one service provider.

Zambia's high interconnection fees - a charge placed each time a mobile caller connects to a call recipient on a different provider's network - are the principle incentive for mobile users to obtain multiple SIM cards so they can alternate service providers depending on whom they are contacting.<sup>ix</sup> In spring 2010, the Zambia Information and Communications Technology Authority obtained regulatory control over interconnection fees, with the aim of lowering the overall cost of using a mobile phone. As of the publication of this report, it was not yet known how this will affect Zambia's mobile phone market and whether it will bring more lower-income Zambians into the market.<sup>x</sup>

Figure 3.1 shows demographic profiles of each provider's subscriber base. **Both Cell Z's and MTN's subscriber bases are skewed towards urbanites, while Zain's is more evenly balanced between urban and rural. Even so, given Zambia's population distribution of 65 percent rural and 35 percent urban, Zain's market share is still skewed toward urbanites from a statistical perspective. More than 50 percent of each provider's subscriber base is either in the high-income or upper middle-income tiers.** Zain appears to have the broadest reach among lower-income Zambians.

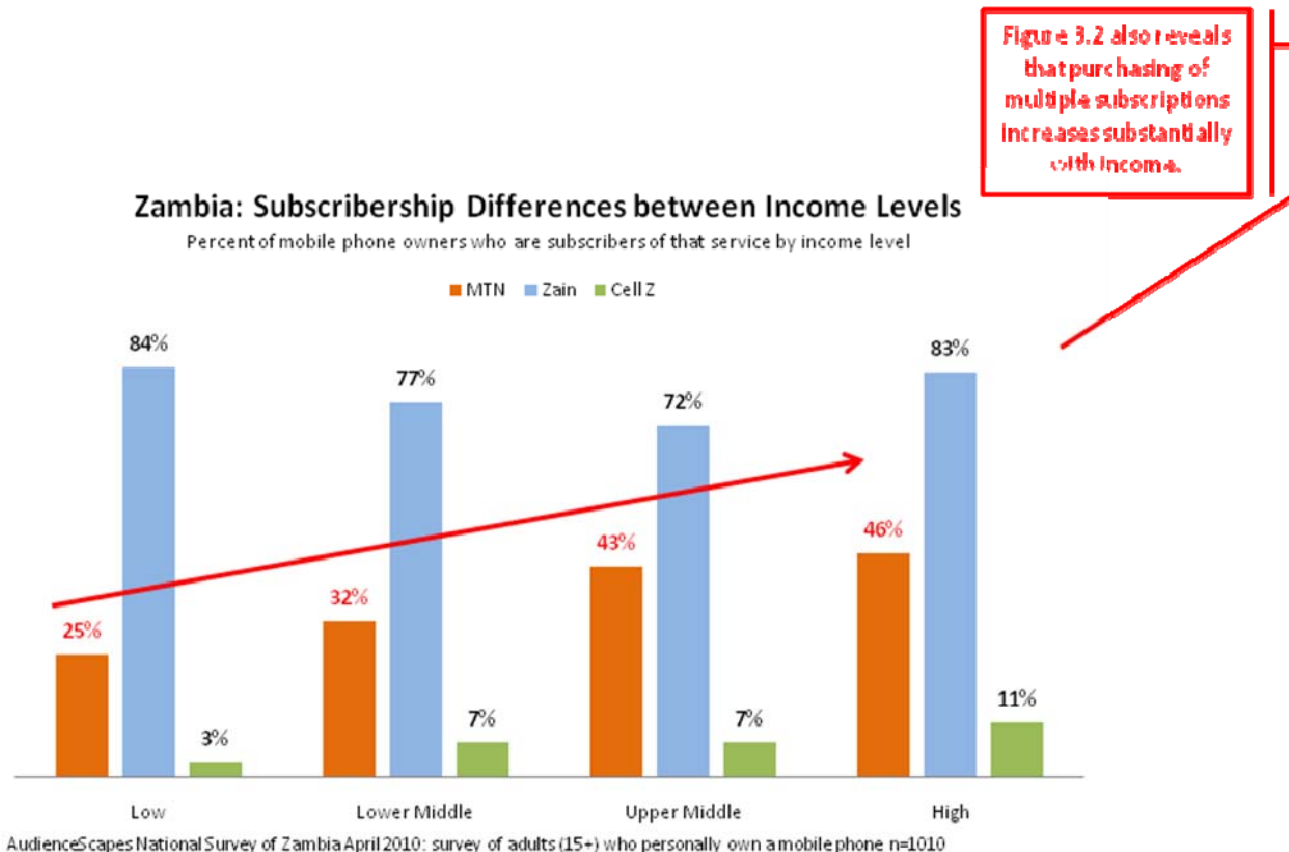
Figure 3.2 displays the inverse of Figure 3.1, showing the likelihood that a member of a given income group is a subscriber of a given service provider. Figure 3.2 indicates that Zain is the leading provider for all income brackets, especially for low-income users. Figure 3.2 also highlights that use of multiple providers is more prevalent in the higher-income brackets.

Figure 3.1

Zambia: Profile of each Mobile Network Operator's Subscribership				
Percent of Each MNO's subscribership in that demographic				
Demographic Group		Zain	MTN	Cell Z
Income	Low (Lowest)	14%	9%	6%
	Lower-Middle	29%	24%	25%
	Upper-Middle	25%	30%	25%
	High (Highest)	30%	34%	42%
Education	No Education	5%	3%	1%
	Primary	14%	10%	4%
	Secondary	44%	42%	31%
	Post-Secondary	37%	46%	62%
Age	15-29 (Youth)	45%	54%	36%
	30-44 (Young Adults)	34%	28%	40%
	45-59 (Adult I)	14%	12%	17%
	60+ (Adult II)	7%	7%	7%
Setting	Urban	50%	60%	76%
	Rural	50%	40%	24%

AudienceScapes Zambia National Survey of Adults (15+) who own a mobile phone and subscribe to Zain n=792, MTN n=403, Cell Z n=79.

Figure 3.2



## Chapter 4: Early Adopters vs. Recent Adopters: Determinants of Mobile Use Patterns

When analyzing trends in technology use, researchers often try to identify "early adopters" who were first to begin using or owning a particular technology—and those who adopted it later on. In some cases, the use patterns of early adopters can provide clues as to how more general patterns use will evolve.

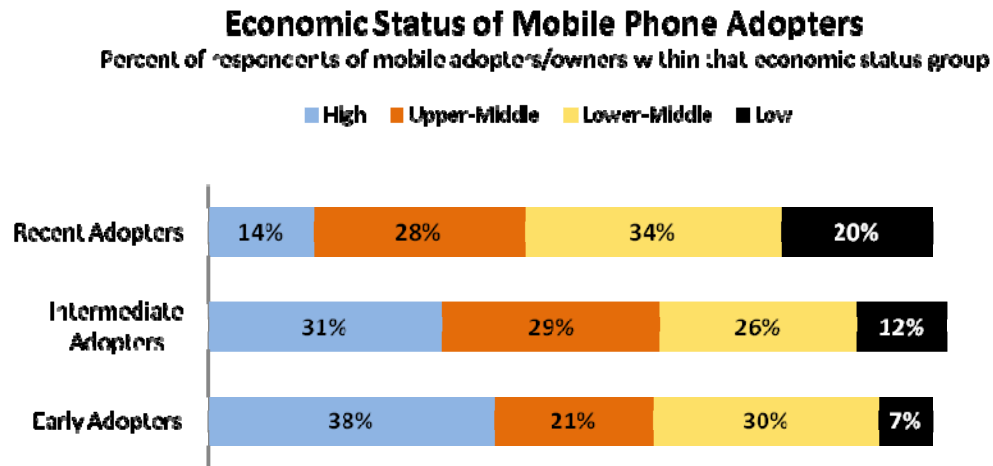
Mobile Phone Adoption Categorizations
<b>Early Adopters</b> are those respondents who began owning a mobile phone more than five years ago, n=195
<b>Intermediate Adopters</b> are those respondents who have owned a mobile phone between one and four years, n=565
<b>Recent Adopters</b> are those respondents who have only started owning a mobile phone in the past year n=237

The AudienceScapes analysis team divided mobile phone owners into three categories: early, intermediate and recent adopters. **One might assume that those who purchased their phones relatively early would also be among the more affluent members of society. This is also reflected in the AudienceScapes**

**data, though some 30 percent of early adopters are in the lower-middle income tier.** This is just behind the high-income tier, which includes 38 percent of early adopters.

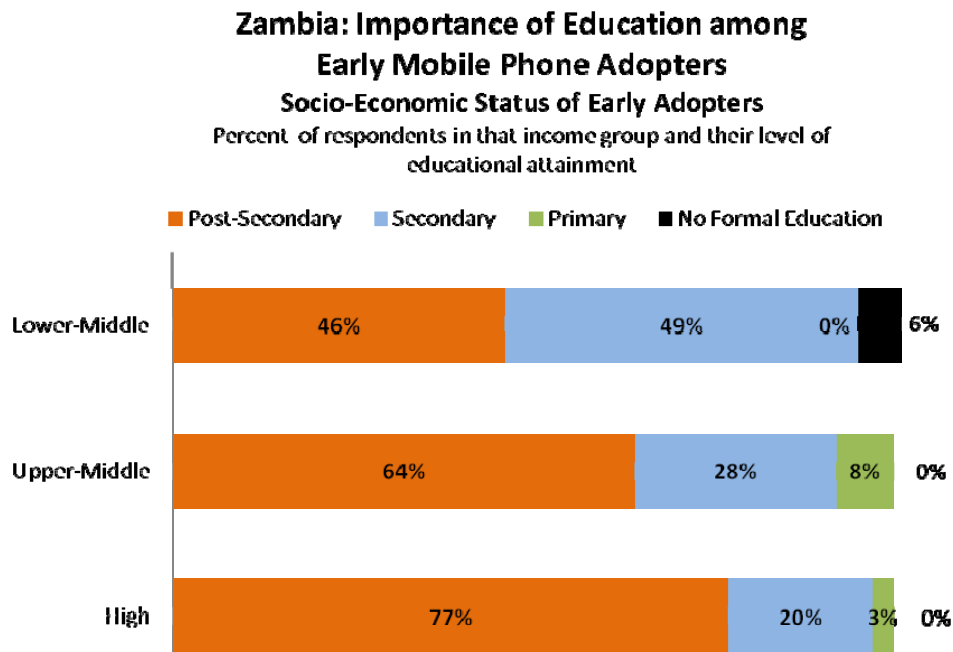
**The data also indicate that, over time, mobile adoption has rapidly expanded to the lower-income tiers.** Prepaid calling products and "calling party pays" billing, where the caller is charged and not the recipient, likely have helped propel this move down the income chain, as mobile phone owners are better able to manage how much money they spend on phone use.<sup>xi</sup>

Figure 4.1



AudienceScapes Zambia April 2010: national survey of adults (15+) who own a mobile phone; Early Adopters who have owned a phone for at least five years n=195; Recent Adopters have owned a phone for a year or less n=237; Intermediate n=365

Figure 4.2



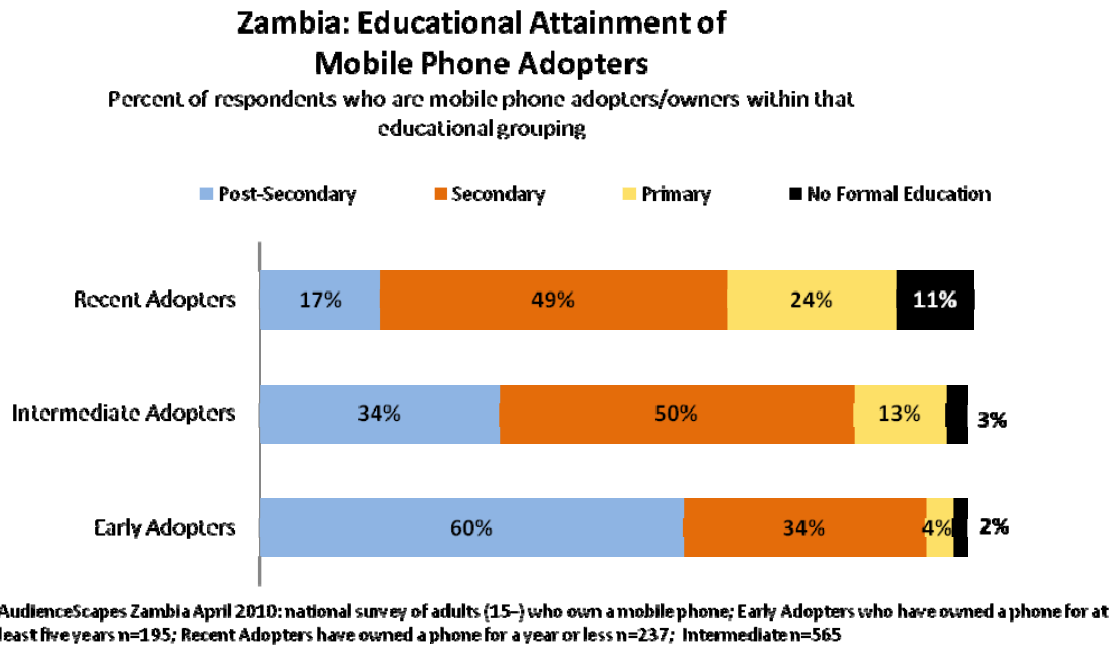
AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) who own a mobile phone; Early Adopters who have owned a phone for at least five years n=195.

Education level also emerges as a key factor in early cell phone adoption; those respondents having achieved a post-secondary education dominate the category (Figure 4.2), regardless of income level. Among early adopters it seems that education may have been a more significant



factor than even income. That said, education appears to be less of a factor in adoption than it used to be: only 66 percent of recent adopters said they have at least some secondary education, compared to 94 percent for early adopters and 84 percent of intermediate adopters.

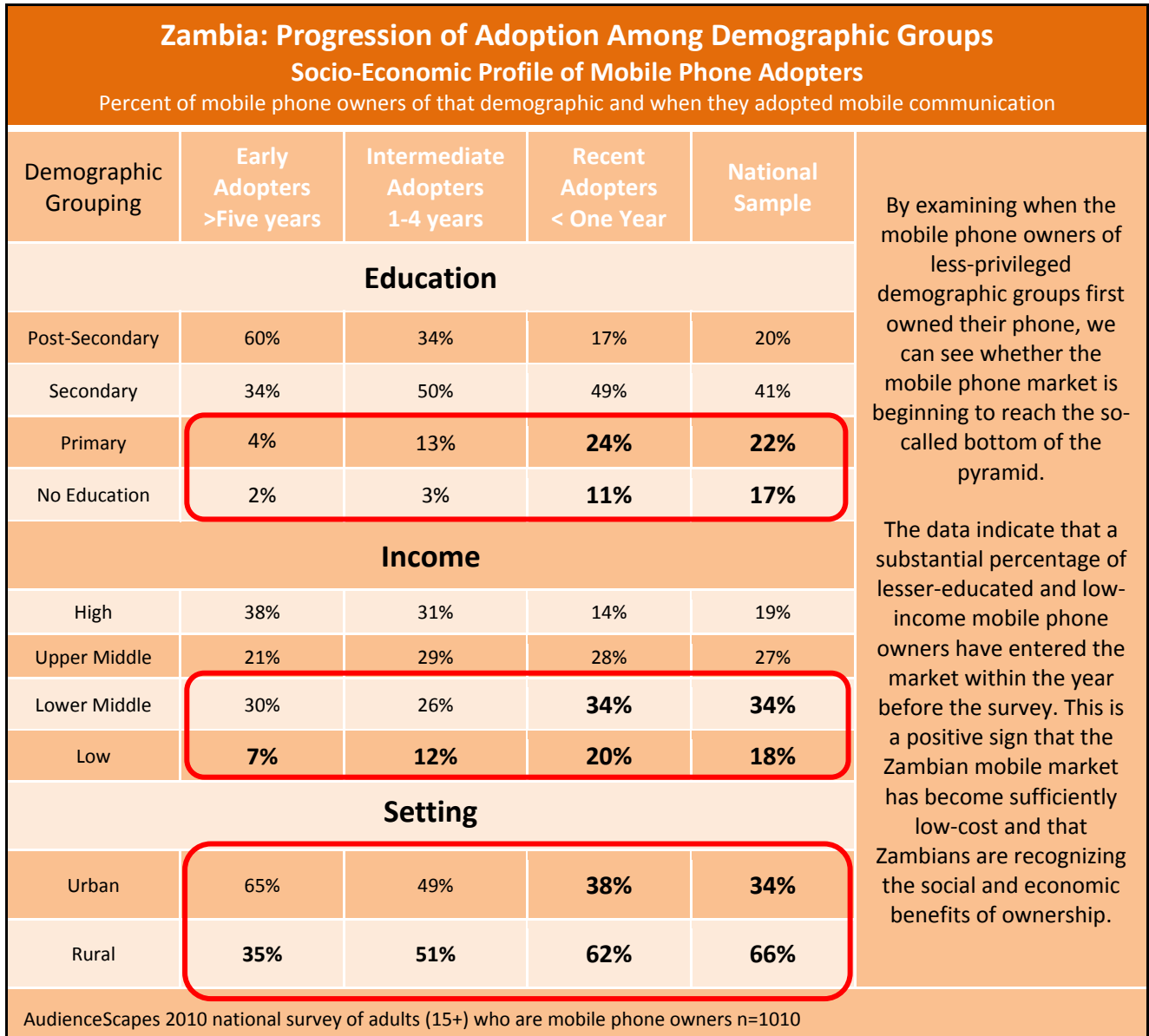
Figure 4.3



There is a wide gender divide among early adopters in favor of men, both in number and in likelihood of adoption, even among those of higher socio-economic status. However, among the more affluent *recent adopters* (those in the high or upper middle-income tiers), the **gender divide actually inverts**, with women more likely to be recent adopters. But the pro-male bias remains among lower-income Zambians.

A majority of early adopters (65 percent) are urbanites; rural residents are 62 percent of recent adopters. Reflecting this, **early adopters were much more likely to say they have access to electricity from the main grid; more than half of recent adopters have no access to electricity within their household.** In addition to showing how mobile phone adoption is now spreading to rural areas, it also indicates how not having a committed source of electricity in the home is not a hindrance to adoption.

Figure 4.4



By examining when the mobile phone owners of less-privileged demographic groups first owned their phone, we can see whether the mobile phone market is beginning to reach the so-called bottom of the pyramid.

The data indicate that a substantial percentage of lesser-educated and low-income mobile phone owners have entered the market within the year before the survey. This is a positive sign that the Zambian mobile market has become sufficiently low-cost and that Zambians are recognizing the social and economic benefits of ownership.

Interestingly, **survey data reveal there has not been a substantial shift in the age mix among mobile phone adopters over time.** Thirty-six percent of early adopters were between 20 and 29 when they first acquired their phones. Similarly, 38 percent of recent adopters are between 20 and 29. Mirroring this lack of change, 24 percent of early adopters were 30 to 39 and 21 percent of recent adopters are 30-39. According to the Population Reference Bureau, life expectancy in Zambia has only reached 38 years.<sup>xii</sup>

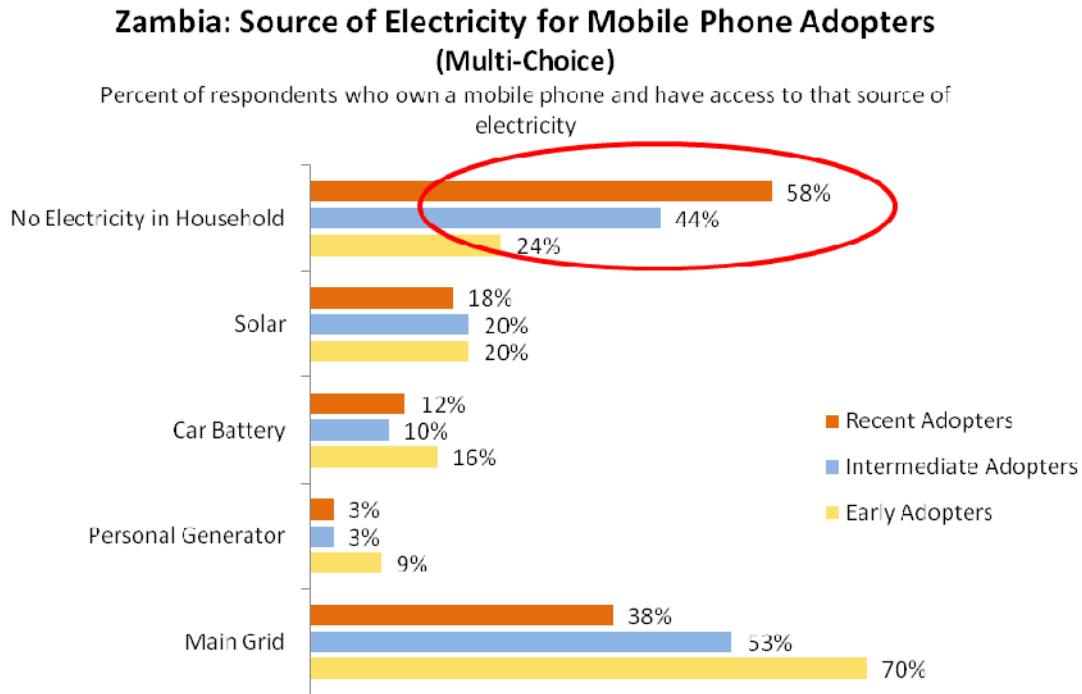
From a different statistical angle, **the data show further evidence that Zambia’s mobile market has made considerable progress over the past year in reaching the less privileged.** Figure 4.4

shows how a substantial percentage of mobile phone owners of less privileged backgrounds have only recently acquired a mobile phone. In fact, the demographic makeup of recent mobile phone adopters strongly mirrors that of the survey's national sample. The recent drop in the estimated monthly cost of using a mobile phone was likely a major contributor to the rise in mobile ownership among low-income households. Between 2008 and 2009, as mentioned above, the estimated monthly cost of using a mobile phone dropped from 18.50 percent of monthly gross national income per capita to 16.07 percent.

Mobile ownership has likely also increased due to the influx of low-cost phones in recent years. In 2009, Zambia became one of only two countries in Africa to be home to a mobile phone manufacturing plant, located in Lusaka. It reportedly manufactures models ranging from ultra low-cost to state-of-the-art wifi connected phones.<sup>xiii</sup> In addition, the mobile service provider Zain was offering mobile phones at a subsidized price of \$10, a lower cost than the typical imported mobile phone.<sup>xiv</sup>

Another indication that mobile phone ownership is beginning to reach those less privileged is the realization that a majority of recent adopters do not have access to electricity in their home. In fact, the percentage of phone owners with access to the main grid progressively declines along the adoption timeline and conversely those without any home access to electricity increases. What the above information tells us is that the traditional barriers to mobile ownership, such as lack of disposable income or access to household electricity, may remain hurdles for many Zambians (Chapter 5) but they are not insurmountable.

Figure 4.5

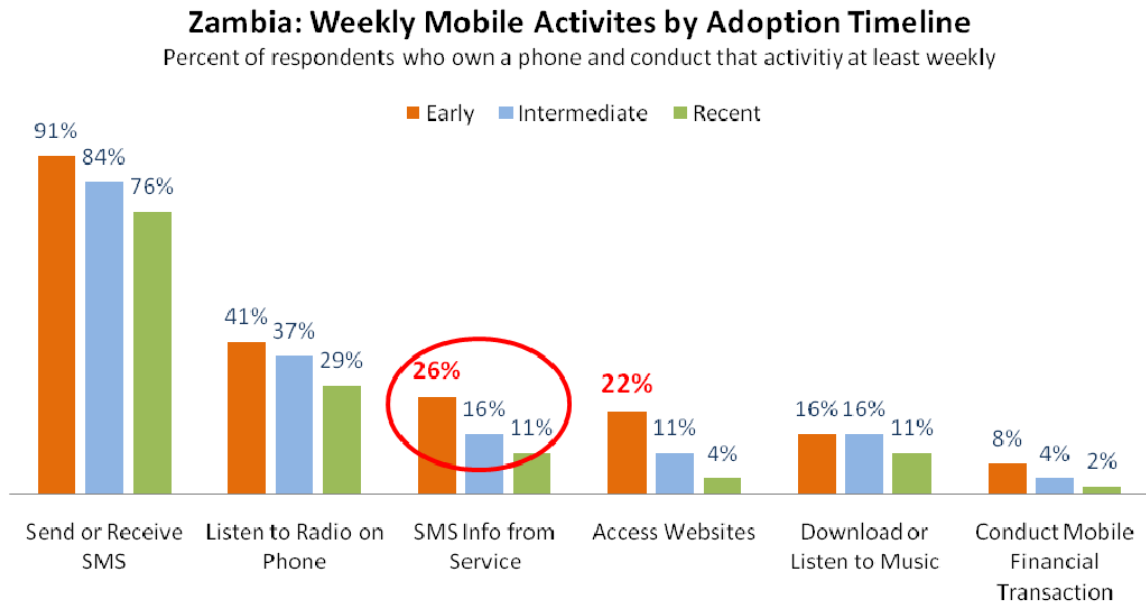


AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) who own a mobile phone; Early Adopters who have owned a phone for at least five years n=195; Recent Adopters have owned a phone for a year or less n=237; Intermediate n=565

### ***Early Adopter Activity Patterns - The Shape of Things to Come***

The early adopters in the Zambia AudienceScapes survey are much more likely than more-recent adopters to conduct a wider variety of phone functions (Figure 4.6). It is logical that early adopters would access websites or conduct other activities that require data services, as they tend to have higher household incomes and reside in urban areas where mobile coverage supporting data services is located.

Figure 4.6



AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) who own a mobile phone n=1011

**The adoption gap shows up in the number of phone owners who receive news and information via SMS services.** In the development community, it is increasingly popular to provide educational or other supportive information to target groups via text message. The AudienceScapes mobile phone adoption data suggest that lack of use of such information services may be the result of a lack of knowledge about such services rather than a socio-economic barrier, given that many of these types of services are provided free of charge. (*The use of SMS messages for development purposes is discussed further above*).

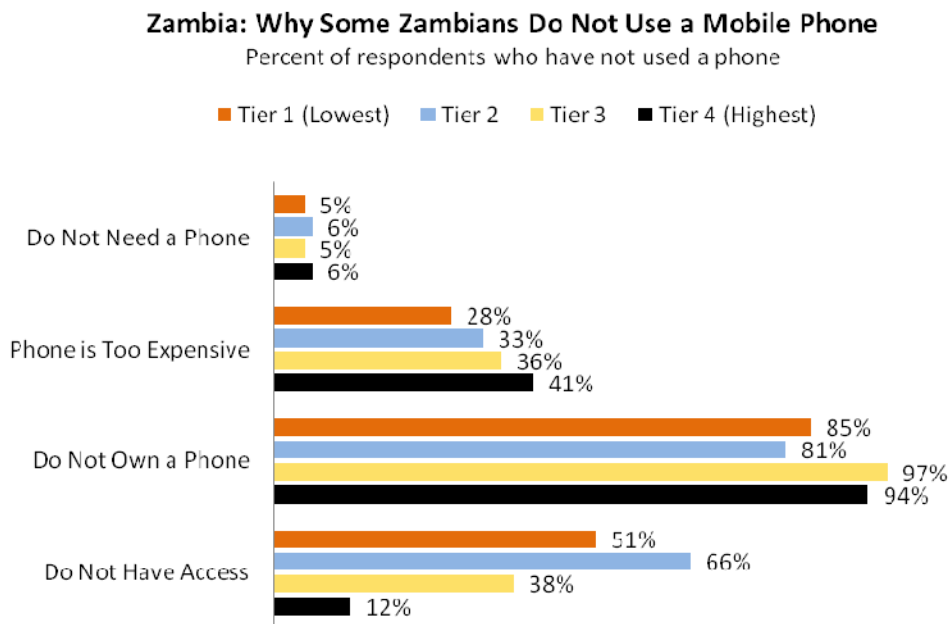
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## Chapter 5: Barriers to Phone Ownership and the Dynamics of Phone Sharing

Researchers have identified a number of potential barriers to mobile phone ownership or use, the most obvious of which are lack of disposable income or access to mobile phone coverage. **Although the AudienceScapes survey data reveal an income divide in the Zambian mobile market, they also indicate that the divide is narrowing.** This point is supported by respondents' statements about why they do not use a phone. Of low-income respondents who have never used a phone, only 28 percent cited expense as the reason.

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Figure 5.1



AudienceScapes National Survey of Adults (15+) who have not used a mobile phone n=472

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**Most non-users appear to associate lack of use with lack of ownership (Figure 5.1), even though many non-owners are in fact able to use other people's phones.** In many societies, ownership of a mobile phone not only grants an individual unfettered access to communication but also carries with it social status and, for some, empowerment. This may help to explain why non-users have placed greater worth on personal ownership.<sup>xv</sup>

This greater emphasis on phone ownership versus access - topping even cost as an inhibiting factor - is not surprising when taking into account the substantial differences in the range of phone activities available to an individual who owns a phone versus someone who must borrow a phone. **If an individual is a mobile phone borrower instead of an owner, they are often limited to simply sending or receiving SMS messages and voice services. In addition, phone borrowers often lack the option of private communication.**

Figure 5.2

Zambia : Reasons for Not Having Used a Mobile Phone by Province Percent of respondents who have never used a mobile phone in that province					
Province	Human Development Index Score (2004)	Mobile Phone is Too Expensive	There is no mobile phone signal where I live	I have nowhere to charge a mobile phone battery	Total percentage of province without home electricity
National Level	0.462	32%	15%	16%	61%
Northern	0.384	33%	16%	28%	70%
Luapula	0.385	56%	34%	34%	86%
Northwestern	0.453	16%	22%	10%	81%
Southern	0.469	37%	17%	18%	58%
Copper Belt	0.552	23%	8%	12%	33%

AudienceScapes Zambia April 2010: national survey of adults (15+) n=2000; who have never used a mobile phone Luapula N=88; Northern N=60 Northwestern N= 49; Southern N=90 Copper Belt N= 60.

Figure 5.2 breaks down some of the reasons for mobile phone non-use by province, revealing that the significance of various barriers varies substantially. Barriers linked to infrastructure gaps appear to disproportionately affect less-developed provinces such as the Northern, Western and Luapula. The latter's lack of economic development and infrastructure make it no surprise that Luapala posts the highest percentages of non-users to list the expense of a handset (56 percent), a lack of mobile signal (34 percent) and a lack of an ability to charge a phone (34 percent) as deterrents to mobile phone use.<sup>xvi</sup>

### ***Va. Phone Sharing Dynamics***

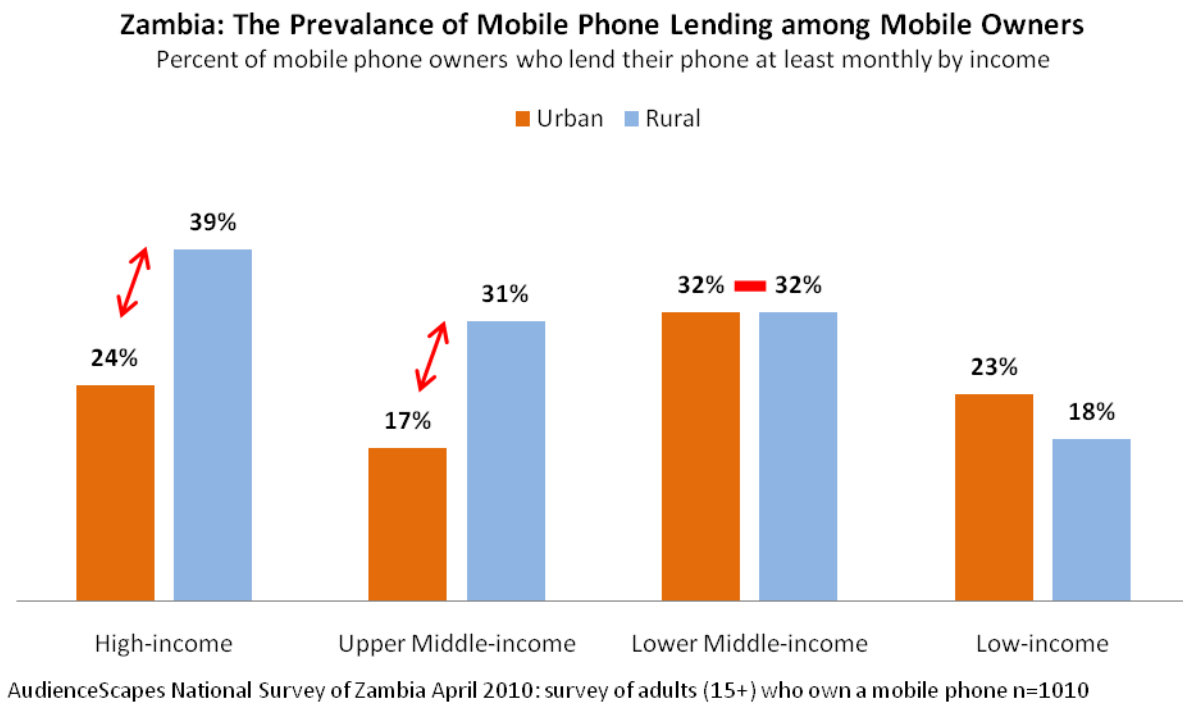
**Knowledge of the frequency with which Zambians share their phones, and with whom people choose to share, helps development practitioners better understand the impact of mobile phones, how Zambians use them and how phones may be used to their benefit.** A number of studies have addressed the importance of mobile phone sharing, not just in expanding the medium's use but also in the maintenance and creation of social capital - the bridges and

connections within and between social networks.<sup>xvii</sup> Qualitative research conducted in Africa has also observed that there are often varying motivations for mobile phone sharing and borrowing.<sup>xviii</sup>

For borrowers, it appears that their central motivation is to find a cost-effective means of communication. If an individual cannot afford a handset, they may choose to arrange with family, friends or others in their community to use someone else's phone on an ad hoc or regular basis. Many mobile phone borrowers buy a SIM card which they can use in other people's phones.

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Figure 5.3

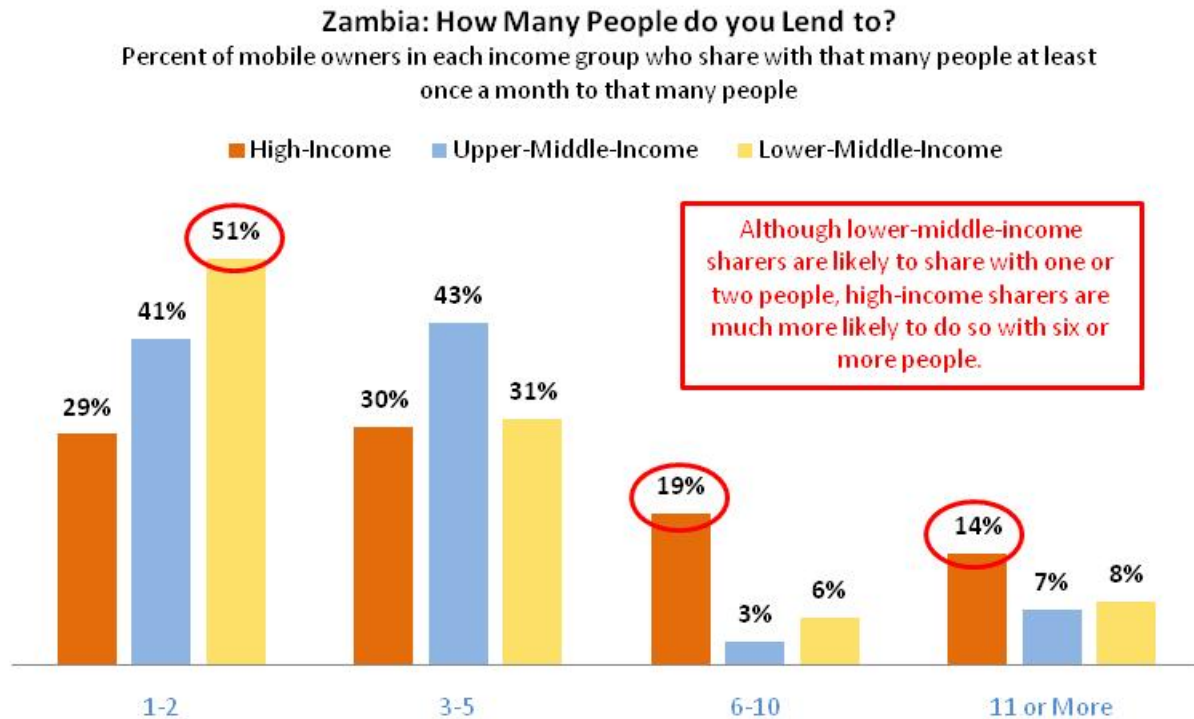


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Mobile phone lenders often respond to social pressure to make their phones available to others. However, as the AudienceScapes research suggests, **the practice of mobile phone lending is not always purely altruistic – some lenders said they sometimes require borrowers to pay for the service.**



Figure 5.4



AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) mobile phone owners n=952; share phone at least monthly n=151

**Some 26 percent of mobile phone owners surveyed (or 12.5 percent of all respondents) said they lend out their phone at least once a month.** Mobile lending has become common practice among lower-income mobile phone users, especially those in rural areas.

**Figure 5.3 shows that mobile phone lending is not only practiced by more-affluent Zambians. The survey data also indicate that, as Zambia’s mobile phone market has progressively extended to lower-income households, there has been a parallel trend of increased mobile lending.** Going forward, as the mobile market expands further down the income pyramid, most likely, phone lending is going to grow at a faster pace. Phone sharing may be the result of familial networks sharing the cost of owning and using a phone, whereas for individuals, that would not have been possible.

Figure 5.5

<b>Zambia: The Importance of Mobile Phone Lending</b> <b>Percentage Point Differences in Mobile Phone Use Among Provinces</b> Percent of respondents in that province who have access, ownership or use a phone of that frequency			
Province	Personal Ownership	At least Monthly Use	Difference between Ownership and Use
Lusaka	78%	86%	8%
Copper Belt	63%	71%	9%
Central	43%	62%	9%
Eastern	47%	65%	18%
Northern	46%	61%	15%
Northwestern	47%	52%	5%
Southern	42%	53%	11%
Luapula	27%	34%	7%
Western	16%	44%	28%

AudienceScapes Zambia April 2010: national survey of adults (15+) n=2000; Central n=191; Copper Belt n=334; Eastern n=264; Luapula n=157; Lusaka n=293; Northern n=243; Northwestern n=118; Southern n=245; Western n=155.

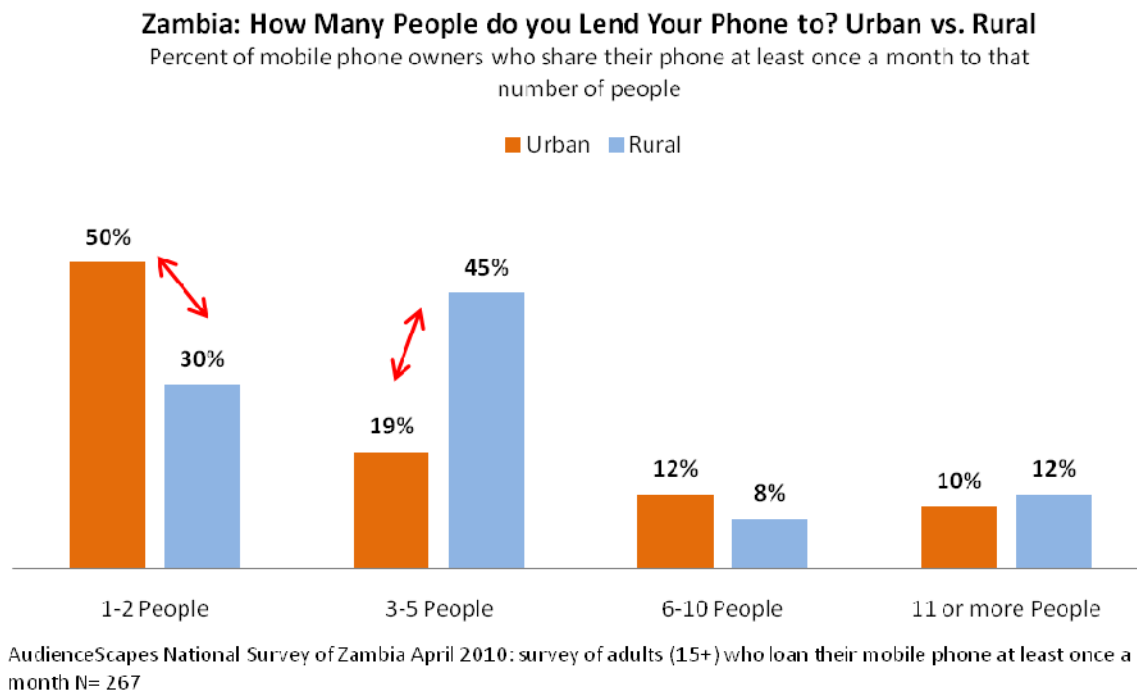
As with many other aspects of mobile phone access and use, education levels play a part in phone sharing patterns. Mobile phone owners with either a secondary or post-secondary education are the most likely to say they lend their phones to others. The frequency drops considerably among those with only a primary education.

**Looking at the extent of mobile sharing from a geographic perspective, Figure 5.5 shows that the percentage of monthly mobile phone users in each province surpasses the percentage who own a mobile phone by wide margins. Thus, a considerable percentage of mobile phone owners are consistently sharing their phone with people outside their family.**

### Vb. Rural Sharing

Lenders charging borrowers for the privilege of using a phone is a source of supplementary income across much of the developing world.<sup>xix</sup> The AudienceScapes survey indicates that in Zambia, phones are usually loaned for free. About 20 percent of mobile phone lenders (5 percent of all mobile phone owners) said they sometimes loan for free and sometimes require the borrower to pay a fee. Only a few respondents said they exclusively demand a fee.

Figure 5.6



**Rural phone lenders are much more likely than urban lenders to say they sometimes demand a fee from borrowers. The likelihood that a mobile phone owner charges for loaning his or her phone was generally steady across income groups.**

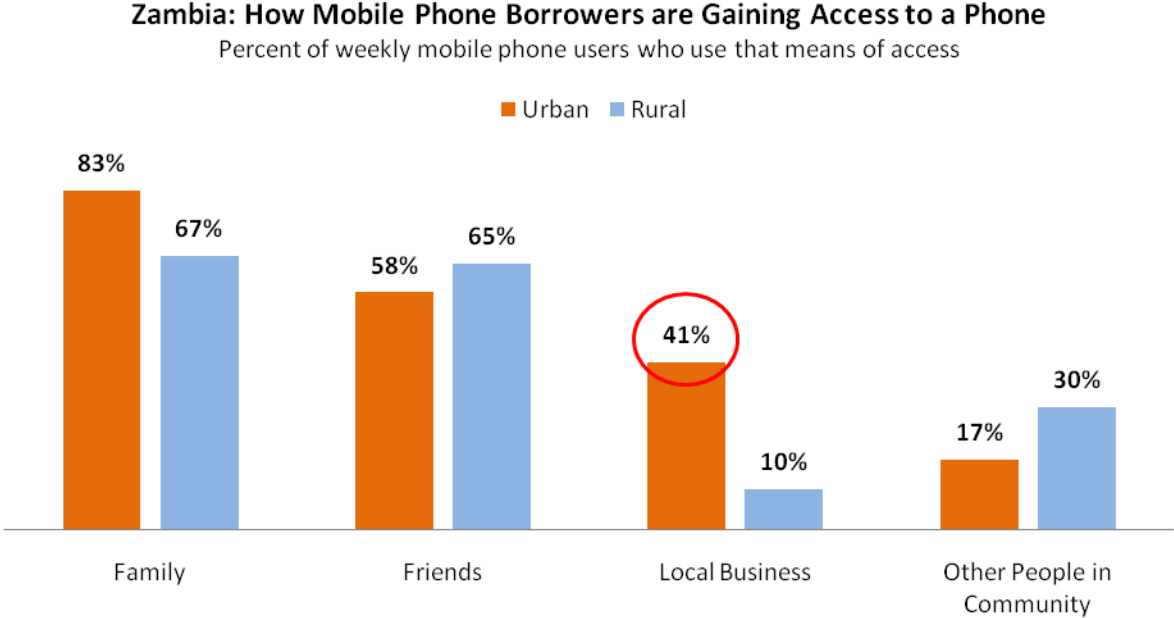
### Vc. The View from the Borrowers' Side

Sixteen percent of regular mobile users described themselves as borrowers. Analyzing this segment of the mobile phone market is crucial to understanding the role of mobile phones in spreading development information, and in how lower income individuals gain access to this increasingly important communication medium.

Among regular (weekly) mobile phone users who do not own a phone, family and friends are the most-often cited source for borrowing a mobile phone. Location plays a critical role in how a borrower gains access to and uses a phone, with more urbanites having the option of borrowing at a commercial establishment or vendor - most likely for a fee. This is to be expected, as rural mobile users are in more remote locations with less commercial development nearby (Figure 5.6).

Rural mobile phone borrowers appear to compensate for the lack of access options by turning to other people in their communities. This supports the finding, mention previously above, that a higher percentage of mobile phone owners in rural areas charge a fee for the use of their phone. It also hints that rural mobile phone borrowers are filling this gap in access through the informal commercial sector. This is a significant trend - nearly a third of regular mobile phone borrowers report being able to gain access through others in their community, which may be for free or at a fee.

Figure 5.7



AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) who use a mobile at least weekly but do not own a mobile phone N = 179

**Vd. Mobile Phone Borrowers and SIM Card Use**

Some mobile phone borrowers purchase SIM cards for use in other people's phones. A SIM card allows the borrower to maintain a personal phone number and SMS message history, but the owner is still limited in how they can use a phone by not having ready personal access to a handset.

**About 31 percent of all regular mobile borrowers said they use SIM cards in other people's phones.** The advantages that mobile phone owners enjoy seem to substantiate previous research in Tanzania and South Africa positing that the potential for the mobile phone to be an important tool for social capital development and the maintenance of social networks is dependent on the level of phone ownership.<sup>xx</sup>

Figure 5.8

Zambia: Weekly Activities According to Means of Mobile Phone Access			
Percent of respondents with that means of access and conducts that activity at least weekly			
	Personal Ownership	Owens SIM Card Borrower without SIM Card	Borrower without SIM Card
SMS-Text Messaging	81%	52%	23%
Listen to Radio	36%	10%	5%
Receive Information via Formal SMS Service	16%	12%	2%
Take or Send Photo	13%	4%	0%
Access Websites	11%	3%	0%
Conduct Financial Transactions (At Least Monthly)	9%	1%	1%
AudienceScapes Zambia April 2010: national survey of adults (15+) N=1010 who own a mobile phone; Owens SIM Card N=110; Borrower without SIM card N=398			

Phone borrowers with SIM cards were much more likely than those without SIM cards to say they borrowed phones from family members (74 percent versus 54 percent), implying that those without SIM cards must make a more concerted effort to find access beyond their family units.

**In an indication that Zambia's mobile phone market still has considerable room to grow, most mobile phone borrowers said that they have the intention of purchasing a mobile phone in the near future.** Eighty-nine percent of borrowers either agreed or strongly agreed with the statement, "I intend to buy a mobile phone in the near future." Adding to that the high percentage of mobile phone non-users who said that they have an intention of using a phone in the future, continued growth in the sector can be expected.

## **Chapter 6: Mobile Money Services - Whom They Reach**

Mobile financial services (commonly referred to as mobile money) are fast-growing applications in developing countries, with their origins in successful applications in Kenya and the Philippines. In the development community, mobile money is promoted as a means of making safe and affordable financial products and transactions available to the general population, spurring economic well-being and improving quality of life. Although mobile money services have focused primarily on money transfers and payments, service providers are pushing the frontiers into savings, credit and investment products.

Zambia has a number of mobile money services, with each tailored to its target market and each used in different ways. For example, Celpay offers a variety of payment and transfer services. Early on, Celpay's focus was on connecting smaller businesses and their partners to create more efficient transactions. Celpay recently has begun to focus on individual users. Launched in 2001, Celpay offers person-to-person, person-to-merchant and person-to-corporate payments. This includes making utility, pay TV and some purchasing payments to businesses who have established a relationship with Celpay.

A recent entrant is the Mobile Transactions (MT) service. MT launched in 2009 and offers both payment and transaction services. MT's payment service targets companies, particularly in the agricultural products market, that seek an efficient way to pay unbanked employees or rural farm suppliers. Other m-money services include Zanaco Bank's Xapit and Standard Chartered Bank's M-banking.

Who in Zambia uses mobile money services and what kind of transactions are they conducting? As of spring 2010 when the AudienceScapes survey was conducted, mobile money services had yet to reach deeply within the unbanked community that many development practitioners would like to target (Figure 6.1). This partially is because the market's two major service providers had focused much of their m-money efforts on the business market.

Figure 6.1

Zambia: Profile of Mobile Money Users Percent of mobile money users of that distinction			
Banking Use		Education	
Unbanked	22%	Post-Secondary	59%
Banked	78%	Secondary	31%
Gender		Primary	8%
Men 54%	Women 46%	No Formal Education	1%
Household Mobile Phone Access		Setting	
Access 90%	No Access 10%	Urban 73%	Rural 27%
Percentage of overall respondents who have used mobile money in the past: 7.2 percent			
AudienceScapes Zambia April 2010: survey of adults (15+) who have used mobile money N = 143			

**Current mobile money users in the survey were predominantly already banked, are urban dwellers, and have at least some secondary education.** Education also seems to be a key determining factor, as 90 percent of m-money users possess at least some secondary education. Fifty-nine percent of m-money users also possessed some post-secondary education. Current m-money users also tend to be better off financially. About 51 percent of m-money users in the Zambian survey said they reside in high-income households; only 6 percent are in low-income households. Figure 6.2 below explores the reach of m-money and the market potential for m-money among the different income groups.

The importance of education as a factor in m-money adoption is not restricted to Zambia. In Kenya, where there the m-money adoption rate is much higher than in Zambia, some 71 percent of m-money users in a 2009 AudienceScapes survey said they had at least some secondary education.

The age the population of the m-money users mirrored that of the population as whole, with nearly half of users between 15 and 29, and 38 percent in between 30-44. However, young adults (15-29) are less likely than those 30-59 to be mobile money users. This is not surprising considering that older age groups (30-59) were twice as likely to currently have a bank account compared to those 15-29 and were in general more likely to conduct money transfers, the most common m-money transaction.

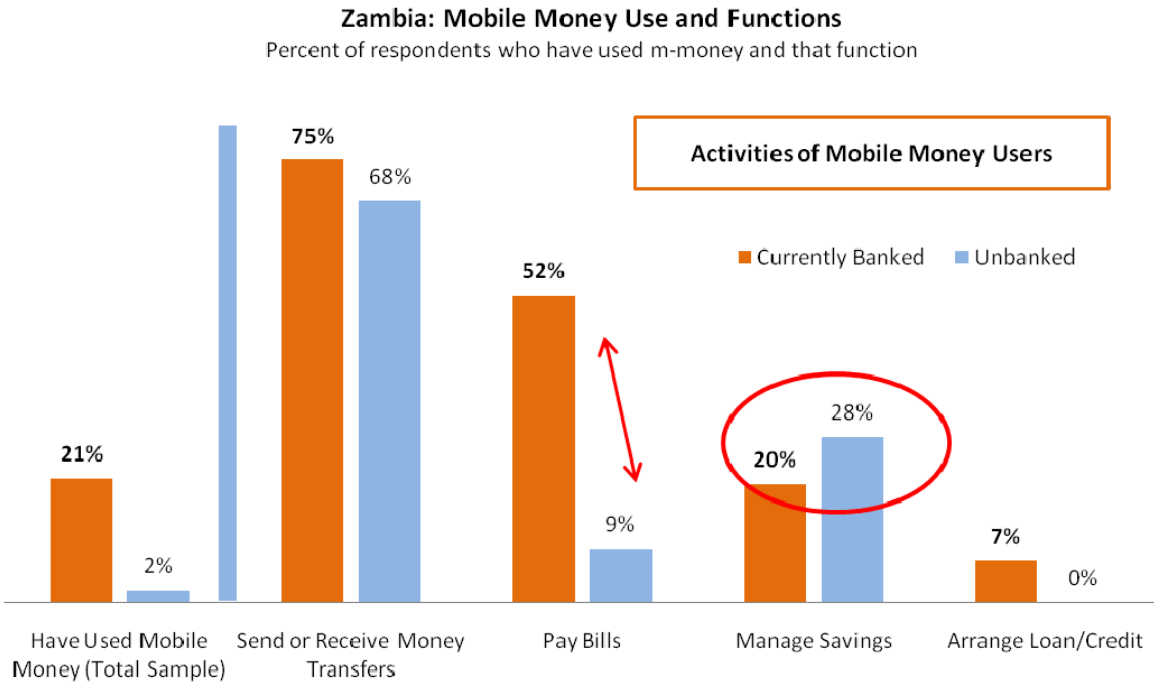


Symptomatic of mobile money being an urban phenomenon (Figure 6.1), more than a third of m-money users reside in the capital Lusaka and another 22 percent in the mineral-rich Copper Belt province. In fact, 16 percent of respondents in the Lusaka province have used m-money in the past, more than any other province and more than twice the national average. Again, this is not surprising considering how little rural residents and those in rural provinces are exposed to m-money advertising. Urban respondents are twice as likely (18 percent) to recall receiving information about m-money in the past week compared to rural respondents (9 percent).

Figure 6.2

<b>Zambia: Mobile-Money's Reach and Market Potential among Different Income Groups</b>				
<b>Percent of that income group who have adopted that practice</b>				
<b>Income Level</b>	<b>High-Income</b>	<b>Upper-Middle-Income</b>	<b>Lower-Middle-Income</b>	<b>Low-Income</b>
<b>Have Used Mobile-Money in the Past</b>	16%	8%	2%	3%
<b>Received Info on M-Money in past week</b>	20%	13%	11%	8%
<b>Market Potential</b>				
<b>Used Money-Transfer Service in Past 12 months</b>	39%	20%	10%	6%
<b>Receive Money-Transfer at least every three months</b>	26%	11%	10%	6%
<b>Send Money-Transfer at least every three months</b>	21%	9%	11%	3%
<b>Currently have a Bank Account</b>	52%	26%	13%	8%
AudienceScapes Zambia April 2010: national survey of adults (15+) n=2000; High-Income n=409; Upper-Middle-Income n=521; Lower-Middle-Income n=656; Low-Income n=342				

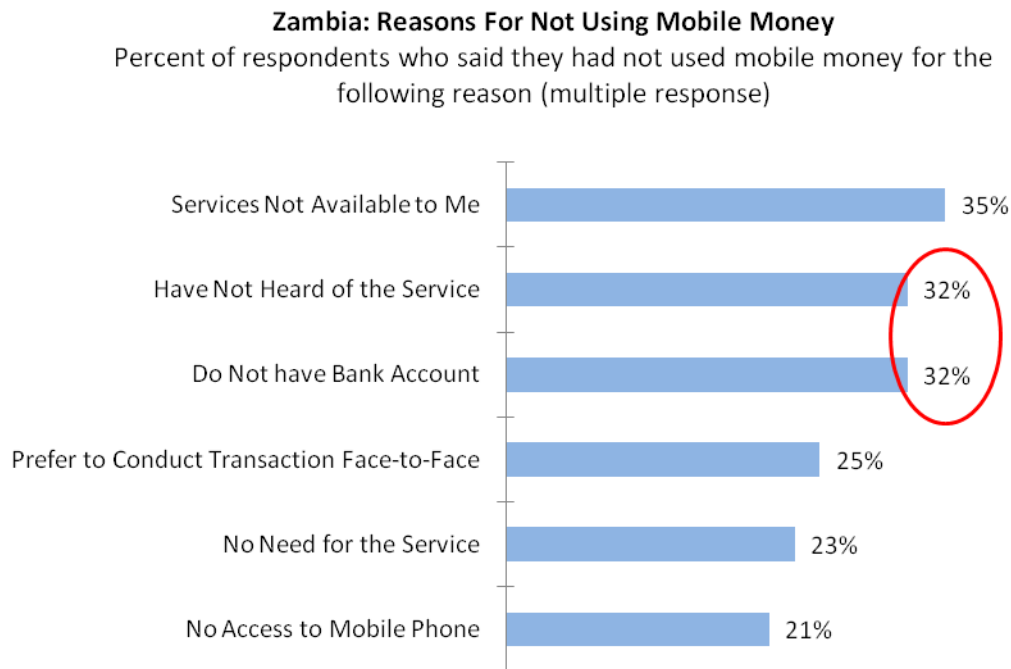
Figure 6.3



AudienceScapes National Survey of Zambia April 2010: survey of adults (15+) n=2000; have used m-money in the past N =144.

Money transfers are by far the most common activity conducted by m-money users. In general, those who already have a bank account were more likely to conduct various m-money transactions, especially the payment of bills. This is not surprising considering that m-money services until recently required a bank account and focused their campaigns on more advantaged groups. The one exception is the management of savings (Figure 6.3). What this tells us is that the unbanked who are using m-money, even though they encompass a smaller percentage of users, are taking up the opportunity to do more than send and receive money transfers and adopt basic formal banking practices.

Figure 6.4



AudienceScapes Zambia April 2010: survey of adults (15+) who have not used mobile money N = 1856

Two out of the top three reasons for why some Zambians have not used m-money ( “have not heard of the service” and “do not have a bank account”) are reflective of a lack of information about or understanding of the product (Figure 6.3). Not all m-money programs in Zambia require a bank account to operate them, revealing that there is a lack of understanding among Zambians about m-money and how it may benefit the consumer.

### ***Via. Market Potential***

As m-money providers like Cellpay shift their target audience towards the masses, more expansive marketing campaigns informing consumers about the benefits of m-money will help sensitize Zambians to the the service and dispel their assumptions about who is qualified to use it. When asked about their level of satisfifaction regarding information on m-money services, 42 percent of respondents said they lacked sufficient information about m-money to make even a judgement. Only 22 percent of non-mobile money users said they were very or somewhat satisfied with the amount of information they were receiving. Those who lacked information on m-money or were dissatisfied with the level of information they are receiving

are more likely to be unbanked and less affluent indicating a large untapped segment of the population that could potentially benefit from m-money.

The survey data reveal that there is substantial room to grow for the m-money sector. Seventeen percent of respondents say they used a money transfer service in the past 12 months. Although this is not the only type of service offered by m-money operators, it is the most used function among current mobile money users and users in other African countries. Further indicating that there still is an audience for m-money in Zambia is that only 24 percent of those who have sent a money transfer has used m-money in the past.

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<sup>i</sup> “National Information and Communication Technology Policy”. Ministry of Communication and Transportation. April 2006. Supported by the United Nations Development Programme.

<http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan032690.pdf>.

<sup>ii</sup> Howard, Philip N. 2007. “TESTING THE LEAP-FROG HYPOTHESIS: The impact of existing infrastructure and telecommunications policy on the global”. *Information, Communication & Society*. Vol. 10, No. 2, pp. 133–157. digital divide

<sup>iii</sup> “Measuring the Information Society 2010”. (2010) International Telecommunication Union. Geneva, Switzerland. Accessed October 2010. [http://www.itu.int/ITU-D/ict/publications/idi/2010/Material/MIS\\_2010\\_without%20annex%204-e.pdf](http://www.itu.int/ITU-D/ict/publications/idi/2010/Material/MIS_2010_without%20annex%204-e.pdf).

<sup>iv</sup> “Investor Relations”. Zain: Zambia website. Accessed September 2010. <http://www.zm.zain.com/opco/af/core/home/channel.do?channelId=-12086&selectedChannels=-12086,-10996,-10994&lang=en>.

<sup>v</sup> Chulu, Kabanda. “MTN Zambia launches 3 products”. *The Post Online*. 3 April 2010. Accessed September 2010. [http://www.postzambia.com/post-read\\_article.php?articleId=7742](http://www.postzambia.com/post-read_article.php?articleId=7742).

<sup>vi</sup> Ibid. and “National Coverage”. MTN Zambia website. Accessed October 2010. [http://www.mtnzambia.co.zm/travel\\_nat\\_coverage.asp](http://www.mtnzambia.co.zm/travel_nat_coverage.asp).

<sup>vii</sup> The income measure used for this report is a self-determined calculation that is in response to the question “which answer best reflects your household’s financial situation”. For the purpose of this survey, “**Low-income**” refers to those respondents who report not having enough money to cover basic needs such as food and/or clothing. As such, this represents the poorest 18.1 percent of the population (n=362). “**Lower-middle-income**” here refers to those respondents who said they could afford to buy food but not clothes. This grouping comprises 33.1 percent of the survey (n=678). “**Upper-middle-income**” here refers to those respondents who said they have enough money for food and clothes and to save a bit, but not enough for large purchases such as refrigerators or televisions. This group represents 26 percent of the total population (n=519). “**High-income**” here refers to those respondents who report being able to afford to buy certain expensive goods such as a TV set or a refrigerator or can afford to buy whatever they want. This group encompasses 18% of survey respondents (n=369)

<sup>viii</sup> Palka, Wolfgang; Key Pousttchi and Dietmar G. Wiedemann. “Mobile word-of-mouth - A grounded theory of mobile viral marketing”. *Journal of Information Technology*. Volume 24, Number 2, 17 June 2009, pp. 172-185(14). And Okazaki, Shintaro. “Determinant factors of mobile-based word-of-mouth campaign referral among Japanese adolescents”. *Psychology and Marketing*. *Special Issue: New Media: Mobile Advertising and Marketing*. Volume 25, Issue 8, pages 714–731, August 2008.

<sup>ix</sup> “MTN Zambia Calls for Lower Costs of Calls”. *The Zambia Chronicle*. 28 May 2010. <http://zambianchronicle.com/?p=6209>.

<sup>x</sup> Malakata, Michael. “South Africa to regulate mobile interconnect fees”. *ComputerWorld*. 23 April 2010. Lusaka, Zambia. Accessed October 2010. <http://computerworld.co.nz/news.nsf/telecommunications/south-africa-to-regulate-mobile-interconnect-fees>.

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- <sup>xi</sup> Kalba, Kas. 2008. "The Adoption of Mobile Phones in Emerging Markets: Global Diffusion and the Rural Challenge". *International Journal of Communication*, 2, 631-661.
- <sup>xii</sup> "Zambia: Statistics". Population Reference Bureau. Washington, DC. Accessed September 2010. <http://www.prb.org/Countries/zambia.aspx>.
- <sup>xiii</sup> "Zambia's M.Mobile to export its handsets to other African countries: 10,000 to go to Zimbabwe". *Balancing Act*. Issue 453, 8 May 2009. Sourced from ComputerWorld. Accessed November 2010. <http://www.balancingact-africa.com/news/en/issue-no-453/telecoms/zambias-mmoble-to-export-its-handsets-to-other-african-countries-1000>.
- <sup>xiv</sup> Miyanza, Owen. "M-Tech, first mobile phone plant in Africa". *Africa News*. 6 July 2009. Lusaka, Zambia. Accessed November 2010. [http://www.africanews.com/site/list\\_message/21151?data%5Bsource%5D=rss](http://www.africanews.com/site/list_message/21151?data%5Bsource%5D=rss).
- <sup>xv</sup> Portus, Lourdes M. (2008) "How the Urban Poor Acquire and Give Meaning to the Mobile Phone". *Handbook of Mobile Communication Studies*. Edited by James E. Katz. The MIT Press: Cambridge, MA. 105-118. And Rheingold, Howard. (2008) "Mobile Media and Political Collective Action". *Handbook of Mobile Communication Studies*. Edited by James E. Katz. The MIT Press: Cambridge, MA. 225-239.
- <sup>xvi</sup> The number of respondents who were non-mobile phone users in the Western province did not reach the statistical threshold for analysis.
- <sup>xvii</sup> Vodafone. 2005. "Africa: The Economic Impact of Mobile Phones." *Vodafone Policy Paper Series*, Number 3, Accessed September 2010. [http://www.vodafone.com/etc/medialib/attachments/cr\\_downloads.Par.78351.File.tmp/GPP\\_SIM\\_paper\\_3.pdf](http://www.vodafone.com/etc/medialib/attachments/cr_downloads.Par.78351.File.tmp/GPP_SIM_paper_3.pdf)
- <sup>xviii</sup> Chipchase, Jan. and Indri Tulusan. (2007) "Shared Phone Practices: Exploratory Field Research from Uganda and Beyond". Nokia. [http://research.nokia.com/files/JanChipchase\\_SharedPhoneUse\\_vFinal\\_External.pdf](http://research.nokia.com/files/JanChipchase_SharedPhoneUse_vFinal_External.pdf).
- <sup>xix</sup> Ibid. and James, Jeffrey James and Versteeg, Mila. "Mobile phones in Africa: how much do we really know?". *Social Indicators Research*. (2007) 84:117-126
- <sup>xx</sup> Goodman, James. 2005. "Linking mobile phone ownership and use to social capital in rural South Africa and Tanzania". In *Africa: The Economic Impact of Mobile Phones*. *Vodafone Policy Paper Series*, Number 3, Accessed September 2010.