

# Is there a match among migrants, remittances and technology?

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## Introduction

This report provides evidence and analysis about migrant demand for remittance transfers and compares that demand to tech-based money transfer services on the market today. It also offers observations about opportunities for product innovation. The report addresses three main questions: first, what are the prevailing sending preferences of Latino immigrants in the United States? Second, are they willing to adopt new sending methods and are web- and mobile-based applications an accessible option? Lastly, what new applications has the market offered, particularly in the mobile phone industry, and do those products respond to migrant consumer needs?

The report finds that migrants are amenable to adopting new practices for sending money home and migrants who use the internet, mobile phone applications, and debit or credits cards are especially interested in switching their sending practices. However, migrants' access to technology-based devices is limited, and products currently offered in the U.S. market are not available to most migrants. Moreover, because tech-based money transfer services require advanced skills in technology interfacing and generally provide service within the US only, tech-based products generally do not respond to migrant needs.

## 1. Migrants remittances and the market

The marketplace for remittances on the demand side has changed little during the recession. Immigrant sending preferences continue to be the same; that is, migrants have a strong preference to change their sending method if they assess that a better method is available. Consumer confidence in money transfer services is also strong. The characteristics of remittance sending patterns remain relatively similar. The average annual amounts sent have declined by only 10% from 2008. People continue to send on a regular basis and have been sending for an average of seven years. Migrants currently pay the lowest rates to send money since data collection began in 2000. The transfers are price and amount inelastic: people send more or less the same amounts over time and are price sensitive but do not send more if prices go down.

Table 1. Remittance Characteristics

Remittance Amount	\$182.00
Frequency per Year	14
Total Annual Remittances	\$2,406.47
Years Sending Remittances	7
Fee	\$8.32

Nearly 90% of people use money transfer operators (MTOs) while 3% use banks, 2% use the internet, and the rest utilize informal means such as the mail or sending money with travelers to

their home country.<sup>1</sup> MTOs offer cash-to-cash payments, wherein the sender goes to a retail outlet, bank, post office, or other payment center and uses cash to make a money transfer. The recipient then receives a cash payout. Some MTOs also allow senders to use their debit card or credit card, rather than cash, to pay for an international remittance, either by using their card at a payment location or by calling on the telephone and providing their card or account number. Additionally, these models allow senders to send money to a recipient's bank account (cash-to-account).

Consumer preferences and satisfaction also remain unchanged since 2006. Two thirds of people are satisfied or very satisfied with the money transfer service they use, while those who use the internet show higher satisfaction than other users.

**Table 2: Customer Satisfaction by Money Sending Method (%)**

Respondents who were satisfied or very satisfied with (as a percent of total respondents):	Bank	Money Transfer Agency	Internet	Population
Transparency: Cost	81.20	71.00	89.50	71.60
Transparency: FX	41.90	63.40	89.50	63.20
Ease of Use	90.60	82.30	94.70	82.30
Expense of Sending	62.50	60.10	68.40	60.50
Value	50.00	48.70	89.50	49.90
Total Satisfaction	67.70	65.40	89.50	65.90

Third, and most importantly for the expansion of new types of money transfer services, half of the respondents would be willing to change to another sending method. Respondents who were satisfied with their current service provider and respondents who were dissatisfied expressed a willingness to change providers equally, suggesting that there are market opportunities despite high levels of satisfaction with current market offerings. Opportunities to make direct deposits with a money transfer were more popular than other applied transfer technologies such as cards, mobile phones or the internet.

**Table 3: Inclination to Change by Satisfaction (%)**

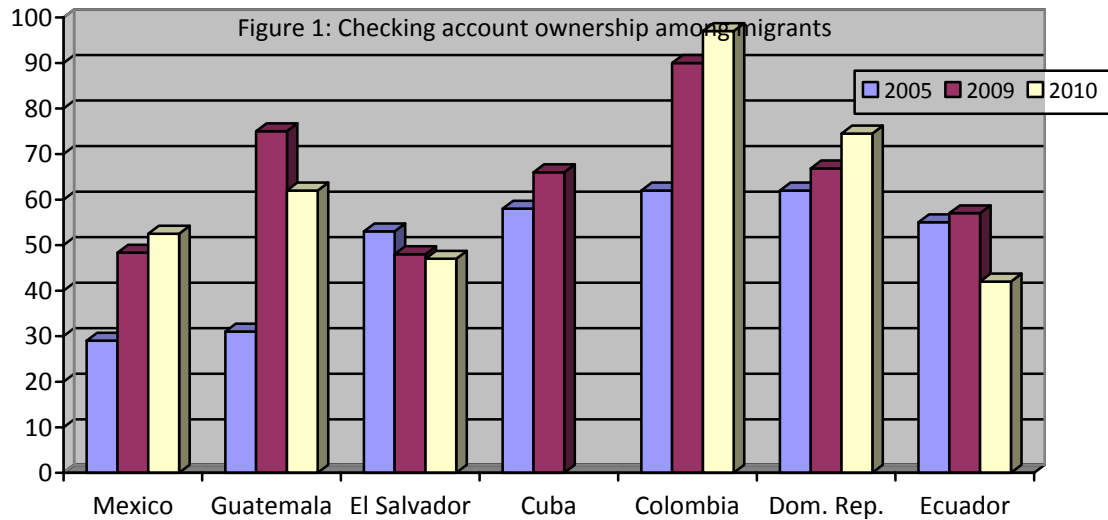
	Will Not Change	Would like to Change
Unsatisfied with current method	49.30	50.70
Satisfied with current method	50.40	49.60

**Table 4: Breakdown of clients willing to try new methods**

	(%)
Would like to Change	47.10
Would Like to try Direct Deposit	35.20
Willing to try Technology	15.20

<sup>1</sup> Contrary to expectations, the recession did not appear to increase the use of informal transfer mechanisms. Although account to cash transfers are 5% they have increased from 1% in 2005 when data was collected for the first time on account transfers.

Migrants continue to rely on and express satisfaction with cash-to-cash money transfers, but they would like to improve their sending methods by relying on new systems. Money transfer operators using the agent-based model hold a solid market position, but the small increase of alternative sending methods and migrants' willingness to change to other methods may signal an opportunity for the development of new money transfer technologies. In fact, the percent of immigrants with bank accounts has steadily increased for most nationalities—Mexico may be the most illustrative case. The next section explores whether this interest is matched by migrants' regular use of technology.



## 2. Migrants and technology applications

Although some remittance service providers are introducing internet-based transfers, mobile transfers and card-based transfers, the majority of migrants are yet to fully embrace this practice.<sup>2</sup> Migrants make limited use of technologies related to the internet, mobile phones and cards. A continued preference over a cash-to-cash remittance transfer market also coincides with a population with very limited use of technology applications such as those in the internet, mobile phones, or cards. These findings are reflected in a study conducted in 2006 about the use of cards and the internet for money transfers,<sup>3</sup> suggesting that limited advances have been made in increasing migrant use of technology in the last four years.

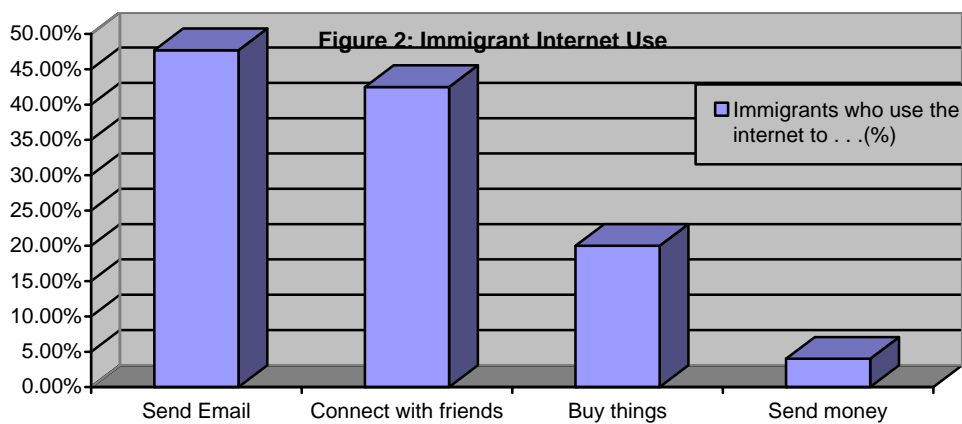
Those few migrants, however, who regularly use internet, mobile applications, or payment cards, are among the most willing to use different methods for money transfers. Moreover, income and age are significant determinants in a migrant's willingness to use alternative money transfer services.

<sup>2</sup> Front-end technology applications on money transfers are typically considered crucial to financial access. Businesses and policy makers have made the assumption that applied technology geared toward financial instruments is a better fit for low income individuals, including immigrants, than cash transfers. However, little evidence confirms the assumption.

<sup>3</sup> Orozco, Manuel, Katy Jacob, and Jennifer Tescher. "Card-Based Remittances: A Closer Look at Supply and Demand." The Center for Financial Services Innovation, Chicago, IL: February 2007.

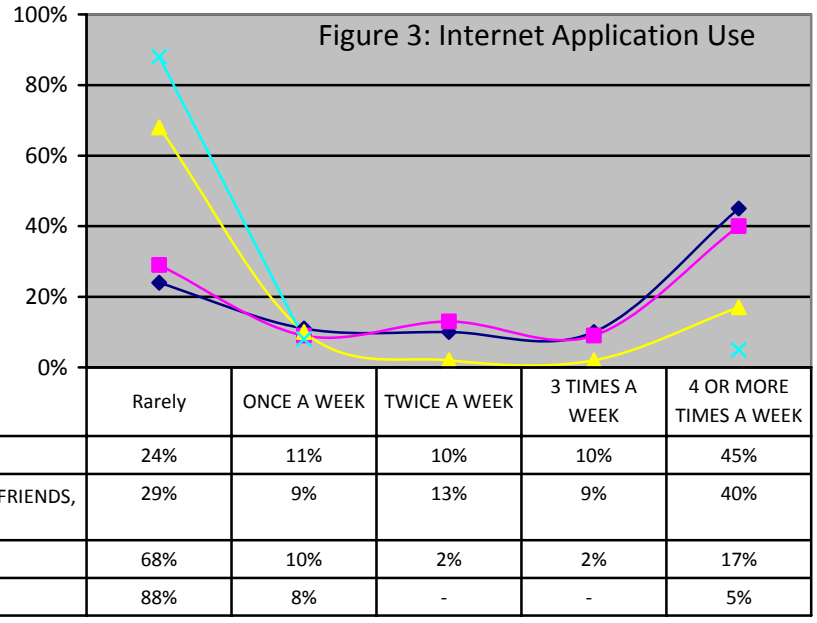
a) *Migrants and the Internet*

While migrants do not use the internet as much or as often as the majority of Americans, those who do demonstrate a greater willingness to send remittances through the internet or other alternative service providers. Migrants' use of the internet is relatively low, standing at 41% and represents 7.5% annual increase from 2006 when it was 30% (Orozco 2007). As Figure 1 shows, most people use the internet to send emails or connect with friends, while making purchases is less common and a very small percentage (4) use it to send money. In comparison, the percent of US residents using the internet is 79, according to the Pew Center, or nearly double that of Latino immigrants.<sup>4</sup>



In terms of frequency of use of these applications, there are differences on the type of system utilized. E-mail sending registers the highest frequency of use, with 21% of migrants sending emails four or more times a week, while other kinds of uses such as buying things drop significantly in comparison. People either actively use the internet or rarely use it, presenting the U-shaped curve seen in Figure 2.

<sup>4</sup> Horrigan, John, *Wireless Internet Use*, Pew Internet and American Life, 2009.



Although only representing a small percentage of the population, immigrants who use the internet to make purchases are more prepared to switch from sending cash-to-cash than are those who do not use the internet at all. About 54% of those using the internet are willing to switch sending methods to using direct deposit or the internet, as opposed to 45% among those who do not use the internet.

As with other people in the United States, immigrants also use social networks, though in smaller percentages. 40% uses internet based social networks, of which the majority are using Facebook.

Table 5: Social networking websites

		of those using SN
NONE	60.90	--
FACEBOOK	28.70	42.90
MSN	21.50	32.21
TWITTER	6.80	10.23
Hi5	6.30	9.47
LINKEDLN	1.80	2.75
OTHER	1.40	2.14
ORKUT	0.20	0.31

*b) Migrants and cell phones (types of phones and uses)*

Migrants who use their phones for purposes other than making phone calls are also likely to consider using mobile-base applications to send money home. Immigrants, like many Americans, are avid cell phone users. In contrast to the low levels of internet use among migrants, 92% of

immigrants have cell phones, predominantly using them to make calls. About half use mobile applications<sup>5</sup>, while many respondents observed that their cell phone does not include that function (see Table 6). Among those using mobile applications, fewer than 20% used the applications frequently. Among those using text messaging, the daily average is 5, and among those taking photos the daily average is one. Internet use on mobile devices was also quite low, with the majority of respondents who did use the internet saying they used it infrequently (See Figure 3). Despite the low proportion of immigrants using mobile technology applications, those who do are more willing to try the internet or mobile applications for money transfers (See Table 7).

Table 6: Immigrants' use of mobile applications

<i>Application</i>	<i>Use the applications (%)</i>	<i>Do not use the applications (%)</i>	<i>Phone does not support that function (%)</i>
Use Texts	51	49	-
Use Mobile for Photos	23	32	45
Use Internet on Phone	19	0	81
Listen to Music on Phone	19	0	81

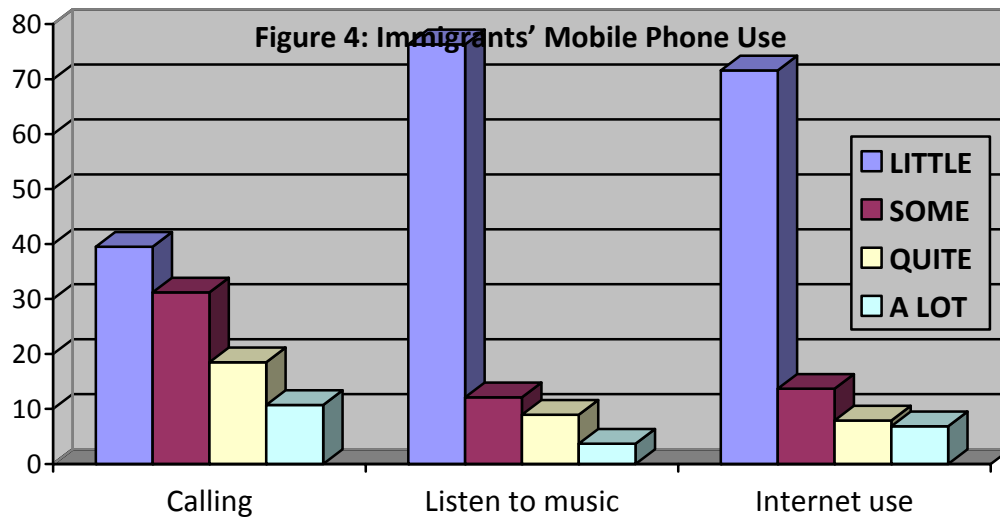


Table 7: Mobile Phone Use and Inclination to change

<i>Mobile Use</i>	<i>Won't Change</i>	<i>Willing to try Technology</i>
Does not use mobile phone	43.80	24.20
Uses mobile phone	56.20	75.80

<sup>5</sup> In referring to mobile applications, we employ a broad definition that includes any mobile-based function beyond making phone calls. Texting, picture-taking, and internet usage are incorporated in this definition of a mobile application.

c) *Cards (access, uses)*

Card-based payment instruments are among the earlier forms of electronic transfer mechanisms introduced, gaining acceptance in the late nineties in industrialized economies and gradually penetrating developing country markets. Immigrant use of debit or credit cards has historically been low but there has been some growth and shift in uses. The percent of people using a debit or credit card increased from 50% to 62% since 2006, following trends in bank account ownership (see Table 8). Migrants have also switched from credit card to debit card use, a change that may reflect a desire to manage personal finances more closely.

Table 8: Immigrants' Card Use (%)

<i>Card Type</i>	<i>2006</i>	<i>2010</i>
Debit	38	58
Credit	12	4
Both	49	38
Has debit, credit or both	50	62

In addition to these instruments, over 72% of immigrants own a stored-value card that perform payment functions such as public transit cards, or pre-paid debit cards. Pre-paid card usage is low as a payment instrument, with 90% of users are people who already have bank accounts and a debit or credit card. These users predominantly rely on one or two cards: 50% has one card and 36% two. The remaining 12% owns three or more cards.

Table 9: Other Cards Used by Immigrants (%)

TRANSIT SYSTEM CARD	58.2
REWARD/LOYALTY/DISCOUNT CARDS	54.2
WASHING MACHINE CARD	19.7
PRE-PAID DEBIT CARD	9.1
AFFINITY CARD	7.9
PAYROLL CARD	2
CHARGE CARD	0.5

Once again, as with migrant usage of the internet and mobile applications, immigrants who use cards express interest in switching to a different money transfer method (such as direct deposit or technology applications) at slightly higher rates than non-users.

Table 10: Immigrants who own cards and would like to change to a different sending method

	Would like to Change	Would Like to try Direct Deposit	Willing to try Technology
Has at least one card (including non-financial)	53	41	17
Has Other at least one Financial Card	43	28	19

All immigrants	47	35	15
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*d) Determinants of internet, mobile and card use*

The market segment of migrants who would consider using technology-based services to send remittances may be small, but they could also act as trend-setters, offering important word-of-mouth advertisement and education for tech-averse migrants. This section explores the demographic characteristics of migrants willing to adopt web and mobile-based remittance technology, in order to draw some conclusions about market prospects.

We divided respondents among three main groups: people who make no use of any of these applications; a basic set of users who make sporadic or minimal use of these instruments (have sent an email, visited the internet once a month or taken a photo on their phone); and active users of any of the applications. As seen in Table 11, there are notable demographic differences among the sets of users. Active users tend to be men, relatively young, better off financially, and more integrated into US society, as measured by number of years living in the U.S. or citizenship status.

The table below (sorted by those traits that are more salient among active users) shows some of the characteristics that differentiate active users from casual users.

**Table 11 : Characteristics of Technology Users**

(%)	Not a user (25%)	Basic user (59%)	Active user (16%)
<i>Mean values</i>			
Average amount in savings account	1928	2673	3903
AVERAGE SENT EACH per remittance	153	184	215
AGE	39	39	36
<i>Percent</i>			
Owens a bank account	31	79	97
Uses Facebook	2	28	68
Would switch to a different sending method	42	47	56
MARRIED OR LIVING WITH SPOUSE	44	64	62
MALE	61	55	57
CHILDREN LIVING WITH ME IN THE US	28	49	52
PERMANENT RESIDENT	27	42	50
FEMALE	39	45	43
HAVE TPS, WORK PERMIT CARD	14	21	39
Would switch to bank direct deposit	34	37	31
COLLEGE DEGREE	2	6	32
HIGH SCHOOL COMPLETED	25	39	32
DON'T HAVE CHILDREN	28	19	28
Earns MORE THAN 35,000	2	10	28
Would switch to an internet method	1	2	13
SOME COLLEGE	5	17	26
SINGLE	40	27	24
BETWEEN 25,001 AND 30,000	6	12	23
Does not send through MTO	12	13	17
BETWEEN 15,001 AND 20,000	22	24	15

(%)	Not a user (25%)	Basic user (59%)	Active user (16%)
BETWEEN 20,001 AND 25,000	18	20	15
CHILDREN IN BOTH COUNTRIES	12	14	12
ELEMENTARY SCHOOL COMPLETED	53	29	10
CHILDREN LIVING IN MY COUNTRY	32	18	8
DON'T HAVE PAPERS	54	29	8
BETWEEN 10,001 AND 15,000	30	18	8
BETWEEN 30,001 AND 35,000	3	6	8
AMERICAN CITIZEN	5	8	4
UP TO 10,000	20	8	3
DID NOT FINISH ELEMENTARY SCHOOL	15	8	1

In order to analyze the determinants of technology use, we constructed a composite variable that measured the use of internet, mobile and card technologies. We regressed the composite variable against several key variables: amount of money in a savings account, age, gender, years living in the United States, annual amount remitted, legal status, level of education and annual personal income.

We find that annual income, education, legal status, and gender to be statistically significant in determining technology use. Income and education are positively related to technology use, but the small coefficients of .053 and .126 do not reflect a strong substantive significance, more likely reflecting a general trend that active users of technology tend to be better educated and have a larger income. Legal status and age are inversely related to technology use. Illegal status leads to a .227 unit decrease in technology use. Further, older migrants tend to use the internet less, with each additional year of age slightly reducing technology usage by (0.007).

Table 12: Regression on Applied Technology Use

Variable	Coefficient	Standard Error	Significance
Amount in Savings	5.13E-06	0	0.159
Age	-0.007	0.004	0.037
Female	0.079	0.058	0.176
Years in the US	0.079	0.058	0.285
Amount Remitted (Year)	-1.41E-05	0	0.159
Illegal Status	-0.227	0.079	0.004
Education	0.126	0.028	0
Annual Personal Income	0.053	0.018	0.004
Constant	0.907	0.172	0

When testing specifically for internet use, we find comparable variables to be statistically significant. Similarly we constructed a composite variable based on internet use including: email, social networking sites, web-browsing, e-commerce, and chat programs.

Table 13: Regression on Internet Use

Variable	Coefficient	Standard Error	Significance
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Amount in Savings	-4.28E-07	4.62E-07	0.355
Age	1.51e-.06	0.0003901	0.997
Female	0.0541207	0.0436109	0.216
Amount Remitted (Each)	-0.0000139	0.0000217	0.521
Amount Remitted (Year)	-0.0000281	7.94E-06	0
Illegal Status	-0.11436	0.051106	0.026
Education	0.1894097	0.0192913	0
Annual Personal Income	0.0083417	0.0145341	0.566
Mobile Phone Use	0.18941	0.0192913	0

We find level of education, legal status, annual amount remitted, and mobile use to be statistically significant; however, the coefficients on all variables except mobile phone use and education not large. Mobile use and education are both positively related and have values of .189 and .187; these results are consistent with the previous table showing that technology users are generally more educated and use multiple technology applications.

Lastly, to test for mobile phone technology use we created a composite variable that included text messaging, listening to music on the phone, taking photos, and internet usage, and measured it against respondents' demographic status.

Table 14: Regressions on Mobile Phone Use

Variable	Coefficient	Standard Error	Significance
Amount in Savings	-1.31E-06	4.22E-07	0.002
Age	-0.000894	0.0004284	0.037
Female	0.006222	0.0396374	0.875
Amount Remitted (Each)	0.0000157	0.0000195	0.422
Amount Remitted (Year)	-8.76E-06	7.42E-06	0.238
Illegal Status	-0.009527	0.024797	0.701
Education	0.0319411	0.0216578	0.14
Annual Personal Income	0.0079005	0.0131417	0.548
Internet Use	0.1726903	0.0175574	0

Although statistically significant, the coefficients on age and savings are extremely small (-.000894 and -.00000131) so as not to substantively affect the model. The coefficient on internet use is .172, reflecting a positive relationship between the two variables. The correlation coefficient between mobile use and internet use is .5874 showing a distinct correlation, but one that is not too strong.

### 3. Technology applications in the market

Interest in innovative person-to-person (P2P) payment solutions has risen dramatically around the globe as Internet and mobile phone usage has increased in both developed and developing countries. In developing countries, the well-publicized cases of Kenya's M-Pesa and the Philippine's G-Cash have shown that simple SMS-enabled mobile phones can be used as instruments to store and transfer value to other users. These mobile banking programs have been successful at enabling low-value person-to-person transfers in a domestic market. In developing countries, the success of mobile banking initiatives is often considered to be largely

dependent on adequate payout infrastructure, regulatory environment, and the scope of cell phone usage in the market. These factors, as well as good service design and a savvy business strategy have been attributed to M-Pesa's domestic success in Kenya<sup>6</sup>.

In developed countries, current trends reveal a population increasingly comfortable using mobile and internet based technology in financial matters, yet usage still remains low among the general population, and is far lower among migrants, as shown above. More and more Internet users perform banking transactions online, and an increasing number of people use their mobile phones as an interface for these transactions. In a survey conducted in March 2010, 27% of people with Internet-enabled phones said they use their phone to access online banking sites, compared to 22% in 2009.<sup>7</sup> Furthermore, banks see these types of services as a way to "help hook and keep emerging affluent Generation X and Y customers."<sup>8</sup> Banks further see the promise of money transfer technology as a way to "gain entry into the unbanked market and international remittances business<sup>9</sup>," one which is currently dominated by money transfer operators.

Currently, the predominant remittance model in the United States consists of cash-to-cash payments through money transfer operators (MTOs), wherein the sender goes to a retail outlet, bank, post office, or other payment center and uses cash to make a money transfer. Some MTOs also allow senders to use their debit card or credit card, rather than cash, to pay for an international remittance, either by using their card at a payment location or by calling on the telephone and providing their card or account number. Additionally, these models allow senders to send money to a recipient's bank account (cash-to-account).

Technological developments have emerged to challenge these traditional methods of sending remittances. In the last few years, prepaid value cards, internet-based companies, and mobile phones have entered the US based remittances market place.

Card-based remittances are defined by the use of a card on the sending end, receiving end, or both. In some cases, either the recipient or sender must have a bank account or credit card in order to send money; others allow participants to purchase reloadable cards. Although there is a growing market in the United States for card-based remittance services, according to the 2007 report "Card-Based Remittances: A Closer Look at Supply and Demand," there is little demand as migrants are largely unbanked and prefer cash based transactions<sup>10</sup>.

Many remittance companies are expanding their operations to the web. Western Union and Moneygram currently offer customers the option of sending money online, as do banks such as

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<sup>6</sup> Mas, Ignacio and Dan Radcliffe. "Mobile Payments Go Viral: M-PESA in Kenya," Bill and Melinda Gates Foundation, March 2010.

<sup>7</sup> McAdam, Paul. "My Phone is Still Smarter than Yours," eComAdvisors presentation at NACHA Electronic Payments Association conference, Seattle, WA, April 27, 2010.

<sup>8</sup> Hoffman, Karen. "The Sudden Allure of P2P". Digital Transactions February 2010: 24-29.

<sup>9</sup> *Ibid.*

<sup>10</sup> Jacob, Katy, Orozco Manuel, and Tescher Jennifer. Card-Based Remittances: A Closer Look at Supply and Demand. The Center for Financial Services Innovation, 2007.

Wells Fargo<sup>11</sup> and Citibank. Further, San Francisco-based money transfer company Xoom operates solely in cyberspace.

Lastly, a number of interesting advances have been made in mobile commerce (m-commerce). In just the last year, the mobile payments market in the U.S. witnessed significant growth in supply as PayPal Mobile partnered with social networking site Twitter to create Twitpay, and the early innovator TextPayMe Inc. was acquired by Amazon.com. These services, as well as others such as MasterCard's MoneySend, which is powered by Obopay, and M-Via, have all developed platforms for U.S. mobile phone users to send money to another person using an SMS text message or by using their phone's Internet browser or a smart phone application. The following section looks in greater detail at each of these four main P2P services from a user's perspective.

*Review of P2P mobile transfer services in the U.S.*

(1) The company TextPayMe was established in 2005 and in 2010 it was acquired by Amazon.com, which also offers Internet-based P2P transfers through its Amazon Payments service. Through Amazon.com's TextPayMe, users with an Amazon Payments account can send money to another person by sending an SMS text message with their mobile phone, or using their mobile phone's Internet browser or one of several special applications designed for smartphone users.

(2) In 2006, Internet payments innovator PayPal started its mobile SMS-based transfer system, called PayPal Mobile, and in the last two years it has developed applications for popular smart phones BlackBerry, iPhone, and Android. In 2009, Twitter launched TwitPay, which interfaces with PayPal's platform and uses the sender's mobile-enabled Twitter account as a platform to send money to other Twitter users.

(3) That same year, MasterCard launched its MoneySend service in the United States, which also allows senders to make payments vis SMS text message or their phone's Internet browser (it has not yet developed smartphone applications). MasterCard's technology is powered by Obopay, a company that stands out among these providers in that it has made most of its inroads in developing countries, where it has partnered with mobile phone providers to create payment systems that don't rely on bank account ownership but instead link to money stored in a user's prepaid phone account. However, in the United States, Obopay's service is very similar to PayPal Mobile and Amazon's TextPayMe, allowing SMS- or mobile browser-based transfers, as well as transfers through smart phone applications. An Obopay user's account is linked to their bank account, like PayPal Mobile and Amazon, or funds can be drawn from and received on Obopay's prepaid cards.

(4) Most recently, the company M-Via launched a service available to mobile phone users in the state of California to send money to Mexico. M-Via's service is very different from those of PayPal Mobile, Amazon's TextPayMe, and Obopay. Technologically, it is one step up from a traditional cash-to-cash transfer. Senders deposit cash at an agent location in California, and the money is then sent to a mobile wallet connected to the recipient's cell phone in Mexico. To access the money in their mobile wallet, the recipient goes to an agent location, and can choose

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<sup>11</sup> The first transfer must be made in a branch location before online transfers are made available to a client.

how much cash they wish to withdraw from their mobile wallet, leaving the rest for subsequent withdrawals. Thus, M-Via could be considered a cash-to-mobile service.

While PayPal Mobile, Amazon’s TextPayMe, and Obopay are all services that provide the convenience of initiating a transfer from a mobile phone, they are essentially mobile-to-online wallet services, whereby the sender’s funds are drawn from a bank account (either at the time of sending or prior to the transaction) and the recipient receives the money in an online wallet (from which funds can only be used at retailers that accept direct payments from online wallets or transferred to a bank account). Given the reliance on bank account ownership, they could also be considered a hybrid mobile/account-to-account service, where the mobile device is merely an instrument for the sender to initiate a transaction and for the recipient to receive notice that a payment has been received in their mobile wallet. M-Via, on the other hand, could be considered a cash-to-mobile service. Thus, none of the services currently available in the United States mimic the mobile-to-mobile M-PESA model, where both the sender and recipient draw on funds stored in their mobile wallet.

In order to understand the practical use of PayPal Mobile, Amazon’s TextPayMe, Obopay, and M-Via as applications for migrants in the United States, we rely on four general categories that are typical markers of financial access<sup>12</sup>:

Table 15: Categories for assessing practical use of P2P products

Category	Definition
Functionality	Functionality is a condition that identifies the functions and properties that each product offers. Basic functions related to payment include the geographic scope, the mobile applications supported (such as SMS, mobile Internet browser, or smartphone apps), and the methods of transfer offered by the product (such as account-to-online wallet or cash-to-mobile wallet).
Usability	Usability refers to an application’s ease of use. We look at the ease or difficulty of using the product for both sender and recipient. To measure usability, we look at the languages offered to make a transaction, the extent of customer service, the steps to sign up and to send money, the cost to send money, and the technological requirements for both sender and recipient.
Formality	Formality is understood as the level of legal compliance is expected of the customer. It looks into documentation and financial products required for a person to either send or receive money as well as the transparency in cost. Typical requirements may include bank accounts, state identification, and a bank card.
Openness	This category looks at the targeted segment of the population. Here, we analyze for whom the product is advertised.

In terms of functionality, each of these P2P services has limited geographical scope, as shown in Table 16 below. Additionally, Amazon Payments limits withdrawals to U.S. bank accounts only, making the service functionally irrelevant for international remittances, while PayPal limits the countries where money can be withdrawn and Obopay’s U.S. service is currently only available

<sup>12</sup> A table comparing the P2P services using these criteria is available in Appendix 1.

for transfers within the United States or to India. M-Via's geographical scope is limited to the California-Mexico corridor. For an overview of the operational capabilities of each service, such as the range of mobile phone applications that can be used, see Appendix 2.

In terms of usability, PayPal Mobile and Amazon's TextPayMe have relatively streamlined initial setup processes, which consist of creating an online user account and entering personal information online, much like one would do to make an online purchase. Obopay's initial setup is more complicated for some users, who are required to fax bank account information and identification information to the company in order to establish their account. Each of the three services have relatively simple processes to authenticate users' mobile phones and link them to their online user account. However, for mobile phone users who don't have Internet access, these P2P services are out of their reach in practical terms. In addition to using the Internet for initial setup, the Internet is also necessary to monitor the status of the user's account and transactions, as well as to troubleshoot any problems quickly when customer service is not available.

Another commonality among PayPal Mobile, Amazon's TextPayMe, and Obopay is that each one notifies remittance recipients when they have received a transaction (either by text message or email), but requires Internet access in order to obtain funds. In all cases, the recipient must create a user account, and any funds received remain in that online wallet until the recipient transfers it elsewhere. From the recipient's perspective, using the money they have received is rather complicated for a first-time user. In the case of TextPayMe and PayPal, the recipient can keep the money in their online wallet to send to other people or make payments for online purchases, but this limits how the money can be spent. A notable difference is Obopay, which has launched its own co-branded prepaid card where funds can be received directly.

In terms of formality, PayPal Mobile, Amazon's TextPayMe, and Obopay all require senders to have a bank account (and usually a debit card) from which to draw funds. For recipients to withdraw money from their online wallets, they also need a bank account, and in the case of Amazon, a U.S. driver's license as well. The reliance on bank account ownership, as well as the high degree of technological savvy required to use these services position them as products for a very specific market segment with a high level of financial and technological access. Thus, the "openness" of these services is relatively limited to a financially literate and technologically capable Gen X and Y audience that is not only financially literate and technologically capable, but also patient with the steps required of both sender and recipient to send money.

#### **4. Reconciling preferences and technology, ideas over the ways forward**

We find through this report some important realities. First, immigrants demonstrate consistently a preference to switch to alternative methods different from Cash to Cash (C2C) while three quarters are satisfied with the prevailing sending method. Both facts have consistently been present since 2007. Second, immigrants exhibit relatively low use or access to remittance technology based applications stemming from lack of use of mobile, internet or card based systems, accompanied by an incipient industry seeking to cater this market through internet or mobile systems. Third, immigrants are going through a slow and organic shift from c2c to account to account methods, particularly the internet and bank transfers. As shown above, internet use grew by 7.5% every year since 2005, account ownership among migrants has grown to 10% during that same period, while the market share of internet and account transfers continues to be 5%.

Given the possible increased efficiencies that technology based applications can provide, particularly value added transactional activities, convenience and lower costs, is it possible to accelerate this organic shift for alternative sending methods while keeping up with a competitive environment? This answer depends in part on how supply and demand feedback among each other. However, some minimum caveats can be advanced. First, because the substitutability of transfer methods do not exclude the same remittance service providers, these businesses can accommodate to the demand side by adopting various strategies. Second, demand side realities are not permanent nor fixed, behavior change is possible within basic parameters. Third, policy intervention is also possible to facilitate these two features.

In the first case, RSPs can offer account to cash services to the same migrants who visit agent locations. Most RSPs have the technology and business methodology to carry on withdrawals from an immigrant's bank account to authorize a money transfer. Marketing such service will strengthen the competitive capacity of the RSPs, as well as maintain their market share while utilizing account transfers. Similarly, implementing web portals for money transfers as an addition rather than substituted sending service will increase the strategy of attracting a market already motivated to switch. Although this market segment is relatively small (16%) they can play a demonstration effect by shifting their preferences into practice.

In the second case, financial education can prove to be a fundamental driver for behavior change among those who currently have access to technologies but lack the know-how to adopt them. Work in financial advising to migrants and families about the ways remittance transfers can maximize an individual's net worth shows that people can adapt new financial behavior in order to enjoy the value added offered by transactions. Immigrants' choice of money transfers is predominantly associated to four determinants: RSP low cost, reputation, convenience and value added. Technology intense money transfers can capture these needs through one sending method but education can facilitate and speed a transition in that direction.

Public policy is a third caveat that can accelerate this shift. Motivating financial access through particular pilot strategies, including those promoted by FDIC, or state offices dealing with financial access for underserved markets can be accompanied with financial education campaigns and partnerships with RSPs to increase the use of accounts as cross border payment methods.

## Appendix 1: Review of Mobile Payment Applications in the U.S.

The following table shows the functionality, usability, formality, and openness of four U.S.-based P2P payment services:

Category	Feature	PayPal Mobile	Amazon's TextPayMe	Obopay	M-Via
<b>Functionality</b>	<b>Sending Countries</b>	United States	United States	United States	United States (California only), Mexico
	<b>Receiving Countries</b>	Global, but limited to withdraw to bank accounts.	United States only to receive in bank account. Worldwide to receive in AmazonPayments wallet.	United States	Mexico
	<b>Mobile applications supported for sender</b>	SMS and smartphone apps	Only major U.S. carriers; SMS and smartphone apps	SMS and smartphone apps	None
	<b>Methods of Transfer</b>	Mobile-to-PayPal wallet; Online-to-PayPal wallet	Mobile-to-Amazon wallet; Online-to-Amazon wallet	Mobile-to-Obopay wallet; Online-to-Obopay wallet	Cash-to-mobile wallet
<b>Usability</b>	<b>Languages Offered</b>	Chinese, Dutch, English, French, German, Italian, Japanese, Spanish, Polish, Portuguese	English	English	English, Spanish
	<b>Live Customer Service</b>	Yes	No. Email support within 12 hours.	Yes	Yes
	<b>Sender requirements</b>	Bank account, Internet access, email account, mobile phone.	Bank account, Internet access, email account, mobile phone.	Bank account, Internet access, email account, mobile phone.	Internet access, email account, mobile phone, access to a printer.
	<b>Steps to sign up for service</b>	Create PayPal account, register debit or credit card or bank account, authenticate mobile phone.	Create AmazonPayments account, register debit or credit card, register and authenticate mobile phone.	Create Obopay pay account, register and authenticate mobile phone. Some accounts require further authentication in which users must fax a copy of a bank statement and a state-issued ID.	Call M-Via to set up an account.
	<b>Steps to Send Money</b>	Send SMS text message or use smartphone interface. Sender receives automated phone call to authenticate transaction using a pin.	Send SMS text message or use smartphone interface. Sender receives automated phone call to authenticate transaction using a pin.	Send SMS text message or use smartphone interface. Sender receives phone call to authenticate transaction. or send online.	Print bar code from M-Via website. Deposit money at 7-11. Verify money deposit by calling M-Via. Send SMS text message.
	<b>Cost to Sign Up</b>	Free	Free	Free	Free
	<b>Cost to Send Money</b>	Free to send money from one PayPal wallet to another. If the money is drawn from a bank account or card, the cost is 2.9% plus US\$0.30. The	Free to send money from one AmazonPayments wallet to another.	0.25 up to \$10 0.50 over \$10. 1.5% fee for uploading money from debit card into Obopay	\$1 per transfer with month-to-month plan, or free with \$99.95 yearly plan, which includes free

		sender chooses who pays the fee in all countries, except India and Germany, where the recipient always pays.		account.	mobile phone for user in Mexico. As of September 8th, 2010
	<b>Recipient Requirements (technology)</b>	Internet access, email address (mobile phone not necessary, as money can be sent to email address, rather than cell phone number).	Internet access, email address (mobile phone not necessary, as money can be sent to email address, rather than cell phone number).	Obopay account, Internet access, Mobile phone.	Mobile phone.
	<b>Steps to Receive Money</b>	Receive email or SMS message notification. Create PayPal account online or with smartphone. Enter bank account information to withdraw to account.	Receive email or SMS message notification. Create AmazonPayments account online or with smartphone. Enter bank account information to withdraw to account.		
	<b>Cost to Receive Money</b>	None, unless the sender designates that the recipient pays. In Germany and Italy, the recipient always pays. To withdraw to bank account, fees associated with expedited service.	None	None	None
<b>Formality</b>	<b>Required for Sender (formal documents, accounts)</b>	Bank account.	Bank account.	Bank account. In some cases, state-issued Identification.	None.
	<b>Required for Recipient (formal documents, accounts)</b>	Bank account required to transfer money out of PayPal online wallet.	U.S. bank account and U.S. driver's license are necessary to transfer money out of Amazon online wallet.	Bank account or Obopay prepaid card.	None.
	<b>Transparency in Costs (exchange rate, cost in sending)</b>	Fees are listed when sending.	"Free" service displayed prominently in online advertising.	Fees are listed online.	Fees are stated when calling M-Via.
<b>Openness</b>	<b>Target Audience</b>	Gen X and Gen Y worldwide	Gen X and Gen Y in the U.S.	Gen X and Gen Y in the U.S.	Remittance senders in the U.S.

## Appendix 2: Survey results

### A. Remittances: sending patterns and methods of transfer

		Count	Percent
Remittances	Average Remittance	\$182.00	-
	Average Frequency per Year	14	-
	Average Total Annual Remittances	\$2,406.47	-
	Average Amount of Years Sending Remittances	7	-
	Average charge	\$8.32	
Preferred Sending Method	Money Transfer Agency	904	90.40%
	Bank	32	3.20%
	Internet	20	2.00%
	Mail	1	0.10%
	Other/ No Response	43	4.30%
Preferred Money Sender	Western Union	269	26.90%
	La Nacional	75	7.50%
	Money Gram	63	6.30%
	Cam Money Transfers	60	6.00%
	Vigo	50	5.00%
	Delgado Travel	49	4.90%
	Bancomer	46	4.60%
	Quisqueyana	42	4.20%
	Other	346	34.60%
Is your money sender...?			
Transparent on Costs	Strongly Disagree	15	1.50%
	Disagree	69	6.90%
	Indifferent	196	19.60%
	Agree	512	51.20%
	Strongly Agree	194	19.40%
	No Response	14	1.40%
Easy to Use	Strongly Disagree	2	0.20%
	Disagree	10	1.00%
	Indifferent	163	16.30%
	Agree	495	49.50%
	Strongly Agree	316	31.60%
	No Response	14	1.40%
Inexpensive	Strongly Disagree	70	7.00%
	Disagree	106	10.60%
	Indifferent	213	21.30%
	Agree	406	40.60%
	Strongly Agree	191	19.10%
	No Response	14	1.40%
Provides more value than others	Strongly Disagree	35	3.50%
	Disagree	55	5.50%
	Indifferent	404	40.40%
	Agree	356	35.60%

	Strongly Agree	136	13.60%
	No Response	14	1.40%
Would you like to try a different method?			
	No	528	52.80%
	Yes, Direct Deposit	351	35.10%
	Yes, Remittance Card	43	4.30%
	Yes, Internet	34	3.40%
	Yes, Other	24	2.40%
	Yes, Mobile Phone Based	18	1.80%
	No Response	2	0.20%

## B. Banking practices

		Count	Percent
Bank Account	Yes	699	69.90%
	No	297	29.70%
	No Response	4	0.40%
Checking Account	No	378	37.80%
	In USA	580	58.00%
	In Home Country	7	0.70%
	In Both Countries	30	3.00%
	No Response	5	0.50%
Savings Account	No	500	50.00%
	In USA	338	33.80%
	In Home Country	73	7.30%
	In Both Countries	84	8.40%
	No Response	5	0.50%
	Average Savings	\$2,918.21	-

## C. Internet use

		Count	Percent
How often do you use the internet for..?			
Email	4+ Times per Week	208	20.80%
	3 Times per Week	46	4.60%
	2 Times per Week	48	4.80%
	Once a Week	51	5.10%
	Rarely	114	11.40%
	Don't Use/ Don't know	532	53.30%
Connect with Friends	4+ Times per Week	165	16.50%
	3 Times per Week	39	3.90%
	2 Times per Week	53	5.30%
	Once a Week	36	3.60%
	Rarely	122	12.20%
	Don't Use/ Don't know	584	58.50%
Buy Things	4+ Times per Week	34	3.40%
	3 Times per Week	5	0.50%
	2 Times per Week	4	0.40%

	Once A Week	21	2.10%
	Rarely	138	13.80%
	Don't Use/ Don't know	797	79.80%
Send Money	4+ Times per Week	2	0.20%
	3 Times per Week	0	0.00%
	2 Times per Week	0	0.00%
	Once A Week	3	0.30%
	Rarely	35	3.50%
	Don't Use/ Don't know	959	96.00%
What Social Networking Sites do you use?			
	None	597	60.90%
	Facebook	281	28.70%
	MSN	211	21.50%
	Twitter	67	6.80%
	Hi5	62	6.30%
	LinkedIn	18	1.80%
	Orkut	2	0.20%
	Other	14	1.40%
Favorite Websites	YAHOO	194	-
	FACEBOOK	113	-
	GOOGLE	98	-
	HOTMAIL	82	-
	MSN	78	-

#### D. Mobile phone use

		Count	Percent
Do you own a mobile phone?	Yes	924	92.40%
	No	76	7.60%
How often do you use your mobile phone to...? * of those with mobile phones			
Make Calls	Phone does not have function	0	0.00%
	Little	364	39.39%
	Some	288	31.17%
	Quite	171	18.51%
	A Lot	99	10.71%
	Don't Know/ No Response	2	0.22%
Listen to Music	Phone does not have function	745	80.63%
	Little	134	14.50%
	Some	21	2.27%
	Quite	16	1.73%
	A Lot	6	0.65%
	Don't Know/ No Response	78	8.44%
Access the Internet	Phone does not have function	747	80.84%
	Little	125	13.53%
	Some	24	2.60%
	Quite	14	1.52%
	A Lot	12	1.30%
Texts	Average Times per week	5	-

Type of Plan	Pre-Paid	302	32.68%
	Contract	606	65.58%
	Don't Know/ No Response	92	9.96%
Mobile Phone Provider	Metro PCS	299	33.50%
	T-Mobile	148	16.60%
	Sprint	92	10.30%
	Verizon	92	10.30%
	AT&T	84	9.40%
	Boost Mobile	68	7.60%
	Cricket	36	4.00%
	Nextel	18	2.00%
	Page Plus	16	1.80%
	Other	39	4.37%

#### E. Card use

		Count	Percent
Cards	Debit Card	370	37.00%
	Credit Card	245	24.50%
	Both	27	2.70%
Card Issuer	Bank of America	95	36.10%
	Chase	78	29.70%
	Wachovia	17	6.50%
	Citi Bank	12	4.60%
	Wells Fargo	11	4.20%
	TD Bank	8	3.00%
	Capital One	7	2.70%
	HSBC	5	1.90%
	Other	30	11.70%
Credit Card Company	Visa	103	72.50%
	MasterCard	19	13.40%
	American Express	9	6.30%
	Capital One	7	4.90%
	Other	4	2.80%
Other Card Usage	Transit System Card	435	-
	Reward/Loyalty/Discount Card	405	-
	Electronic Benefits Card	170	-
	Washing Machine Card	147	-
	Pre-Paid Debit Card	64	-
	Affinity Card	59	-
	Payroll Card	15	-
	Charge Card	4	-

#### F. Demographic data

		Count	Percent
Country of Origin	Mexico	200	20.00%
	Dominican Republic	200	20.00%
	Haiti	100	10.00%
	Ecuador	100	10.00%

	El Salvador	100	10.00%
	Guatemala	100	10.00%
	Jamaica	100	10.00%
	Colombia	100	10.00%
	Total	1000	100.00%
Age	Average	38.53	-
	Minimum	18	-
	Maximum	77	-
Gender	Male	566	56.60%
	Female	434	43.40%
Level of Education	College Degree	92	9.50%
	Some College	153	15.70%
	High School Completed	336	34.60%
	Elementary School Completed	305	31.40%
	Did Not Finish Elementary School	85	8.70%
	No Response	29	0.10%
Occupation	Services	333	33.70%
	Construction Worker	118	12.00%
	Sales Person	92	9.30%
	Self Employed	72	7.30%
	Unemployed	62	6.30%
	Professional	47	4.80%
	Housekeeper	44	4.50%
	Retired	33	3.30%
	Farmer	10	1.00%
	Teacher	9	0.90%
	Student	8	0.80%
	Other	73	7.30%
	No Response	99	8.80%
Employment Status	Full time	730	73.00%
	Part Time	94	9.40%
	Temporary	51	5.10%
	Unemployed	86	8.60%
	No Response	39	3.90%
Annual Personal Income	Up to 10,000	87	8.70%
	Between 10,001 and 15,000	168	16.80%
	Between 15,001 and 20,000	191	19.10%
	Between 20,001 and 25,000	166	16.60%
	Between 25,001 and 30,000	110	11.00%
	Between 30,001 and 35,000	50	5.00%
	More than 35,000	99	11.40%
	No Response	871	12.90%
Annual Household Income	Up to 10,000	34	3.40%
	Between 10,001 and 15,000	97	9.70%
	Between 15,001 and 20,000	120	12.00%
	Between 20,001 and 25,000	109	10.90%
	Between 25,001 and 30,000	61	6.10%
	Between 30,001 and 35,000	41	4.10%

	More than 35,000	65	6.50%
	I Live Alone	171	17.10%
	No Response	302	30.20%
Amount of Years Living in US	Average	10.743	-
	Minimum	0	-
	Maximum	50	-
Legal Status	Permanent Resident	375	37.50%
	Doesn't Have Papers	297	29.70%
	TPS or Work Permit	213	21.30%
	American Citizen	62	6.20%
	No Response	53	5.30%
Marital Status	Married or Living with Spouse	576	57.60%
	Single	289	28.90%
	Other	112	11.20%
	No Response	23	2.30%
Children	Living with Migrant in US	429	42.90%
	Living in Home Country	191	19.10%
	In Both Countries	125	12.50%
	No Children	219	21.90%
	No Response	36	3.60%

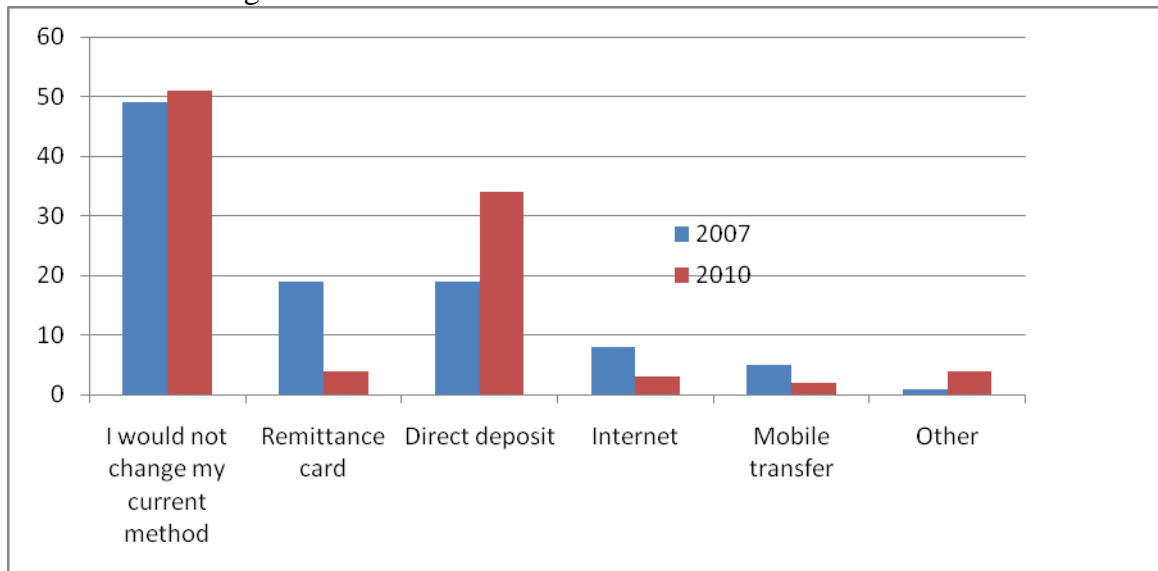
### Appendix III. Research and Survey Methodology

The study is based on interviews with migrants in the U.S., desktop research and interviews of mobile transfer companies, as well as on a random survey. The survey was conducted between April and June 2010 to 1000 Latino migrants who send remittances and was administered by *Silvestre Hispanic Market Research and Services*. The methodology employed consisted of intercept interviews to migrants on the street of main cities where they are demographically concentrated according to their nationality.<sup>13</sup> The questionnaire included a total of 35 questions with a focus on demographics, migration, remittances and the use of software and hardware technologies.

Distribution of migrant survey interviews by nationality and city

Nationality	CITY WHERE THE INTERVIEW TOOK PLACE						Total
	MA-RI	NY-NJ	MIA	LA	CHI	DC-VA-MD	
HAITI			10				10
MEXICO				10	10		20
ECUADOR		10					10
DOMINICAN REPUBLIC	10	10					20
EL SALVADOR						10	10
GUATEMALA				10			10
JAMAICA		10					10
COLOMBIA			10				10

Preference to change to a different method



<sup>13</sup> For a methodological explanation of these survey techniques see Millis and Orozco, 2008.