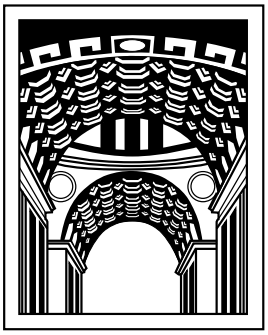
THE MOBILE PHONE AND FINANCIAL APPLICATIONS WORLDWIDE

2009-2014

APRIL 2009



THE INSIGHT RESEARCH CORPORATION

718 Main Street ● Boonton, New Jersey ● 07005 USA
973-541-9600 phone ● 973-541-9660 fax
reports@insight-corp.com ● http://www.insight-corp.com

What follows is an excerpt from Insight's 148-page report. For more information, please go to http://insight-corp.com/reports/mpf09.asp.

Pricing Information:

Hard Copy Price
$ 3995

Electronic Copy Price
$ 4695 Single-User Printable PDF
$ 6995 6-Seat Printable PDF
$ 10,000 Unlimited Corporate-Wide Distribution

The contents of this study represent our analysis of the information generally available to the public or released by responsible individuals in the companies mentioned. It does not contain information provided in confidence by our clients. Since much of the information in the study is based on a variety of sources that we deem to be reliable, including subjective estimates and analyst opinion, The INSIGHT Research Corporation does not guarantee the accuracy of the contents and assumes no liability for inaccurate source materials.

CHAPTER I
EXECUTIVE SUMMARY

1.1 Core Banking Solutions and Mobile Phones

Early in 2009 the World Bank predicted that the global economy would shrink this year for the first time since the Second World War as the impacts of a US housing market implosion and the ensuing credit markets turmoil pulled the global economy into recession. And though no one can predict when the present recession will end, it is a safe bet that it will, and that national and international financial systems will be all the stronger for having weathered the storm. In fact, many of the same technologies that have been deployed to fashion this single global market system are also likely to become part of the solution to a financial rebound.

This study looks at technologies and markets at the intersection of mobile phones and financial systems. We examine eight applications in which mobile phones and various aspects of banking, finance, and consumer spending intersect.

The creation of financial applications for mobile phones is part of the larger process of automating the financial applications themselves. The most influential automation trend in the financial sector is undoubtedly occurring in what the financial services industry and the banks call “core banking solutions”. “Core” banking is the business conducted by a banking institution with its retail and small business customers—its core customers. Core banking solutions is financial industry jargon related to platforms that leverage the Internet and other communications technologies to further the banks’ business reach. A physical manifestation of this reach is the growth in the number of bank points of presence (PoP). Core banking adds automated teller machines (ATM) and user devices such as PCs and mobile phones to the list of bank PoPs. The influence of core banking application automation extends beyond conventional banking functions and encompasses the large variety of financial services offered by the institutions including stock-broking, credit card issuance, and insurance among others.

Although the finance services vertical has traditionally been an early adopter of IT solutions, core banking automation is not being rolled out uniformly around the

world. In most countries, regulatory directives by the respective Central Banks have been the primary drivers for banks to adopt core banking automation, and though the rate of adoption thus varies by country, we can safely say that in the past five years the roll out has picked up speed across the globe—especially in emerging markets of Asia, Africa and the Americas. These core banking roll-outs have also coincided with a telecom "boom" in many of these same markets. As a result, some of the most practical and innovative adoptions of financial applications for mobile phones are popping up first in the emerging markets. Moreover, banking sector reforms in most countries have facilitated the entry of multi-national banks across economies, increasing competition all-around, making it increasingly necessary for banks to reach out to the customers on a personalized level—and nothing epitomizes that personalization like the mobile phone.

1.2 Financial Applications for Mobile Phones

In this study we have examined the impact of the following eight mobile financial applications:

Mobile Banking—Mobile banking is an umbrella term used to refer to banking transactions carried out using cellular wireless data networks. Marketplace acceptance is being driven by the underlying client-server model of core banking, the Web-enablement of many banking servers, and most especially the drastically reduced cost of client servicing for the banks. Mobile banking functionality is typically implemented by deploying SMS (short message service), USSD (unstructured supplementary service data) and WAP (wireless application protocol) based architectures.

Mobile Stock Trading—Mobile stock trading enables traders to buy and sell financial instruments such as stock, options, futures and commodities using the trading application client residing on their mobile phones. The key to the applications success is the speedy availability of content related to details of listed companies and the ability to maintain and update personal portfolios with the handset. The ubiquity of the Java platform has played a major role in the adoption of mobile stock trading. The Java platform is simple yet flexible from the application programmer's perspective. Many brokers have either engaged their in-house teams or consulted third-party specialists to build such applications. The architecture of mobile stock trading is a direct reflection of the fact that the

brokerage firms are its primary drivers. To put it very simply, the architecture involves WAP-enabling the brokerage firm's internal servers and those that are client-facing with dedicated applications that can optimally utilize the resources of the mobile phone.

Mobile Proximity—Mobile proximity applications blend cutting edge technology with various applications, and are proving to be a boon in the less developed countries where millions of individuals working in low paying jobs have little or no access to the banking system. In most developing countries, disbursement of funds to the rightful recipients with minimal human intervention remains a formidable challenge. Mobile phones are one of the rare devices that find their way into the most inaccessible strata of the population. Mobile phones can be interfaced to practically any financial system that supports such interfaces. As a consequence, planners in developing countries are increasingly turning to mobile phones to achieve corruption-free practices. Proximity applications work on personal area networking (PAN) standards such as Bluetooth and near field communications (NFC).

Mobile Retail—With ever better network connectivity options and increasingly convenient form factors, it was just a matter of time before the mobile phone itself became a payment device. Mobile phone enabled payments allow customers to use their mobile phone as payment instruments by wirelessly connecting the mobile phones to the payment collection devices. Common scenarios of such usage include ticketing for movies and transportation as well as bill payment in shops and supermarkets. Each of these scenarios has a card reader that can capture credit information from a mobile phone. For purpose of convenience, these applications are termed retail applications. This application is not to be confused with the mobile enabling of online payment options such as PayPal. The key to the mobile phone as a payment device is the wireless connectivity it affords the retail application, which is predominantly based on WPAN protocols such as Bluetooth, NFC, and others. The value proposition of mobile phone enabled retail applications is straightforward —to relieve the mobile phone subscriber from carrying credit cards, debit cards and cash.

Mobile Credit Cards—Mobile phones functioning as credit cards looks towards replacing a physical credit card with a chip in the mobile phone. This chip can be read from and written into by the credit card readers. The concept of mobile credit

cards is not new. Companies such as Motorola have been propagating this idea for close to a decade. What stalled acceptance of the mobile credit card? There was a lack of readiness of among the stakeholders as well as the limited data capabilities of the earlier generation of mobile phones. These hindrances have been addressed satisfactorily in most countries and mobile credit cards seem much closer to taking off.

Mobile Barcoding—In their conventional form, bar codes are used for identification and authentication of objects. Mobile phones take bar-codes to the next plane. Barcodes are comparable to URLs (uniform resource locators), but barcodes are inhabit the real world. Photographing a barcode is akin to saving a URL on the device. Users can click the barcode and be led to details about the offer. The applications for mobile barcoding are immense. For example, bar code readers embedded in a mobile handset would give customers the ability to access pages of product information or view the most recent product discounts or promotions just by just clicking on the photographed bar-code tag. Troubleshooting information could be downloaded to the phone the same way. Each of these applications would result in either direct revenues or gains due to cost savings, so we have categorized mobile bar coding as a financial application. Unlike mobile banking and stock trading applications, which are essentially mobile versions of their online formats, mobile barcoding is almost exclusive to the mobile domain for the simple reason that it is impossible to envisage the phenomenal spread of barcode-based promotion if the reader devices were stationary.

Mobile P2P—The term “peer-to-peer” is most often used in the context of sharing files on the Internet; however, in our use of the term, mobile P2P applications are geared to enabling people of very limited means in the developing economies to participate in the organized and authorized exchange of monies. Further, the ubiquity of mobile phones ensures ready acceptance of the application even among those that have more mainstream banking relationships. Mobile P2P is a hassle free way of transferring money for personal and business purposes. The mechanism is as effective as putting the money directly in the recipient’s wallet and it can be used to transfer monies across international borders.

Mobile Gaming and Gambling—Mobile gaming is a facility that enables the playing of interactive games on the mobile phone console. Mobile gambling refers to a facility that allows the user to participate in gambling applications using

mobile phones. Both the facilities are mobile extensions of their wireline counterparts. While wireline multiplayer games have client-server architecture, which require wireline broadband connectivity, mobile phones also add something exclusive—the context of their location. Thus, there are games that can alter their characteristics based on the physical location of the gamer. The mobile phone is also an effective channel for casinos and gambling companies to expand their customer base. Customers can place bets remotely and while on the move. While mobile gambling is similar in implementation to mobile gaming in most aspect, there are notable differences. For example, all mobile gambling applications may not be interactive like gaming. Some of them may involve simple placing of bets and checking the results. Also, mobile gambling applications are almost always linked to payment settlement infrastructure. In this aspect, it is similar to the mobile stock trading application.

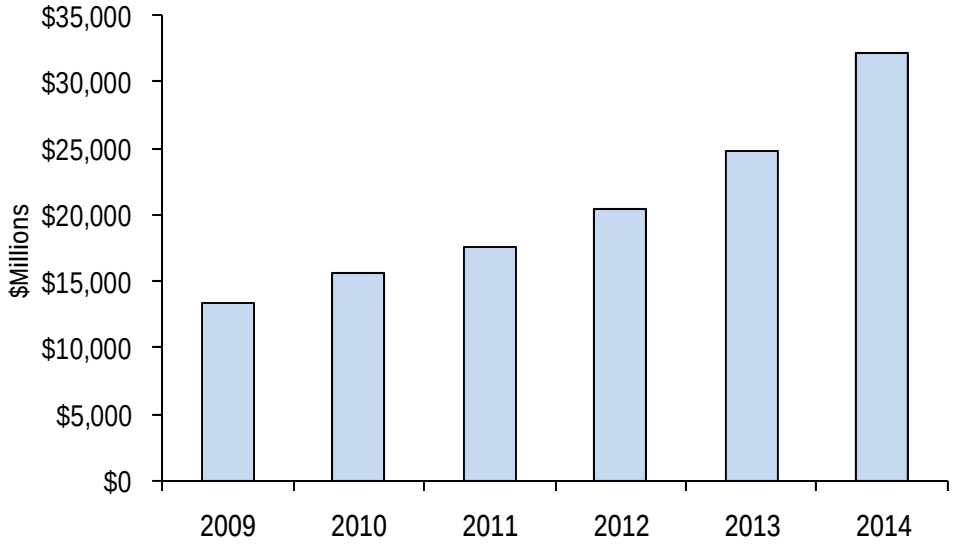
1.3 Revenue Potential of Financial Applications for Mobile Phones

INSIGHT Research recognizes that although all the applications run on the same end-user device—the mobile phone—each application has unique sets of factors that influence its market acceptance. Hence, the market prospects for each application have been mapped and forecasted independently of each other. Our total estimate for mobile financial applications is the sum of eight mobile phone financial applications:

- Mobile banking;
- Mobile stock trading;
- Mobile proximity and retail;
- Mobile credit cards;
- Mobile barcoding;
- Mobile P2P;
- Mobile gaming; and
- Mobile gambling.

Figure I-1 presents our total revenue estimate for the eight applications under discussion. The total revenue opportunity includes INSIGHT's forecast of the revenues accrued by the application developers for mobile finance as well as the revenue accrued by MNOs supplying the bandwidth as well as backend hosting to run these applications, if that is required. The application developers, as a segment, are undoubtedly the most vibrant among all the stakeholder categories—and the one that INSIGHT's research suggests provides the clearest indication of market acceptance of mobile financial applications.

Figure I-1 Global Total Revenue Opportunity for Mobile Financial Applications, 2009-2014 ($ Millions)



THE MOBILE PHONE AND FINANCIAL APPLICATIONS WORLDWIDE

2009-2014

TABLE OF CONTENTS

Chapter III
ILLUSTRATIVE CASE STUDIES 51

Chapter IV
VENDOR ANALYSIS 75

Chapter V
QUANTITATIVE ANALYSIS 98

Table of Figures

Chapter I

Chapter II

Chapter III

Chapter IV

Chapter V

Table of Tables

Chapter II

Chapter III

Chapter IV

Chapter V