

Language Assistance Products Support Mobile Advertising in Underprivileged Countries

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ABSTRACT

This conceptual study will examine wireless technology usage in low-income/high-density regions of the world and offer reasons as to why mobile language instruction products, subsidized by context-relevant advertising, would prove an effective means to off-set traditional costs associated with deploying wireless infrastructure, handset and mobile content. We will discuss why many view English as the language of world commerce, the state of wireless technology in Latin America, India, and China, mobile learning trends, and the underlying reasons why mobile advertising programs, especially those geared to lower per-capita income customers, would help carriers gain traction in developing world markets.

Keywords: mobile, mobile advertising, language instruction, mobile marketing.

INTRODUCTION

There are currently some 2.5 billion mobile users around the world. By 2010, analysts predict 90% of the world's population, over 5 billion people, will have mobile phone coverage (Textually, 2006). Most of this growth will occur in emerging markets like Latin America, India, and China. As the population in these areas tends to be low-income, high-density in nature with agrarian roots and overall low per capita income, traditional wireless technology (towers, handsets, content) tends to be cost-prohibitive. These populations likewise share a common need to learn English as the global language of commerce.

English is a global language used by at least 1.5 billion people in more than 170 countries. Fluency in English opens the door to continuing education, better-paying occupations with multinational corporations or the civil service, and often improves access to government, health and legal services. These benefits also foster a stronger sense of self-esteem and social status. Unfortunately, the school systems in underdeveloped regions face many difficulties, especially with teaching English as a Second Language (ESL). Two significant obstacles stand out: irregular school attendance due to the need for students to work in the fields, homes, etc., and disinterest in schoolwork due to the perceived opportunity costs or lack of benefits of formal schooling (Kam, 2005). Affordable mobile technology, as a delivery medium for English language instruction, might address the above challenges.

The mobile advertising (ads to cell phone users) market is slated to reach \$860 million in 2007 and nearly \$11 billion by 2009 (Informa, 2006). As network bandwidth increases and consumer data services proliferate, media pundits predict major brands will allocate increased percentages of their ad budgets to mobile marketing programs. Although sensitive to consumer backlash against anything other than subscription or opt-in advertising, carriers and advertisers alike are looking for improved means to segment and target mobile user demographics, especially in countries with rapidly growing populations (e.g., India and China). This convergence of growing demand for wireless services, commonality of need for English language capabilities, and a ready supply of global advertisers eager for "3rd screen branding" makes for a compelling case as to why wireless carriers and content providers should consider offering mobile language instruction services (subsidized by relevant advertising) as a means to off-set high costs of wireless technology deployment.

English Language Use

Over 6,800 languages are currently spoken in the world's 228 countries, with 95% of languages spoken by less than 4% of the world's population (Skutnabb-Kangas, 2002). Interestingly enough, less than 380 million persons speak English as a first language. English is important, however, not for how many people speak it, but for what it is used. English is the major language of international business, diplomacy, and science. English is the official language of most international organizations (including the United Nations) and is the standard for business and government communication, even in countries where it is a minority language. English is the language of maritime communication and international air traffic control, and over eighty percent of computer data is processed and stored in English. Five thousand newspapers (more than half of the newspapers published in the world) are published in English.

Important as English may be, it is the world's non-English speaking population that is growing most rapidly. Mandarin Chinese is spoken by over 900 million people, Spanish by nearly 350 million, and variations of Hindi by approximately 360 million persons around the world. Based on explosive growth of the Internet, American popular culture--primarily

movies, music--carries the English language to overseas markets. As a result, North America and Western Europe have (to date) exerted a significant degree of influence over both communications technology and world media on the whole. At the same time, increased national gross domestic product output within developing nations like India and China has resulted in greater individual per capita income, which in turn leads to increased penetration rates for information and telecommunications technology. Essential to maintaining this high rate of growth is a country's ability to capture, maintain and grow foreign markets for their goods. A primary success factor in this equation is the ability to leverage technology to facilitate improved communication with customers, in particular overseas customers, the majority of which speak English as a shared language of commerce.

Mobile Phone Stats

The number of worldwide mobile phone users surpassed 2.5 billion in 2006, with new handset sales estimated at over 960 million units (Gartner, 2007). China is the world's largest market at 474 million users, having added 67.7 million new wireless users in 2006 alone - more than the population of France (Liu and Ong, 2007). Latin America is second with 241 million users, followed by the US with over 210 million customers. India is typically regarded as the last big market for mobile phone growth: less than 14% (compared to the US' 78% and China's 30%) of the 1.1 billion population currently owns a mobile phone, with over 6 million new subscribers added each month (Kasturisinghe, 2007). According to a study conducted for the recent 3GSM Conference (Barcelona), 86% of wireless growth between 2000 and 2005 came from low-income countries compared to 11% from high-income countries.

In general, mobile operators generate significantly less revenue from customers in emerging markets (e.g., India) than they do from customers in more developed regions (e.g., United States). For example, carriers in the U.S. expect to bring in \$50-60 in revenue per subscriber a month: an impossible figure in India where 35% of the population lives on less than \$1 per day (Basu, 2006). Even considering such financial constraints, the sheer volume of subscribers in poor and underdeveloped regions of the world allows carriers to make money on data and voice services, at only a few dollars per month. In turn, these services have a profound impact in the regions where they are offered, improving not only personal quality of life, but economic vitality on the whole. Some experts offer statistics indicating cell phone penetration is actually reflected in a country's gross domestic product, citing that for every 10 mobile phones per 100 people, GDP advances 0.6 percent a year (Reardon, 2007).

As global cell usage increases and technology improvements provide greater access to add-on services (e.g., MMS, Internet, VOIP), cellular carriers are looking for additional content to increase return on investment into pre-paid bandwidth licenses. Most add-on services (e.g., ring-tones) are delivered on a pay-per-download basis, from either off-dock websites or a carrier's proprietary interface. Although the base costs for such content is typically outside the reach of the majority of the world's population, the World Bank notes that delivery mechanisms for such are already in place, as 77% of the world's population lives within range of a mobile network (Kam, 2005).

On a regional basis, certain mobile telephony and English language capability statistics merit examination:

Latin America

Roughly 241.7 million people throughout Latin America owned a mobile phone in 2006. Latin America and the Caribbean represent approximately 9% of the world's 2.6 billion mobile subscribers. Since the economic upturn, which began in mid-2003, mobile telephony has become one of the fastest growing industries in Latin America, surging by 42% in 2004 and by 38% in 2005 (Budde, 2006). This region has witnessed a notable shift towards GSM technology, with GSM subscribers overtaking CDMA in mid-2004 and TDMA in March 2005. As of 2006, three multinational operators served about 77% of the Latin American market: América Móvil, Telefónica, and Telecom Italia. According to a 2006 study entitled "World Diversity Patterns," approximately 25% of the Spanish-speaking population throughout Latin America also possesses some knowledge of written/spoken English (O'Neil, 2006).

As a sub-set of Latin America, US-based Hispanics account for roughly 15% of the US population and are the fastest growing minority. According to the most recent US Census, 11.0% of the population aged 18-64 spoke Spanish at home, of which 32.2% reported being able to speak English "not well" or "not at all." There were 15.7 million Hispanic users of the Internet in the U.S. in 2005: that number was expected to increase to 16.7 million in 2006 and reach nearly 21 million by 2010 (eMarketer, 2006). Another important distinction: the U.S. Hispanic population is young, particularly the online segment. In 2005, there were 9.1 million Hispanic Internet users under the age of 35, and that number is projected to grow to 12.1 million in 2010 (Internet World Statistics, 2006). By 2010, the median age of the US population is expected to be 36, while the Hispanic median age will be just over 27 and over one-third under the age of 18 (Hakimzadeh, 2006). Assuming the current 80% cell phone attach rate continues, Hispanic cell phone users in the U.S. will represent the single greatest ethnic audience for online and mobile marketing programs.

China

China has a population of over 1.2 billion inhabitants and boasts the largest mobile market in the world at 474 million users, representing 35% market penetration. China has two wireless service providers: China Mobile and China

Unicom. China Mobile operates basic GSM services and value-added services such as General Packet Radio Service (GPRS) data transfer, IP telephony and multimedia. It ranks the first in the world in terms of network scale and customer base. China Unicom is to date the only licensed full telecom service provider in China: its services include fixed-line, mobile, IP telephony, data and Internet. Furthermore, China Unicom is the third largest mobile operator in the world and the only one in China operating a CDMA network. As over 70 percent of China's Internet users are under the age of 30 and nearly 80% of its population lives in countryside, mobile carriers are now focused on reaching less developed areas with more relevant, local content as a means to avoid slowing city-based subscriber growth (Ji, 2006). Figures on the total number of English users/speakers in China vary from 200-350 million persons, with English capability requirements growing rapidly due to World Trade Organization status and the upcoming 2008 Beijing Olympics (Yang, 2006).

India

India is widely regarded as the last major market for mobile phone growth. Less than 40 percent of the country's total area is covered by mobile networks, and fewer than 14 percent of all Indians use mobiles, compared with China's 34 percent. A lack of investment in traditional landline infrastructure translates to only 50 million fixed-line users in the country, leaving the stage set for mobile operators. Based on a high number of prepaid subscribers and relatively low GDP, Indian average revenue per unit (ARPU) stands at \$8 (world average \$21) with the bulk of data services purchased by 25-29 year old users (InfoShop, 2006). Although not one of the 15 "official languages" Indian languages, approximately 4% of the population speaks English, representing 35 million persons (Hohenthal, 1994).

Mobile Learning Trends

In examining communication technology, it bears mention that the Internet produced a paradigm shift where content delivery was concerned, moving vast hordes of information from traditional print/broadcast to a highly accessible, rapidly modified electronic medium. This trend is exacerbated in developing economies, where costs for printing, moving, and storing books and educational materials are prohibitively expensive. Throughout the Western world, most companies selling educational products delivered in print or on hard media (e.g., CD), have now begun offering online versions for direct download or interactive use. However, relatively few, aside from music producers and game developers, have successfully made the leap to mobile content delivery, which demands not only lower price points, but also stringent technology modifications to accommodate limited bandwidth, smaller screen sizes, and highly variable handset specifications.

Language instruction providers (e.g., Berlitz, Pimsleur, Rosetta Stone) are no different: they still distribute products in print, CD, or online format, with the majority priced in the \$150-300 range and containing content heavily based on MP3 and traditional video. Consumers in the largest underprivileged regions of the world, i.e., India and China, where the World Development Indicator (WDI) puts per capita income at only US \$796 and \$1740 respectively, typically can't afford such high cost educational materials. These providers' bulky audio content and user interfaces optimized for desktop computers make for a poor match where cell phones are concerned, as does a pervasive focus on academic content (e.g., verb conjugation, syntax); mobile users might better benefit from "contextual" phrase kits designed to help them seek, obtain, and keep employment, or otherwise function in a non-native language environment (e.g., recent émigré).

The analysis of the potential pedagogical value of any new technological tool for language learning has to be assessed against the theoretical background of current thinking on second language acquisition. In this respect, it is important to note that, in many cases, what may have been a revolutionary technological innovation did not necessarily become a successful pedagogical tool (e.g. Salaberry, 2001). The analysis of previous failures, thus, may help us elucidate the potential pedagogical value of mobile telephony. Interestingly, one feature common to all previous disappointments in the design of technology-based instruction has been the inadequate level of personal and interactive contextualization of language use prompted by the specific technology. For instance, it is by now common knowledge that the design of computer-based language learning software of the 1970s and 1980s was naively based on the metaphor of the textbook, thus giving rise to numerous examples of the now infamous "glorified electronic workbook." Even more promising "contextually-rich" tools such as audio- and video-based programs stored in CDs and DVDs also fail, by and large, the test of interactivity given that "canned" audio and visual media provide one-way communication only, depriving learners of the option of social interaction. Even in cases in which technological tools provide the option of two-way communication (e.g., synchronous internet-based chat), the access to face-to-face, personal contacts are extremely limited, thus seriously constraining the options for anything remotely close to personal interactivity. In contrast with the above-mentioned examples, mobile phones, by their very nature, readily allow users/learners to engage in personal and interactive exchanges that can vary in the degree of interaction according to the functional and learning needs of mobile phone users.

In essence, a second language learning program delivered through a mobile phone has two distinct advantages over the traditional system of computer- or internet-based delivery. First, a second language learning program that is effectively

put to work outside of a classroom environment is much more likely to engage learners/users in a functional, task-based approach to language learning (Willis, 1996). The purported advantage of a task-based approach is inherently related to the portable nature of a mobile phone to the extent that the tool (the phone) accompanies the user to all types of settings in which language needs will constantly adjust to the specific social and functional requirements of specific situations. In other words, the world of role-plays of the computer and classroom environment becomes the real world of language use in the context of mobile phone language learning applications. A second advantage of integrating language learning programs and mobile phones is predicated on the inherent personal nature of a mobile phone. That is, a mobile phone can become a portable device that can track learner profiles of language use and language development. In this sense, a mobile phone can become a tool that learners can use to trace back their previous uses of language in context, effectively making the phone a language learning tracking device.

A variety of studies have been conducted on the effectiveness of mobile phones as a learning medium. Research by the Stanford (University) Learning Laboratory (SLL) on the potential of portable electronic devices to increase learning efficiency and effectiveness found that “simply having access to the application anytime, anywhere increased daily attention to learning Spanish and boosted motivation... Focus on those parts of the learning process most suited to audio, most suited to small chunks of time, and most suited to a highly distractable (sic) learner.” (Brown, 2001) Another study conducted by the University of Wisconsin-Madison focused on the suitability of wireless and handheld technology for learning other languages: their research indicated optimal retention occurred in short, ten-minute mobile learning sessions, as students were able to drill themselves on vocabulary and grammar to complement their classroom and web-based instruction (Samuels, 2005).

Once equipped with a cell phone, students generally exhibit a greater willingness to review classroom-based material and often show higher information retention rates. A 2005 study conducted by Thornton and Houser at the Kinjo Gakuin University, Japan, found, “Compared with students urged to regularly study identical materials on paper or Web, students receiving mobile e-mail learned more ($P < 0.05$). Seventy-one percent of the subjects preferred receiving these lessons on mobile phones rather than PCs. Ninety-three percent felt this a valuable teaching method.” (Thornton and Houser, 2005) One might argue that in Japan, where cell phone penetration rates exceed 100%, students may be naturally predisposed to mobile learning methods. However, similar research conducted over five trips to rural India in 2004-2006 by Matthew Kam under the University of California, Berkeley Mobile and Immersive Learning for Literacy in Emerging Economies (MILLE) program revealed that school age children, when exposed to cell phone based games designed to teach basic English, exhibited likewise significantly higher post-instruction English mastery scores. Kam went on to note the difficulties in providing large numbers of traditional handsets in under-privileged geographies and suggested alternate methods for delivering phone-based learning systems: “A regional center may loan cell phones, and provide technical support and language tutoring on the content. Software might be accessed either over-the-air, or through a flash card or cable download for those users able to reach a community center. These centers often provide an easier ‘on-ramp’ to users who are unsure about owning a phone or paying for the software.” (Kam, 2005)

As stated earlier, the primary challenge in developing markets is access to mobile content at affordable price points and without the need for complex, difficult-to-navigate, WAP-enabled handsets. Rather than paid subscriptions, some wireless carriers have begun marketing their services via programs heavily subsidized by both handset manufacturers and the local governments themselves. Motorola, for example, introduced a sub-\$30 handset in 2006 as part of a GSMA program designed to increase wireless penetration into 17 of the world’s fastest growing cellular markets, including India, South Africa, Nigeria, DRC, Egypt, Algeria, Tunisia, Bangladesh, Turkey, Thailand, Philippines, Malaysia, Indonesia, Pakistan, Yemen, Sri Lanka and Kenya. Together, these markets represent a total population of about 1.8 billion. Participating carriers included AIS, Bharti, BPL, Globe Telecom, Hutchison Essar, IDEA Cellular, MTN Group, Orascom Telecom, Telenor and Vodacom. The joint Motorola/GSMA program helped boost Indian GSM operators’ monthly net customer additions by one third to 1.6 million in June 2006, according to a report by Lehman Brothers (GSM Association, 2005).

Mobile Marketing

As an additional means of cost subsidization for developing regions, mobile marketers (companies producing and delivering advertisements over mobile phones) are touting the global cell phone market as the new “wild west” for major brands (e.g., Coca-Cola, General Electric) looking to off-set declining returns on print and TV advertising. Informa Telecoms & Media, a division of Informa, expects mobile phone ad spending in 2007 to more than double from 2006 levels to \$1.5 billion. By 2011, market research projects spending of more than \$11 billion (Blau, 2007). As network bandwidth increases and consumer data services proliferate, studies indicate major brands will allocate increased percentages of their ad budgets to mobile marketing programs.

Although mobile ad click-through rates are 3-4 times that of traditional online banner ads, it is widely understood that mobile customers, even those new to cell phone use, regard their handset (unlike their newspaper or TV) as intensely “personal” and do not take well to anything resembling SPAM. Of the various ad delivery models (e.g., opt-in, subscription), studies indicate the best received are programs wherein end users receive content (e.g., games) for

viewing brief rolling/banner ad spots. As a result, carriers and advertisers alike are looking for improved means to segment and target mobile user demographics, especially in countries with rapidly growing populations (e.g., India and China).

Perhaps the single greatest challenge to mobile marketers is determining ‘who’s on the other end’ of a product or service purchase. This problem is exacerbated with global carriers offering only traditional content (e.g., ring-tones, games) downloads, as few require customer information beyond a service subscription or credit card number. However, unlike traditional content, language instruction programs (if properly designed) can offer valuable insight into the “back-end demographics” of a mobile customer. Statistics indicate that a consumer who downloads a situation-specific phrase kit, e.g., “On the Jobsite,” likely shares certain key personal demographics (e.g., 18-40 year old male) as others who download the same package. In addition, an advertiser may surmise from the language instruction path (base to secondary), what the end-user’s native language might be, while the mobile number itself and inherent GPS capability contained within most handsets lends into ascertaining current location and base market. Thus a properly developed language assistance program might provide the four “golden demographics” to a potential advertiser: gender, age, language, and location.

Once a customer’s base demographics have been identified, it now lies with the carrier and content provider to determine pricing feasibility for individual markets. A variety of global carriers (e.g., Vodafone) and content providers (e.g., Hovre.com, Greystripe) are collaborating on ad-subsidized games, voice minutes, and web promotions priced either free (fully ad-subsidized) or for a minimal price (often determined by “number of minutes” consumed on a pre-paid plan). From a broad trend standpoint, a study commissioned by the Online Publishers Association (OPA) found that 37% of European consumers strongly agreed or somewhat agreed with the idea of watching an ad in exchange for free mobile content. The study likewise indicated that viewing mobile ads can lead to some kind of follow-through action by users: approximately 11% of European consumers and 7% of U.S. users said they discovered new products by viewing a mobile ad, 26% of European users said they perused a Web site after viewing a related mobile ad, and about 14% said they requested more information about the product connected with the ad (Online Publishers Association, March 2007). It remains to be seen whether these same trends hold true for developing markets like India and China, as there simply isn’t enough statistical data yet from which one might draw conclusions.

CONCLUSIONS

Access to wireless technology in developing regions of the world is a function of current wired infrastructure, government subsidization, carrier/manufacturer investment, and general per capita income. A majority of the population in the world’s largest countries, i.e., India and China, cannot afford traditional desktop computing and Internet access, hence will be largely dependent upon the mobile Web to obtain information and conduct business. As a global language of commerce, English holds particular appeal for persons in these rapidly growing countries. Traditional English lessons are often expensive and by their time-intensive nature, not well suited to rural, agrarian societies where people live remotely and often do not have large amounts of contiguous available time. Mobile learning programs, as a rapidly development field of instruction, rely upon portable, frequent access, and affordable devices. Although mobile phones have been shown to be highly effective as education content delivery mechanisms, underlying handset and subscription costs have limited their usefulness in many underprivileged countries.

Mobile advertising, although still in its infancy, is growing quickly as global brands begin to grasp the uniquely personal nature of cell-phones as compared to computers, television, and print media. Inherent to the mobile advertising business model is language itself: sellers must be able to communicate to buyers in their native tongue and vice-versa in order to close transactions. A crucial question then becomes obvious: what better means to enable socially “decentralized” buyers in rural areas to understand a global product offering than by teaching them to communicate in a highly “centralized” language (like English)? Once enabled, this process takes on a decidedly positive, self-perpetuating effect: economically challenged people learn to speak English over mobile phones as a means to secure better jobs, advertisers subsidize English lesson content and the underlying mobile technology so as to off-set deployment costs, and then the now-educated buyers read about new products via advertisements and make purchases with increasing disposable income.

As a final note, this conceptual study is offered solely as a discussion on *how* mobile advertising might subsidize wireless infrastructure growth among underprivileged societies, and not an exercise as to *why* it should be employed. Rampant, unfettered commercialism will only serve to disenfranchise legitimate uses of mobile advertising and possibly wreak a backlash against the carriers, content providers, and brands themselves. It is left to the reader to educate themselves as to generally accepted best practices for mobile marketing (see www.mmaglobal.com/bestpractices.pdf) in light of both social need and commercial reality.

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