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A theoretical design for mobile classifieds in developing countries

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A theoretical design for mobile classifieds in developing countries

Dylan Adelman | September 2016
The University of Pennsylvania

Classifieds marketplaces receive sparse recognition for their role in the informal economy. These markets locally connect the buyers and sellers of used goods or services, who communicate anonymously before meeting to exchange the items for cash. Reifying the idiom that “one man’s trash is another man’s treasure,” classifieds first appeared as personal for-sale ads in the back of U.S. newspapers in the 20th century. The advent of the Internet subsequently shifted classifieds ads online, where early websites like Craigslist (in the United States) gained monopolistic control that persists to this day.¹ Globalized e-commerce driven by Amazon has scarcely dented classifieds markets, with websites like Mobile.de (Germany) and Kijiji (Canada) growing revenues more than 20% annually.²

The proliferation of classifieds services appears to be confined to more developed economies. While regions like Latin America and eastern Asia have recently witnessed a multiplying of classifieds offerings, most countries across Africa and southern Asia still lack a nationwide classifieds marketplace. Even India, the target of a concentrated push for classifieds growth by upstarts OLX and Quikr, still has more than 90% of its target population relying on word-of-mouth for the informal exchange of goods and services.³ Some newspapers, such as Kenya’s *The Star*, offer online classifieds that are little more than piecemeal reproductions of their offline counterparts.⁴ Despite ranking as the 15th fastest-growing category for startup investments during 2012 to 2015, classifieds markets have largely failed to gain traction beyond the developed world.⁵

This failure is unsurprising. Current classifieds ventures in developing economies are cut-and-paste versions of their U.S. and European progenitors, lacking any adaptation to the contours of their target audience. Craigslist cannot be copied from San Francisco to Sierra Leone, and attempts to mirror this business model fail for myriad reasons. First, the computer-based nature of classifieds creates a low ceiling on penetration in countries where computers are too expensive for most consumers. Nigeria, the home of classifieds startups like Jiji and MoboFree, has a PC penetration rate of only 4 percent.⁶ Second, the anonymity of classifieds ads is riskier in countries where the rule of law is weak and unsuspecting buyers are often robbed after meeting with fraudulent sellers.⁷ Third, the cash-based nature of classifieds is out-of-touch with the mobile payments-based nature of peer-to-peer transactions in many emerging economies.⁸

¹ Most classifieds services are monopolies in a single country. Outside the United States, dominant classifieds websites include Marktplaats (the Netherlands), Avito (Russia), and Leboncoin (France). Larger media conglomerates own most classifieds services, with the largest website portfolios being held by Schibsted, Naspers, and eBay Classifieds.

² “eBay Classifieds Group.” *eBay*, 21 September 2015.

³ Kaushik, Manu. “Sell it off: OLX India vs Quikr.” *Business Today India*, 24 May 2015.

⁴ <http://www.the-star.co.ke/classifieds/>

⁵ Perez, Yessi Bello. “Redpoint VC: Bitcoin is Fastest-Growing Area of Funding.” *Coindesk*, 20 July 2015.

⁶ Adepetun, Adeyemi. “Intel laments Nigeria’s four per cent PC penetration.” *The Guardian*, 17 August 2016.

⁷ “FIA apprehends suspects robbing people on OLX in Karachi.” *The Express Tribune*, 30 January 2016.

⁸ Gencer, Menekse. “The Mobile Money Movement: Catalyst to Jumpstart Emerging Markets.” *Innovations*, Winter 2011, 3-19.

The banality of existing classifieds services leaves a sizable market opportunity for creative solutions to connecting informal buyers and sellers in developing countries. In 2015 alone, Indian households disposed of an estimated \$18.4 billion in used goods.⁹ Estimates place the size of the worldwide classifieds market at \$100 billion, with most of this centered in untapped developing countries.¹⁰ These estimates are likely understated, given that the informal economy in many developing countries is north of 40% of GDP.¹¹ Rising disposal incomes across the developing world will further expand this market, and fortune awaits entrepreneurs who successfully scale classifieds markets in these countries.

Shadow economy as percentage of national income, select countries

Country	Percentage	Country	Percentage
Zimbabwe	62.7%	Liberia	44.2%
Tanzania	53.7%	Zambia	43.9%
Nigeria	53.0%	Sierra Leone	42.9%
Benin	49.1%	Chad	42.2%
Gabon	47.3%	Angola	42.1%
Cote D'Ivoire	47.0%	Senegal	41.7%

Classifieds markets are also attractive businesses due to network effects, which is the value that accrues to users when an additional user joins the service. In the same way that telephones are only useful when others also own telephones or that Facebook is only useful when others also use Facebook, classifieds markets become more valuable as more users join their service. Network effects produce several auxiliary benefits for classifieds services. First, classifieds markets tend to consolidate as smaller competitors roll into the largest service and produce a natural monopoly. Second, the natural monopoly cannot be disrupted by superior technology because the network will usually be more valuable than better technology—Craigslist’s nearly two decades of stagnant design supports this truth. Third, monopolistic classifieds have substantial pricing power via fees on select listings, since users will absorb the fees in order to gain access to the large user base.¹² Network effects underpin the success of technology companies like Google and Amazon, and this same mechanism will benefit classifieds that reach scale in developing markets.

Yet most value produced by successful classifieds services accrue to their users, as these marketplaces centralize the haphazard offerings of goods and services found in the informal economy. Consider a bicycle tire. The buyer would traditionally rely on the scant selection of such tires at his or her local market, or those available by word-of-mouth via friends and family. By using classifieds, the buyer accesses a larger selection

⁹ Ganguly, Shramana. “Rs 78,000 crore worth goods stocked in Indian homes: OLX survey.” *Economic Times*, 9 August 2016.

¹⁰ “Global Classifieds At \$92B As Digital Grows.” *NetNewsCheck*, 20 November 2014.

¹¹ Mwiti, Lee. “Africa’s GDP ‘much bigger’ than thought.” *Mail & Guardian Africa*, 4 March 2016.

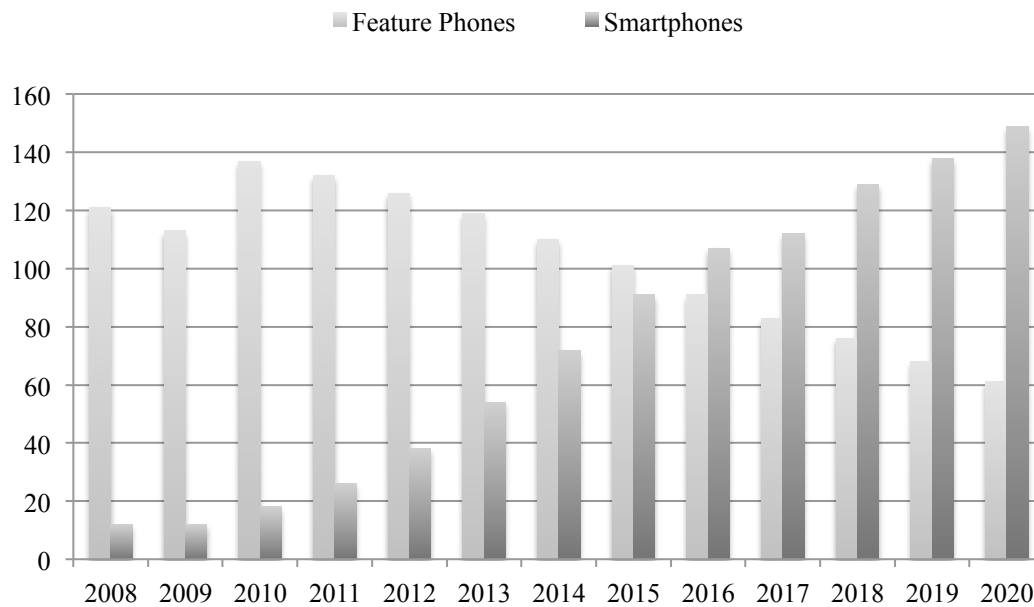
¹² Nearly all classifieds services generate revenues via fees charged on select listings such as housing, apartments, and vehicles. In the wider e-commerce space, services such as Amazon and eBay charge a percentage of sales on a per-transaction basis from sellers.

of items from multiple sellers, with an additional benefit of price and quality comparison. Conversely, the seller of the bicycle tire gains a larger range of customers and the chance to sell an item that, sans classifieds, may have been resigned to a landfill as worthless.

The remainder of this paper will introduce Mercado, a proposed classifieds service that leverages mobile phones, mobile payments, and social media to connect buyers and sellers of goods and services in developing countries. This proposal upends the traditional format of classifieds markets by sacrificing computer platforms, cash transactions, and user anonymity for alternatives that better-suit emerging markets.

The first innovation is using mobile phones. Over 70% of sub-Saharan Africa has access to mobile phones. At 650 million people, this is more than the population of North America.¹³ In India, access to a mobile phone is twice as common as access to a toilet.¹⁴ The most popular Internet services in developing countries, such as Google or Facebook, are accessed primarily via mobile phones; any successful Internet business in emerging economies must focus on its mobile experience. Moreover, over 50% of new phones purchased across Africa are now smartphones, and most of these will have access to 3G Internet.¹⁵ The total number of smartphones in Africa is expected to grow from 160 million in 2015 to 540 million by 2020, placing a smartphone in the hands of more than 60% of the continent’s population within only a few years.¹⁶

Annual mobile phone shipments in Africa, 2008-2020 (in millions)



¹³ Sambira, Jocelyne. “Africa’s mobile youth drive change.” *Africa Renewal, United Nations*, May 2013, 19.

¹⁴ “India has more mobile phones than toilets: UN report.” *The Telegraph*, 15 April 2010.

¹⁵ Evans, John. “In 3.5 Years, Most Africans Will Have Smartphones.” *Tech Crunch*, 8 February 2014.

¹⁶ “The Mobile Economy: Sub-Saharan Africa 2015.” *GSM Association*, 2015, p. 3.

Higher smartphone penetration represents an inflection point in growth prospects for classifieds markets because these services require Internet to load text and pictures of items for sale. Lower bandwidth quality necessitates a primarily text-based application, which can also enable a non-smartphone version of Mercado to reach poorer segments of the population that still rely on older (but still Internet-capable) phones. However, secular trends with smartphone adoption and higher Internet penetration are a boon for mobile classifieds. Recognition that most residents of developing countries access the Internet via a mobile phone, rather than a computer, is an insight that will benefit any classifieds services that ride the wave of smartphone adoption over the next decade.

The second innovation is using mobile payments. In many developing countries, mobile payments are ubiquitous. Over 250 mobile payments platforms exist worldwide, with the majority existing outside North America and Europe.¹⁷ Perhaps the most popular mobile payments platform is Kenya's M-Pesa, which annually handles transactions equal to 60% of the nation's GDP.¹⁸ For similar reasons to M-Pesa, mobile-based transfers are popular in developing countries due to greater ease and security relative to cash. Mobile payments will allow transactions to clear using escrow, where buyers can hold an escrow account using Mercado for sellers to be sure that they will receive payment.

The third innovation is using social media to remove user anonymity. Anonymity exists on most classifieds platforms because of users' desire for privacy, but this privacy must be circumscribed in developing countries in order to establish trust between buyers and sellers.¹⁹ Most Internet users in developing countries are present on Facebook, and Mercado can leverage these accounts to make user profiles for its platform. Displaying name, picture, and mutual connections should improve users' trust, as users are unlikely to commit fraud when their M-Pesa accounts are linked to Mercado. These profiles will enable users to rate each other after transactions, thus creating a peer-reviewed history of each user in a similar fashion to the ride-sharing service Uber. Removing user anonymity will mitigate both fraudulent and spam listings: users will be less likely to engage in this behavior when their name and M-Pesa account number can be given to the authorities, and profiles associated with spam listings can be flagged for removal.²⁰

User trust can be further improved via hyper-local exchange groups. Users will be able to join buy/sell groups based around their schools, workplaces, churches, apartment complexes, neighborhoods, and other existing groupings that foster trust due to a shared community. Services like VarageSale and Facebook's "for sale" groups are based on this concept of trusting members in a shared community. Users can create and moderate their groups, which will allow group management to remain decentralized and organic. This will allow users to benefit from a foot in the door with a familiar user base, and build up a level of trust will make users more comfortable with the classifieds service.

¹⁷ "MMU Deployment Tracker." *GSM Association*, August 2015.

¹⁸ Heinrich, Erik. "The apparent M-Pesa monopoly may be set to crumble." *Fortune*, 27 June 2014.

¹⁹ "Are Facebook Groups A Threat to Online Classifieds?" *Next Big What*, 8 January 2014.

²⁰ "Tackling Africa's Classifieds Listings Space." *White African*, 5 January 2011.

Internet and Facebook penetration in 2016, select countries

Country	Internet Penetration	Facebook Penetration
Algeria	37.3%	37.3%
Cameroon	17.7%	8.6%
Egypt	37.0%	30.0%
Kenya	68.4%	11.3%
Morocco	60.6%	30.0%
Namibia	21.2%	21.2%
Nigeria	52.0%	11.3%
Senegal	51.9%	12.2%
South Africa	52.6%	25.8%
Tanzania	14.5%	7.0%
Uganda	31.1%	5.7%

Because network effects produce winner-takes-all marketplaces, any classifieds business must achieve scale faster than its competitors. Classifieds are the archetypal two-sided marketplace, and scale requires solving the chicken-and-egg issue of acquiring both buyers and sellers simultaneously. Existing classifieds businesses have financed growth via venture capital equity investments, which drive advertising spending targeted at both sides of the marketplace. Due to mobile payments integration, Mercado can bootstrap its growth via transaction fees paid by sellers.²¹ Transaction fees are rare for existing classifieds services because of reliance on cash, and competitors are unlikely to immediately copy this model due to its shift from the standard model of classifieds markets. Moreover, transaction fees are not onerous because sellers can pay them out of profits on the sale, similar to how fees are handled by services like eBay and Amazon.

Mercado will draw additional profitability from services listings. Services are an underappreciated aspect of classifieds because trust deficits have made scaling labor ads a non-starter. By removing user anonymity, Mercado can establish trust between those who seek labor and those who offer labor. Services listings will prove valuable for developing markets because of both high unemployment and the decentralized nature of the informal service economy. Classifieds ad can serve as free websites for laborers who perform one-time services such as construction work or housecleaning. Service-based businesses also benefit in this manner. Conversely, those seeking a particular service can use classifieds to compare options based on price, past ratings, and location. By gaining transaction fees from each service, classifieds can profit from centralizing the informal economy.

One initial target market for buyers will be expatriate residents in the urban areas of developing countries. Expatriates are persons living or working outside of their native country, and comprise a substantive segment of the population in most cities. Expatriates are a good starting market for several reasons. First, expatriates have higher incomes than

²¹ While a fee structure is not in the domain of this paper, one would imagine a low fee of around 3-5% per transaction. Fee structures would be a gradient with lower fees on larger items, such as a 2% fee on the sale of apartments or vehicles.

the general population because they are often doing specialized work in the host country, and therefore have extra income to spend on purchasing used items. Second, expatriates are less trustworthy of anonymous purchasing from locals because of myriad risks facing foreigners with fraudulent or dangerous transactions, and Mercado's non-anonymous system obviates this risk. Third, many expatriates are familiar with the classifieds model because it exists in other developed nations with services owned by Craigslist, Schibsted, and Naspers. Fourth, expatriates will feel more comfortable with the online transactions if the seller is also an expatriate, and the ability to create sub-groups in Mercado will allow expatriates to transact among each other.

One starting point for acquiring sellers is small businesses, which are a backbone of emerging economies and generate 45% of total employment in the developing world.²² Most small businesses operate outside the formal economy, and their reliance on local passerby for purchases of goods and services leaves little growth opportunity. Classifieds listings inject growth into small businesses by serving as free online advertising to a citywide audience. In addition to allowing individual buyers and sellers to transact, Mercado's focus on small businesses can create an online directory of goods and services in the area. Businesses will also have much higher product turnover than individuals, so the value per small business user will greatly exceed that of individual users. By initially focusing seller-specific advertising on small businesses, Mercado can bolster the selling side of its marketplace.

The optimal location to test Mercado is Nairobi, Kenya for several reasons. First, mobile payments are universally accepted because of M-Pesa's control over the mobile payments market. Since M-Pesa's API is publicly available, the service can be integrated into Mercado without requiring users to create new mobile payments accounts. Second, the high smartphone penetration rate in Nairobi—over 58% of new phones sold in Kenya in 2015 were smartphones—makes Mercado's application-based platform more tenable.²³ Third, the concept of classifieds ads is already familiar to most Nairobi residents due to classifieds ads in prominent newspapers like *The Star* and the early forays into the city's online classifieds market by OLX. Fourth, Nairobi can serve as a launch point into other regional markets like Tanzania and Uganda, where market conditions are similar.²⁴

Classifieds markets can play a critical role in centralizing the informal economies of developing nations. By connecting the buyers and sellers of used good and services, a scaled classifieds market can provide better prices, greater selection, and higher incomes for millions in the developing world. Whichever businesses produce scalable classifieds markets in these regions will receive ample financial reward from their monopoly power. A new technology business reaches a value of \$100 billion every six years, and the next of these might well be an innovator in online classifieds.²⁵

²² "Small and Medium Enterprises (SMEs) Finance." *The World Bank*, 1 September 2015.

²³ Zab, Sofia. "Whitepaper; The Growth of the Smartphone Market in Kenya." *Jumia*, 2 June 2015.

²⁴ Zetterli, Peter. "Tanzania: Africa's Other Mobile Money Juggernaut." *Consultative Group to Assist the Poor*, 17 March 2015.

²⁵ Johnson, Eric. "Silicon Valley's Homogeneous..." *Recode.net*, 21 March 2016.