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Tata communications payment solutions: The Indicash white-label atm network[[1]](#endnote-1)

Srinivasan Sunderasan wrote this case solely to provide material for class discussion. The author does not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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In June 2012, in an effort to rapidly scale up India’s existing automated teller machine (ATM) network and increase banking services in smaller towns and remote/rural areas, the Reserve Bank of India (RBI) had announced a policy permitting non-banks to set-up and to manage white-label ATMs, known as WLAs: machines deployed, owned, and operated by non-bank entities. The policy required the new WLA network to be spread between rural and semi-urban areas (and, to a lesser extent, in urban catchments), depending on the scheme individual operators opted for.[[2]](#endnote-2) The private players installing and operating the WLAs were entitled to a net rate per transaction of ₹13, and ₹5 for a balance enquiry by the customer.[[3]](#endnote-3) In addition, the WLAs were allowed to offer related services and display advertisements to derive economies of scope from the installations.

In June 2016, it was reported that Tata Communications Limited (Tata Communications) had approached potential Japanese and American investors to try and sell its entire stake in Tata Communications Payment Solutions Limited (TCPSL) at an estimated valuation of between ₹10 billion and ₹13.5 billion.[[4]](#endnote-4) Customers appeared to prefer the more familiar bank-branded machines, especially the ATMs housed in or close to bank branches, as opposed to remote and private-labelled ATMs, to minimize the risk of card skimming at fake ATMs, among other things.[[5]](#endnote-5) The overseas investors’ decision to acquire TCPSL’s “Indicash” ATM network was as much about the past as it was about the future. Tata Communications had appointed BNP Paribas as the investment banker to reach out to and convince potential investors. Lower-than-anticipated footfall, high operating costs, and a cap on the maximum number of free transactions appeared to have dampened the enthusiasm for setting up or expanding ATM chains. Policy makers seemed to be confused by the range of responses to the 2012 RBI policy inviting private participation in enhancing the coverage of formal banking systems, while the licensees themselves were attempting to draw up scenarios under which they would be comfortable launching or expanding WLA networks. Tata Communications was specifically looking for a “strategic buyer.”[[6]](#endnote-6) In attracting potential buyers of the Indicash network, Tata Communications sought to leverage its accomplishments with the WLAs to make a sale. What would attract a strategic buyer to the WLA network?

BACKGROUND

The new WLA policy was received differently by different agencies. The leader in this segment, TCPSL, promoted by Tata Communications, had deployed 1,000 units under the Indicash brand by March 2014; 5,000 units by April 2015; 6,256 units by September 2015; and 7,661 units by April 2016.[[7]](#endnote-7) The company’s WLAs represented some 60 percent of all installed WLAs in India (see Exhibit 1). TCPSL had originally planned to set up a total of 15,000 units by March 2016. Likewise, BTI Payments, part of Australia’s Banktech Group, was on course to meeting and exceeding its first-year target of 1,000 machines. By March 2016, BTI Payments had deployed 3,416 of its “india1” ATM branded kiosks (26 per cent of all WLAs), and the company had set a three-year target of 9,000 installations.

Such optimism was not universally shared though: since it was acquired by Japanese firm Hitachi, payment services specialist Prizm Payment Services (owner of the “MoneySpot” ATM kiosks), had to pullout 300 of the 1,400 units deployed due to lower-than-projected footfall.[[8]](#endnote-8) Muthoot Finance, part of the diversified Muthoot Group, with vast experience in money transfers, currency trading, and consumer credit, decided to scale back drastically, and had deployed a mere 200 machines by March 2015, against the originally scheduled 1,000 units.[[9]](#endnote-9) By September 2015, Muthoot Finance had only 155 kiosks, though this number rose to 175 by April 2016.

CHALLENGES FACING private ATM Network Operators

Early experience with white-label ATM networks suggested that they had failed to generate adequate confidence among consumers. Additionally, in the absence of recognized exclusion zones around individual machines, incumbent banks themselves directly competed against the players. The environment within which the WLA networks were slated to operate appeared a lot more challenging than stakeholders might have originally envisaged.

Challenge 1: Competition from Banks

By the end of March 2015, India was the second-largest producer and consumer of currency notes in the world, second only to China. Though non-cash transaction volumes had gradually risen, cash still accounted for some 96 per cent of all transactions in the Indian economy. Over fiscal year (FY) 2014–15, the volume of bank notes in circulation rose by 8.1 per cent, and their value rose by 11.40 per cent.[[10]](#endnote-10) The stresses imposed on existing banking channels were clearly visible and progressively rising. The available cash-disbursement infrastructure, including a network of just over 200,000 ATMs (among other options), was clearly becoming increasingly inadequate for a nation of India’s proportions and complexity.[[11]](#endnote-11)

The prevailing situation squarely favoured banks and card issuers, and worked against the WLA network operators. For instance, in large cities, banks charged consumers ₹20–30 for ATM use after the first three transactions each month (e.g., cash withdrawals, balance enquiries, or having mini-statements printed), and in smaller cities and towns, charged the fee after the first five transactions. Given that 60–70 per cent of transactions involved bank-owned machines, the larger volumes and usage charges adequately covered the costs of their ATM operations.

In 2012, when the Ministry of Finance proposed to setup about 63,000 bank-branded (also known as “brown-label”) ATMs in 2012, ATMs had witnessed aggressive bids in the range of ₹7–₹12.10 per transaction. Most ATMs were bank branded, but were operated by private agencies that received a transaction fee from the bank. However, investors noticed that in locations with high consumer turnout, banks chose to install their own machines adjacent to brown-label ATMs or other competing ATMs to capture additional revenues. Perceiving this as a threat to the proposed bank-branded, privately operated machines, some of the winners from the 2012 brown-label ATM bids opted out of actually installing and operating the ATMs as contracted. In total, state-owned and existing private banks added 24,133 machines in FY 2012–13. Banks and white-label service providers together added 30,855 machines in FY 2013–14, with a large majority of the ATM units still being rolled out by the banks themselves.[[12]](#endnote-12)

In early December 2014, responding to received representations, RBI allowed WLAs to accept international credit/debit/prepaid cards, and permitted the ATM operators to choose their cash-supply partner from among the commercial banks operating in India. Further, when the number of installed ATMs did not increase significantly, the government moved, in October 2015, to allow up to 100 per cent foreign direct investment into WLAs to try and improve both density and geographic coverage. For example, an overseas investment into acquiring the Indicash network would be relatively straightforward and might not require regulatory approval. Despite these measures, ATM operators continued to believe that the playing field was not level, and the viability of the WLA network as a business proposition remained uncertain.[[13]](#endnote-13)

Challenge 2: Higher Financing and Logistics Costs

With banks imposing charges on transactions made through ATM kiosks, the average amounts withdrawn by customers per ATM visit had risen sharply, especially in urban centres. This change had affected banking operations in two ways: the amounts held in savings accounts fluctuated widely, and the machines had to be stocked with more cash, more frequently, dramatically raising logistics-related costs. Though the cost of moving money to the ATMs did not differ between bank-owned and privately-managed machines, the cost of the funds themselves was higher for the private operators.

Worse, the wider and denser network stressed the capacity-constrained cash logistics firms that moved money from bank branches and other locations (such as toll plazas) to the ATMs. Each day, around 10,000 cash vans moved an average of ₹200–₹250 billion in cash. By some estimates, the amount transported during the average year totalled over ₹100 trillion.[[14]](#endnote-14) In order to procure insurance coverage for the cash in circulation, cash logistics firms were required to deploy armed guards. Gun laws formulated in 2013 required banks and other institutions to apply for licences and to purchase their own guns, and the weapons assigned to security personnel had to be locked away in a safe box after work hours. Likewise, private security agencies had to apply for licences and procure guns for their personnel. The long, drawn-out licensing, procurement, and training processes had led to an acute shortage of armed personnel—an estimated shortfall of over 180,000 guards—to protect cash counters and cash-in-transit.[[15]](#endnote-15) The installation of 50,000 ATMs by banks and non-bank operators each year in India (some to replace aging machines) in the context of the limited number of gun licences issued[[16]](#endnote-16) had meant that both logistics costs and insurance premiums had risen to the disadvantage of WLA operators. Banks had ongoing long-term contracts with security agencies, but WLA companies had to establish new contracts at a higher cost.

Challenge 3: High Capital and Operating Costs

RBI had identified 17 of the 19 non-bank corporate applicants as eligible candidates for setting up WLAs. By April 2013, a total of 12 licences had been issued and the 17 identified non-bank applicants were collectively projected to setup over 150,000 ATMs over a three-year window.[[17]](#endnote-17) Muthoot Finance, for instance, had originally proposed to invest ₹3 billion in establishing 9,000 machines over three years, and to make its ATMs user friendly for all customers, including those requiring audio/voice instructions, Braille signage, and access ramps.[[18]](#endnote-18)

Setting up one ATM kiosk cost approximately ₹500,000, including the costs of the machine itself, civil works, satellite communication links, surveillance cameras, interior décor, branding, and other associated costs. Space rental, electricity costs, security and supervision, cash transportation and management, and housekeeping added about ₹60,000 a month per ATM. Some companies projected that each ATM took about 10 months to break even.[[19]](#endnote-19)

By March 2015, however, the low transaction fees and the limits imposed on free cash withdrawals had brought several of the licensees to conclude that the WLA business model was fundamentally unviable, while a few continued with their efforts. Among others, SREI Infrastructure Finance Limited (SREI), licensed in May 2014, had not installed a single machine by March 2016.[[20]](#endnote-20) The company had projected that an ATM would achieve break-even with low transaction volumes, possibly with fewer than 100 transactions a day, but the mandate to appoint a guard at each machine, the high cost of scarce cash, indifferent power supply in smaller towns and rural areas, and other incidental expenses had doubled the projected operating costs.[[21]](#endnote-21) Raha Payment Solutions, licensed to install 25,000 units in the first year and an additional 25,000 in the subsequent two-year period, had installed 111 machines by September 2015–16, months after receiving RBI’s authorization. One RBI official speculated that these companies might be holding back to gauge the returns from Tata Communications’ Indicash network before making further investments in their operations.[[22]](#endnote-22)

Between mid-October and December 1, 2015 (overlapping with the festival/shopping season), BTI Payments ran a promotional program to try and draw traffic to its india1 ATM network. The company offered several prizes each week, including gold coins and smart phones, and the grand prize of a motorcycle in each of the seven states that it operated in.[[23]](#endnote-23) BTI Payments also attempted to keep costs down by co-locating its ATM kiosks with existing business operations, including a retail outlet, where the fixed costs were shared and the store personnel also provided security.[[24]](#endnote-24)

THE PARADOX OF INCREASING DENSITY

In September 2014, a technical study published by Anish Das of the Indian Institute of Technology Bombay (IIT-B) highlighted the trend of declining average transaction numbers in tandem with increasing numbers of ATMs. Cash withdrawals had fallen from 149 per ATM per day in April 2011 to 107 in March 2014, with average withdrawal sizes increasing by over 18 per cent. Moreover, when non-financial transactions such as balance enquiry were included, the number fell from 207 transactions per ATM per day to 138 over the same 36-month period.[[25]](#endnote-25) Additionally, since the study reported nation-wide average figures, it could be reasonably conjectured that approximately half, or perhaps more than half, of the ATMs witnessed significantly fewer transactions each day.

As with most networked services, the marginal cost of providing services through an ATM may have been close to zero (without taking cash-logistics costs into account). Yet, with fewer transactions initiated per ATM, the average unit cost of service provision had progressively risen across India’s ATM network. Concomitantly, governments across the world (India included) had been working toward discouraging undocumented cash transactions with a view to curtailing the large-scale movement of unaccounted money. Curtailing frequent cash withdrawal was viewed as one of the pathways toward achieving a lower-cash economy.[[26]](#endnote-26) Therefore, ATM operators were faced with the dilemma of lowering the average costs per transaction, and, simultaneously, the prospect of fewer and higher-value transactions per machine each day. In this sense, RBI’s policy that one ATM in a metropolitan area be employed to cross-subsidize two or more machines in rural and semi-urban locations did not seem tenable.

To keep the ATM network viable, and to position it as a complement to branch-banking, IIT-B’s study proposed a cap of 12 free transactions a month (both financial and non-financial) before a bank began charging customers.[[27]](#endnote-27) The higher threshold would leave over 90 per cent of the banks’ customers unaffected by the levy. This measure was also likely to lower average cash withdrawals during each transaction, reducing the frequency with which the machines would need to be stocked, and in parallel, lowering the currency in circulation within the economy. However, this recommendation was not implemented by the banking system.

INVESTOR PERSPECTIVES ON THE WLA INITIATIVE

A total of five event studies were employed to analyze investor response to discrete developments, such as merger announcements and the passing of new legislation, by analyzing abnormal returns earned by the firms concerned, around the event dates. Of the seven firms formally authorized to install WLAs, six firms had installed WLAs by September 2015, and four of the seven operators were listed on the stock markets, or were subsidiaries of listed parent companies.

Stock prices of an individual firm were expected to rise in response to a value-enhancing business opportunity, and would conversely decline if investors believed that a proposed corporate action was expected to lead to destruction of shareholder wealth. Cumulative abnormal returns for each firm over the trading sessions spanning the event date [, with “t” representing the event date] were computed, net of the market returns (systematic influences). Daily closing prices for the operators’/parent firms’ common equity stocks were collected from India’s National Stock Exchange.[[28]](#endnote-28) The closing stock prices for each of the companies from three days prior were used to compute moving averages, which were employed to generate a counterfactual scenario to eliminate company-specific factors that might impinge upon the estimation of abnormal returns.

Event 1: Award of 12 Licences

On April 6, 2013, RBI had announced that 12 firms had been licensed to set up WLAs. Because April 6 was a Saturday, the abnormal returns for the four listed firms were analyzed over six trading sessions between April 3–10, 2013 (see Exhibit 2).

Abnormal returns (returns net of counterfactual stock prices and the benchmark index) on the firms’ common stock over the span of the six trading sessions straddling April 6, 2013 were estimated at −1.367 per cent for Muthoot Finance, and at −0.779 per cent for SREI. In retrospect, markets appeared to have realized sooner than the managers that rolling out the ATM network might not enhance value.

Likewise, the abnormal returns for Tata Communications were estimated at +3.355 per cent, and at +7.711 per cent for Vakrangee Limited, probably projecting that Vakrangee (and possibly Tata Communications) could be invited to provide backend hardware and information technology services for the other suitors, especially the “pure-play” financial intermediaries like SREI and Muthoot Finance. The cumulative abnormal change in the market capitalization of the four listed firms, measured on April 10, 2013, relative to April 3, 2013, was estimated at +₹3.77 billion, which was presumed to represent the value that could be derived from offering backend services to privately held and other short-listed candidate operators.

Event 2: RBI Authorization

Since being put on the shortlist for the licence to install and operate WLAs by the RBI, several candidate companies had put up pilot installations within malls or other public locations to gain experience with ATM operations.[[29]](#endnote-29) RBI had formally authorized the firms on different dates: among the listed companies, Tata Communications was authorized on May 3, 2013; Vakrangee on January 23, 2014; Muthoot Finance on January 30, 2014; and SREI on March 25, 2014.[[30]](#endnote-30) Abnormal returns on the common stock of Tata Communications over a span of seven trading sessions straddling May 3, 2013 had reversed sign and were estimated at −3.034 per cent, while the returns on the other three firms were in positive territory, respectively at +3.12 (Vakrangee), +8.57 (Muthoot), and +2.61 (SREI) per cent (each over seven trading sessions). While Tata Communications appeared to have reversed over 90 per cent of the gains made just one month prior, the cumulative abnormal change in the market capitalization of the four firms on day (t+3) relative to trading day (t−3) was at 1.016*x* (i.e., almost equal to) the change recorded in April 2013.

Event 3: Pilot ATM Installation

Operators made their first commercial installations at different points in time. Among the unlisted companies, Hitachi Payment Services (then named Prizm Payment Services) launched commercial operations on January 28, 2014; BTI Payments on April 9, 2014; and Raha Payment Solutions on September 4, 2014. Among the listed companies, Tata Communications launched commercial operations on June 27, 2013, while Muthoot Finance launched on February 4, 2014.Details of the commercial launch by Vakrangee were not readily accessible (and requests for information went unanswered), and SREI had not launched commercial operations before or during FY 2015–16. Abnormal returns on the common stock of Tata Communications over a span of seven trading sessions straddling June 27, 2013 were estimated at +10.363 per cent, while the returns on Muthoot Finance were estimated at +8.131 per cent.

Event 4: RBI Allows the Use of International Cards/Provides Cash Supplier Flexibility

On December 6, 2014, RBI opened yet another segment of the market for WLA operators: overseas credit/debit/prepaid cards. In addition, RBI gave the operators greater flexibility and negotiating power by allowing them to choose a cash supplier. These moves were expected to trigger unambiguous positive returns for the ATM operators. More event studies were conducted using data from the listed firms for dates straddling December 6, 2014. Abnormal returns on the common stock of Muthoot Finance alone were positive at +3.168 per cent over a span of six trading sessions. The three remaining listed companies—SREI (−1.654 per cent), Tata Communications (−3.568 per cent), and Vakrangee (−2.007 per cent)—reported negative returns over six trading sessions. Based on these returns, it seemed that the new guidelines favoured Muthoot Finance and worked to the disadvantage of the other operators.

Event 5: RBI Grants “In-Principle” Approval for 11 Payments Banks/10 Small Finance Banks

New “payments banks” were permitted to set up branches, ATMs, and banking correspondents, as well as issue debit cards and distribute insurance, mutual funds, and pension products much like regular commercial banks could.[[31]](#endnote-31) Yet these banks could not hold in excess of ₹100,000 in deposits from an individual customer, or issue loans.[[32]](#endnote-32) After 11 payments banks were nominally approved in August 2015 and 10 “small finance banks” were approved in September 2015, the WLA operators saw both groups as serious threats as well as potential partners.[[33]](#endnote-33) The approval of these firms was expected to affect the returns on the WLA firms’ stock.

The mobile phone had emerged as a key platform to help India leapfrog traditional banking models and to effect cashless transactions, perhaps with the potential to displace ATMs in the medium term. Large numbers of people (especially in urban areas) had started using “mobile wallets” to recharge phones, buy goods from vendors, and pay for cab services. It was, therefore, unsurprising that mobile phone operators and information technology firms—including Airtel, Vodafone, Tech Mahindra, and Fino Paytech Limited—were prominent among the recipients of the payments bank licences. “Self-service touch points” enabled customers to manage remittances, savings, credit, and insurance better.”[[34]](#endnote-34)

In June 2015, TCPSL entered into a strategic alliance with Fino Paytech to install Indicash WLAs at existing Fino Money Marts and, reciprocally, for Money Marts to be co-located with existing Indicash machines. The two companies had planned to increase the overlap to 100 outlets spread across eight states by March 2016.The partnership was intended to provide a wider range of financial intermediation, including domestic remittances, cash-out international remittances, utility bill payments, travel bookings, prepaid mobile phone recharges, online shopping, and standard ATM services.[[35]](#endnote-35) This alliance was followed by the launch of value-added services: card-to-card fund transfers, cheque book requests, and account statement requests through the Indicash ATMs, all of which could be done without the customer visiting a bank branch.[[36]](#endnote-36)

Overlapping with the issuance of 11 payments bank licences on August 19, 2015*,* abnormal returns on the common stock of each of the four listed WLA operators were negative, and the cumulative abnormal loss in market valuation had wiped out 147 per cent of the cumulative gains made since April 2013 (i.e., when provisional licences were issued). Clearly, the markets had perceived the proposed payments banks as a grave potential threat to the survival of WLA operations.

Interestingly, Vakrangee gained in abnormal value when 10 small finance bank licences were awarded on September 16, 2015, presumably in anticipation of the derived demand for its product and service offerings. Further, this gain in value was greater than the abnormal loss suffered by the other three operators combined: Muthoot Finance at −0.269 per cent, SREI at −0.459 per cent, and Tata Communications at −0.1125 per cent.

A GREAT DEAL OF BOLDNESS AND A GREAT DEAL OF CAUTION

The WLA industry appeared to be evenly split between those who believed that rolling a network out was a viable business opportunity, and those who did not. TCPSL alone was responsible for close to 60 per cent of all WLA installations through March 2016, while some of the other licensed operators had not commenced operations at all. Companies like BTI Payments, which operated about 26 per cent of the WLA installations, appeared to represent the middle. This divide led to many questions. Did TCPSL see something that other firms did not? Did the other companies believe that the present regulatory environment was simply not conducive for a large-scale rollout? Did operators prefer to wait for more favourable regulation prior to commencing or expanding their commercial operations? In what looked like a reversal in outlook, TCPSL was put up for sale in June 2016.

Additional questions related to the emerging rivals. In the past decade, the proliferation of mobile phones had virtually wiped out public call offices in large parts of the country, and smart phones had marginalized public Internet cafes. Could the small finance banks—and perhaps even more so, the payments banks—do to ATMs what smart phones did to Internet cafes and public call offices? The stock markets certainly appeared to suggest that they could.

Based on the transaction patterns observed in the past, analysts had to estimate the number of transactions per average machine per day and compute returns on the direct and indirect costs. Among other things, this would call for an estimation of the number of credit and debit cards that would be issued over the residual life of the average Indicash ATM. Above all, analysts had to make a recommendation on the TCPSL acquisition.

Tata Communications Payment Solutions Limited

TCPSL, a wholly owned subsidiary of Tata Communications, was incorporated as Tata Communications Banking Infra Solutions Limited in February 2008. Between June 2013 and March 2014, the company had installed 1,000 WLA units,[[37]](#endnote-37) and this number rose to over 2,500 by September 2014. In all, during FY 2014–15, TCPSL installed 4,029 machines.[[38]](#endnote-38) By September 2015, its tally stood at 6,256, and by the end of March 2016, TCPSL had installed 7,661 machines, representing close to 60 per cent of all WLA installations in India.

During the rollout of the Indicash ATM, TCPSL claimed that the machine was “was designed on the back of in-depth consumer research conducted across the country.” The company had analyzed consumer concerns regarding issues of short dispensation of cash, complexity of the user interface, the machines swallowing ATM cards, and privacy and security, especially in smaller towns and rural locations.[[39]](#endnote-39) TCPSL responded with attempts to make ATM usage “safer, more reliable, and stress-free.” The dip machines (where the customer swiped the card and held on to it) that had evolved into the industry standard over time were being deployed to ensure that the card was with the customer at all times. The user interface was kept simple and intuitive with messages in the local vernacular. Electronic surveillance, screen filters, and keypad shields were used to ensure security.

TCPSL had estimated the life of an ATM at 10 years.[[40]](#endnote-40) By definition, therefore, each kiosk was akin to a standalone project with a 10-year life. The initial set of basic banking services included cash withdrawals, balance enquiries, mini-statements, and changes to personal identification numbers. The company hoped to expand into value-added services like utility bill payments, and to collaborate with smaller banks that did not possess the means to install and operate their own machines. Additional accruals from third-party promotions were also projected.

Further, a total of about 190 million “no-frills” bank accounts were opened by November 2015 under the Prime Minister’s *Jan-Dhan* (“People’s Money”) Financial Inclusion Scheme, launched on August 28, 2014.[[41]](#endnote-41) These accounts, which held close to ₹260 billion in total deposits, came with “RuPay” debit cards, a built-in overdraft facility for ₹5,000 (after the first six months), and accident coverage of ₹100,000. The debit cards for each of the accounts had been issued by October 2015, and a huge increase in ATM transactions was anticipated across the country.[[42]](#endnote-42) The sheer pace at which the large volumes of cards were disbursed compelled the competition to take notice, with MasterCard Incorporated expressing concern that the “government had become competition.”[[43]](#endnote-43)

As of March 2015, based on an aggregate of over 5,000 installed WLAs, TCPSL had placed ₹2.265 billion in cash machines, with an additional ₹467 million in transit (see Exhibit 3). The company had managed to bring the average interest charge down from about 12 per cent in FY 2012–13 to about 7.32 per cent in FY 2014–15. The cumulative loss through March 2015, carried over to the balance sheet, however, stood at about ₹3.77 billion.

As of FY 2015–16, with a total of 7,661 ATMs installed, TCPSL had placed ₹4.64 billion in its machines, with another ₹884 million in transit. The average interest cost was estimated at about 6 per cent, a decrease from the 7.3–7.5 per cent estimated for the preceding two years. Despite the 50 per cent increase in the ATM network over FY 2015–16, the losses reported were comparable to FY 2014–15, at ₹1.73 billion, partly due to lower interest costs. Net shareholders’ funds were reported at ₹7.53 billion after adjusting for cumulative losses of ₹4.05 billion.

Other players

Of the 19 initial applicants, down to the 17 candidates making the short list, through the 12 licensees and companies formally authorized by RBI, only three had installed over 1,000 WLAs by March 2016, with the others having built, in decreasing order, 262, 208, 175, 61, and 0 units over a span of about two years. Clearly, some of the authorized operators did not see the WLA as a promising business proposition. Notwithstanding TCPSL’s exuberance in rolling out the WLAs at a frenzied pace, the opposing perspective deserved consideration.

Data published by RBI relating to the number of credit and debit cards issued, and the number and volume of transactions concluded during each month between April 2011 and May 2015 were analyzed in detail (see Exhibits 4 and 5). Briefly, the results of analyses showed the following:

* Surprisingly, the average number of transactions per ATM per day decreased with an increase in cards issued—by about two transactions per day for every 10 million cards issued (95 per cent statistical significance). If this finding were to bear out, the issue of 190 million RuPay cards alone should lower the daily average transaction per machine by about 38, bringing that figure down from 111 in May 2015 to 73 by the end of 2015. However, in reality, many RuPay cards were likely to be used at points of sale rather than to withdraw cash at ATMs.
* The number of transactions per day per ATM also decreased with an increase in the number of ATM installations. This result was immediately understandable. With each addition of 10,000 ATMs, the average number of transactions across all installed kiosks declined by 5.5 (95 per cent level of statistical significance).
* When combined with the data for card issuance, the addition of 10,000 ATMs was likely to reduce the average transaction per machine per day by 6.77.
* Apparently, the numbers of cards issued had no bearing on the total amounts withdrawn each month, perhaps because the numbers of machines installed alone explained 93 per cent of the variability in the amounts withdrawn.
* Between them, the total number of credit and debit cards issued and the total number of ATMs installed explained 100 per cent of the total number of transactions, which was fairly self-explanatory. Further, each input variable explained close to 90 per cent of the variability in the total number of transactions on a standalone basis (at 95 per cent significance).
* The average transaction value was a function of three exogenous factors: (a) the number of free transactions offered by the card-issuing bank/agency; (b) the cap on amounts withdrawn in a 24-hour window imposed by each bank; and (c) the cash requirements of the individual customer. Consequently, the explanatory power of the regressions was quite low (33–37 per cent), but more importantly, the number of ATMs and the number of cards taken together did not adequately explain the variability in the average amount withdrawn (at 95 per cent significance). Yet when taken individually, each explained the average withdrawal with a coefficient that was statistically significant (at 95 per cent).
* The month-on-month change in the number of cards or ATM installations did not appear to influence change in the number of average daily transaction per ATM.

If an additional 100,000 ATMs were to be installed and another 200 million cards were issued in the coming months (all else being constant), then the average footfall per ATM per day could be as low as 50, and the average transaction as high as ₹3,667 at the end of such a rollout. These numbers were stark enough to concern banks, WLA operators, and regulators, and left them pondering whether ATM networks could be simultaneously expanded and maintained, while ensuring that services remained affordable. Advertising and other revenues were correlated with footfall. Revenues from advertising (and other income) at the median ATM were assumed at 10 per cent of transaction revenues. It was also possible that increased transaction fees could trigger an increase in ATM installation rates, lowering average daily transaction numbers for the entire network. Prospective bidders were required to consider all of these factors in examining the offer made by Tata Communications to sell the Indicash ATM network.

exhibit 1: status of WLA installationS by march 2016

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ATM Licensee Company** | **Parent Company** | **Brand Name** | **Status** | **Licence Date** | **First Machine** | **Authorization Date** | **No. of WLA Installed** | **Proportion** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
| AGS Transact Technologies Ltd. | AGS Transact Technologies Ltd. |  | Private | 2013-04-06 | Unavailable | 2014-06-30 | 61 | 0.471% |
| BTI Payments India Pvt. Ltd. | BankTech Group, Australia & ICICI Ventures | india1 ATM | Private | 2013-04-06 | 2014-04-09 | 2014-02-12 | 3,416 | 26.354% |
| Prizm Payment Services Private Limited | Hitachi Payment Services/Hitachi Group | Money Spot ATM | Private | 2013-04-06 | 2014-01-28 | 2013-11-25 | 1,179 | 9.096% |
| Muthoot Finance Ltd. | Muthoot Finance Ltd. |  | Public | 2013-04-06 | 2014-02-04 | 2014-01-30 | 175 | 1.350% |
| Raha Payment Solutions Private Limited | RiddhiSiddhi Bullions Ltd. | State ATM | Private | 2013-04-06 | 2014-09-04 | 2014-05-15 | 208 | 1.605% |
| SREI Infrastructure Finance Limited | SREI Infrastructure Finance Limited | N/A | Public | 2013-04-06 | NA | 2014-03-25 | 0 | 0.000% |
| Tata Communications Payment Solutions Ltd. | Tata Communications Limited | Indicash | Public (parent) | 2013-04-06 | 2013-06-27 | 2013-05-03 | 7,661 | 59.104% |
| Vakrangee Ltd. | Vakrangee Ltd. |  | Public | 2013-04-06 | Unavailable | 2014-01-23 | 262 | 2.021% |
| Total No. of WLAs | | | | | | | 12,962 |  |
| TOTAL ATMs in National Financial Switch | | | | | | | 220,912 |  |

Note: Table contains details of in-principle approvals and formal authorization for rolling out WLAs and the numbers installed through March 2016.

Source: Compiled by the case author from “National Financial Switch: Analytics: ATM,” National Payments Corporation of India, accessed April 14, 2016, http://npci.org.in/nfsatm.aspx.

exhibit 2: results from event studies on valuations of listed WLAoperators/parents (in ₹ millions)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Event** | **Muthoot Finance** | **SREI Infrastructure Finance Limited** | **TATA Communications** | **VakrangeeLtd.** | **TOTAL** | **Cumulative** |
|  |  |  |  |  |  | (Across Events) |
| 12 firms licensed | 2013-04-06 | 2013-04-06 | 2013-04-06 | 2013-04-06 |  |  |
| ABNORMAL RETURNS | −1.37% | −0.78% | 3.36% | 7.71% | (6 trading sessions) |  |
| Change in Market Value\* | −902.20 | −111.33 | 2,193.97 | 2,588.29 | 3,768.73 | 3,768.73 |
| RBI Authorization Received | 2014-01-30 | 2014-03-25 | 2013-05-03 | 2014-01-23 |  |  |
| ABNORMAL RETURNS | 8.57% | 2.61% | −3.03% | 3.20% | (7 trading sessions) |  |
| Change in Market Value\*\* | 3,998.76 | 334.25 | −1,978.49 | 1,474.96 | 3,829.48 | 7,598.21 |
| First ATM Installed | 2014-02-04 | N/A | 2013-06-27 | Information unavailable |  |  |
| ABNORMAL RETURNS | 8.13% | N/A | 10.36% |  | (7 trading sessions) |  |
| Change in Market Value\*\* | 3,696.40 | N/A | 4,904.12 | 0.00 | 8,600.52 | 16,198.72 |
| RBI Relaxes Norms | 2014-12-06 | 2014-12-06 | 2014-12-06 | 2014-12-06 |  |  |
| ABNORMAL RETURNS | 3.17% | −1.65% | −3.57% | −2.01% | (6 trading sessions) |  |
| Change in Market Value\*\* | 2,417.65 | −407.31 | −4,763.57 | −1,457.27 | −4,210.50 | 11,988.23 |
| 11 Payment Banks Approved | 2015-08-19 | 2015-08-19 | 2015-08-19 | 2015-08-19 |  |  |
| ABNORMAL RETURNS | −0.47% | −11.58% | −1.06% | −16.69% | (7 trading sessions) |  |
| Change in Market Value | −330.87 | −2,411.51 | −1,276.26 | −13,593.22 | −17,611.86 | −5,623.64 |
| 10 Small Finance Banks Approved | 2015-09-16 | 2015-09-16 | 2015-09-16 | 2015-09-16 |  |  |
| ABNORMAL RETURNS | −0.27% | −0.46% | −0.11% | 3.44% | (7 trading sessions) |  |
| Change in Market Value\*\* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | −5,623.64 |

Notes: \* April 10, 2013 relative to April 3, 2013; \*\* (t+3) relative to date (t − 3).

Source: Case author’s calculations based on quarter-ending share numbers and daily closing share prices published on the National Stock Exchange of India, accessed October 19, 2017, www.nseindia.com.

EXHIBIT 3: TCPSL PROPORTIONS OF EXPENSES, 2009–2015, ACTUAL AND COUNTERFACTUAL

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Based on Actuals | | | | | | | |
|  | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| Total Expenses (in ₹ millions) | 1.24 | 156.16 | 1,127.62 | 2,099.08 | 4,860.56 | 6,124.38 | 6,895.54 |
| Operating and Other Expenses | 93.10% | 45.26% | 83.08% | 85.89% | 90.07% | 89.04% | 78.06% |
| Employee Benefit Expenses | 0.00% | 41.83% | 10.72% | 8.40% | 6.69% | 4.46% | 5.16% |
| Depreciation and Amortization Expense | 0.00% | 7.06% | 2.74% | 2.42% | 1.36% | 4.28% | 14.85% |
| Finance Cost | 6.90% | 5.86% | 3.46% | 3.28% | 1.89% | 2.22% | 1.94% |
| Tax Expense | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Total | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
|  |  |  |  |  |  |  |  |
| Counterfactuals—Business as Usual | | | | | | | |
|  | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| Total Expenses (in ₹ millions ) | 1.24 | 156.16 | 1,127.62 | 2,099.08 | 4,860.56 | 2,695.75 | 3,479.82 |
| Operating and Other Expenses | 93.1% | 45.3% | 83.1% | 85.9% | 90.1% | 86.3% | 88.0% |
| Employee Benefit Expenses | 0.0% | 41.8% | 10.7% | 8.4% | 6.7% | 8.6% | 7.5% |
| Depreciation and Amortization Expense | 0.0% | 7.1% | 2.7% | 2.4% | 1.4% | 2.2% | 1.9% |
| Finance Cost | 6.9% | 5.9% | 3.5% | 3.3% | 1.9% | 2.9% | 2.6% |
| Tax Expense | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
|  |  |  |  |  |  |  |  |
| Counterfactuals—Incremental Impact of WLA | | | | | | | |
|  | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** |
| Total Expenses (in ₹ millions ) | 1.24 | 156.16 | 1,127.62 | 2,099.08 | 4,860.56 | 3,428.63 | 3,415.72 |
| Operating and Other Expenses | 93.1% | 45.3% | 83.1% | 85.9% | 90.1% | 86.3% | 88.0% |
| Employee Benefit Expenses | 0.0% | 41.8% | 10.7% | 8.4% | 6.7% | 8.6% | 7.5% |
| Depreciation and Amortization Expense | 0.0% | 7.1% | 2.7% | 2.4% | 1.4% | 2.2% | 1.9% |
| Finance Cost | 6.9% | 5.9% | 3.5% | 3.3% | 1.9% | 2.9% | 2.6% |
| Tax Expense | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Source: Created by the case author.

exhibit 4a: trends in daily cash withdrawal numbers per machine and average amounts withdrawn

exhibit 4b: trends in daily cash withdrawal numbers per machine and TOTAL NUMBERS OF ATM INSTALLED

Source: Created by the author based on “Bankwise ATM/POS/Card Statistics,” Reserve Bank of India, accessed December 15, 2016, www.rbi.org.in/Scripts/ATMView.aspx.

EXHIBIT 5: REGRESSION RESULTS—Effect of A RANGE OF INPUT VARIABLES on ATM USE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Regression No.** | **X →** | **Intercept** | **No. of Cards** | **Change in No. of Cards\*** | **No. of ATMs** | **Change in No. of ATMs\*** | **r-squared** |
|  | **Y ↓** |  | (Credit + Debit Cards) |  |  |  |  |
| 1 | No. of Transactions/Day/ATM | 209.5286 | −0.000000200 |  |  |  | 77.81% |
|  | t-statistic | 35.3494 | −12.973 |  |  |  |  |
|  |  | No. of transactions per average day per average ATM decline by 1 for every 5 million new cards issued | | | | | |
| 2 | No. of Transactions/Day/ATM | 204.5313 |  |  | −0.000554 |  | 89.12% |
|  | t-statistic | 56.0144 |  |  | −19.8272 |  |  |
|  |  | No. of transactions per average day per average ATM decline by 1 for every 1805 additional machines installed | | | | | |
| 3 | No. of Transactions/Day/ATM | 201.4081 | 0.000000050 |  | −0.0006773 |  | 89.55% |
|  | t-statistic | 47.2727 | 1.3869 |  | −7.2644 |  |  |
|  |  | No. of transactions per day per average ATM decline by 1 for every 1844 machines installed and 5 million new (credit + debit) cards issued | | | | | |
| 4 | Total Amount Withdrawn/Month | 549,390.7167 | 0.000260378 |  | 7.05368796 |  | 93.03% |
|  | t-statistic | 11.5984 | 0.65120 |  | 6.8049 |  |  |
|  |  | Total amount withdrawn during the month increases by ₹1billion with each 1million cards and 105 machines added | | | | | |
| 5 | Total Amount Withdrawn/Month | 565,694.6150 |  |  | 7.6982924 |  | 92.96% |
|  | t-statistic | 14.1535 |  |  | 25.1790 |  |  |
|  |  | Total amount withdrawn during the month increases by₹1billion with the addition of 130 machines | | | | | |
| 6 | Total Amount Withdrawn/Month | 464819.4138 | 0.0029 |  |  |  | 86.15% |
|  | t-statistic | 7.2938 | 17.2807 |  |  |  |  |
|  |  | Total amount withdrawn during the month increases by ₹1billion with the addition of 350,000 new cards | | | | | |
| 7 | Total No. of Transactions/Month | 226,985,091.47 | 0.7162 |  |  |  | 87.72% |
|  | t-statistic | 15.2358 | 18.5192 |  |  |  |  |
|  |  | Total no. of transactions during the month increase by 1,000 with the addition of 1396 new cards | | | | | |
| 8 | Total No. of Transactions/Month | 62,616,220.029 |  |  | 2,475.64664 |  | 91.19% |
|  | t-statistic | 4.3138 |  |  | 22.2956 |  |  |
|  |  | Total no. of transactions during the month increase by 2,476 with the addition of each new ATM | | | | | |
| 9 | Total No. of Transactions/Month | 0.0000 | 1.0000 |  | 1.0567E-13 |  | 100% |
|  | t-statistic | −5.6753 | 9,223,314,283,903,700 |  | 0.3759 |  |  |
|  |  | Total no. of transactions during the month is explained by the total no. of cards issued and machines installed | | | | | |

EXHIBIT 5: Continued

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Regression No.** | **X →** | **Intercept** | **No. of Cards** | **Change in No. of Cards\*** | **No. of ATMs** | **Change in No. of ATMs\*** | **r-squared** |
| 10 | Average Transaction Value During a Month | 2,622.3242 | −0.0000000463 |  | 0.00380767 |  | 37.39% |
|  | t-statistic | 24.4314 | −0.0511 |  | 1.6211 |  |  |
|  |  | Variations in transactions sizes are explained by changes in no. of cards and no. of machines to a limited extent | | | | | |
| 11 | Average Transaction Value During a Month | 2,576.6716 | 0.00000135630 |  |  |  | 33.89% |
|  | t-statistic | 24.4661 | 4.9612 |  |  |  |  |
|  |  | Average transaction value during a month rises by ₹10 with the issue of 7.373 million additional cards | | | | | |
| 12 | Average Transaction Value During a Month | 2,619.4241 |  |  | 0.00369301 |  | 37.39% |
|  | t-statistic | 29.0517 |  |  | 5.3543 |  |  |
|  |  | Average transaction value during a month rises by ₹10 with the addition of 2,708 ATMs | | | | | |
| 13 | Change in Average No. of Transactions/Day/ATM | 26.7750 |  |  |  | −0.00633 | 1.29% |
|  | t-statistic | 1.2262 |  |  |  | −0.7829 |  |
|  |  | Month-on-month change in average no. of transactions per day is not explained by changes in no. of ATMs | | | | | |
| 14 | Change in Average No. of Transactions/Day/ATM | 17.2247 |  | −0.000001 |  |  | 0.22% |
|  | t-statistic | 0.9190 |  | −0.3200 |  |  |  |
|  |  | Month-on-month change in average no. of transactions per day is not explained by changes in no. of cards | | | | | |
| 15 | Change in Average No. of Transactions/Day/ATM | 33.4363 |  | −0.000001 |  | −0.00673 | 1.65% |
|  | t-statistic | 1.2247 |  | −0.4132 |  | −0.8192 |  |
|  |  | Month-on-month change in average no. of transactions per day is not explained by changes in no. of cards and/or ATMs | | | | | |

Note: \* month-on-month; + not significant at 95%.

Source: Case author’s calculations based on “Bankwise ATM/POS/Card Statistics,”Reserve Bank of India, accessed December 15, 2016, www.rbi.org.in/Scripts/ATMView.aspx.

endnotes

1. This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this case are not necessarily those Tata Communications Payment Solutions Limited or any of its employees. [↑](#endnote-ref-1)
2. In all, three schemes were notified: (1) 50,000 ATMs in three years (one rural, one metro); (2) 15,000 ATMs in three years (two rural, one metro); (3) 9,000 ATMs in three years (three rural, one metro). [↑](#endnote-ref-2)
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12. Mohan, “Raising White Elephants,” op. cit. [↑](#endnote-ref-12)
13. Raghu Mohan, “There Is No Money in ATMs,” *Businessworld*, September 22 to October 5, 2015, 16. [↑](#endnote-ref-13)
14. Raghu Mohan, “No Guns, No Roses,” *Businessworld*, June 24, 2015, accessed April 16, 2016, www.businessworld.in/article/No-Guns-No-Roses/24-06-2015-82876. [↑](#endnote-ref-14)
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