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Telenor (A): From Cellular Networks to Financial Services

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> . . . [S]ome mobile operators in emerging markets—most notably Safaricom in Kenya with its profitable M-PESA service—have made a splash by allowing customers to send remittances and pay bills via SMS. So far so good . . . But what about savings [accounts]? For telecommunications companies that part is trickier.
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> "Regulators see savings as belonging to banks," notes Samee Zafar, director at the consultancy Edgar Dunn & Company, London . . . [Previously] wireless carriers tended to put banks down or to see them as competition, says Kabir Kumar, an analyst at CGAP, a microfinance centre based at the World Bank. No longer.
>
> "Now," he says, "the question is, 'You have to work with banks—how do you do it? How do you get the most out of it?' . . ."
>
> –CNN.com[1]

April 2008: This quote echoed the exact juncture at which Ronny Nævdal, VP Strategy at Telenor Pakistan, found himself. He wished to make a similar "splash" by taking this mobile operator into financial services. After almost a year of investigating the opportunity, he was dealing with the "tricky part" first-hand. However, some welcome news had just been received. The central bank of the country had finalized the "Branchless Banking Regulations" that made entry into mobile banking legally possible for the wireless carrier.

The next milestone Nævdal faced was to formally present a business case to the Board of Directors of Telenor Pakistan. This had to be done quickly while also respecting due process. Speed was imperative as any first-mover advantages might otherwise be lost. Due process that supplied rigorous justifications was also necessary as substantial capital expense had already been incurred at this fully-owned subsidiary. The multinational parent company, Telenor Group ("the Group"), had yet to see its investment in Pakistan break-even. Nævdal's current efforts had been triggered by a directive from the Group to seek out a new "growth story." The Board was, hence, eager for such an option to diversify; but was also anxious for it to pay for itself.

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An earlier version of this case, entitled "easypaisa," won the Ruth Greene Memorial Award at the NACRA 2010 Annual Meeting.

Nævdal had recently acquired the assistance of Roar Bjærum, a business development manager, who had just been flown in from the Financial Services division of the Group in Norway. The new regulations required working as an agent for a licensed bank. Bjærum, who had formerly worked for a Norwegian bank, would aid Nævdal in deciding which of the legally permitted agency models to propose to the Board. In addition, Bjærum would advise on whether or not to actually acquire a certain bank before becoming its "branchless banking" agent. If so, this would be a first as none of Telenor Group's three previous financial services projects had involved taking over a bank. Nævdal himself had only become part of Telenor back in 2001, when the Central European telecoms company where he was director of strategy had been acquired. It was telecoms, not financial services, that had been a constant feature of his resume.

Nævdal knew that the Group could easily afford the initial cost of acquiring this relatively small bank. His real task, however, was to convince the board that whatever business model was proposed, it would promise a self-sustaining "growth story" in terms of profits. Would the case for diversification still stand given the new regulations? The "branchless banking" regulations stipulated that funds in mobile accounts should belong to a licensed bank. Given this restriction, would a simple agency model provide the needed "growth story" as it seemed to have done for Safaricom's M-PESA business in Kenya? Or should Telenor get involved in an unprecedented and legally tedious acquisition process? Or should it follow rival networks in a "wait and see" approach, hoping for a further relaxation in the regulations? With these issues in mind, Nævdal began work with Bjærum on the presentation for the Board.

Telenor Group

Telenor Group was founded in 1855 as "The Royal Electric Telegraph," an institution of the government of Norway. It introduced one of the world's first mobile phone systems in 1966 in Norway. Up until the 1990s it had been content to be the dominant player in its domestic telecommunication market as "Norwegian Telecom." However, growth abroad then became its focus. It began expanding into Northern, Central, and Eastern Europe, as well as Asia (**Exhibit 1**). As part of this internationalization, it changed its name to "Telenor" in 1995. By 2000, it had been partially privatized and listed on the Oslo Stock Exchange and the NASDAQ. The holding company "Telenor Group" was subsequently created.

The Group already had stakes in operators in Thailand, Bangladesh, and Malaysia prior to entering Pakistan in 2005. Grameenphone in Bangladesh was set up by Telenor in 1997 as a consortium business that included Grameen Bank, winner of the 2006 Nobel Peace Prize "for their efforts to create economic and social development from below."[2]

In recent years, the Group had substantially increased its investment in the Asian subsidiaries. While average capital expenditure for its eleven mobile operators since mid-2006 was US $388M, the specific figures for Pakistan, Bangladesh, and Thailand were US $1,026M, US $757M, and US $625M, respectively.[3] This level of investment seemed to indicate an expectation of greater returns from these markets. However, the quarterly EBIDTA margins during this period presented a mixed trend, especially in the case of Pakistan (**Exhibit 2**). In fact, overall contribution of Asian companies to Group EBITDA was falling (**Exhibit 3**). Generally, the growth in revenues across the Group had not been enough to counter rising operating costs (**Exhibit 4**).

Telenor Pakistan

Telenor Pakistan (TP) commenced operations in March 2005 as a 100 percent owned subsidiary of the Telenor Group. Effectively, it had to compete with three other operators, including Warid Telecom which had just started its network roll-out at the same time (**Exhibit 5**). Like the others, TP focused on pre-paid subscribers (comprising 99 percent of its subscriber base). However, unlike its rivals, its network growth had come largely from expansion into rural areas, especially in northern Pakistan. For example, while TP was fourth to enter the Pakistani cellular market, it was the first to obtain a license for the northern state of Azad Kashmir. This expansion strategy was part of what TP's Deputy CTO, Atiq Ahmed, described as the network's "take off":

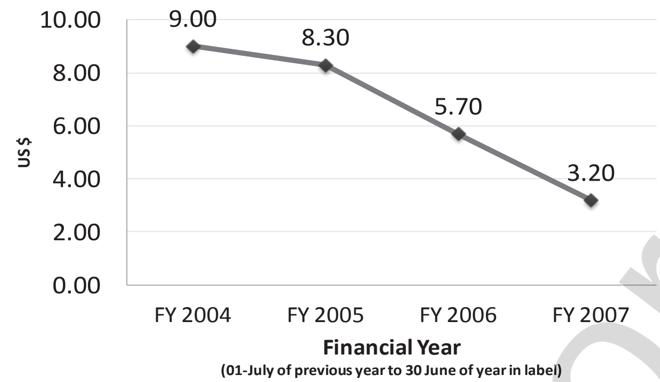
> We took off in the third quarter of 2006 . . . [From then on], we had to continually ensure that if the market grew at 125 percent, our network grew something like 150 percent. This was a phenomenal pace given the variety of elements in the network, some with lead times of 4–6 months! Our organizational culture of agile decision-making and trust, especially coming from our principals, played a major role in enabling this higher than normal growth rate.

From that "take off" till early 2008, TP's revenues had doubled in dollar terms, though it had yet to achieve break-even operating profits (**Exhibit 6**). By then, it ranked second after Mobilink in terms of subscribers, with a 20 percent share of the market (Exhibit 5). However, this had also resulted in substantial capital expenditure. As early as 2007 (amidst the "phenomenal" expansion) TP had already received instructions from the Group to explore avenues for diversification—especially given the current state of declining revenues in its market.

State of the Telecommunication Market in Pakistan

In 2004, when Pakistan's population was well over 150 million, phone connections were about six per 100 inhabitants (described in the industry as a "teledensity" of 6 percent).[4] At that time the wireless carrier Mobilink had the largest subscriber base and had been operating in the country for more than a decade. In spite of that, cellular teledensity was around 3 percent; only half of all connections. However, over the next three years, total teledensity increased by more than seven times and it was almost purely through a rise in cellular network subscriptions (**Exhibit 7**). In terms of geographical coverage, fixed and cellular networks were now accessible by 90 percent of Pakistan's population. Conversely, average revenue per user per month (ARPU) for cellular connections fell from $9.00 to $3.20 over this period (**Figure 1**). Although TP's most recent ARPU figure was above the industry average, historically that had not been the case. TP's ARPU had never exceeded $5 which was lower than Telenor's other Asian cellular networks and much lower than in Europe (**Exhibit 8**).

Figure 1: Average Revenue per User per Month (ARPU) for all Cellular Networks in Pakistan, FY2004 to FY2007



FY2007 ARPU by cellular network	
Mobilink	$3.80
Ufone	$2.80
Zong (CMPak)	$3.30
Telenor	$4.00
Warid	$2.50

Source: Pakistan Telecommunications Authority (PTA)

Overall, while teledensity and subscriber figures had exceeded Telenor's forecast for 2007 in its initial business case for entering the Pakistani market, ARPU had been overestimated and capital expenditure substantially underestimated (Exhibit 9).

Directive to Seek a "Growth Story"

ARPU growth in many of Telenor Group's mature cellular markets was flattening out, and even declining in some cases (Exhibit 8). This mirrored the 20 percent decline in Voice ARPU forecasted by Analysys Mason for some Western European markets for 2008–2013, largely due to competition from "Mobile Virtual Network Operators" operating over the Internet.[5] In several emerging markets, teledensity was already approaching saturation levels (again, see Exhibit 7). The past strategy of growing revenues by acquiring new wireless carrier licenses was no longer an option as they were now more expensive and less available.

Hence, the Group now sought a new "growth story," not only in terms of revenues but also profits. Moreover, especially in places like Pakistan, growth could not come from capital-intensive projects. According to Arif Abdul-Qayyum, manager sales and distribution planning at TP, the following events took place:

> Telenor Group began a serious exercise of looking at their existing strengths and evaluating these against the market opportunities out there. Finally, three specific sectors were identified: broadband, financial services, and media convergence. After that, they went on to seek out those regions where these sectors actually presented a viable "growth story."

Apparently this led certain subsidiaries of the Group to take on further strategic analyses of these sectors in their respective local markets.

In Pakistan, it seemed that broadband and media convergence had limited "growth story" potential. The broadband market was already dominated by the only fixed-line phone network, PTCL. In 2007, it served 97 percent of a total 600,000 broadband users; the overall number of Internet users was estimated to be nineteen million.[6] In the major cities, two or three broadband companies had already entered the market.

One of these was launched by Mobilink. Then, with 3G mobile broadband licenses yet to be auctioned, early in 2007 Business Monitor International had forecasted a 3G handset penetration of only 6 percent by 2010 for Pakistan.

At Telenor Pakistan, VP Strategy Ronny Nævdal and his team did their own analysis of the three options in this context. The results quickly led him to focus efforts on financial services.

Opportunity in the Financial Services Sector

Pakistan's Mainstream Banking Industry in 2007[7]

In 2007, the State Bank of Pakistan (SBP) recognized thirty-six mainstream banks to be competing in the financial services sector of the country.[8] Only six of these were foreign banks. The number had been twenty in 2000, so significant divestment had taken place. Of the thirty domestic banks, four were state-owned. Merger activity and competition had heightened as the biggest five banks saw their share of assets fall from 63 percent to 52 percent from 2000 to 2007. Three percent of this fall had been taken up by the next five banks.[9] The prospects in terms of profits appeared promising. The after tax return on equity figure reported by the SBP had risen from –0.3 percent (2000–2001) to an average of 19.8 percent (2003–2007). As none of the top five banks were foreign, some commentators attributed local bank dominance to the greater reach they had through branches.

However, a large part of the population remained underserved. Only 14 percent of Pakistani households had access to formal financial services; quite low compared to India (48 percent), Bangladesh (32 percent), and Sri Lanka (59 percent).[10] Use of loans was especially small: only 3.6 percent of Pakistan's population comprised the official borrower base. There were not more than five bank branches and 0.53 automated teller machines (ATMs) for every 100,000 persons.[11] Rural usage of banking was sparse. In 2007, the ten most populous cities held 75 percent of deposits and 85 percent of advances. This was while two-thirds of over 160 million Pakistanis lived in rural areas.[12]

Internet banking was minimal. The SBP reported US $650 million worth of retail payments in the third quarter of 2007. Internet banking formed less than 0.03 percent of these payments.[13]

Entry of Microfinance Banks

As part of its Poverty Reduction Strategy, the government of Pakistan enabled the SBP to license microfinance banks (MFBs) in 2001. By 2007, there were sixteen licensed MFBs holding a total gross loan portfolio of US $267.5 million and the number of borrowers with outstanding MFB loans was about 1.5 million.[14] Such indicators brought the commercial viability of MFBs under scrutiny.[15] Furthermore, the nature of investment fueled further questions about feasibility of these ventures. For example, the top two MFBs in 2007 that held 60 percent of the loan portfolio relied mostly on donor funding and subsidized credit. The next 15 percent belonged to a wholly state-owned MFB.[16]

However, the central bank appeared optimistic. The official SBP website had recently shared a third-party's calculations of the "real market for microfinance" as 27.6 million adult Pakistanis (**Exhibit 10**—this is based on a 2001 population survey; population growth figures for 2001 to 2007 are shown in **Exhibit 11**). The report also projected annual industry revenues of US $1.5B and a 5 percent return on assets for a sample of three "high growth microfinance providers" by 2010. A separate survey commissioned by the SBP reported that, 35 percent and 42 percent of Pakistanis were still using informal methods for borrowing and savings respectively.[17, 18] Non-SBP sources reported that when the formal method of MFB deposits was used, the average deposit was only US $33.[19]

Telenor Pakistan: Evaluation of "Assets" for Financial Services

The opportunity to exploit the "unbanked" market seemed ripe to Ronny Nævdal. However, was TP sufficiently well-positioned to convert it into a growth story? In mid-2007, he led a team whose analysis concluded that the following TP "assets" supplied the required competitive advantages:

1. ***Outreach of retailer network in rural areas:*** As almost all TP's customers were pre-paid subscribers, credit for calls was sold through an estimated 120,000 retailers nationwide. Nævdal's vision was that these retailers could act like bank branches by providing basic over-the-counter financial services such as deposits, withdrawals, and transfers. At the back-end, the transactions would take place immediately using mobile accounts accessed over the telecoms' network. Later TP could use its existing 252 franchised "Sales and Service Centers" to manage cash collection and distribution. These centers were already responsible for collecting cash arising from airtime sales.[20] With high penetration in rural areas, this pre-existing cash management network seemed a clear advantage. Nævdal's team found that the largest bank had about 8000 branches in total, 5000 of which were in urban areas. Even if only a quarter of TP's current retail network could be upgraded with banking services, this would be four times more than any bank in Pakistan.
2. ***Large customer base:*** TP had a subscriber base of around ten million mid-2007. Nævdal's team found that this was more than the customer base of any of the top three banks in Pakistan. Furthermore, the team estimated that 55–60 percent of the TP subscriber base was located in rural areas. This seemed a competitive advantage if financial services were delivered direct through mobile phones to the customer.
3. ***Strong brand image with customers:*** All ninety million cell-phone users were aware of the Telenor brand, even if they were not network subscribers.
4. ***Retailers trusted TP, especially in service innovations:*** Some members of Nævdal's team additionally felt that retailers had a greater loyalty towards TP than any other network. This belief was echoed by TP's sales and distribution planning manager, Arif Abdul-Qayyum, who had liaised with the team during this analysis. He expressed his own view in the following words:

   > Every mobile operator may have it on paper that they ensure the business case for the agent is good. However, till only recently, it was just Telenor that actually put that in practice. We mark out sales territories that are sizeable enough to deliver the business case for the retailer and pay special attention to their enforcement.

Abdul-Qayyum reported that any technological innovations would not be resisted by retailers. As an example, he cited TP's recently introduced payment method in Pakistan called "easyload." Prior to this, calling credit was sold only through scratch cards of pre-defined denominations. For example, a customer could buy the Rs. 100 card of a specific network and scratch it to reveal a unique number. The customer then supplied this number to the network (through its call centre or by directly entering it into the phone with a given prefix code) which then allotted it Rs. 100 worth of calling credit.

"Easyload" did away with the restriction of pre-defined amounts, reducing the limitation of minimum credit that had to be purchased. Retailers would use their own phone to directly credit the balance of any pre-paid subscriber number on Telenor's network in return for cash and an additional transaction fee. Such unrestricted "over-the-air" transfers became so popular that all competitors later matched this offering. Even then, retailers generally advertised such rival services with TP's trademark, "easyload."

Building on this analysis, Nævdal made the case for financial services to Telenor Group management. They encouraged him to further investigate the financial services opportunity and seek out the most cost-effective options to deliver it.

In spite of these perceived advantages TP had over existing banks, there were also certain cost-related benefits in working with them rather than against them. Such a venture would still require standard back-end banking operations to link with the rest of the country's financial system. SBP-licensed banks already possessed the assets needed for this, especially those related to existing regulatory requirements. Hence, by the autumn of 2007, Nævdal had initiated discussions with seven major banks.

Around this time, managers from one of the smaller SBP-licensed MFBs—Tameer Microfinance Bank Limited (TMFB)—were also visiting all the cellular network operators. TMFB wished to expand its own branch outreach and customer base by partnering with such set-ups. Eventually, they met with Nævdal. By then both parties were quite ready to hear what the other could offer.

Tameer Microfinance Bank Limited (TMFB) and the "Unbanked" Opportunity

TMFB was incorporated in August 2005 as a public limited company. However, it was not listed on any stock exchange, so its shares were not traded publicly. Its core management team previously worked abroad for Citibank. The President and CEO of TMFB, Nadeem Hussain, summed up the vision for this microfinance bank in his editorial in *The News* (an English daily with the highest circulation figures in Pakistan):

> The first myth is that this must be a charitable activity since the customer can never be profitable given the small size of the loan . . . In the microfinance business model, the revenue, in order of priority, is driven by scale, interest rate and size of loan. While the principal cost determinants are the cost of funds and the cost of . . . acquiring and administrating the loan portfolio . . . Achieving scale is the key . . . The acquisition model must have two key components. Firstly, the microfinance acquisition team must be compensated on a variable basis . . . Secondly, acquisition must be localized [, unlike] consumer product acquisition, which is usually from a centralized location . . .[21]

Though TMFB had therefore planned for nationwide expansion, by 2007 it only had about twenty small-scale branches of which roughly fifteen were in-and-around Karachi (Pakistan's most populous and industrialized city). For the financial year 2007, its credit rating was "A– / A2."[22] Its yield on performing loans was 28.2 percent. At the end of 2007, the bank had accumulated losses amounting to US $3.55 million (**Exhibit 12**).

TMFB management considered technology key to their ambitions for scale. The bank had already installed bio-metric ATMs and POS systems for loan dispersal and repayments at certain branches. It was also engaged in a "branchless banking" pilot in collaboration with Consultative Group to Assist the Poor (CGAP), a microfinance think-tank at the World Bank (supported by the Bill and Melinda Gates Foundation). Negotiations were already underway with a specific vendor to acquire a software platform required to extend banking transactions through mobile phones. TMFB had also presented its business proposal on "mobile banking for the unbanked" to Mobilink and Ufone. However, eventually, only Telenor had exhibited interest. Together, TP and TMFB arrived at a joint vision of the opportunity and the potential target segments for such services (Figure 2). Nevertheless, uncertainty existed about how any alliance could be formed.

Figure 2: Market Evaluation by TP and TMFB

Service	Target customers
Utility bills	18M bill paying households
Domestic remittance	10M migrant urban workers remitting to rural family, $100 minimum monthly wage, ~1–3% fees/transaction
International remittance	4.5M Pakistani expatriates remitting to family in Pakistan
E-wallet/ checkings	68M unbanked population excluding the poorest; ~1% fee on withdrawals

Source: Company documents

The major hurdle for both parties remained Pakistan's regulatory set-up. Telecommunications companies (telcos) had never been allowed to convert airtime credit on a cell-phone to currency in an account. Then, in the post 9/11 era, security restrictions were enforced more strictly. Bank branches had to comply with regimes such as "Know Your Customer" (KYC) as well as several regular reporting requirements. In TMFB, TP had found a SBP-compliant potential partner. But with TMFB's limited branch network, there remained the problem of nationwide branches to support a scaling strategy. How could Telenor's retail network be upgraded to bank branch status without actually making them branches of TMFB? Both parties had to evaluate a number of mobile banking models that were emerging around the world, including within Telenor Group.

Deliberations on Mobile Financial Service Models

There were essentially three types of mobile banking models in vogue: "bank-led," "telco-led," and "partnership." This was how Nævdal's team classified them and they understood them as follows (see **Exhibit 13** for a graphical summary made by TP):

1. **Bank-led**: The bank would not only provide financial management services at the back-end, but would also manage the cash distribution network. It could therefore employ one or more telcos as agents and pay them transaction fees for using their network. However, customer accounts and any returns on them would be owned by the bank.
2. **Telco-led:** The telco would manage the cash distribution network and maintain and own the electronic records of value. Any bank where the back-end cash accounts were maintained would not be under any contractual obligation to ensure these parallel systems were always synchronized.
3. **Partnership:** In this model, the bank would partner with a specific telco which was provided a specific no objection letter by the central bank. The telco and partner bank would maintain parallel distribution networks and mediums to transact. A contractual obligation would exist between the telco and partner bank to maintain funds in an account on behalf of the telco's agents.

TP had so far reached a stalemate in its talks with existing major banks to launch a bank-led model with sufficient reach. Such banks seemed more focused on their existing "banked" market. The scope for TP to truly bank for the "unbanked" would therefore be limited. Furthermore, TP was sensitive to any arrangement that gave the partner bank control of customer accounts, the funds stored in them, and any gains that could be derived from that. As an agent for the bank, TP's takings would be limited to the commissions they could negotiate with the bank.

Hence, Nævdal and his team concentrated their deliberations with TMFB on the latter two models. There were various versions of these models and the two parties had to come to an agreement on whether these existing versions were viable in their context or whether further innovations could be introduced. Previous experiences within the Telenor Group, especially, could not be ignored.

Mobile Financial Services within the Telenor Group

Three mobile financial service ventures had been launched recently by Asian associate companies of the Telenor Group: two "partnership"-model based and one that was more bank-led. One of the earliest was Grameenphone, set-up in Bangladesh in 1995. Telenor had a 51 percent stake while 35 percent belonged to Grameen Telecom, a wholly owned subsidiary of the not-for-profit micro-credit lender Grameen Bank.[23] At the outset, this was not a consortium for mobile banking. Instead, Telenor expected to leverage the bank's outreach program for Bangladesh's 80 percent rural population and its social brand equity.[24] However, by December 2006, Grameenphone had directly entered mobile-banking by launching a utility bills payment service. Further services were also in the pipeline. The central bank in Bangladesh, though, simply refused when it was approached by the operator for some sort of "no objection" clearance. This meant that Grameenphone could only offer services as an agent to a licensed bank. Progress on mobile banking did not proceed any further.

In April 2007, DiGi, Telenor's partly-owned venture in Malaysia, partnered with Citibank to launch a nationwide remittance service. Six months later, it built on the distribution network provided by Citi's Global Transaction Service (a provider of cash management services to financial institutions and corporate clients) and upgraded it to a regional remittance service called "DiGiRemit."[25] Once an account was set-up through a DiGi service centre, a money transfer to Bangladesh, Indonesia, or the Philippines could be executed by a network subscriber with two SMS messages.

By March 2008, DTAC, Telenor's partly owned venture in Thailand, had launched an initiative called "ATM SIM" in alliance with Kasikorn Bank, one of the largest banks in Thailand. This was a bank-led model because an application on the DTAC SIM card[26] simply extended services already available on regular ATMs to mobile phones. Money transfers were limited to Kasikorn Bank accounts alone.[27] Bjærum expected that DTAC would expand the payments service to include other banks, entering a multi-partnership model.

SMART Money Partnership Model in the Philippines

Some of the first mobile banking services had appeared in the Philippines. SMART Communications launched SMART Money in 2001, primarily as a partnership model with Banco de Oro (BDO). It obtained a no objection letter from the country's central bank as a "test and learn" pilot.[28] This allowed the partner bank to outsource account management to the telco so that it shared ownership of the accounts it created.[29] Parallel mediums of exchange were maintained as customers could transact through a SMART money debit card alongside the banking application on the network's SIM card. The debit card was managed primarily by BDO. Later on, other banks were also included in SMART Money by allowing them to tie their pre-existing customer accounts to SMART Money accounts. However, BDO retained exclusive rights to issue SMART Money cards and a share of the transaction fees when used at retailers accredited by banks other than BDO. Accreditation of retailers as licensed branchless banking agents was a part of the services obtained with multiple banks. It appeared that SMART Communications was able to retain any benefits from funds not directly linked to individual bank accounts.

Vodafone and Safaricom's M-PESA Telco-led Model in Kenya

One of the most independent and recent "telco-led models" was M-PESA of Kenya.[30] This was launched by an associate company of Vodafone, Safaricom, in March 2007 at a time when it had a 74 percent market share in Kenya. Vodafone was a major sponsor, its ultimate motivation being "*that the M-PESA system formed the basis of a low-cost international remittance service . . . a $300 billion business, fuelled by migrant workers sending money home.*"[31] Safaricom and Vodafone did not have a banking license. Neither had they officially partnered with a bank for their initial commercial offering. An aggregate M-PESA account was created with a bank through which retail agents conducted actual cash-in and cash-out transactions with Safaricom. The individual accounts of customers and agents were maintained only in Safaricom's records (**Exhibit 14**). No bank would consider these to be legitimate individual accounts. They were only useful for person-to-person transfers via Safaricom's retailer network, as well as for deposits and withdrawals at these outlets. In essence, Safaricom's electronic records operated parallel and separately from the rest of the banking system.

The mobile payments service was accessible by two channels: “over-the-phone” using an application installed on a Safaricom SIM card; or “over-the-counter” through a registered retailer who then executed the “over-the-phone” transaction. The phone-based method was also made available through special SIM cards called “SIMEX” cards. Results of a one-and-a-half year pilot study showed that many users would carry SIM cards outside their phone unless needing to use the M-PESA service.[32] Hence, SIMEX cards (originally designed to replace stolen SIM cards) could provide this facility as they did not have a pre-assigned phone number or connection.

M-PESA only provided a local remittance service. Revenue came in through transaction fees of 1–2 percent. Sales agents would receive 80 percent of these takings. M-PESA eventually reported registering over 2.6 million customers and 1,200 sales agents across Kenya and thus was considered by many as a successful innovation in telco-led models.[33]

However, certain compromises were also found in the M-PESA model that highlighted the role of the bank. A “complex legal structure” had to be set-up: it was operated by Safaricom, owned by Vodafone, and involved creation of a new trust company.[34] The Kenyan central bank required that any interest on M-PESA deposits would be forgone and given to a not-for-profit trust. Given the parallel electronic system, there was a risk that more money could be created than was actually being maintained in the back-end bank accounts. Hence, Safaricom also hired the Commercial Bank of Africa in Kenya to manage the complex set of individual retailer accounts. The telco still retained control of the funds in these accounts.

“Branchless Banking” Models Proposed By the SBP

In June 2007, a move towards deregulation of mobile banking had already been made. SBP issued a draft policy paper on a legal framework for “branchless” banking. It presented its own interpretation of mobile banking models, discussing their risks and regulatory requirements. It concluded that bank-led models were the safest to introduce initially, even though this would be quite restrictive in improving the outreach of banks. By December 2007, the SBP had issued a document entitled “Branchless Banking Guidelines” and defined in it the bank-led models that it recommended financial institutions adhere to (**Exhibit 15**). Essentially, the SBP required banks to maintain control of the actual cash accounts. They could use one or more telcos as “super-agents” to manage the outlets where branchless banking services could be obtained. A form of the partnership model was allowed, called the “one-to-one” model. However, the specific arrangement SMART Money had in the Philippines would not be possible due to the requirement that the bank control accounts.

While multiple banks were allowed to group together to avail the services of super-agents, the super-agent could not be one single telco: a “many-to-one” model was not allowed. Even if a centralized system was needed to manage a “many-to-many” model, it had to be under the control of a licensed financial institution (bank-led not telco-led).

As guidelines, these were still not legal sanctions. In spite of that, Mobilink had already gone ahead with the public launch of a mobile utility-bill payments system in October 2007. This was limited to users of Citibank credit cards and of two other smaller local banks. Some in the TP financial services team felt that lack of regulations was a major reason for Mobilink not expanding mobile banking any further.

On the other hand, the guidelines were understood as a draft version of forthcoming regulations. Nævdal pressed ahead and engaged in more detailed talks with TMFB on partnership model options. By the start of 2008, Bjærum had been recruited by Telenor Group's Financial Services. Eventually he became involved in Nævdal's deliberations at TP. He began forming his own evaluations of the various mobile-banking examples in the world and what was best for Pakistan.

Bjærum's view was that TP had to be cautious about approaching the central bank and negotiating a telco-led model in the absence of regulations. While central banks in the Philippines and Kenya had been positive about specific arrangements—there was also the example of Bangladesh where the regulator had simply refused. At the same time, Bjærum wanted Telenor to "own the entire value chain" (refer to **Exhibit 13**). His evaluation was that the most substantial returns would come from having control over deposits and the ability to extend other banking services, rather than just bill payments and money transfers alone. Grameenphone's mobile banking venture had been halted precisely because that control had been denied by the regulator.

Telenor could still follow the path of M-PESA, SMART Money and DigiRemit by focusing on commission from remittances as its main source of revenue. Could Nævdal justify the "growth story" through this service alone? There were other options on the table as well, including "wait and see," acquiring a stake in TMFB, and revisiting partnership options with other banks.

Wait and See

TP could instead adopt a "wait and see" approach, as it had done prior to meeting with TMFB. The SBP regulations did say that "*Nonbank-Led Model will be opened after the players and stakeholders attain necessary level of maturing and after putting in place necessary controls.*"[35] It seemed all the other networks were waiting in anticipation of such regulations. In fact, Bjærum thought that while Mobilink had shown interest in mobile banking, it was not an immediate threat. He interpreted its actions to date as an interest only in the "banked" segment. Hence, he did not feel the need for any urgency due to Mobilink's actions to-date.

However, this strategy also had its risks. It would be at least a year before any such "nonbank-led" models were approved. If any other party did make a move earlier than that, TP would not be able to define the category as it had done with "easyload." Also, if the first-mover tied mobile account access with the SIM card (as in ATM SIM and M-PESA), then Bjærum did consider that to create important switching costs. Mobilink's current payment solution was not linked to the SIM card. Delivered over the Internet to phones, it could still be installed alongside a SIM-based application. On the other hand, TP's target market was characterized by low familiarity with the Internet, ability to afford only limited-feature phones, and low literacy rates. SIM-based banking applications therefore presented a considerable first-mover advantage over Internet-based ones.

A Different Partnership Model: Acquisition of TMFB

One workaround discussed with TMFB was that TP could directly acquire a stake in the bank itself. Bjærum knew that such an unprecedented move within the Group would need rigorous justification. Making this case would require clarity regarding potential returns, and the alleviation of operational risks involved with taking a stake in a financial institution.

Regarding operational risks, Bjærum noted that while TMFB would rely on Telenor as its "super-agent" to acquire retailers to be branchless banking sub-agents, it would then be TMFB's legal responsibility to ensure that there was no fraudulent account creation or identity theft. The bank would be liable for errors in updating the customer accounts or in not enforcing limits on various transactions.

The acquisition could pay off in two ways. First, returns could come in the form of a rise in the future value of the TMFB. The level of these returns would depend on how much of the bank Telenor acquired. Second, a simple majority stake would provide enough influence to secure an exclusive agency agreement for TP (a One-to-One model rather than a One-to-Many according to SBP's "permissible models"). Favorable commission terms could also be worked out this way.

Either way, the initial cost of acquiring TMFB was affordable for the Telenor Group. It was the ability of the venture to sustain itself without further substantial investment that Bjærum and Nævdal would have to justify.

Revisiting Other Banks

TP could still revisit some of the banks Nævdal had been in talks with earlier. With the regulations spelled out, there was more certainty regarding what partnership agreements were possible. The concern for TP would be that exclusivity in agency would not be guaranteed. Banks would still be free to have agreements with other super-agents. Bjærum recognized that this was not necessarily a negative. For returns to flow in immediately, scale and outreach were important as this would encourage faster adoption of this very new way of doing banking. The networks could pool together their resources to scale the retail agent network faster. But would Telenor then get the slice of commissions it needed?

Also, major banks at least had an extensive reach in urban centers from where remittances would tend to initiate. They would not have to invest time and resources in converting retailers into remitting agents in those areas. But banks would, of course, demand a greater share of commissions in that case. They had so far only been interested in their current "banked" customers as well. The trade-off Bjærum and Nævdal needed to consider on behalf of Telenor was, "Which would be better: growing a very large market pie of financial service users first while having only a slice from it, or taking all of a relatively smaller pie immediately?"

Regulations Finalized and Preparing for the Board

End of March 2008, Nævdal received news that SBP had given legal sanction to the 2007 guidelines. They were now called the "Branchless Banking Regulations." This meant that Nævdal needed to finalize whether or not to pursue the bank-led models, and thus meet with the Board soon. By April, Bjærum had been flown in and he was sharing his views with Nævdal on the banking model options.

Nævdal pondered the question of allying with TMFB versus acquiring them. He had before him a slide prepared by his team with summary evaluations about the mobile banking models that pre-dated SBP's guidelines (Exhibit 13, referred to earlier). Should they wait for telco-led or exclusive partnership models to be sanctioned?

Did they really need to rush into acquiring TMFB? Should the mergers and acquisition team at Telenor Group be brought in and a process of possibly six months or more be initiated? Would a bank-led model that took the form of a non-exclusive partnership be good enough? Did they have to go for "the entire value chain" as Bjærum saw it?

He also reviewed another slide that depicted the "assets" of Telenor Pakistan vis-a-vis financial services (Exhibit 16, details discussed earlier). What was the value of these "assets" if they did not have control of money in cash accounts? Had the slide, in fact, captured the right assets? Ultimately, what choices would indeed deliver the self-sustaining "growth story" that the TP Board could then share with Telenor Group?

Notes

1. S. Mollman, "Cell-phone banking offers financial help to Third World," Jan. 15, 2010; http://edition.cnn.com/2010/TECH/01/14/mobile.phone.banking/index.html, last accessed June 22, 2010.
2. "The Nobel Peace Prize 2006," 3 Sep 2012, http://www.nobelprize.org/nobel_prizes/peace/laureates/2006/.
3. Telenor Group Quarterly Financial Report, 1st Quarter 2008, http://www.telenor.com/investor-relations/reports/2008/, last accessed June 20, 2013.
4. All figures on teledensity, cellular penetration, coverage and ARPU have been taken from Pakistan Telecommunication Authority (PTA) data unless otherwise stated.
5. http://www.analysysmason.com/About-Us/News/Insight/Can-anything-fill-the-void-left-by-declining-mobile-voice-ARPU/, last accessed July 8, 2011.
6. Total broadband figures and PTCL penetration reported by Pakistan Telecommunications Authority in its annual report for 2007.
7. The analysis in this section builds on insights presented in an industry note: K. Munir, and A. Sultan, (2010) "The Banking Sector in Pakistan: 2000 to 2009" LUMS #01-328-2010-2, Lahore University of Management Sciences. The source of most of their data is official State Bank of Pakistan figures.
8. SBP is the country's central bank and regulator for the sector. Forty banks were identified by SBP as "scheduled" banks as they meet its minimum capital requirements. Four of these were dedicated to developmental finance and so not considered direct competitors.
9. Data in this paragraph from M. H. Khan, (2009) "Concentration and Competition in Banking Sector of Pakistan: Empirical Evidence," State Bank of Pakistan *Working Paper Series,* No. 28.
10. World Bank (2008) "Finance for All?: Policies and Pitfalls in Expanding Access," A World Bank Policy Research Report, Washington, D.C.
11. Source: World Bank Development Indicators, 2008. These figures were 7 and 17 for Thailand and 7 and 4 for Sri Lanka, respectively.
12. United Nations, (2008) "World Urbanization Prospects: The 2007 Revision—Highlights," United Nations, New York, NY.

13. SBP actually reported 8.5 percent as "electronic payments" but most of these were inter-bank or inter-branch transfers (96 percent of the 8.5 percent figure) followed by ATM transactions (3 percent). Internet banking was 0.3 percent out of this fraction.
14. Source: Microfinance Information Exchange.
15. G. Nishtar, et al., (Eds) (2007) "Pakistan Microfinance Review 2007," Pakistan Microfinance Network. Available online at http://www.microfinanceconnect.info/articles/PMR%202007.pdf, last accessed June 20, 2013.
16. Source: Microfinance Information Exchange.
17. Informal sources of borrowing included relatives, family and friends, street and village moneylenders, farm input providers, etc. Informal saving mostly included saving at home, followed by "committees" (usually a group of relatives or neighbors who pool savings and then rotate borrowing of the total committee fund), saving with friends, investment in household goods, etc.
18. Source: Pakistan Access To Finance Survey, documented in T. Nenova, C. T. Niang, and A. Ahmad, (2009) *Bringing Finance to Pakistan's Poor: Access to Finance for Small Enterprises and the Underserved*, World Bank Publications.
19. Source: Microwatch data.
20. Sales and service centers were not only responsible for cash collection but were also places where walk-in customer services related to network usage were provided. This included things like sale of SIM cards (highly regulated due to security requirements), change of service packages, and—for the few post-paid customers—payment of bills and management of general complaints. Even with post-paid packages, rarely were phones included in the contracts. Mobile phones were virtually always bought from non-network shops.
21. N. Hussain, "Microfinance: Myths and Realities," *The News*, May 26, 2006.
22. JCR-VIS Credit Rating Co. Ltd., "Tameer Microfinance Bank Ltd., Rating Report," May 7, 2008.
23. The balance of the shareholding was held by Marubeni Corporation of Japan (9.5 percent) and Gonofone Development Corporation (4.5 percent), a U.S.-based venture set up by a Bangladeshi Wall Street analyst.
24. Malaviya, et al., (2004) "Telenor in Bangladesh: Achieving Multiple Bottom Lines at GrameenPhone (B)," INSEAD Case #304-148-1.
25. Banking Technology, (2007) "Citi Partners with DiGi for Mobile Remittances," Friday, 27 October 2007, http://www.bankingtech.com/bankingtech/article.do?articleid=20000101664, last accessed September 19, 2012.
26. This is the integrated chip purchased by anyone in order to become a customer and receive a phone number on a cell-phone network. It is typically inserted into a mobile phone in order for the subscriber to be identified and receive services from that network.
27. Kasikorn Bank, (2008) "1Q08 Performance Compared with Peers," Investor Presentation, Kasikorn Bank, April 2008.

28. P. Leishman, (2009) "Mobile Money in the Philippines—The Market, the Models and Regulation," Mobile Money for the Unbanked series, www.gsma.com, last accessed February 23, 2013.
29. CGAP, (2010) "Regulation of Branchless Banking in Phillippines," www.cgap.org/publications, last accessed February 13, 2013.
30. For details on the background and process of its launch see: N. Hughes, and S. Lonie, "M-PESA: Mobile Money for the 'Unbanked'—Turning Cellphones into 24-Hour Tellers in Kenya", *innovations*, winter and spring 2007, pp. 63–81. Globe Telecom had launched a rival service to SMART Money in the Philippines that was perhaps one of the earliest "telco-led" models in 2004. While Safaricom had created a trust company, Globe established a full-fledged wholly owned subsidiary that acted as a licensed remittance agent. The central bank in Philippines had been much more permissive and allowed GXI to take on outsourced account management for multiple banks. The M-PESA case study has been cited instead to represent telco-led models as it was formed in the face of a relatively stricter banking regime.
31. Nick Hughes, Vodafone Executive, quoted in ibid., 77.
32. Ibid.
33. FSD Kenya, (2007) "Annual Report," Financial Sector Deepening, Kenya.
34. Hughes and Lonie, (2007) op. cit., p. 79.
35. SBP, (2007) "Branchless Banking Guidelines for Financial Institutions Desirous to undertake Branchless Banking," Banking Policy and Regulations Department, State Bank of Pakistan, November 24, 2007, p. 3.

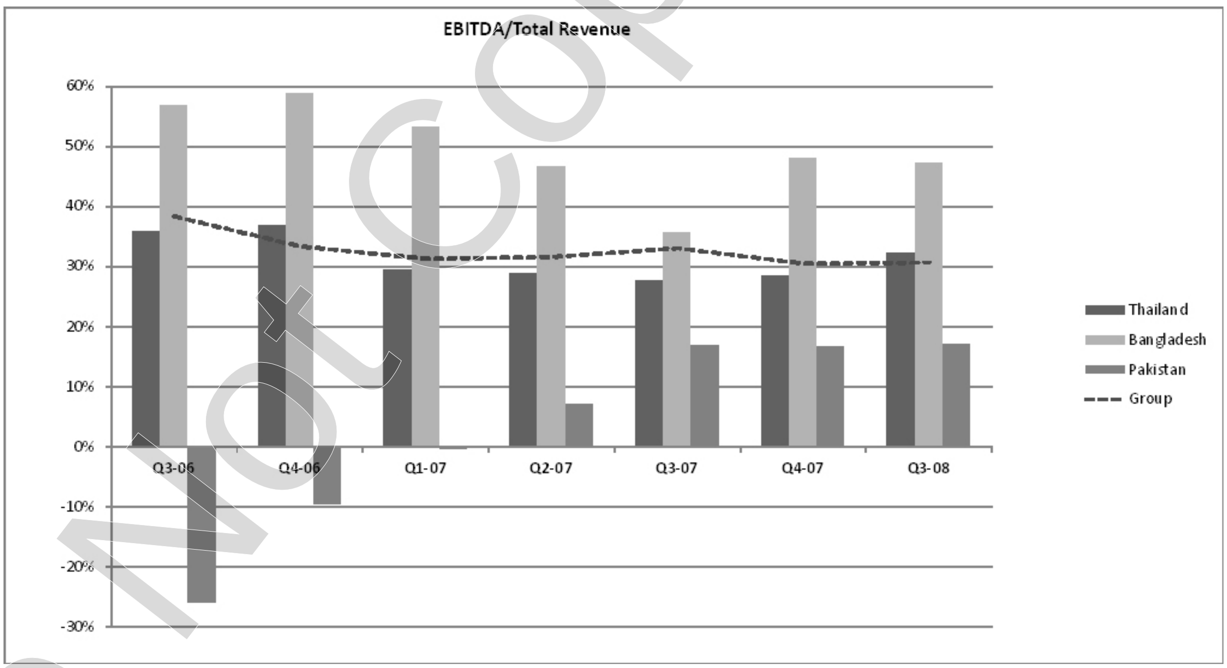
Exhibit 1: Stake in International Operations of the Telenor Group

Mobile subscriptions and ownership interest of Telenor Group in cellular networks as of 31 Dec 2007

Business	Mobile Subscriptions	Ownership Interest
Telenor–Norway	2.74 M	100% in all
Telenor–Sweden	1.86 M	
Telenor–Denmark	1.68 M	
Pannon–Hungary	3.38 M	
Telenor–Serbia	2.75 M	
Promonte–Montenegro	0.42 M	
Telenor–Pakistan	14.60 M	
DTAC–Thailand	15.77 M	65.5%
DiGi.Com–Malaysia	6.41 M	50.8%
Grameenphone–Bangladesh	16.48 M	62.0%
Kyivstar–Ukraine	23.60 M	56.5%

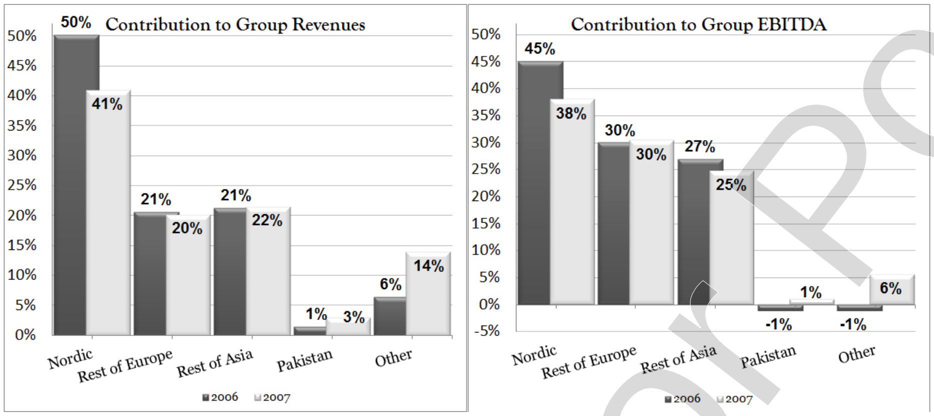
Source: Telenor Group records

Exhibit 2: Comparison of Some Quarterly EBITDA Margins



Source: Telenor Group records

Exhibit 3: Financial Contribution from International Businesses (2006–2007)



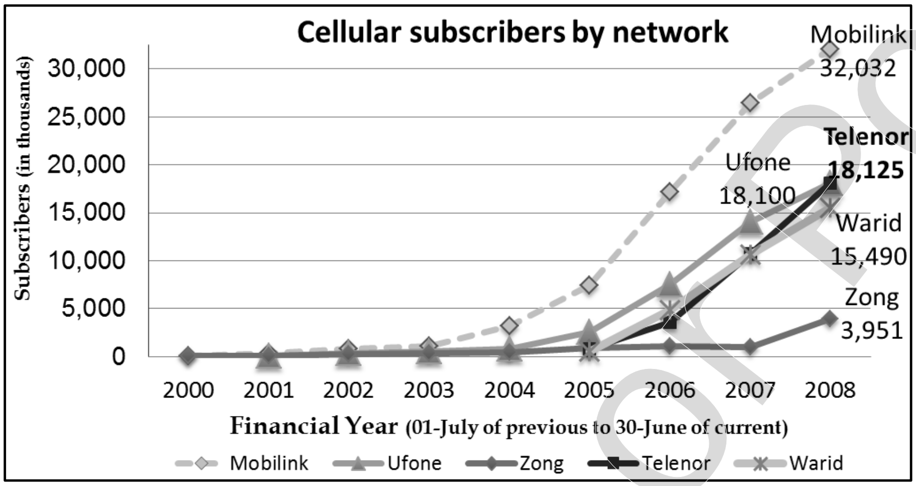
Source: Telenor Group records

Exhibit 4: Income Statements for Telenor Group (2006 to First Quarter 2008)

Telenor Group (USD in millions except earnings per share)	2006 Year	2007 Year	2008 1st Quarter
Revenues	14,035	15,348	4,363
Costs of materials and traffic charges	3,483	4,310	1,160
Salaries and personnel costs	1,713	1,961	605
Other operating expenses	3,755	4,268	1,215
Other (income) and expenses	47	(47)	44
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	**5,036**	**4,855**	**1,339**
EBITDA margin	*36%*	*32%*	*31%*
Depreciation and amortisation	2,268	2,317	613
Write-downs	40	53	0
Operating profit	**2,728**	**2,485**	**726**
Operating profit margin	*19%*	*16%*	*17%*
Earnings per share in USD	0.36	0.41	0.51

Source: Telenor Group records

Exhibit 5: Cellular Network Subscriber Trends for Pakistan



Source: Pakistan Telecommunication Authority

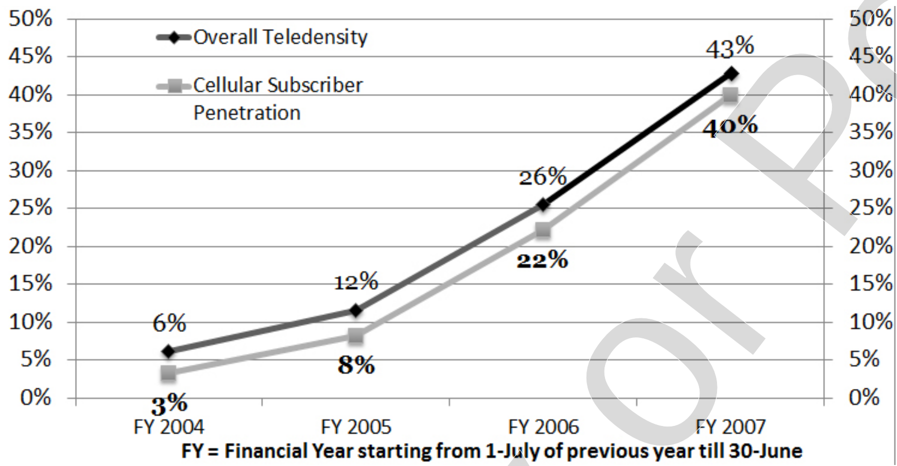
Exhibit 6: Quarterly Income Statements: Telenor Pakistan (2006–2008)

Telenor Pakistan	2006				2006	2007				2007	2008
USD in millions	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1
Mobile revenues company's	**31.5**	**40.6**	**50.8**	**74.5**	**197.5**	**109.1**	**135.7**	**146.1**	**167.9**	**558.8**	**193.7**
Other mobile revenues	-	0.2	0.5	0.5	1.1	0.8	0.5	0.7	0.7	2.7	0.6
Total mobile revenues	**31.5**	**40.8**	**51.2**	**75.0**	**198.6**	**109.9**	**136.2**	**146.8**	**168.6**	**561.5**	**194.2**
Non-mobile revenues	0.6	0.2	0.6	0.9	2.3	0.8	1.6	1.7	2.4	6.5	1.7
Total revenues [1]	**32.1**	**41.0**	**51.9**	**75.9**	**200.9**	**110.7**	**137.9**	**148.5**	**170.9**	**568.0**	**195.9**
[1] Of which internal revenues	0.3	0.2	0.6	0.6	1.7	0.6	0.5	0.3	0.5	2.0	0.4
Earnings before interest, taxes, depreciation, and amortization	**(11.5)**	**(18.1)**	**(13.6)**	**(7.3)**	**(50.5)**	**(0.5)**	**9.7**	**25.1**	**28.5**	**62.8**	**33.7**
EBITDA/Total revenues (%)	*-36%*	*-44%*	*-26%*	*-10%*	*-33%*	*0%*	*7%*	*17%*	*17%*	*14%*	*17%*
Depreciation and amortisation	14.6	15.9	17.4	21.2	69.2	25.0	27.0	29.8	40.5	122.4	44.2
Operating profit/ (loss)	**(26.1)**	**(34.0)**	**(31.0)**	**(28.6)**	**(119.7)**	**(25.5)**	**(17.4)**	**(4.7)**	**(12.0)**	**(59.5)**	**(10.5)**
Operating profit/Total revenues (%)	*-81%*	*-83%*	*-60%*	*-38%*	*-78%*	*-23%*	*-13%*	*-3%*	*-7%*	*-13%*	*-5%*
Capital Expenditure	52.4	116.5	109.2	132.3	410.5	6.1	13.9	213.7	-	233.8	6.1

Source: Telenor Group records

Exhibit 7: Teledensity and Cellular Subscription Penetration

Pakistani Teledensity FY 2004–2007 (% of inhabitants)



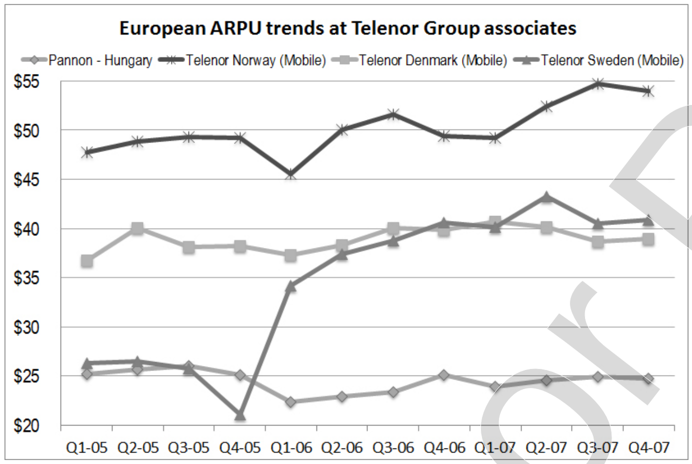
Source: Pakistan Telecommunications Authority

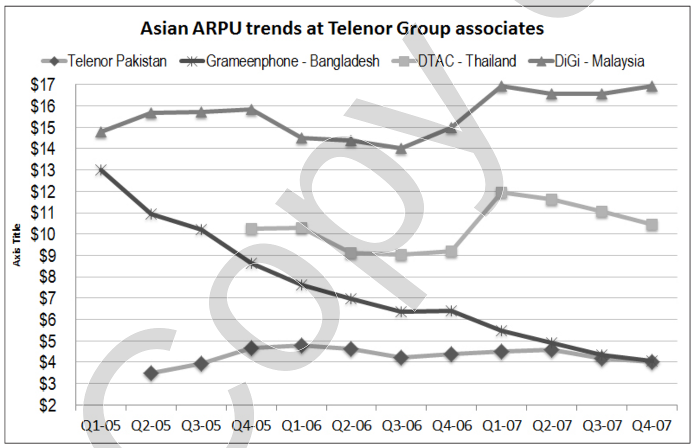
Cellular Subscription (percent of inhabitants) in the Region

Country	2004–2005	2005–2006	2006–2007
Hong Kong	123.1	124.4	137.2
Singapore	93.7	100.7	109.5
Malaysia	60.1	76.8	86.3
India	6.8	8.1	11.3
Bangladesh	3.9	7.8	19.83

Source: ITU

Exhibit 8: Cellular ARPU Trends for Telenor by Country





Source: Telenor Group records

Exhibit 9: Telenor's Re-evaluation of its 2007 Business Case for Pakistan

The following comparison was reported by the Chief Financial Officer of Telenor Pakistan in a presentation to investors, in a slide entitled "Initial assumptions versus actual development . . ."

	Initial Business Case 2007	Actual 2007
Cell-phone penetration	11%	48%
Telenor subscribers (millions)	2.9	14.6
ARPU	PKR 663 (US $10.83)	PKR 269 (US $4.40)
Capital expenditure	PKR 13B (US $212M)	PKR 41B (US $670M)*

Source: Telenor Group records

*This is the figure reported by the CFO in the presentation. Why this is different from the actual figures in the data in the financial records of the Group as seen above, is unclear.

Exhibit 10: Slides with Calculation of Gap in Pakistan Credit Market Size

1. Sizing the Credit Market

Household Income and Expenditure Survey: 2001
Stratification by Consumption Levels

27.6 million **1**

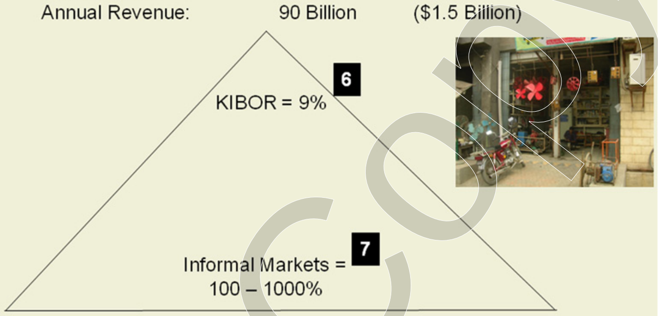
52.7 million **2**

	Estimated Adult Population **5**
Non-Poor	14.5
Transitory Non-Poor	25.1
Transitory Vulnerable	14.3
Transitory Poor	13.3
Chronic Poor	6.6
Extremely Poor	0.9

20.8 million **3**

Centre for Research on Poverty Reduction and Income Distribution (CRPRID) & Household Income and Expenditure Survey 2000 – 2001. **4**

Total Market Size:	10 Million	
Loan Balance Per Client:	30,000	($500)
Advances:	300 Billion	($5 Billion)
Interest Rate:	30%	
Annual Revenue:	90 Billion	($1.5 Billion)



2. Market Penetration - Projected

Sample of 3 High Growth Microfinance Providers

	2006	2010
Borrowers	143,000	1,549,498
Loan Portfolio US$ Millions	30	510
Yield on Portfolio	35%	30%
- Operating Costs	(30%)	(15%)
- Financing Costs	(10%)	(10%)
Return on Assets	**(5%)**	**5%**
Net US$ Millions	**(1.5)**	**25**

Original presenters' notes to numbered items on slides:

1. Real market for microfinance.
2. Real market for micro and small business.
3. Below the "red line" (in the original slide, the line between "Transitory Vulnerable" and "Transitory Poor" is colored red.)
4. Exact market figures are difficult to obtain. Therefore we rely on estimates, beginning with HIES 2001 . . . (*Text in box*: "Centre for Research on Poverty Reduction and Income Distribution [CRPRID] and Household Income and Expenditure Survey 2000–2001.")

Case-writer's notes and other numbered items on slides:

5. Population is in millions of persons.
6. KIBOR: "Karachi Inter-Banking Offer Rate"—the base lending rate for banks in Pakistan. Functions like LIBOR in the UK.
7. The Pakistan A2F Survey, 2008 commissioned by SBP put the informal credit market at 35 percent of Pakistanis. A Pakistan Microfinance Network Report[1] estimated informal lending rates to average 23 percent and recorded a maximum lending rate of 150 percent on cash lending for the rural household consumption segment.

Source: Presentation by Gregory Chen (ShoreBank International Ltd.) and Mehr Shah (Pakistan Microfinance Network), *The Microfinance Opportunity in Pakistan*, 1 November 2006, available at State Bank of Pakistan website (last accessed at http://www.sbp.org.pk/about/micro/com/Opportunity.ppt on 18 September 2012.)

Note

1. Qadir, Adnan. December 2005. "A Study of Informal Finance Markets." Pakistan Microfinance Network.

Exhibit 11: Population Growth for Pakistan

Description	2001	2002	2003	2004	2005	2006	2007
Population, total (millions)	147.6	150.4	153.1	155.9	158.6	161.5	164.4
Population ages 15–64 (millions)	81.6	84.1	86.6	89.2	91.7	94.3	96.8
Increase in total (% of last year)	N/A	1.93%	1.82%	1.78%	1.79%	1.81%	1.82%
Increase in ages 15–64 (% of last year)	N/A	3.10%	3.02%	2.94%	2.87%	2.78%	2.70%

Source: World Bank Indicators

Exhibit 12: Financial Position of Tameer Microfinance Bank

DATA ON DEPOSITS AND LOANS (US $)	2005	2006	2007
Average Deposit Balance Per Depositor	–	253	112
Average Loan Balance Per Borrower	–	432	214

Source: Microfinance Information Exchange—MIX

	(End of December, US $000s)		
ASSETS	**2005**	**2006**	**2007**
Cash & Balances with SBP and NBP	25	582	700
Balances with Other Banks/NBFIs/MFBs	8,795	6,448	7,199
Investments—Net of Provisions	–	372	581
Advances—Net of Provisions	–	6,566	4,286
Operating Fixed Assets	729	995	1,119
Other Assets	559	641	616
Deferred Tax Assets	–	469	442
TOTAL ASSETS	**10,108**	**16,074**	**14,943**
LIABILITIES			
Deposits and Other Accounts	9	6,003	7,719
Borrowings	–	2,825	2,704
Other Liabilities	231	253	528
TOTAL LIABILITIES	**240**	**9,081**	**10,951**
NET ASSETS	**9,869**	**6,992**	**3,992**
REPRESENTED BY:			
Share Capital	9,807	7,602	7,143
Accumulated Losses	(320)	(884)	(3,552)
Surplus on Revaluation of Assets	–	1	(1)
Deferred Grants	382	273	403
TOTAL	**9,869**	**6,992**	**3,992**
OPERATING POSITION			
Net Mark-Up / Interest Income	244	1,008	1,164
Provisions and Bad Debts Written Off Directly	–	101	1,057
Net Mark-Up / Interest Income After Provision	244	908	107

Exhibit 12: continued

Total Non-Markup / Interest Income	(563)	288	455
Total Non-Markup / Interest Expenses	563	2,295	3,271
PROFIT/ (LOSS) BEFORE TAXATION	**(319)**	**(1,099)**	**(2,709)**
PROFIT/ (LOSS) AFTER TAX	**(320)**	**(636)**	**(2,722)**
Net Cash Inflow / (Outflow) from Operating Activities	**(743)**	**(1,720)**	**(619)**
Net Cash Inflow / (Outflow) from Investing Activities	**(604)**	**(995)**	**(692)**
Net Cash Inflow / (Outflow) from Financing Activities	**10,167**	**2,832**	**(295)**
Number of Employees (**not** in thousands)	**158**	**426**	**658**

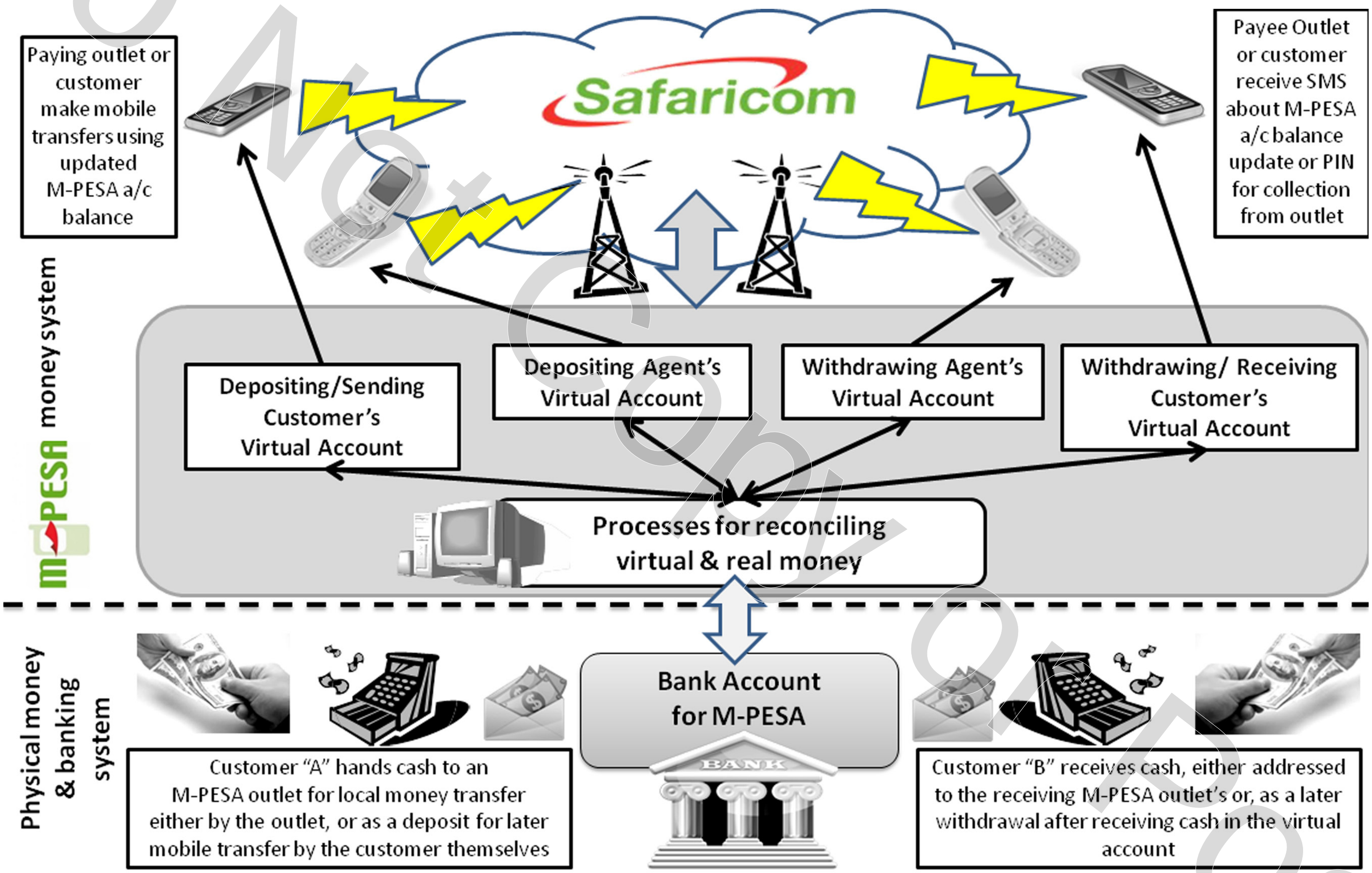
Source: State Bank of Pakistan

Exhibit 13: Telenor Assessment of Existing Mobile Money Models

	Bank-led	Telco-led	Partnership
Structure	Bank – Telco / Agent – Customer	Telco – Agent – Customer; Bank	Telco / Bank – Agent – Customer
Description	• Bank owns entire value chain while Telco is just another channel	• Telco owns entire value chain while bank is merely a place to store funds	• Both contribute into value chain: Bank provides the financial management and Telco manages the distribution network
Services	• Deposits • Loans • Transfers • Payments	• Deposits • Transfers • Payments	• Deposits • Loans • Transfers • Payments
Target customers and value proposition	• Existing banking customers • Convenient method of conducting transactions	• The unbanked population • Low cost access to banking system	• The unbanked population • Low cost access to banking system
Examples	FNB – South Africa Standard Chartered – Singapore	M-PESA – Kenya GCASH – Philippines	Smart Money – Philippines MTN Banking – South Africa

Source: Company documents – slide has been adapted from an original

Exhibit 14: Overview of Parallel M-PESA and Real Money Transfer Processes



Source: Author's depiction of process described in Hughes, N. and Lonie, S. "M-PESA: Mobile Money for the 'Unbanked'—Turning Cellphones into 24-Hour Tellers in Kenya," *innovations*, winter & spring 2007.

Exhibit 15: "Permissible Models" within State Bank of Pakistan Guidelines

"As stated above, only bank-led model of branchless banking is allowed at present which may be implemented in different ways. Firstly, it can be implemented either by using agency arrangements or by creating a (joint venture) between Bank and Telco/non-bank. Further, the mobile phone banking which make up for large part of branchless banking can be implemented by using one-to-one, one-to-many and many-to-many models . . .

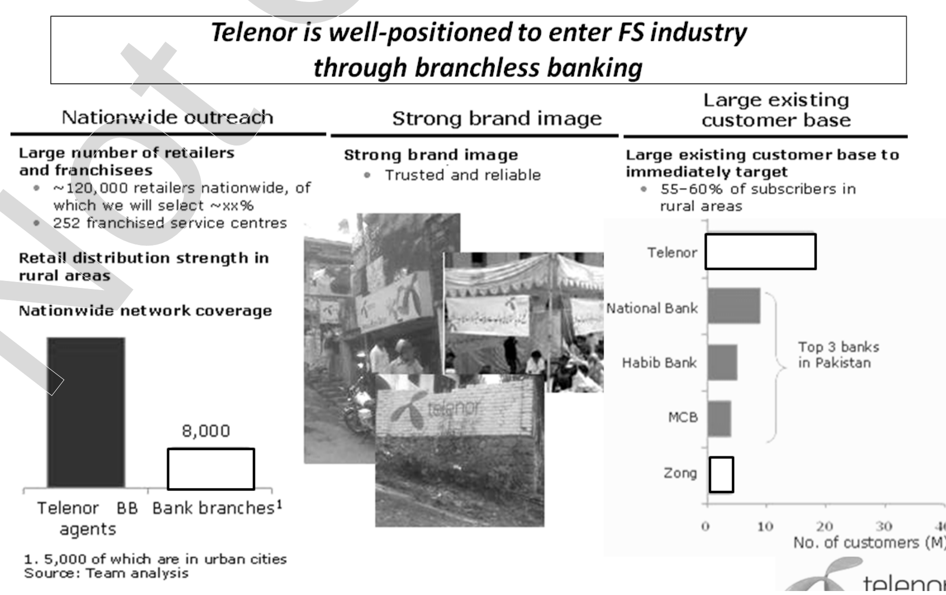
One-to-one (1–1) Model: In this model one bank offers mobile phone banking services in collaboration with a specific Telco. As a consequence, the services may only be offered to customers using mobile connection of that specific telco . . . (this) model does not necessarily require exclusivity. Therefore, one bank can have several one-to-one arrangements with many telcos [and vice versa] . . .

One-to-many (1–∞) Model: In this model a bank offers mobile phone banking services to customers using mobile connection of many Telcos . . . But this model has several limitations in that all telcos may not be ready to offer the bank a priority SMS pipe to enable it to provide quick services which are of essence in mobile phone banking.

Many-to-many (∞–∞) Model: In this model many banks and many telcos join hands to offer services to virtually all bankable customers. Under this system, a central transaction processing system (TPS) is necessitated, which must be controlled by an FI (i.e., financial institution); or by a subsidiary owned and controlled by an FI or a group of FIs; or by a third party service provider under proper agency agreement with a bank. . . ."

Source: State Bank of Pakistan "Branchless banking guidelines for Financial Institutions Desirous to undertake Branchless Banking" (Banking Policy and Regulations Department, November 24, 2007).

Exhibit 16: Telenor Pakistan's Internal Assessment of Financial Services (FS)



Source: Company documents (slide has been adapted)