Wireless Intelligence

Brazil: A tale of three technologies

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Brazil is the biggest cellular market in the Americas having passed 120 million connections at the end of 2007 by adding over 20 million connections during the year. In 2008, we expect Brazil to grow further by approximately 20% and pass 140 million cellular connections by the end of the year with market penetration to exceed 70%. On world ranking, Brazil is the fifth largest country in terms of connections.

Brazil is now becoming one of the most competitive cellular markets in the Americas region. But what are the driving forces behind the cellular growth in Brazil?

- At the end of 2004, the market saw GSM overtake CDMA and Vivo launch the first high-speed network, CDMA2000 1X EV-DO.
- In 2006, Brazil was in a phase of development that saw major operators tackling network coverage challenges and trying to secure their installed base in population dense areas such as Sao Paolo and Rio de Janeiro.
- The end of 2007 was the start of a new phase as Claro, Telemig introduced their WCDMA HSPA networks which are soon to be followed by CTBC, TIM Brazil and possibly Oi. This is sure to trigger an intense marketing battle.

Operators in Brazil have defined their paths on technology front and the main areas of focus for 2008 are expected to be:

- seasonal decrease in CAPEX and OPEX over the first half of the year
- EBITDA increase with lower Subscriber Acquisition Costs (SAC)
- fighting churn through handset subsidies, loyalty programs and new services
- introduction of new data services to drive growth in non-voice revenues
- commence a slow migration from GSM to WCDMA HSPA
- continued mergers and acquisitions: Vivo acquired Telemig in 2007; Oi acquired Amazonia in early 2008 and is looking to acquire its local competitor, Brazil Telecom.

We value your comments and feedback, so please do drop us a line if you want to share your thoughts on Brazil's cellular market or indeed any other topics.

Regards,

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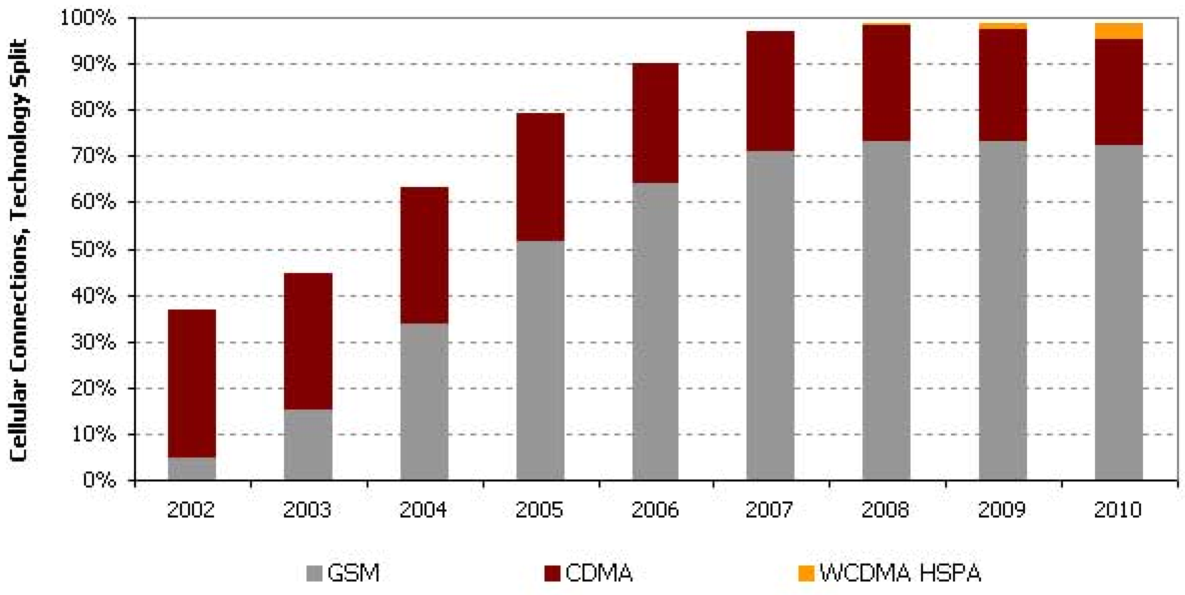
1. Technology migration

By the end of 2004, GSM became the clear technology leader in Brazil through the migration of the remaining TDMA and analogue subscribers. When Vivo introduced its CDMA2000 1X EV-DO network, it created an opportunity to attract new subscribers on the basis of added-value services and high-speed connectivity that other operators struggled to provide. To redress the balance in next generation technologies, Claro, which is part of the America

Movil Group, recently introduced its WCDMA HSPA network and is competing for the second place in the market against TIM Brazil. Telemig (now owned by Vivo) and soon CTBC are following the same migration path, although both operators represent below 5% of the total market.

Figure 1: Brazil - Cellular connections, technology split



Since 2004, the growth of CDMA has been slow but steady and GSM operators made the most from the growth in the market. CDMA cellular connections grew by 9% year on year in Q4 2006 and 20% in Q4 2007, whilst GSM cellular connections grew by 45% and 35% respectively. WCDMA HSPA will start to play an important role in technology migration, replacing GSM in the high-end segment at a rapid rate as lower-tier HSPA devices become available by end of year. WCDMA HSPA can represent around 3-5% of the total Brazilian cellular connections by 2010.

Vivo has been trying to take advantage of its early market position in high-speed networks through its Vivo Zap service, offering broadband Internet access through several devices. Vivo Zap includes three offers: 250MB for 49.9 BRL/month (USD 29.2), 1GB for 99.9 BRL/month (USD 58.5) or unlimited download for 139.9 BRL/month (USD 81.9). The 'unlimited' data plan has been quite successful in speeding up the adoption of mobile broadband services for operators in the US and Western European markets. We believe the idea of 'unlimited' access for a fixed fee is more attractive than being charged 0.5 BRL (USD 0.3) per extra Megabyte on the 250MB data plan.

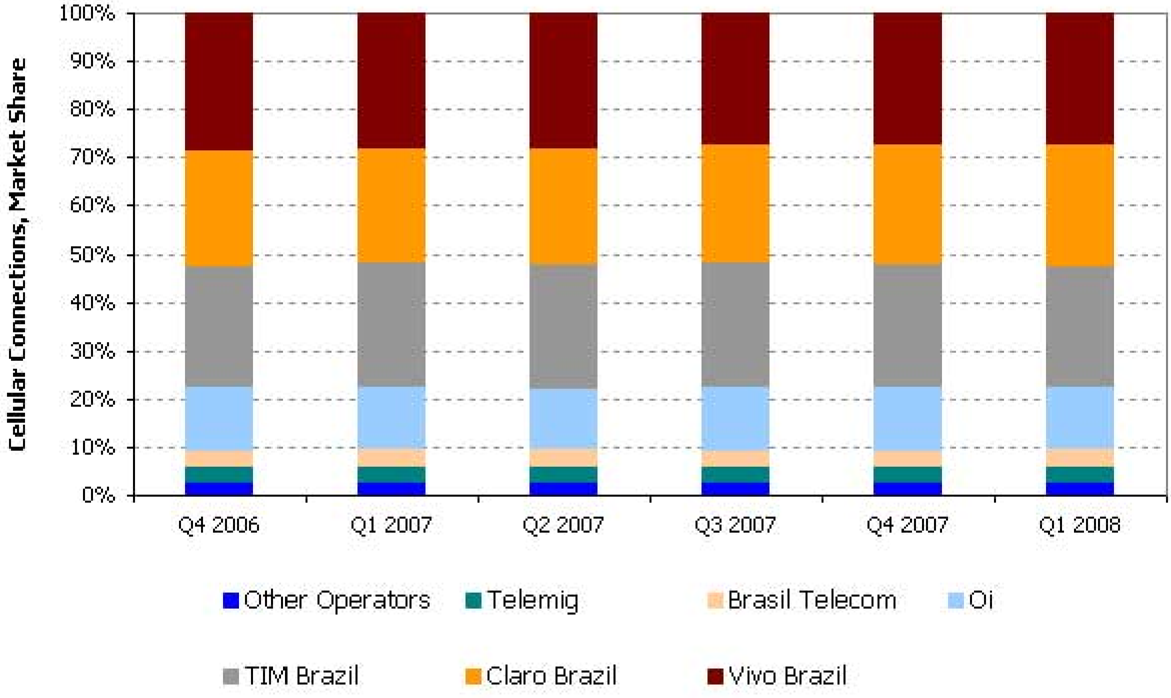
Today other operators are relying on their EDGE networks to offer access to their WAP portals with speeds up to 200kbps. TIM Brazil has acquired a 3G license and has announced its intention to launch a WCDMA HSPA network this year to offer 7.2mbps in 231 cities by end of 2008 and 460 cities by end of 2009.

2. Market share and consolidation

The top three operators are Vivo, TIM Brazil and Claro with market shares of 28%, 26% and 25% respectively at the end of 2007. Last year, Vivo acquired 54% of voting shares in Telemig Cellular. The principal benefit behind this consolidation is that Telemig offers network coverage in Minas Geiras license area, Brazil's third largest by income, where Vivo previously did not have coverage. Telemig, with a subscriber base of 3.9 million in Q4 2007, is now giving Vivo an opportunity to play a role in the deployment of GSM and WCDMA HSPA networks.

Oi, formerly known as Telemar, is the fourth largest cellular operator in Brazil with 13.2% market share in Q4 2007. In January 2008, Oi acquired a controlling interest in Amazonia Cellular from Vivo. The benefit of the deal is that, through the acquisition, Oi has increased its coverage in the northern states of Amazonas, Amapa, Para, Roraima and Maranhao, to reach the coverage targets set in the bidding rules for recently auctioned 3G licenses.

Figure 2: Brazil – Cellular connections, operator market share



We can expect to see some interesting churn patterns through 2008 as competition will get tougher with the arrival of more high-speed services. The average churn rate in Brazil last year was around 2.8% which is in alignment with the average for the region. The smallest operators are showing the highest monthly churn rates with Brazil Telecom showing 4.82% and Amazonia 2.93% in late 2007.

3. Next generation services

Messaging services are key differentiators in Brazil's majority prepay market (prepay accounts for 80% of total connections). SMS, MMS, email and IM services such as Vivo Messenger or Claro MSN Mobile are being heavily marketed. WAP portals are delivering customised data services through the GSM networks with services such as Vivo Live, TIM WAP portal or Brazil Telecom's Mundo WAP. Music downloads seem to be the hot topic amongst operator portals with services such as TIM Brazil's Hits of the moment, Claro's Ideias Music Store or Oi FM.

With all these services and portals, competition around data tariffs is expected to intensify in 2008. Oi's data plan seems to be on the higher side with Oi Dados 72 offering 72MB allowance for 149.9 BRL/month (USD 87.8). For 99.9 BRL/month (USD 58.5), consumers can subscribe to Vivo Zap allowing 1GB download or Claro Internet service allowing 2GB. In contrast, TIM Brazil is offering 1GB for 49 BRL/month (USD 28.7). Vivo remains the only operator to have launched an 'unlimited' data plan at present.

With the introduction of high-speed networks, we can expect to see more Internet-based services flourish in Brazil throughout 2008. This is a real opportunity for operators to increase their subscriber base in the high end segment by offering premium services and increase non-voice ARPU. However, efficiency in subscriber acquisition cost will remain a challenge for operators that are looking at increasing their prepay market share and creating new opportunities in the postpay market.
