

Business Model Evolution from MVNO to Multiple Play Operator based on WIMAX: The Spanish Scenario

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➔ Background

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The complexity of mobile market

Mobile sector has been crucial for telecommunications industry development during the last decade. In this context, there are several issues under review with no single answer:

- The transition to 3G and the evolution to HSPDA, as well as other FWA networks which are potentially both competitors for and complementary with cellular networks.
- Subscribers growth uncertainty particularly in saturated markets like EU15.
- The increasing prevalence of non-voice applications but voice ARPU still being the prime source of earnings.
- The growing power of MVNOs in some countries, and the imposition of tariff restrictions, particularly in wholesale markets (call termination fees, roaming).

The presence of MVNO operators in European markets is a question widely followed. Since their appearance in United Kingdom in 1999, their performance can be considered quite heterogeneous as clearly differ depending on the national markets conditions, being the most known examples the war prices in Denmark, the solid presence of Virgin in United Kingdom, and the emerging niche market competition in Germany.

FWA networks drama in Spain

- FWA networks have not succeeded in Spain.
- Up to eight national licenses were issued in 1998.
- Only two operators still remain active, but moving towards WLAN technologies.
- Urban Wi-Fi operators have also failed.
- WiMAX seems to be a solution for FWA license owners, particularly IEEE 802.16e standard, that allows mobility.

Dynamic market conditions offer new opportunities

Current market conditions in Spain bring new opportunities for existing and new entrant operators:

- Three worldwide mobile leaders -Telefonica Móviles, Vodafone and Orange- that look for mobile multimedia killer applications.
- Regulatory environment favorable to MVNO development as a mean to foster competition, particularly in voice segment.
- Continuous wireless broadband technology evolution (first commercial pilots based on WiMAX have been recently launched) that eases fixed-mobile business convergence.

The particular case of mobile voice and fixed broadband convergence in a potential single operator within the Spanish arena is subject of study and discussion in this paper.

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WiMAX-MVNO Business Model

Model description (I)

The objective is to offer users a bundled offer that combines wireless broadband connectivity and mobile voice, in an attempt to get benefit from the two most profitable businesses in fixed and mobile market segments

- Operator with national 3,5 GHz LMDS license move to WiMAX and gets an MVNO authorization.
- Potential market : special city areas (financial sectors, fairs, specific districts or suburbs).
- Global coverage: out of these WiMAX cells, mobile network is used.
- Period: 5 years.

The model presented is a simplification of the operator's operation with the aim to explore its economical viability and the possible implications that bundled offers that integrate mobility could have on current and future market situation

Model description (II)

Market assumptions

- Two customer types: basic (512 kbps) and premium (2 Mbps).
- Three city types: A (main), B and C:
 - Weighted distribution of customers and types.
 - Target areas as a percentage of average surface.
 - Potential market share is calculated as a percentage of clients that the convergent operator attracts from its competitors in mobile segment (market data provided by Spanish NRA, Comisión del Mercado de las Telecomunicaciones).

Planning assumptions

- Customers concurrency and granted traffic are considered.
- MVNO equipment is limited (HLR, billing...) .
- Dual terminals are considered.

Economic assumptions

- Agreement with MO based on wholesale with a certain benefit margin for the MVNO.
- Volume discount rates included for equipment.
- NPV and IRR considered, with discount rate of 15%.

WiMAX-MVNO Business Model

Starting hypothesis and primary results

- Business operation starts in type A cities (which include main Spanish capitals) from the first year, while type B and C are covered from the second and third year respectively
- Guaranteed connectivity is established as a 20% of maximum speed for basic clients and 70% for preferential. These values exceed normal 10% of existing operators but they have been selected as an element of differentiation from competitors
- Concurrency is set to 30% for basic and 70% for preferential
- Concerning mobile voice business, the potential agreement considered with the mobile network operator allows a profit of 5% from minute sold.
- Three penetration levels considered:
 - Pessimistic: 0,1% on Y1 to 1% on Y5
 - Optimistic: 4% on Y1 to 15% on Y5
 - Moderated: 2% on Y1 to 6% on Y5

	NPV (M€)	IIR (%)
Pessimistic	-24,4	NA
Optimistic	1767,1	65,9
Moderated	512,2	58

Sensitivity analysis

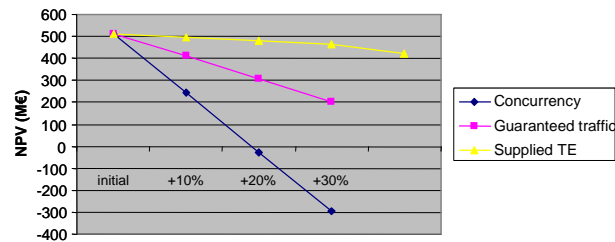
Sensitivity analysis is conducted by varying the following parameters:

- Concurrency.
- Guaranteed connectivity.
- Percentage of terminal equipment supplied by the operator.
- Rate of discount from minute of traffic compared to mobile network competitor.
- Percentage of MVNO users.

The three first parameters affect WiMAX operation while the last two are part of MVNO analysis. This separation tries to better explain both business interactions and the elements that should be taken into account when preparing a commercial bundled offer like the one proposed

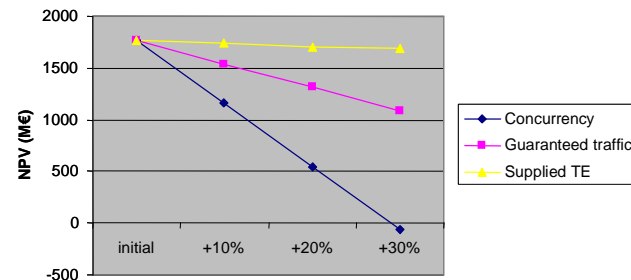
WiMAX sensitivity

Moderated



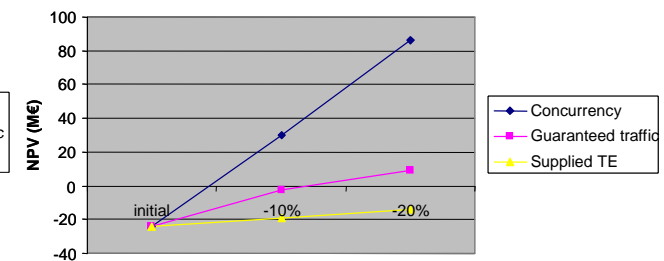
- The moderated scenario suggests that the dominant factor is user concurrency. For example an increase of 20% leads the model to offer negative figures.
- In this context, guaranteed connectivity and terminal supply (even achieving 100%) do not affect significantly on profit reduction

Optimistic



- The optimistic scenario has a similar behavior than previous one, although it is obviously much more robust to an increase on investment due to the high penetration rate considered

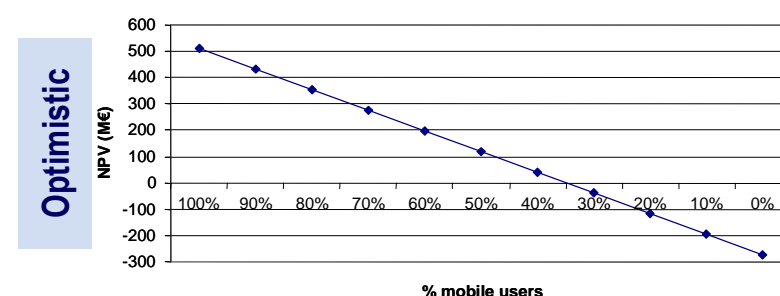
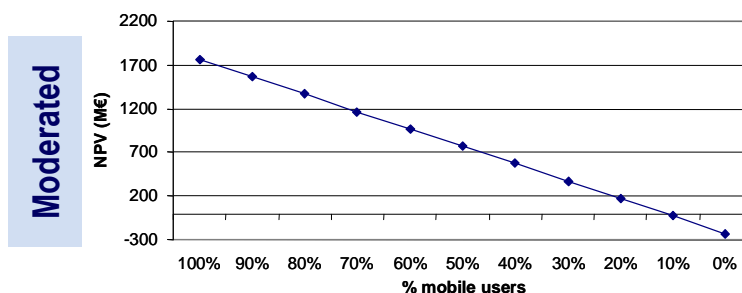
Pessimistic



- For the pessimistic scenario, as it offers losses from the initial assumptions, parameters have been modified to try to get profitability.
- As it is shown in figure above concurrency eases profitability but it can directly affect service quality and become a competitive disadvantage for a new entrant

MVNO sensitivity

- The optimistic approach suggests that even reducing margin to zero, NPV losses are around 125M€ and TIR exceeds 3%. A similar situation is seen in the moderated case for a zero margin, with NPV losses of 50M€. The reason of this minimal effect is the very low profit margin assumed of 5%.
- Only in case the agreement is much more profitable, the pessimistic scenario can become positive. This would mean a 25% margin, NPV achieving 5M€.
- A quite different situation is that when not all clients use mobile voice. As the MVNO operator buys a high volume of minutes to get a discount (then a profit margin), any exceeding minute not sold turns into losses.
- The pessimistic case evidences that a reduction on incomes negatively affects business results, as it was assumed that all users would use MVNO services
- The decrease on clients using MVNO services affects negatively, as it happens for the moderated scenario if the reduction is high. This effect is particularly important in Type A cities



The profit margin that the MVNO gets from the agreement with the mobile network operator is not a factor that limits convergent operator viability

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The New Paradigm of Mobile 3G and Beyond Systems

➔ Conclusions

Voice still the *cash cow*...

- Technological evolution and regulatory measures can directly affect business development at both fixed and mobile markets. While bundled offers are predominant in fixed, trying to add mobility towards full multiple play, from the point of view of mobile, voice is still the cash cow and it will be for the following years.
- For this reason, MVNO in Spain is a great opportunity to try to steal a piece of the appealing benefits that mobile network get from voice services
- The model presented and the results shown suggest that any network deployment requires high investments and a significant number of clients to achieve positive results in the long term. Broadband wireless access deployment is cheaper than cable based technologies but the service quality to be offered affects directly investments. In addition and given the fact that ADSL coverage is present in almost all significant market areas in Spain, competition in this segment is really intense and it can discourage new entrants to invest
- MVNO success is directly related to the agreement that is achieved with the mobile network operator. As it is shown, if the profit margin is high, the contribution to business development is quite positive but in the case the margins are very low, MVNO operation can be seen only as a strategy to foster broadband access acceptance through bundling

Regulation as critical factor to foster businesses...

- Regulation has a critical role by promoting MVNO in Spain. However the business results will depend directly on agreements among operators or on NRA decisions in case conflicts arise, which is clearly discouraging for current mobile network operators.
- From the sectorial policy point of view, incentives to invest, competition on infrastructure and platforms are key elements for long term development. By contrast, the need for price reduction in the short term forced a situation like that of MVNO in Spain, in which the sector evolution is in hand of regulatory measures. These conditions do not incentive network investment on alternative access technologies which is another discouraging factor.
- In conclusion, although the results presented suggest that a convergent operator based on WiMAX access and MVNO services can be profitable, the current market conditions do not ease new entrants to take risks in innovative adventures where investments are needed, the profit is not guaranteed and regulatory decisions can affect dramatically.
- For this reason we believe that converging scenarios will be developed by existing operators, particularly those in the fixed market that want to extend their portfolio of services by including mobility both in voice and broadband access. By contrast, innovative alternatives will probably wait until see if the environment is brighter for new entrants

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