

Comments on the GSM mobile access cost model

1 Introduction

PricewaterhouseCoopers (“PwC”) has been asked by Vodafone to comment on the appropriateness of the Gibson Quai / Primus ‘GSM mobile access cost model.’ This high level review should be considered in conjunction with Vodafone’s general comments on the inappropriateness of using the ‘GSM mobile access cost model.’

2 Comments on model structure

2.1 Network architecture

The model documentation states the assumed network architecture that underpins the model is simplistic and based on the modelling approach adopted by NERA in their modelling of PSTN access. It is clear that any model used to inform the cost of terminating calls on a *mobile* network must take into account the actual network architecture of mobile networks, rather than adopt the principles which underpin fixed network deployment.

2.2 Modelled network

The model is based on Telstra’s network. PwC believes that it is impossible to accurately determine mobile access costs across all players without consideration of the differences which may exist, in terms of network structure, topology and so on, amongst the different mobile operators. This is particularly true when Telstra is adopted as the basis for representative cost modelling, since Telstra clearly is a combined mobile-and-fixed player. The cost structures of each mobile operator must be understood before any conclusions can be drawn about the costs of service provision across mobile networks in Australia.

2.3 Year of calculation

The model calculates the cost for one year, and assumes implicitly that such cost is relevant for all years. PwC believe this to be an over-simplification: the unit costs of

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mobile services in any given year are a function of a number of time-specific factors, including the levels and mixes of demand, factor input prices and the growth profile of services. Any cost model should clearly be based upon up-to-date information in order to allow for confidence in the accuracy of outputs.

2.4 Routing factors

In order to allocate the costs between different services, the model should use appropriate routing factors for the different services offered that are consistent with the extent to which each service drives network investment. The current model is inadequate insofar as it does not differentiate between incoming and outgoing calls, and therefore does not reflect the expectation that the unit costs of terminating calls will be higher than originating calls for two reasons:

1. originating off-net calls will tend to be passed to the terminating operator at the nearest Point of Interconnect (PoI), and originating operators will reciprocate. As a consequence, the routing for terminating calls will use more network assets (i.e., will have higher core network routing factors) than originating calls and hence, other things equal, the unit costs will be higher; and
2. the costs of location are specific (incremental) to inbound (both inbound off-net and on-net) calls, since customers need only be located for the purposes of terminating traffic. Such costs will therefore be recovered from termination but not from origination and hence, other things equal, the unit costs of termination will be higher. This treatment of location costs has strong precedent through its support by the UK Competition Commission.

2.5 Depreciation method

The model uses straight line accounting depreciation. International best practice in determining mobile service costs is tending towards the use of economic depreciation, whereby the costs of an asset are recovered over its useful life in a manner which

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reflects both the gains and losses inherent in holding that asset from year to year, and the different utilisation of the asset over its life.

3 Comments on model inputs

3.1 Year of inputs

The model uses data inputs from the year 1998/99. PwC believes that any model that will be used to inform the costs of mobile access should use up-to-date data. Only then can stakeholders have confidence that the model is truly reflective of the current, forward-looking costs of service provision.

3.2 Reconciliation

According to the model documentation, the data was 'cross-checked' against Telstra's annual report. Given the nature of the model, and the data available in annual reports, the reconciliation could only have been performed at a very high level. PwC believes that such a cost model must be reconciled with actual operator data *at a detailed level*. This will ensure that there are no unrecovered costs, e.g. base Station Controllers (BSCs) which do not appear to feature in the model. This is also extremely important given the lack of detail inherent in the modelling of operating costs. As the model and documentation stand, one can have little confidence that the modelled costs reflect the actual costs which would be incurred in efficient service provision.

3.3 WACC

The model uses a WACC of 9%. It should be noted that according to the model documentation, NERA used a WACC range of 8%-12% in their modelling of PSTN ACCESS and GQ&A used a WACC range of 5.7%-16.9% in the USO forward looking technology modelling. The simple average WACC to be used by NERA and GQ&A is 10.65%¹. It is not clear, therefore, why a WACC of 9% has been adopted. Furthermore, it is clearly inappropriate to draw inferences about the cost of capital of

¹ i.e. the average of the mid-points of the two ranges.

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a mobile operator by looking to studies of fixed line business; it is PwC's experience that the WACC of a mobile operator is significantly above the WACC of the PSTN operator.

3.4 Data assumptions

The model uses numerous assumptions which are sourced to either NERA or GQ&A, but which are not substantiated. It is therefore, in PwC's view, not possible to draw any firm conclusions from the outputs of this modelling, since no information on the quality, accuracy or detailed source of input data have been provided.

3.5 Base station costs

The model assumes that the cost of a metro base station is the same as a regional base station. It is PwC's experience that the costs of regional base stations significantly exceed the cost of metro base stations.

3.6 Transmission costs

It is unclear from the model how all the costs of transmission are treated. A mobile network will deploy numerous different types of transmission, including Site-BSC, BSC-MSC, MSC-MSC and MSC-TNS. It is imperative that the model demonstrably incorporates all the costs of transmission and, again, no information has been provided on the assumptions which have been adopted.

3.7 Switching costs

The model documentation clearly states that the costs are reflective of the extent to which Telstra can save costs as a result of shared costs between the fixed and mobile networks. PwC believes this to be an inappropriate basis for assessing the costs of all players in the market, where other players do not enjoy the potential synergies or scope economies of horizontal integration.

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4 Conclusion

In our view the 'GSM mobile access cost model' is unsuitable for regulating the cost of terminating calls on Vodafone's network, both in 2004, and in any other year.