

Digicel

The Bigger, Better Network.

NON-CONFIDENTIAL

DIGICEL (PNG) LIMITED

Submission to NICTA

**Public inquiry into the need for a Retail Services Determination
(RSD) regarding certain mobile telephony services**

Friday, 9 March 2012

This submission is provided to NICTA for the purpose of the current public inquiry only and may not be used for any other purpose

Preface

This is Digicel's response to submissions made by Telikom (the "Telikom submission"), bemobile (the "bemobile submission") and the report prepared by Emma Lanigan on behalf of bemobile, (the "Lanigan report").

Digicel is concerned that it has been unfairly prejudiced in its ability to make a complete submission. This is a result of the absence of an appropriate confidentiality regime to protect the confidential and commercially sensitive information that Digicel would otherwise provide. This issue has already been the subject of various communications between Digicel and NICTA yet still remains unresolved.

In some respects this submission has been difficult to prepare. This is because bemobile (in effect the complainant) has chosen to make submissions that are startlingly devoid of factual information relating to the PNG market. In Digicel's submission, this continuing failure by bemobile to support its assertions with cogent and convincing evidence and analysis should have already resulted in NICTA deciding to discontinue this proceeding.

Ms Lanigan noted in her report that she had neither the time nor the data to complete a full analysis of the matters on which she gave her expert opinion. There is no excuse for such a situation to have arisen. bemobile is the complainant in this inquiry. It is bemobile's responsibility to provide clear and cogent arguments supported by relevant evidence to back up its complaint. There is no shortage of time for bemobile to do this. An adverse inference should be made by NICTA from bemobile's continuing inability to substantiate its assertions.

The arguments in bemobile's submissions are not supported by bemobile's own statements. As recently as last week bemobile made press statements that clearly demonstrate its willingness and ability to invest and compete in PNG. In the 1 March 2012 edition of *The National*, bemobile's Mr Barry was quoted to say "*[w]e want to be the best in prices across the board and with our new low prices, we are*". Mr Barry was also reported to say that although bemobile's network was just beginning to make a mark in the market, it had already found favour with its subscribers. In addition, bemobile secured a US\$40 million loan from the Asian Development Bank and would roll out 20 new sites a month until December. On 9 March 2012, *The National* reports Mr Barry as saying that bemobile was in the process of training "hit teams" to penetrate new areas as part of the transformation process of the company in becoming "more proactive than what bemobile has been in the past". These statements are at odds with bemobile's submission and Lanigan's report which claim investment is at risk and bemobile is unable to compete with Digicel. Bemobile's statements also clearly indicate it is not at risk of "foreclosure" (as claimed throughout their submission) unless there is retail services determination.

The *National* article also draws attention to bemobile's cooperative relationship with Telikom PNG, including a "site share agreement". Such arrangements must unquestionably give bemobile a cost advantage over a standalone mobile operator such as Digicel that has to cover the full cost of its own cellsites.

These recent public statements demonstrate that bemobile has been less than frank in its submissions and give support to the view that this proceeding is little more than a cynical attempt by bemobile to gain a regulatory "subsidy" for its business at the expense of Digicel.

If bemobile's submission and the Lanigan Report had been based on relevant evidence from PNG, they could not reasonably have reached the conclusion that a retail services determination of any type was warranted.

NICTA should now conclude that no reason has been identified that would justify a retail services determination.

Part A Executive Summary

- 1 The telecommunications market in PNG is still in the early stages of its development. Mobile penetration is still very low by any standard. There is ample room for growth in the market. We estimate that mobile penetration is less than 40%. This means the potential for growth in the market is high. It is these potential customers that are most important to consider when contemplating regulation of mobile services. NICTA's regulatory focus should be directed towards pushing bemobile and Telikom to compete "for the market" and grow by raising penetration levels. PNG's long term interests will be best met by fostering investment and growth in the market.
- 2 If there is any failure in the current market, it is bemobile's failure as an effective competitor, not a failure of the competitive process itself. Bemobile made mistakes. An obvious one is bemobile's underinvestment. bemobile claims to be rectifying this. A historically weak management and a number of strategic errors have played a significant part in placing bemobile in the position that it is in today, i.e. that it has a relatively poorly performing network and lower market share than Digicel.
- 3 These are not issues NICTA can rectify by recommending a Retail Services Determination. They are issues that bemobile must resolve for itself (as it appears to be doing now). Alternatively bemobile should exit the market and allow another operator to achieve where it has failed to do so. NICTA should not be afraid to let bemobile fail. Failure by ineffective participants is a normal part of a healthy competitive market.
- 4 NICTA must not let itself be tempted into giving bemobile a helping hand at the expense of Digicel. To do so would foster dependency on regulation as a means to compete and would be an unnecessary and costly distraction for NICTA. There are many other matters deserving of NICTA's attention which would deliver far greater benefits to the people of PNG.
- 5 Consumers do not share bemobile's view that on-net discounts are a particular problem or why customers choose to prefer a particular network. Market research undertaken by Digicel shows that network coverage is a far more important factor when customers choose the network they subscribe to. Network coverage is well within bemobile's capabilities to rectify. Not only is it a well resourced company with international backing, it also has a license obligation to provide coverage that is as extensive as what Digicel is required to provide. It is disingenuous and misleading of bemobile to suggest that Digicel has some inherent and unassailable advantage

over bemobile due to its coverage when bemobile has not even honoured the commitments that it made to the Government under the license it inherited from Telikom.

- 6 Bemobile relies heavily on “the literature” and “international precedent” to support its assertion that regulatory intervention is warranted. Unfortunately its references are selective and self serving. They do not present a complete picture of what has happened in other jurisdictions. Nor do bemobile’s theoretical views take into account the evidence and market realities that exist in PNG.
- 7 There are strong demand- and supply-side complementarities in mobile markets, and these mean that a cluster approach to market definition is appropriate. In particular, consumers make both on-net and off-net calls, and the same assets supply those and many other call types and services, such that the market (however defined) should encompass all of these services. Importantly, all of NICTA’s previous analysis in relation to market power is fundamentally flawed as they are based on an incorrect view of the relevant market.
- 8 bemobile has failed to explain how a Retail Service Determination would satisfy the retail regulation criteria specified within the Act. Bemobile itself does not give any attention to this critical issue while Lanigan only gives it passing mention without providing any evidence or analysis to support her views. In the absence of any cogent evidence or analysis demonstrating that the retail regulation criteria would be satisfied by the recommendation of a Retail Service Determination, it would be an error of law for NICTA to make such a recommendation.
- 9 After reading the submissions and report provided by bemobile and Telikom, Digicel stands by the views in Digicel’s initial submission. Digicel submits that bemobile’s failure to provide any relevant evidence or analysis to support imposing retail price regulation should be sufficient cause to discontinue this proceeding.
- 10 Instead, Digicel encourages NICTA to focus its energies on initiatives that will assist the expansion of the telecommunications market in PNG and contribute to the long-term wellbeing of its people. In particular NICTA should be focussed raising mobile penetration rather than indulge the pleadings of particular operators who seek regulatory assistance to compete for existing mobile customers .
- 11 Simply put, there is no case for retail regulation of the mobile sector in PNG. Any efforts to do so will chill the incentives for investment in infrastructure and services that is critical for the long-term welfare of the people of PNG.

Part B Context

1 Why context matters

12 Bemobile and the Lanigan Report urge NICTA to control Digicel's retail prices. They say that without intervention, competition will stall and investment will be much reduced. But their real goal is to protect Bemobile from competition.

13 Lanigan argues at page 2:

"The data available to me on traffic flows and market strongly indicate that the extent of price discrimination is severe and is having an acute effect on the extent of inter-network traffic. This implies strong network effects which would form a barrier to effective competition in the PNG mobile market.

Going forward, if regulatory intervention does not occur it appears highly likely that there will continue to be one large network (Digicel) and either one or two small networks that contest only a small niche of customers. In that scenario, efficient investment will be curtailed – the smaller network will not have the means nor the business case to invest further and Digicel's incentive to invest will be reduced due to muted competition. This leads to a loss of dynamic efficiencies that would result from consumers having access to new and innovative services. There would be little constraint on Digicel's market behavior implying that its degree of market power will continue and strengthen. Given this it seems highly likely that the imposition of a retail non-discrimination rule would satisfy the retail regulation criteria set out in the Act." (emphasis added)

14 Bemobile repeats this assertion verbatim at paragraph 4.11 of its submission and uses this as a basis for its view that the imposition of retail price regulation would satisfy the retail regulation criteria that are set out in the Act.

15 However, all of this ignores the actual circumstances that exist in PNG or the context of this Public Inquiry. This failure coupled with the lack of empirical evidence in either the Bemobile Submission or the Lanigan Report results in submissions that are highly misleading and unreliable. Moreover they fail to identify the root causes of Bemobile's apparent lack of success in the PNG market to date.

16 In the remainder of this Part, Digicel gives its view of the proper context in which this proceeding should be viewed. In doing so we show that Bemobile's assertions are baseless and inconsistent with both the facts and Bemobile's own actions.

2 Historical context

17 The mobile market in PNG has only recently been liberalised. PNG's first mobile network was launched in 2002. Telikom had a monopoly for 5 years. Prior to Digicel's entry into PNG, little effort was made to expand mobile network coverage

outside of the urban centres and network quality was very poor. At that time the people of PNG were faced with either putting up with very poor telecommunications service or having no service at all.

- 18 Liberalisation of the mobile market brought far-reaching change. Digicel saw and acted on an opportunity to provide the people of PNG with a world class mobile network and services reaching many parts of PNG where telecommunications of any sort were non-existent. Through its investment and commitment to the market, Digicel met and exceeded the coverage obligations that were a part of its licence. Today, Digicel has network coverage throughout PNG. However it is still well short of national coverage. Mobile penetration in PNG remains low. It is estimated that 60% to 70% (or more) of the people of PNG still do not have a mobile telephone¹. As discussed later in this submission, this fact alone clearly demonstrates the nascent status of the liberalised telecommunications market in PNG and that there cannot be a competition issue with respect to the provision of mobile telecommunications services.
- 19 Importantly, investment in PNG by all mobile operators was not – and is not – without risk. As well as the normal risks associated with investing in a competitive telecommunications market, there were real political, legal and regulatory risks. These risks remain today.

3 Regulatory context

- 20 Bemobile has argued that NICTA has an advantage over European regulatory authorities since those authorities had “*limited powers to intervene in retail markets*”². The implication is that the European regulatory framework is flawed. However this is not the case. It simply recognises the valid concerns with respect to regulatory authorities interfering in the retail operation of markets.
- 21 The superiority of market-based economic systems is today well established. Retail price controls are generally avoided for good reason.
- 22 Traditionally, retail price regulation has been confined to government owned legal monopolies or privately owned utilities that are “*natural monopolies*”. These are monopolies with no actual or potential rivalry.
- 23 Some aspects of fixed telephony have historically been assumed to be a natural monopoly – arguably with good reason. When previously government owned telephone utilities were privatised, retail price regulation was introduced in some countries to protect the interest of consumers.

¹The estimate on mobile penetration is based on a population census last undertaken in 2000.

² Bemobile submission, paragraph 1.12

- 24 However, the circumstances in the PNG mobile market are quite different. Competition in mobile was introduced in 2007 and the market has recently been liberalised further. There are few restrictions on entry into the telecommunications sector. There is sufficient spectrum for at least three nationwide mobile networks and therefore mobile services is not a natural monopoly, unlike fixed services.
- 25 To the extent there is a case for regulating mobile telephony at all, this should be confined to technical regulation such as spectrum, numbering, and technical standards. Any price regulation should be targeted and confined to wholesale services and only then where there is no realistic prospect of rivalry. There is no place for retail regulation in mobile markets, particularly that type of regulation that is intended to “solve” competition concerns. To the extent that any such concerns do arise, PNG has well developed competition laws and an effective competition authority, the ICCC, to deal with them.
- 26 Ex ante price regulation should not be the first resort. This is the case even for bmobile’s proposed “non-discrimination rule” that seeks to regulate relative retail prices and not absolute price levels.
- 27 We briefly review a number of principles of good regulation.
- (a) **Good regulation does not distort the competitive process.** It allows failing firms to exit. If bmobile cannot compete, it should be allowed to fail. This does not mean the end of competition. bmobile’s network assets will remain in PNG. Those assets will pass on to a new firm with new management. This competitive process, encapsulated in Schumpeter’s concept of “creative destruction”, is a sign of market health not failure.
 - (b) **Good regulation allows for experimentation, including in pricing strategies.** Networks compete for customers with different calling patterns using different pricing strategies. The competitive process “weeds out” models that do not fit local conditions. It rewards models that do fit local conditions. NICTA must not impose its own *a priori* notions on what pricing strategies are optimal, and what are not. Some customers like on-net discounts, but others do not – it depends on their calling patterns. In the PNG context where the market is almost entirely pre-paid, on-net discounts along with extensive network coverage drive mobile penetration. By tampering with retail pricing, NICTA risks slowing down penetration.
 - (c) **Good regulation allows for risky bets.** Digicel’s investment in PNG carries with it an enormous amount of risk. This “bet” could easily fail. Although Digicel has been reasonably successful to date, there is no guarantee that this success will persist. Firms should not be discouraged from taking risks by regulators who would punish the successes they achieve. This type of regulation not only selectively targets desired outcomes, i.e. successful businesses, it also acts to discourage future investors from taking risks.

- (d) **Good regulation is long-term.** The regulator must not give in to short-term benefits that are popular with the current generation, but harmful to the interest of future generations. Similarly, NICTA must resist popular pressure from one market participant for low off-net rates when this puts at risk the viability of Digicel's existing investment which (for reasons discussed in detail below) is instrumental in driving up mobile penetration in rural and regional areas of PNG.
- (e) **Good regulation protects dynamic efficiency and incentives to invest.** Low or inadequate investment is a serious concern especially for developing economies such as PNG. The market is delivering dynamic efficiency:
- i **innovation is high:** PNG enjoys 3G services;
 - ii **entry is occurring,** including by Citifon, and more recently by Oceanic Broadband Solutions (which offers broadband backhaul service up to 100 Mbps via a Satellite HUB in Port Moresby);
 - iii **investment is flowing:** Digicel has spent over PGK 1 billion since it entered the PNG market. Telikom reports indicate they have spent PGK 1 billion. bemoBILE itself has reported that it is investing in excess of US\$ 40 million underpinned by funding from the Asian Development Bank.

Retail price regulation punishes success, increases regulatory risk, and reduces incentives to invest, reducing future dynamic efficiency gains.

- (f) **Good regulation is appropriate to local conditions.** The regulatory models that have been developed elsewhere in developed economies are not necessarily appropriate for developing economies. In particular, bemoBILE's case for regulatory intervention due to "network effects" is based on assumptions that do not apply to PNG. (See paragraphs [165-166] below.)
- (g) **Good regulation protects competition, not competitors.** Retail price regulation (especially if it only applies to Digicel) will insulate bemoBILE from the discipline of competition. It may (inappropriately) protect bemoBILE but it will harm the *process* of competition by penalising success and rewarding mismanagement. It will not give bemoBILE any incentive to fix its problems and will not lead to better outcomes for customers. While bemoBILE says they are arguing for lower off-net prices, its real goal is to raise on-net prices. bemoBILE is trying to make Digicel less competitive. The retail regulation sought by bemoBILE is also based on a strategy of maximising churn that bemoBILE has chosen to adopt. It is notable that Telikom has not sought this regulation and has in fact indicated its opposition to retail regulation.

(h) **Good regulation promotes incentives to grow the market, not churn.** In a developing market where penetration is low, any consumer benefit from churn is minor in comparison to consumer benefit from expanding the overall market. Churn only benefits existing mobile customers. The social and economic benefits of raising mobile penetration are much more significant and far-reaching. The benefit extends to future generations of mobile consumers. Retail price regulation will validate and entrench Bemobile's strategy of maximizing churn and free-riding on Digicel's efforts to grow mobile penetration, thereby slowing down progress towards greater mobile penetration.

28 Importantly, assumptions made by a regulator can be self-fulfilling and harmful if wrong. For example, an assumption that mobile penetration in PNG is close to saturation can be self-fulfilling if it leads NICTA to prioritise the prospect of lower prices or different pricing structures for existing subscribers over promoting investment to expand mobile penetration.

4 Context – economic development

29 Bemobile has argued on the basis that supporting its ability to compete is paramount. However, the Retail Regulation Criteria (RCC) do not provide any support for Bemobile's position. Neither competition nor economic efficiency is of any value for its own sake. The objectives of promoting competition and economic efficiency in the RCC are subordinate to the objective of the National ICT Act, being "to ensure that the ICT industry contributes to the greatest extent possible to the long-term economic and social development of Papua New Guinea".

30 The Act is not only concerned about the well being of the present generation of Papua New Guineans. The well being of future generations is also a concern. Equally, NICTA should not just be concerned for those who already have access to mobile services. Those without access arguably merit greater concern.

31 In economic development literature, "intermediate goods and services" play a critical role in explaining differences in total factor productivity (TFP) across different countries.³ Such intermediate goods and services include roads, schools, utilities including mobile phone services and banking. The productivity of the other sectors of the economy depends on these intermediate goods and services. There are multiplier effects in so far as the intermediate goods and services are complementary.

³ See for example C.I. Jones (2011) "Intermediate Goods and Weak Links in the Theory of Economic Development", *American Economic Journal: Macroeconomics* 3, 1-28. Jones explains two key roles for intermediate goods in explaining massive differences in economic growth across countries. "First, linkages between firms through intermediate goods, deliver a multiplier similar to the one associated with capital in a neoclassical growth model. Because the intermediate goods share of output is about one-half, this multiplier is substantial. Second, just as a chain is only as strong as its weakest link, problems along a production chain can sharply reduce output under complementarity."

- 32 Mobile networks are known to make a real and significant contribution to economic development,⁴ and this effect must be especially strong in PNG where there is plainly inadequate infrastructure, especially in rural and regional areas. To some extent, mobile networks substitute for other infrastructure facilitating communications, such as road and rail transport. The absence of transport infrastructure therefore makes mobile networks even more important to economic development.
- 33 We refer NICTA to the impact studies in Schedule 2 of Digicel's first submission, examining the econometric evidence linking mobile diffusion to economic growth. These are rigorous studies. The role of mobile communications in economic growth is well established in the literature.
- 34 The literature describes a number of transmission mechanisms that link mobile diffusion to economic growth:
- Mobile communications in the hands of households and firms can help overcome the information deficit. As a result, markets become less exploitative and more competitive. Incentives to produce and sell output grow.
 - Mobile communications reduce transaction costs. Telephone calls replace face-to-face contact. As a result, costs are saved and business and personal contact speeded up.
 - Better mobile communications can make a country more attractive to tourists.
 - There is some evidence that roll out of mobile services is linked with higher levels of foreign direct investment.
 - Mobile communications can assist in delivery of health care and education, by improving access to expertise.
- 35 However, for mobile services to deliver these economic benefits, the people of PNG must first have mobile services. The majority do not. Mobile penetration in PNG is estimated to be well below 40% based on a population census taken in 2000. Other credible estimates are lower. For example, the ITU estimated that penetration was 27.84% in 2010.
- 36 Significant differences in on- and off-net prices are not an impediment to raising mobile penetration. In fact, this price structure is fundamental to Digicel's strategy of growing its subscriber base by raising penetration levels throughout PNG including in rural and regional areas.

⁴Well known examples, such as Kerala's fishing industry and Waverman's (2005) estimate that an extra 10 mobiles per 100 people lifts GDP growth by about 0.5% per annum are discussed in this accessible article from the Economist <http://www.economist.com/node/9149142>

Part C The facts

- 37 As Bemobile's complaint led to this inquiry, both its submission and the report prepared by its consultant (Lanigan) are startlingly devoid of factual information on the PNG mobile market. Bemobile's failure to support its assertions with cogent and convincing evidence should have already led NICTA to discontinue this inquiry.
- 38 In this Part, we set out a number of basic facts about the PNG mobile market, Bemobile and Digicel that NICTA should be cognizant of and take into account in determining whether or not there is any value in continuing with this proceeding. Much of this information could have been provided by Bemobile and, in Digicel's submission, questions need to be asked as to why Bemobile has failed to do so.

5 Basic facts – the PNG mobile market

Mobile Penetration

- 39 We compiled a matched sample of 189 countries using World Bank data on GDP per capita, and ITU data on mobile penetration. The sample runs from 2007-2010. It shows that GDP per capita grew in PNG at an annual rate of 12% from 2007-2010 when measured in US dollars. That puts PNG in the top quartile of these 189 countries. There are very few countries in the world that are in a similar income position as PNG when both the level and growth rate of GDP is considered. However the following comparators can be identified.

Table 1 GDP per capita (USD).

Country	2007	2008	2009	2010	Growth p.a.
Sao Tome and Principe	912	1,069	1,169	1,190	9%
Zambia	957	1,183	1,006	1,253	9%
India	1,105	1,067	1,192	1,475	10%
Papua New Guinea	990	1,223	1,181	1,382	12%
Vietnam	843	1,070	1,130	1,224	13%
Laos	718	910	966	1,177	18%

Source: World Bank

- 40 Within this group of high growth countries with modest income levels, PNG's mobile telecommunications market is very unusual. In particular, PNG has experienced much higher growth rates in mobile penetration but its current level of penetration is relatively low.

Table 2 Income growth and mobile market growth.

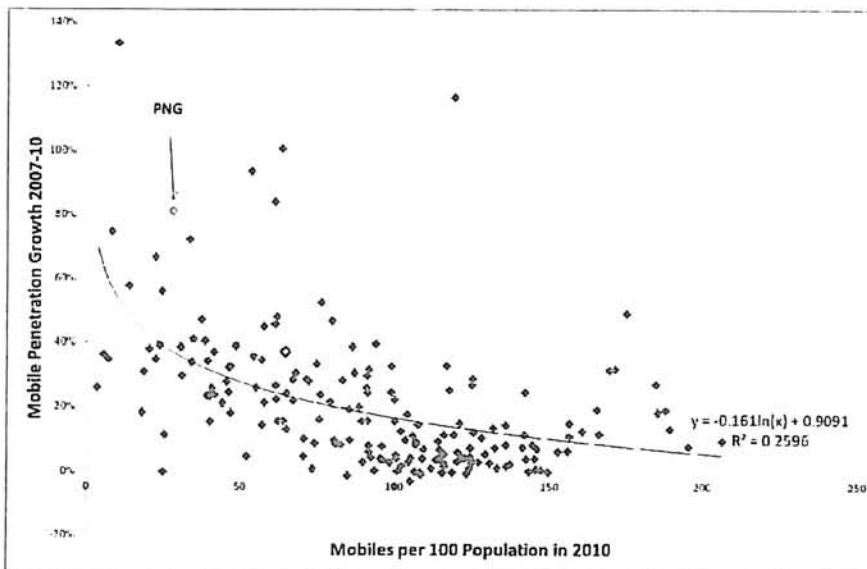
Country	Income Growth p.a.	Mobile penetration 2010	Mobile Growth 2007-10
Sao Tome and Principe	9%	61.97	48%

Zambia	9%	41.62	24%
India	10%	61.42	46%
Papua New Guinea	12%	27.84	81%
Vietnam	13%	175.3	49%
Laos	18%	64.56	37%

Source: World Bank & ITU.

- 41 This data suggests that considerable growth **potential** remains in the PNG mobile market, at least when compared with countries of similar incomes and with similar income growth rates. The following chart reinforces that inference. It uses ITU data and plots 2010 mobile penetration against the average annual growth rate of penetration from 2007-10. PNG is clearly in the process of moving from low-penetration and high growth, towards a lower-growth and higher-penetration state.

Figure1 Mobile penetration growth path.



Source: ITU

- 42 Within this context, a number of basic facts about the PNG mobile market must be borne in mind. These facts are as follows.
- 43 **Fact 1 – Mobile penetration in PNG is low but growing rapidly.** While mobile services have been available in PNG for ten years, the market is still immature and penetration is low. Credible estimates of mobile penetration are in the 30% range. Thus around 70% of people in PNG do not yet have a mobile phone. Mobile penetration has grown rapidly from around 2% to around 35% today. On average, mobile penetration has increased by around 6% a year since 2007.
- 44 Penetration has grown rapidly as Digicel expands coverage and brings new services to customers. In our sample of 189 countries, only five experienced faster

penetration growth over the period 2007-10 inclusive.⁵ However, there are still huge opportunities for growth in PNG for Digicel, bemoile, Citifon or any other potential entrant to the market. The biggest opportunities are in connecting new customers and getting existing customers to use new services (eg mobile data), not in churning customers away from competitors. Connecting new customers and delivering new services also generate greater economic and social benefits than simple churn.

- 45 **Fact 2 – Current prices are not a barrier to mobile take up.** Current retail prices are clearly not a barrier to take up of mobile services in PNG, as penetration is increasing so rapidly. This is partly because current pricing delivers good value to customers, but also because price is only one factor that customers consider when choosing their network. Customers also want a reliable network, good customer service, and a good sales and distribution network. Given that the PNG mobile market is largely prepaid, a well-functioning and comprehensive sales and distribution network is critical, and this is an important benefit that Digicel’s market entry has delivered.
- 46 **Fact 3 – there is untapped demand for mobile services.** The view that “supply creates its own demand”,⁶ while often wrong, does fairly characterise the market potential in PNG. Experience has demonstrated that where an operator builds good quality mobile infrastructure, establishes an effective sales and distribution network, and provides good customer support services, customers will be attracted to the network. In Digicel’s experience, the principal difficulties that operators face in PNG are supply related, not demand related. Most of the market growth in PNG has been created by Digicel’s provision of high quality infrastructure and services, and Digicel’s expansion of coverage into rural areas. There is no reason why bemoile could do the same and achieve similar gains.
- 47 **Fact 4 – there is room for at least two, if not three, major mobile network operators in PNG.** There are very few, if any, deregulated mobile markets in the world where there are not at least two full-coverage competitors. This is true across many countries with different costs and different market characteristics. Second entrants invariably match coverage of the first, because all mobile operators recognise that investing in coverage is key to effective competition. There is no reason to believe that PNG is different to all other countries in the world and is not able to sustain two full coverage networks.

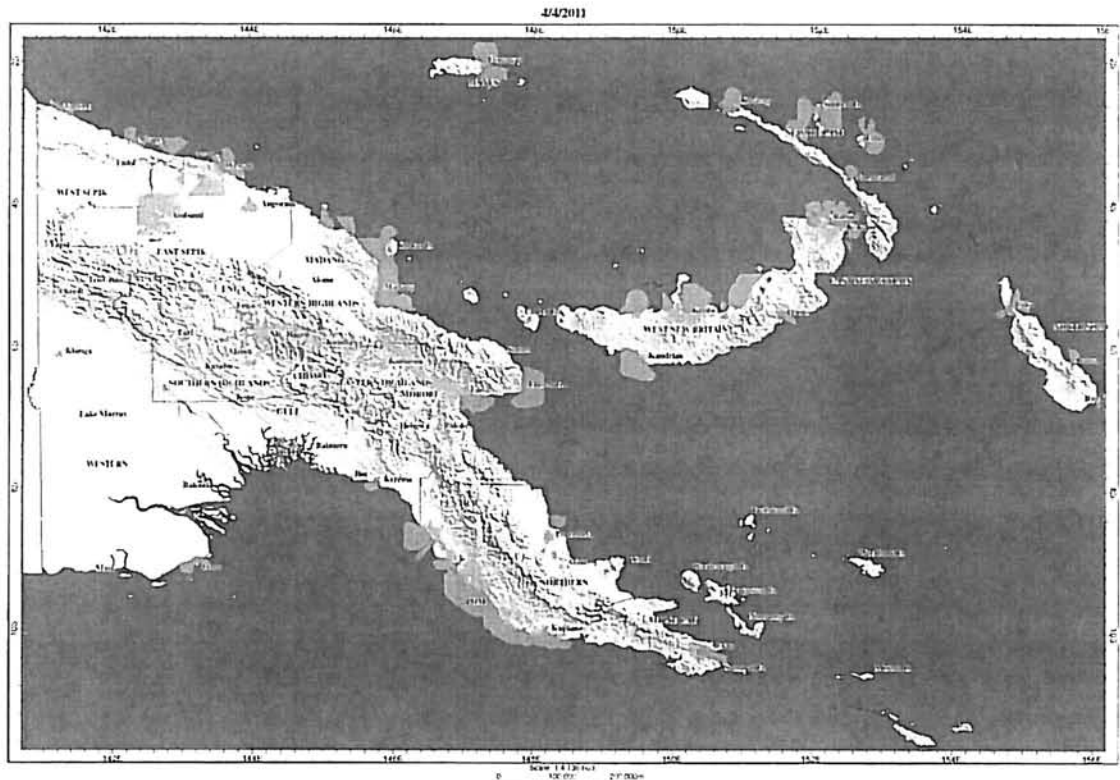
6 Basic facts – bemoile

Network Coverage

- 48 **Fact 5 – bemoile’s coverage is a problem.** bemoile submits that customers value national coverage highly, yet has not fulfilled its own coverage obligations. The decision not to build out their network is a commercial choice, and any difficulty in

⁵ Zimbabwe, Timor-Leste, Turkmenistan, Vanuatu, Kiribati

⁶ This proposition is known as “Say’s Law”



- 50 This is not a problem that is beyond bembile's capability to rectify, and it has started to do so. In a recent article in *The National* dated 1 March 2012, bembile was reported as saying that *"it would soon be rolling out more services to all parts of PNG beginning in the Highlands region and others by the end of May and looking at a rate of 20 sites per month until December"*. On 9 March 2012, *The National* reports Mr Barry as saying that bembile was in the process of training "hit teams" to penetrate new areas as part of the transformation process of the company in becoming "more proactive than what bembile has been in the past".
- 51 In contrast, Lanigan argues that bembile is disadvantaged because Digicel has built more extensive rural coverage that bembile cannot profitably replicate. She also claims that mobile customers place a high value on national coverage, and bembile cannot compete effectively in the retail market without full coverage.
- 52 These two claims contradict each other and also contradict bembile's public statements. If customers do value national coverage highly then they must be willing to pay for it, which enhances the commercial case for building it, even if the rural areas are not profitable on a standalone basis. The marginal profitability of extra coverage is what matters when firms consider network expansion. This must be assessed on the basis of the network as a whole, not just the incremental coverage area. In particular, if a network already covers area X, the profitability of covering new area Y should take into account the increased revenue that can be earned from customers in X, as well as those in Y.
- 53 Alternatively, if customers do not actually value national coverage highly, then the fact that Digicel has more coverage than bembile should not stop bembile from

gaining customers in the areas that it does cover and/or from building coverage in areas that Digicel does not cover. So in either case, the cost of coverage is not a barrier to bemobile's expansion.

- 54 In any event, Lanigan's claims about the (un)profitability of rural areas are pure speculation and not based on any facts or evidence. Surprisingly, she does not seem to be aware of bemobile's coverage expansion plans as quoted above. While rural areas may be less densely populated and the customers may be poorer, they may also highly value mobile communications services due to the lack of viable alternatives. In many developing nations, people in rural locations are willing to walk long distances in order to get a mobile signal. This suggests they place a high value on the service.
- 55 It is significant that bemobile has been able to secure a loan from the Asian Development Bank to fund its network expansion in the regional areas of PNG. The ADB's willingness to do so, and bemobile's willingness to do so suggests that its network expansion in those areas must be profitable. Given also that NICTA has apparently relaxed bemobile's network coverage obligation in a way that allows bemobile to cherry-pick the most profitable areas, the proposed network expansion is likely to be profitable overall. Unlike Digicel, bemobile is not burdened by the requirement to maintain network coverage in the areas of PNG that are truly unprofitable, thereby freeing bemobile to pursue its network expansion in a profitable manner.
- 56 Therefore, before concluding that coverage is a barrier, NICTA needs to undertake detailed quantitative analysis of the profitability of coverage expansion and gather evidence on the importance of coverage to consumers.
- 57 NICTA could also assist mobile network operators address landowner issues that to a significant extent add to the cost of building sites in the many areas of PNG where land ownership is disputed. Retail price regulation does little to help reduce the cost of extending network coverage.
- 58 **Fact 6 – bemobile has management and operations problems.** bemobile is recognized as having had an underperforming sales and distribution network, bad customer service, ineffective marketing and has confused customers with frequent changes to its pricing. Even in locations where it has good coverage, bemobile's market performance is hindered by poor distribution and poor customer service. In Digicel's submission, these problems make bemobile a poor choice for customers. These factors (and coverage) are much more important to customers than on-net discounts.
- 59 Retail price regulation will not solve these problems and would not give bemobile any incentive to improve its weaknesses. On the contrary, retail price regulation may entrench bemobile's current under-performance, by protecting it from competitive pressure and reducing its incentive to improve its attractiveness to customers.

60 In spite of the growth opportunities present in PNG, bemoobile's focus has apparently been on churn (i.e. winning existing customers from Digicel). Churning customers may (but not necessarily) deliver some benefits to the customers who are churned, but does not deliver the broader benefits and efficiencies of increased penetration. For example, in its loan application to the ADB, bemoobile stated:⁷

Companies aim to maximise their customer base, which largely occurs by "churning" (winning) the competitor's customers and by providing services where their competitors do not have cover ...

61 This highlights bemoobile's preoccupation with churn, and it is consistent with bemoobile's decision to expend effort on regulatory strategies aimed at making churn easier rather than growing the market. Instead of competing via the regulator, we submit that the PNG mobile market will be best served by competition in the market itself.

62 **Fact 7 – bemoobile's current market share is not a barrier to success.** As noted above, around 70% of people in PNG do not yet have mobile services. Not all of these customers are in the very remote areas of the country. There remain many commercially profitable areas that are untapped. This is demonstrated by Digicel's continued growth from raising penetration levels throughout PNG.

63 It is clear from bemoobile's own statements that their recent ADB funding gives them even greater ability to invest and innovate, and that in addition to trying to churn Digicel customers, bemoobile can readily compete for the portion of the market that are not yet mobile subscribers by improving their service. However, retail price regulation will not give bemoobile any incentive to do so.

64 The following figure more accurately represents the market situation, by showing shares as a proportion of the total market. This shows that Digicel's share of the potential market is only [REDACTED], with the majority of the growth potential still remaining for either network to capture.

Figure 4 Shares of the total potential market.



65 However, the differences in coverage make comparisons of Digicel's and bemoobile's market shares difficult and potentially misleading, since bemoobile is not competing for customers in areas where it has not matched Digicel's coverage. Therefore, while we estimate bemoobile's share of the national market to be around [REDACTED], we estimate that its share of customers in the National Capital District (where it has built coverage equivalent to Digicel's) is around [REDACTED] or more. Bemoobile's emphasis on national market shares as a key market power measure is therefore quite

⁷Environmental Assessment Report: Proposed Equity Investment and Loan, Bemoobile Expansion Project (Papua New Guinea and Solomon Islands), report by bemoobile, March 2011, paragraph 59.

misleading. In the areas where it has chosen to compete by building coverage, its market share is significantly higher than its overall national share.

- 66 **Fact 8 – bemoobile’s current strategy has certain cost advantages.** In particular, bemoobile “cherry picks” the most profitable areas to serve. Further, bemoobile only interconnects with Digicel in Port Moresby, forcing Digicel to carry more off-net traffic on its transmission network and raising Digicel’s costs. While Digicel has scale at a national level, this is off-set by higher cost in rural/remote areas where scale is low. The commercial strategy that bemoobile has chosen is not necessarily *a priori* a bad commercial strategy, particularly if bemoobile is able to persuade NICTA to recommend regulation of Digicel to limit Digicel’s ability to gain a legitimate advantage and appropriate financial return from its higher levels of investment and greater levels of risk.
- 67 Commercial strategy necessarily entails a choice between alternatives, and choosing one path necessarily means foregoing the advantages that a different strategy would bring. Digicel and bemoobile have each chosen different commercial strategies and it is incumbent on each party to live by the consequences of their choices and not rely on regulatory intervention when a strategy fails or when there is a failure of management. bemoobile’s objective in seeking regulatory intervention is to maximise churn from Digicel’s subscriber base, and thereby “free ride” on the strategy that Digicel has chosen to take and that has turned out to be more successful so far.

7 Basic facts – Digicel

- 68 **Fact 9 – Digicel’s growth is from raising mobile penetration.** Throughout Digicel’s history in PNG, it has grown its subscriber base by raising market penetration, rather than focussing on churn. Given that bemoobile has continued to grow its subscriber base during this time, it is evident that Digicel’s growth has not been based on taking subscribers from bemoobile. To increase mobile penetration, Digicel has:
- Continuously expanded its network coverage;
 - Established a sales and distribution network throughout PNG, including Digicel offices at Port Moresby, Lae, Mt Hagen, Kokopo, Alotau, Wewak, Buka and Popondetta to ensure that mobile subscribers have easy access to top-ups at over 10,000 places;
 - Established a customer care centre staffed by 273 consultants. Digicel benchmarks its customer care centre with those in Australia to ensure that PNG end users enjoy the same level of customer care that is available elsewhere.
- 69 In practical terms, this means that more than two million additional citizens of PNG now belong to a mobile network compared to when Digicel first entered the market in 2007. As mobile penetration has gone up while bemoobile’s subscriber base remained the same or increased, Digicel’s growth must have come from market

penetration. The key benefits of competition are come from raising penetration and expanding services.

70 For example, during 2010 Digicel expanded coverage significantly in the Bougainville, Western, Gulf, Enga, Southern Highlands, and East Sepik provinces, and experienced subscriber growth rates in these areas of between 50 – 660%. These provinces contributed over 40% of Digicel’s subscriber growth during 2010. In contrast, the NCD and Central provinces which already had good coverage grew at rates of 15% and 7% respectively.

71 Digicel has built a total of 473] cellsites to meet its licence obligations outside of the main centres at an average cost of around [REDACTED] each, covering an estimated population of 2.8 million people. Digicel has in total 700 sites (including the 473 mandatory sites) that cover an estimated population of 4.5 million. The following figure shows estimated mobile penetration in January 2010 by province in PNG versus Digicel’s subscriber growth by province between January 2010 and January 2012. It is clear the highest growth is observed in provinces with low initial penetration, due to subsequent expansion of coverage. The shape of the curve is similar to Figure 1 across countries, and this illustrates Digicel’s coverage-driven growth, in contrast to bemo’s apparent focus on churn.

Figure 5 Digicel subscriber growth vs penetration rate by province in PNG.



8 Basic facts – Interconnection traffic

72 **Fact 10 – interconnection traffic naturally favours the network with greater coverage.** In their submissions, bemo and Lanigan attach high importance to the volume and balance of mobile-to-mobile voice traffic and recent trends in these measures. They note that more traffic flows from bemo to Digicel than in the reverse direction. This is not a surprise, nor in Digicel’s submission is it anything to be concerned about. Digicel’s greater coverage means that there will naturally be an imbalance of traffic in Digicel’s favour. This is because bemo customers who want to call someone in an area where Digicel has coverage but bemo does not will necessarily have to make an off-net call.

73 **Fact 11 – traffic trends having nothing to do with Digicel’s pricing.** In their submissions, Lanigan and bemo point to the decline in traffic from bemo to Digicel from July 2011 onwards, and attempt to attribute this to Digicel’s on-net pricing and some sort of “connectivity breakdown”. Since the volume of bemo to Digicel calls is determined by the activity of bemo customers, this trend has nothing to do with Digicel’s pricing and everything to do with bemo’s promotions and pricing. In particular:

- Prior to July 2011, bemo was heavily promoting Double Up / Triple Up promotions that gave double or triple free credit that can be used to call any network. Digicel submits that these promotions are likely to be largely

responsible for the increase in bemobile to Digicel calls up to July 2011.

- In the first half of August 2011, bemobile did not offer Double Up / Triple Up promotions, leading to an immediate decline in the volume of all types of bemobile-originated traffic, including traffic to Digicel.
- In September 2011, bemobile relaunched the Double Up / Triple Up promotions but the validity of the free credit was greatly shortened and the minimum qualifying top up was increased. This slowed the decline in bemobile to Digicel traffic, but did not increase the traffic volumes to the previous level, since the new promotions were not as attractive to customers.
- In addition, prior to July 2011 bemobile were selling large volumes of cheap phones including acquisition offers with generous pre-installed credits on those phones. This drove a further increase in bemobile to Digicel traffic, but as the purchasers of these phones used up the free credit, traffic volumes declined over time.

74 It is unfortunate that bemobile has misled its own consultant by not providing her with the full details of its own pricing and promotions activity that have affected interconnection traffic volumes. Faced with incomplete or misleading information, Digicel submits that Lanigan has incorrectly concluded that either bemobile's market share is decreasing or that Digicel's on-net discounts are causing an undesirable change in traffic patterns. In fact all of the interconnection traffic patterns that she discusses can be explained by changes in bemobile's pricing and promotions alone.

Part D Key issues

75 In this section we discuss the key issues that are relevant to NICTA's consideration of a retail service determination, including the main points made in the submissions by bemobile and Lanigan.

9 Key issues – What is the relevant market?

76 At the outset, it is worth emphasising that the customers within the relevant market are all actual **and potential** customers. In the context of mobile services, potential customers constitute a substantial majority of customers. These are customers who do not currently have mobile services, not only because of the lack of network coverage, but also because they are not within reach of an effective sales and distribution network. Also, in the context of a growth population and rural to urban migration, the potential customers include new consumers who may not yet be physically present in a relevant area.

77 Digicel agrees with bemobile that the relevant market is broader than the market NICTA (and Telikom) had defined to be the market for off-net calls and SMS only. However, we disagree that the market is only limited to the supply of **domestic**

voice and SMS services. At a minimum, it would include all voice calls (including on-net calls), SMS and international calls.

- 78 The key fact, as Bemobile and Lanigan also explains in their submissions, is that there are strong demand- and supply-side complementarities in mobile networks, and these mean that a cluster market definition is appropriate. In particular, consumers do not just make off-net calls, by far the large majority of subscribers make both on-net and off-net calls.
- 79 On the demand side, Digicel customer activity data indicates that most of Digicel's customers regularly use two or more different mobile services. Substantially less than 10% of customers only purchase off-net calls and no other services. This strongly supports the conclusion that off-net calls are supplied to end users along with other mobile services and discredits NICTA's conclusion that there is a separate market for off-net calls.
- 80 The implications of this are significant. Market definition is the foundation of all subsequent economic analysis, and all parties agree that NICTA's initial view of the market definition is too narrow. Therefore, NICTA's subsequent analysis of market power and the impacts of a retail service determination must necessarily be incorrect as they were based on an incorrect view of the market.

10 Key issues – Market power

- 81 Section 158 of the NICT Act requires that in making a retail service determination for an operator licensee, NICTA must, among other things, be satisfied that (part b):

- i. *That operator licensee has a substantial degree of market power in the market within which the retail service is supplied; and*
- ii. *In the absence of the retail service determination for that period, that substantial degree of market power is likely to –*
 - a. *Persist in the market over that period; and*
 - b. *Expose retail customers to a material risk of higher prices and/or reduced service where they acquire the retail service from that operator licensee during that period*

- 82 Bemobile and Lanigan have submitted that Digicel does have substantial market power, this power will persist, and this will result in retail customers facing higher prices. We discuss each of these issues in turn.

10.1 Does Digicel have substantial market power?

- 83 Lanigan's assessment of market power is based on the "structure-conduct-performance" (SCP) paradigm. This focuses on underlying structural factors (e.g. how sellers interact with each other and with buyers) as well as the conduct of the firms in determining the performance of markets. There are several difficulties with

the SCP paradigm, notably that structure is not fixed and the actions of firms can alter it. Whereas the SCP approach views “performance” as a consequence of “structure”, in fact the reverse causal effect is very likely, especially in the case of PNG mobile services. The stronger market performance of Digicel has led to the current structure in which bemoobile has a relatively low market share.

84 Instead, the modern approach to the assessment of competition and market power is strategic in nature and based on the foundations of game theory.⁸ This means focusing on barriers to entry and expansion as key determinants of market power. If these barriers are low, then the firms in the market will be constrained by the actions of existing and potential competitors, and will not be able to exercise market power. We recommend that NICTA adopt this approach rather than the SCP-based approach advocated by Lanigan.

85 Lanigan’s report also ignores the impact of Citifon. While it is still early days, Citifon has entered the market with very aggressive retail pricing. It is strange to conclude that there are competition problems in the market when a disruptive new entrant has just entered the market. New entry is normally considered to be a sign of a healthy market. A prudent regulator would wait to see how this new competition plays out, rather than using retail price regulation that may handicap legitimate competitive strategies and may undermine the incentive to invest. We note that large on-net discounts are a key feature of Citifon’s pricing. Citifon may decide to reconsider that strategy if NICTA sends a signal that such pricing is undesirable should it prove to be successful.

Barriers to entry and expansion

86 In a strategic assessment of market power, barriers to entry and expansion are the key issue. We agree with NICTA that market share is not determinative of market power, particularly in a market where penetration is low and growing rapidly. To a large extent, market share reflects the history of the market performance up to that point, and does not necessarily reflect how competition will play out in future. There are many examples of markets (including potentially the PNG mobile sector) where high market shares are only temporary and can be rapidly eroded by successful competitive strategies. This is particularly true in markets where product and service innovation is rapid, as is the case in mobile telecommunications. This is also particularly true in rapidly growing markets, where penetration is currently low, as in the PNG mobile sector.

87 Competition analysts therefore should focus on whether there are material barriers to new entry, or to the expansion of existing firms. The first task is to define what a barrier means. Lanigan’s definition is “any factor that reduces the contestability of a market”. This is so broad as to be unhelpful. All mobile networks face major costs and risks at the time they launched. The investment undertaken by Digicel in PNG

⁸See Chapter 1 of Tirole (1988), *The Theory of Industrial Organization*, MIT Press.

was (and still is) affected by many risks, and so is bembile's investment. These risks are barriers to entry under Lanigan's definition, yet we can see that entry has in fact occurred and the resulting competition has led to many consumer benefits. Barriers are therefore better defined as factors reducing entry or expansion that were not faced by the incumbent(s).

- 88 We also note that many of the investment risks in PNG relate to factors that are inherent to the market, such as security risks and the risk of infrastructure or operational failures. These are not factors that retail price regulation is able to reduce. On the contrary, by constraining market conduct, the threat of retail price regulation sponsored by a competitive rival might be expected to increase investment risk, thus making entry and expansion even less attractive.
- 89 This is because an investment that happens to pay off and generate a good return is likely to attract NICTA's attention, and these returns will be capped. In the alternative case where the investment does not pay off, the investor cannot expect any compensation from NICTA to offset the losses. Thus the threat of regulation has the effect of reducing expected returns on investment, and this will reduce the incentives to invest overall.
- 90 As we have argued above, bembile's current position is largely a function of its failure to fulfil its coverage obligations and ineffective management. Neither of these facts can be a source of market power for Digicel, as they are not enduring barriers to entry or expansion. The recent ADB funding for bembile will allow it to easily expand coverage, and attracting talented management should be possible for a well resourced firm such as bembile.
- 91 Furthermore the growth opportunities present in the market mean that bembile does not have to churn customers from Digicel in order to grow. In contrast, Digicel's work to grow the overall size of the market benefits bembile even if it maintains its current market share in percentage terms.

Infrastructure, Access and Investment

- 92 We believe bembile has significant spare capacity in its network. They could readily expand their business by making better use of what they already have. Improved performance by bembile in distributing its pre-pay cards to areas of existing coverage is one potential source of such gains. This would amount to "expansion" of bembile's customer base and of the total size of the market, but without committing significant extra capital.
- 93 We disagree with Telikom's suggestion (at page 3) that Digicel's superior sales and distribution network is a source of market power. There is nothing to stop its competitors from building a similarly effective network.
- 94 Excess capacity is an important factor in market power assessment, because if competitors are capacity constrained then they are unlikely to be able to wield market power. This issue is ignored by both NICTA and Lanigan.

- 95 Finally, Lanigan claims that Digicel's large size gives it easier access to capital and deeper pockets relative to its rivals. However, bemobile's owners are also very substantial and experienced companies with have networks in other countries.
- 96 One of bemobile's owners is GEMS, a private equity firm based Hong Kong that "concentrates on identifying companies with strong ties to Asia that we consider to have well defined assets or projects, excellent growth potential, and qualified management teams." GEMS has been in business since 1998 and has "managed over \$850 million of capital commitments from financial institutions, sovereign wealth funds, global corporations, and prominent family offices and individuals from around the world."⁹ Other investors include PNG SDP, Nasfundand Nambawan Super Limited which describes itself as "the largest superannuation fund in PNG".¹⁰
- 97 Bemobile has recently been approved for a substantial injection of ADB capital. We also understand that Telikom has in the past received large injections of cash from the PNG government. We therefore do not consider Digicel to have a significant advantage over its rivals in this regard.

Economies of Scale and Scope

- 98 Lanigan is correct that mobile networks can exhibit economies of scale. However, her analysis of average costs versus market share from Australia has no relevance in the PNG context. A network with 100% of the current mobile market in PNG would have only about a 10% market share in Australia based on subscriber numbers, and significantly less based on revenue. The range of variation in volume of output (eg call minutes) implicit in the WIK study cited by Lanigan for changes in market share between 25% and 45% is much greater than the range of variation in output across operators in PNG and is unlikely to be representative of the relevant economies of scale.
- 99 Digicel has achieved greater market share, customer numbers, and aggregate traffic volumes than bemobile, however it also has significantly greater coverage in low-traffic rural areas, which Lanigan acknowledges are expensive to cover. Overall across Digicel's network, there is no evidence that Digicel's unit cost is lower than that of bemobile, which has less traffic but also a smaller coverage footprint and covers only areas that are relatively cheap to serve. Absent empirical evidence, it is not reasonable for Lanigan to assume that Digicel has a unit cost advantage.
- 100 Even if Digicel does have a lower unit cost than bemobile, this is not likely to be an enduring barrier to expansion. Given the low rate of mobile penetration in PNG and the rapid rate of market growth, there are ample opportunities for bemobile to

⁹<http://www.gems.com.hk/home.html>

¹⁰<http://www.nambawansuper.com.pg/>

http://www.islandsbusiness.com/islands_business/index_dynamic/containerNameToReplace=MiddleMiddle/focusModuleID=18982/overrideSkinName=issueArticle-full.tpl

grow its customer base and traffic volumes, and achieve economies of scale. In other words, the fact that Digicel may have economies of scale does not prevent bemoobile from also achieving those economies.

- 101 Furthermore it is important to recognise the incentives created by the potential to achieve economies of scale. A mobile network with low traffic volumes has the greatest incentive and opportunity to realise scale economies by using its *existing* assets.
- 102 In her analysis of economies of *scope*, Lanigan commits the same fallacy of bias as NICTA when she agrees that economies of scope are “less relevant” because all firms have them. This is a relevant factor in the market power analysis, but it is one that points in the opposite direction from the conclusion on market power desired by Lanigan and NICTA. Ignoring such factors rather than including them in the analysis and weighing them up against other factors biases the analysis towards a finding that Digicel has market power when in fact it has none.

Vertical Integration

- 103 Lanigan appears to be arguing that Digicel has market power in termination of calls on Digicel’s network, which it is able to leverage into the retail market. This is wrong and irrelevant, for several reasons:
- All mobile networks supply both retail services and termination – this is not an advantage that Digicel has but bemoobile does not;
 - Termination rates are highly regulated,
 - Subsidised retail prices would be “too low”, whereas the stated concern of NICTA is that Digicel’s off-net price might be too high.

Countervailing Buyer Power

- 104 In her analysis of countervailing buyer power in the retail market, Lanigan only considers private networks and Wi-Fi services as alternatives for business customers. In reality in PNG there are three competing mobile networks that many customers can choose from, and this gives customers the ability to exercise some countervailing bargaining power over the operators.
- 105 This is particularly true for business customers that operate under a single account and can seek and compare customised offers among the networks. It is quite common for business customers to conduct tenders for mobile services at and between particular worksites (e.g. mining camps, bank branches) and these can be contested by all three operators and won on the merits. Moreover, such tenders can give network operators a “foothold” in a particular location, from which point coverage can be expanded.

- 106 Furthermore, Digicel only wins a tender if it offers a superior price/service combination. The tender process shows that buyers can exercise significant countervailing bargaining power.
- 107 Lanigan notes that NICTA seems to be confused about countervailing buyer power in wholesale (i.e. termination) markets versus retail markets. We agree, and add that only countervailing power in the retail market is relevant to the assessment of market power in this case.
- 108 Lanigan points to the omission of off-net prices on Digicel’s website. This was a temporary unintentional omission that has been corrected. The off-net rates have always been available at in-store brochures. In any case it is not clear whether this lack of information would increase or decrease the volume of off-net calls – it depends what consumers estimated the price to be if they did not know.

Market Conduct

- 109 In her discussion of market conduct, Lanigan does not attempt to explain Citifon’s pricing, which is more extreme in terms of the ratio of the off-net price to the on-net price than Digicel’s or bemobile’s. Economic theory suggests that it is the price ratio that matters for competition in mobile markets.¹¹
- 110 Lanigan also does not properly assess the evidence regarding “the apparent inability of bemobile to erode Digicel’s market share”. Erosion of market share is not particularly important in a low-penetration but rapidly growing market such as PNG. As we have demonstrated above, it is possible for bemobile to significantly expand its customer base without capturing any Digicel customers at all.
- 111 Instead, Lanigan incorrectly concludes that Digicel’s use of on-net discounting is the primary driver of bemobile’s market share, when in fact many other factors are relevant to customers when choosing which network to join. Rather than ascribing bemobile’s market share entirely to retail marketing pricing conduct, it would be sensible to consider other dimensions of competition, such as the difference between bemobile and Digicel in the following areas:
- coverage and network quality;
 - breadth and quality of handset and prepaid card distribution network;
 - quality and availability of customer service; and
 - effectiveness of marketing.

¹¹See, for example, the paper by Hoernig (2007), “On-net and off-net pricing on asymmetric telecommunications networks”, *Information Economics and Policy*, 19: 171 – 188.

- 112 Market outcomes depend on the combination of service quality (including the above factors) and pricing. If one ignores all of the service quality issues, then pricing is the only thing that will seem important. NICTA should not fall into this trap. It should recognise that service quality matters and resist the Lanigan/bemobile invitation to focus solely on the on/off net price structure.

Market Outcomes

- 113 According to Lanigan (page 13), mobile termination rate is not a good proxy for cost, unless it is set with reference to a cost model. However we strongly disagree with Lanigan's use of a single cost benchmark from Samoa to estimate whether pricing in PNG is "excessive". The use of a single data point as a benchmark is entirely inappropriate and subject to extreme probability of error.
- 114 Most importantly, there are significant differences between Samoa and PNG that affect network costs and Lanigan does not fully account for these. As well as differences in terrain and population, there are significant differences in investment risks, the cost of capital, security risks, infrastructure costs, and the overall size and complexity of the network. Lanigan makes no attempt to discuss or account for these differences and makes no attempt to explain why Samoa is a reasonable benchmark for costs in PNG.
- 115 Furthermore, it is a basic principle of economics that a firm's profits depend not only on its own actions but the actions of its competitors. To determine whether or not Digicel is making "excess" profits, it is necessary to consider the actions of its rivals including bemobile. To the extent that Digicel makes profits due to bemobile's ineffective market strategies, this is not Digicel's fault, nor something that Digicel should be punished for. Viewed in this light, retail price regulation on Digicel is grossly unjustified, and would only serve to entrench and reward bemobile's ineffective strategies, to the ultimate detriment of customers in PNG.
- 116 We also strongly disagree with the suggestion that there is a lack of competition on non-price factors in PNG. Had Lanigan had the time and data with which to properly analyse and understand the PNG mobile market, she would have seen that non-price competition is a very important part of Digicel's market strategy. Digicel works very hard and invests significant amounts of money to provide the best coverage, highest service quality, best customer service and most efficient sales and distribution network that is possible in PNG.
- 117 In the absence of these facts, it is unfortunate that Lanigan has offered what appears to be mere speculation that non-price competition will weaken in future.¹²In reality, Digicel has a very strong internal performance culture, regardless of what our competitors do. Our staff are highly motivated to monitor and continuously improve our internal benchmarks for performance on non-price

¹²For example, at page 22, Lanigan speculates that "Digicel itself will have a significantly reduced incentive to invest in improving its network coverage and service quality due to the reduced competitive constraint."

factors. As well as comparing performance against its competitors in PNG, Digicel strives to match or better its international counterparts in terms of quality and performance standards.

- 118 We disagree with Lanigan that churn is an important metric to gauge market outcomes in PNG. As we have noted several times above, penetration is low and rapidly increasing, driven by coverage expansion and increased uptake. The key battleground is for new customers. Lanigan's focus on churn highlights the key difference between Digicel and bemoible. While Digicel is working to invest, expand coverage and grow the market by bringing mobile services to new customers, bemoible appears to be focused on capturing customers from Digicel, effectively trying to leverage off Digicel's efforts to grow the market.
- 119 We submit that, at the present time, growth in mobile penetration is a much more useful measure of market performance than churn.
- 120 Therefore, Digicel submits that barriers to entry and expansion are currently low and market share is not reflective of the state of the existing and potential competitive pressures that Digicel faces.

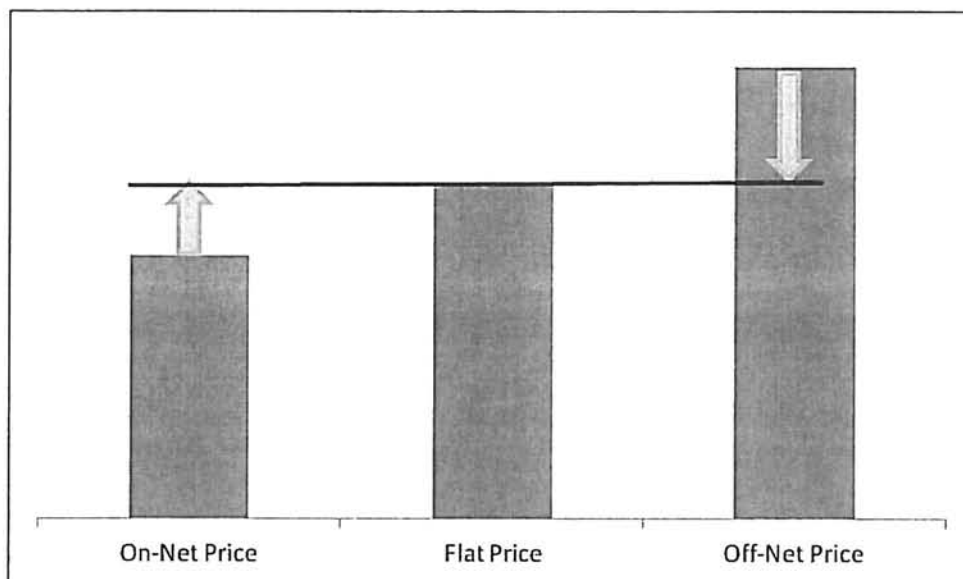
10.2 Is market power likely to persist absent a retail service determination?

- 121 Digicel does not agree it has substantial market power.
- 122 While a retail service determination aimed only at Digicel would clearly weaken Digicel's ability to compete relative to other operators that are unconstrained, it would not address the fundamental problems in the market which arise from bemoible's failure to provide the services that customers want. It seems quite perverse to weaken the operator that is providing the greatest value and benefits to mobile customers in PNG in order to prop up a competitor that has failed to do so.
- 123 This relates back to the point that good regulation should protect the process of competition and not individual competitors. A retail service determination (particularly one targeted only at Digicel) is clearly designed to protect individual competitors but actually harms the process of competition by constraining Digicel and weakening the incentive to invest.

10.3 Evaluating a retail service determination - What are the impacts on the mobile market and customers?

- 124 Section 158 of the NICT Act requires that any retail service determination be consistent with the competition and efficiency objectives of the Act. Section 158 also requires that (part d) "the aggregate likely benefits of making that retail service determination outweigh any aggregate likely detriments." This requires undertaking a cost-benefit analysis, to weigh up the costs and benefits to the public of making a retail service determination.

- 125 None of this analysis has been attempted by NICTA, bemobile or by MsLanigan. In fact MsLanigan has given the retail regulation criteria contained in s158 little attention at all.
- 126 A cost-benefit analysis of a proposed retail service determination involves specifying and comparing two scenarios - what will occur if the retail service determination is made, and what will occur if it is not made. This comparison requires estimating the effects on all relevant market outcomes, including prices, usage, penetration, consumer welfare, and investment.
- 127 Most importantly, it is important to appreciate that a non-discrimination condition is likely to result in a significant re-balancing of mobile retail prices, i.e. an increase in price for on-net calls. It is well known that imposing a non-discrimination rule in this situation is likely to cause on-net call prices to rise, as a consequence of the Waterbed Effect.¹³



- 128 This will result in consumers paying higher prices for the majority of calls, with a corresponding reduction in consumer welfare and reduction in the volume of calls.
- 129 The effect of a retail service determination on regulatory risk and the consequences for incentives to invest in the mobile market is another cost that must be considered. As we have explained, unnecessary retail regulation will cap returns on investments that happen to turn out positive, while losses on investments that are not successful are unlimited. This weakens the incentive to invest.
- 130 In practical terms, unnecessary regulation (or even the threat of such regulation) will mean slower coverage expansion and slower rollout of new and improved

¹³A Schiff, 2008, The 'Waterbed' Effect and Price Regulation, *Review of Network Economics*. Volume 7, Issue 3, Pages 56-78.

services.¹⁴ These will lead to direct losses of social and economic benefits for the people of PNG.

131 MNOs in PNG are already subject to wholesale regulation. Thus, additional regulatory burdens should be well-targeted and introduced with caution. Given their intrusiveness, they should be the last resort. We agree with Telikom's submission that if retail price regulation is justifiable, any such intervention should be absolutely minimal.

132 In our view, imposing a Retail Price Determination would lead to harmful over-regulation. There is strong authority in the EU against an outright imposition of access obligations and regulation of, in particular, "fixing of prices and conditions for supply", as described in the Bronner case.¹⁵ The opinion of Advocate General Jacobs, warning against excessive regulation is of particular interest here:

*To accept Bronner's contention would be to lead the Community and national authorities and courts into detailed regulation of the Community markets, entailing the fixing of prices and conditions for supply in large sectors of the economy. Intervention on that scale would not only be unworkable but would also be anti-competitive in the longer term and indeed would scarcely be compatible with a free market economy.*¹⁶

133 In its submission to NICTA, bemobile listed numerous ancillary factors which allegedly contribute to Digicel's dominance in the PNG market, e.g. distinct and recognizable prefix codes which provide signals to consumers which, in turn, stems from very limited number portability in PNG. These issues, however, are entirely separate from the price discrimination practiced by Digicel and it would be erroneous to treat them as factors contributing to the necessity of making a Retail Price Determination.

134 In summary, Digicel's position is that a non-discrimination condition does not meet the criteria of section 158 of the NICT Act.

10.4 International Precedents

135 bemobile implies that NICTA would have ample international support if it was to proceed as bemobile wishes. That is not correct, even if attention is restricted to the few jurisdictions cited by bemobile. Of those fourteen jurisdictions:

¹⁴ It is interesting to note that the cost of the public inquiry is estimated to be equivalent to the cost of building one tower. The money that would have been saved could have been used to provide mobile services at a new site. To discourage unwarranted public inquiries, NICTA should consider requiring bemobile to reimburse Digicel for the cost of engaging in the present inquiry.

¹⁵ Judgment of 26 November 1998, Bronner (C-7/97, ECR 1998 p. I-7791). See: <http://curia.europa.eu/juris/showPdf.jsf?text=&docid=43749&pageIndex=0&doclang=EN&mode=doc&dir=&occ=first&part=1&cid=1600927>

¹⁶ *Ibid*, paragraph 69.

- five have non-discrimination rules that apply to all operators, dominant or not;
- four have no rules at all;
- three have implemented something similar to what has been proposed by bemobile;
- one has a non-discrimination rule for fixed-line only; and
- one has a price floor for on-net (non-discriminatory, i.e. for all operators)

136 So the weight of evidence among this list of countries is towards either no rules, or rules that apply to all operators.

Country	Rule
Bolivia	Discrimination banned for all operators
Columbia	Off-net = on-net + MTR for SMP operators
Jamaica	Nothing
Kenya	Discrimination banned for SMP operators
Namibia	Discrimination banned for all operators
New Zealand	Fixed-line constraint only, not mobile
Paraguay	Discrimination banned for all operators
Portugal	Nothing
Qatar	Discrimination banned for SMP operators
Singapore	Nothing
Slovenia	Price floor on-net for all operators
Thailand	Discrimination banned for all operators
Turkey	Price cap off-net for all operators
USA	Nothing

11 Key issues – On-net discounts and mobile competition

137 On-net discounts and the effect of this pricing strategy on competition in mobile markets are key issues facing NICTA. Recent theoretical economic literature on this topic emphasises the role of the *ratio* of the off-net price to the on-net price. It can be shown that, in some limited circumstances, it is theoretically profitable for a network to set a high off-/on-net price ratio without seeking to suppress competition.

138 Given the importance of the ratio of the off-net price to the on-net price, it is useful to examine these ratios in PNG. We have calculated the ratios shown in the table below from the prices in Table 4 of Lanigan’s report. All three operators use on-net

discounting of varying degrees, and the ratio of the off-net price to the on-net price for a five-minute call is similar for Digicel and bemobile. However the most striking feature is the extreme on-net discounting used by Citifon, with off-net prices 19.5 times greater than on-net prices, for the first minute and all additional minutes.

Table 3 Ratios of off-net prices to on-net prices.

	1 st Minute	Additional minutes	5-minute average.
Digicel	1.72	15.45	5.86
bemobile	1.25	9.90	4.13
Citifon	19.50	19.50	19.50

Source: Calculated from Table 4 of Lanigan's submission.

139 Citifon has chosen to use aggressive on-net discounting as a strategy to compete with Digicel and bemobile. Whether or not this strategy will work and will be profitable remains to be seen, however we can only assume that it is a rational business choice for Citifon. Given that aggressive on-net discounting is being used by a new entrant in PNG, we question whether such behaviour can be considered to be anti-competitive. On the contrary, there are clearly pro-competitive aspects of on-net discounting that need to be considered.

(a) Do on-net discounts entail anti-competitive purpose?

140 As we noted above, theoretical economic models often assume (for analytical convenience) that the value of belonging to a mobile network is directly proportional to its market share in the presence of on-net discounting. In reality, people do not care in the slightest about the vast majority of members of a mobile network, as they never communicate with them. Of much greater relevance is the network membership of the customer's frequent calling circle. Since these calling circles are often comprised of family members, friends, or employees of a business, people in these circles have an incentive and the ability to coordinate their network choice. Therefore to the extent that on/off-net price ratios affect competition, it is competition for these clusters of customers. Overall market share is much less important to most people.

141 One implication of the fact that people tend to coordinate their network choice with those they call often is a natural bias in calling patterns towards on-net calls. More importantly, this behavior gives mobile networks an incentive to design offers that are attractive to these types of behaviour, ie to offer on-net discounts. Thus on-net discounts can arise naturally through the process of competing for customers with certain types of calling patterns, given the fact that calling circles can coordinate their network choices. On-net discounts can therefore be viewed as a pro-competitive development.

142 To further expand on this point,, there is strong recent authority that the total pool of users of telecommunications services can be divided into "circles" which resist the

wider spread of network effects. For example, in the *Microsoft/Skype* decision¹⁷ the Commission made the following finding:

*However, the network effects are mitigated by the fact that most consumers of communications services make the majority of their voice and video calls to the small number of family and friends that make up their so called "inner circle". (...) Therefore, it is not difficult for these groups to move between communications services.*¹⁸

- 143 This is especially true in the situations of young and quickly growing markets offering ample opportunities for investment and expansion. As the Commission noted:

*The existence of low barriers to expansion is illustrated by the fast growth in terms of active users of recent new entrants in the consumer communications services markets (...). [Moreover] the consumer communications services are a nascent and rapidly growing sector which should facilitate entry and expansion into the consumer communications services markets.*¹⁹

- 144 The academic body also supports the finding that, from the demand-side perspective, mobile telecommunications markets are divided into numerous microcosms of families and friends. In their paper entitled "*Me and You and Everyone we know: an empirical analysis of local network effects in mobile communications*"²⁰, Nicoletta Corrocher and Lorenzo Zirulia refer to this as *local network effects*. Thus, choice of the provider is dictated by the needs of any particular group:

Since individuals typically call a small subset of the entire population (e.g., family members and friends), network effects are local, in the sense that, ceteris paribus, for a consumer is convenient to adopt the same operator of the consumer she calls more frequently.²¹ (...) In other terms, it is an individual's social network which constitutes the relevant reference group which influences his/her choice of operator.²²

- 145 For example, businesses often choose a single mobile network for all their employees, to take advantage of on-net discounts. Families have a similar ability to coordinate, and there is evidence of this occurring in PNG to take advantage of

¹⁷ Case No COMP/M.6281 - MICROSOFT/ SKYPE (07/10/2011). See: http://ec.europa.eu/competition/mergers/cases/decisions/m6281_20111007_20310_2079398_EN.pdf.

¹⁸ Ibid, paragraph 92.

¹⁹ Ibid, paragraphs 93-94.

²⁰ The Rimini Centre for Economic Analysis (WP 03-08). See: http://www.rcfea.org/RePEc/pdf/wp03_08.pdf

²¹ Ibid, page 2.

²² Ibid, page 5.

Citifon's aggressive on-net pricing. Telikom PNG Chief Commercial Officer, Ajay Mathu put it this way in July 2011:²³

"Our all day all night call rate of 2 toea and 1 toeasms with Citifon to Citifon has mothers and fathers purchasing phones for the whole family to simply minimize the cost of staying in touch with loved ones, and that's the real beauty of Citifon – economic for the whole family and that's what everyday Papua New Guineans will afford." --

- 146 Thus, as long as a niche operator is willing to offer competitive packages targeted at those micro groups, he can effectively shield himself against the alleged network effects employed by his competitors – in particular against the alleged chain reaction brought about by market tipping. The authors point out that *sound theoretical arguments suggest that local network effects can increase firms' market power.*²⁴
- 147 The authors come to conclusion that *there is consumer coordination of operators (...) that cannot be [traced down] to overall market shares*²⁵. Furthermore, they find the *existence of a [disproportionate] share of on-net calls unrelated to price differentials, which indeed does suggest a form of coordination among friends in operator choices independently from local network effects.*²⁶
- 148 Finally, the authors suggest that it is the existence of such local network effects that leads to large on-net/off-net charges differences, rather than the size of the network on the national scale.
- 149 In its October 2010 Report²⁷, Body of European Regulators for Electronic Communications (BEREC) concluded that network effects are relative in their strength, i.e. they are dependent on how *an individual values his contacts when selecting a service provider.*²⁸ Furthermore, the Report also appeared to underline that, in all cases, consumers choose the operator who offers *the best value for money*²⁹. In other words, there does not seem to be any reason why an operator would not be able to find his own niche in the market and subsequently increase his share by competing on the merits.

²³<http://www.telikompng.com.pg/MediaNews.aspx> (entry dated 8 July 2011)

²⁴ Ibid, page 3.

²⁵ See footnote 3, page 6.

²⁶ Ibid, page 7.

²⁷ *BEREC report on best practices to facilitate consumer switching* (BoR (10) 34 Rev1). See: [http://www.erg.eu/streaming/BoR%20\(10\)%2034%20Rev1%20Switching%20report_final.pdf?contentId=546966&field=ATTACHED_FILE](http://www.erg.eu/streaming/BoR%20(10)%2034%20Rev1%20Switching%20report_final.pdf?contentId=546966&field=ATTACHED_FILE).

²⁸ Ibid, page 18.

²⁹ Ibid, page 60.

- 150 Already in 2007, BEREC advocated a very careful assessment, looking at the market circumstances on a case-by-case basis.³⁰ It noted that *that the magnitude of any impact on competition stemming from the network effects (...) is likely to depend on number of issues and is likely to vary between countries.*³¹ The primary ones were said to be: *the factors that customers take into account when selecting a network, the extent to which the numbers that a customer calls the most tend to be clustered on particular networks, the structure of retail prices(...).*³² The relative sizes of the operator's customer bases and the on-net/off-net price differences were only some of the factors mentioned in BEREC's Common Position.
- 151 These arguments show that the overall number of customers that each MNO has is not critical.
- 152 In contrast to this evidence, Lanigan greatly exaggerates the importance of network effects generated by on-net pricing in PNG. Using theoretical reasoning alone, MsLanigan draws the strong conclusion that "network effects are relevant and do indicate dominance by Digicel". She does not acknowledge that on-net discounting commonly occurs in workably competitive mobile markets around the world. On-net discounting has also successfully been used by new entrants to compete with incumbents, and is currently being heavily used by Citifon in PNG. Given these well known facts, the question MsLanigan should have considered is whether Digicel's on-net pricing is out of line with these normal and efficient competitive pricing strategies.
- 153 Lanigan does not just ignore the facts however. She also selectively ignores aspects of the theory, such as the ability for network effects induced by on-net discounting to intensify competition between mobile networks. This was demonstrated in the 2009 paper by Mark Armstrong and Julian Wright.³³
- 154 The logic of this is as follows. With on-net discounts, a network that becomes larger makes itself relatively more attractive to its existing customers as well as to new customers. This means that the additional benefit to a network of attracting an additional customer is the revenue that can be obtained from that customer, *plus* the additional revenue that can be obtained from existing customers due to their greater willingness to pay to belong to the network.³⁴ This effect makes attracting an additional customer more valuable to the operator than it would be if there was no network effect induced by on-net pricing. This causes networks to compete more intensely for customers, leading to lower profits and increasing consumer welfare.

³⁰ ERG (07) 83 Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates. See: http://erg.eu.int/doc/publications/erg_07_83_mtr_ftr_cp_12_03_08.pdf.

³¹ Ibid, page 97.

³² Ibid.

³³ Mark Armstrong and Julian Wright "Mobile Call Termination" *Economic Journal*, 2009, 119, 270-307.

³⁴In technical terms, the marginal revenue of an additional subscriber is greater when there is a network effect

- 155 The theoretical literature also shows cases where network effects due to on-net discounting can be used for anti-competitive purposes. We discuss this further below, however for now we wish to stress that there can be both pro- and anti-competitive effects of on-net pricing. Lanigan focuses entirely on the anti-competitive arguments and exaggerates the likelihood of these to occur. In considering whether to advocate a rule against on-net discounting, NICTA must consider both the possible benefits and the possible detriments that might arise.
- 156 Furthermore, there is no evidence to support Lanigan's assertion that SIM-locking and the lack of mobile number portability are important barriers to switching in PNG. Digicel's experience is that many mobile customers in PNG are willing and able to change their mobile number frequently in order to take advantage of the pricing offers of each network.

Competition in pricing strategies should not be prevented

- 157 It is very important to realise that on-net pricing is not necessarily attractive to all customers. Different customers have different calling patterns. Some customers prefer low on-net prices notwithstanding high off-net prices. Other customers prefer low-off net prices even if this entails higher on-net prices.
- 158 The key point is that customers differ in their calling patterns, and mobile networks compete to attract these different types of customers. Over time, we expect to see competition in pricing strategies emerge, and the process of market competition will determine which types of pricing are successful. As we explained above, in this light on-net discounts can be viewed as a pro-competitive development.
- 159 It is very important to realise that the economic theory about the anti-competitive effects of on-net pricing cited by MsLanigan in her report only predicts that on-net pricing is anti-competitive in *some* circumstances. If used for anti-competitive purposes, on-net pricing can be thought of as similar to predatory pricing – setting a low price in order to harm one's rivals. But low prices are an expected benefit from competition, so extreme care is needed before concluding they are "too low". Low on-net pricing is not always profitable, because setting a low price means foregoing some potential profits on on-net calls. It also means losing some customers who dislike the relatively high price of off-net calls, which is inevitable if on-net calls are heavily discounted. These losses must be weighted up against the potential gains from suppressing competition in the long run, and it is definitely not always the case that on-net pricing is a profitable way to suppress competition. The theoretical literature (egHoernig, 2007) is quite clear on this point.

(b) *Calling Externalities*

- 160 Lanigan notes that "calling externalities" are important in the economic theory of on-net discounting, but she gets the definition of a calling externality wrong. A calling externality is the positive benefit that a mobile user receives from being called that is not taken into account by the caller. Lanigan omits the latter part of the definition, which is quite important.

161 In reality, callers frequently take the recipient's benefit into account when deciding whether to call them and how long to talk. This is common among family members, friends and business associates.

162 The paper by Hoernig (2007) also cited by Lanigansheds useful light on this issue because it highlights that on-net discounting can arise as a natural result of competition in mobile markets. Hoernig shows that, depending on market characteristics, on-net discounting might be anti-competitive once the ratio of the off-net price to the on-net price passes some limit. Again the key point is that market specific factors including market shares and costs are important, and we cannot reach a conclusion based on theoretical arguments alone. Whether on-net prices are anti-competitive is an empirical issue.

(c) Do on-net discounts create barriers to entry/expansion?

163 The basic argument against on-net discounts is that they make it more attractive for customers to belong to a larger network, and this creates a barrier to entry, or a barrier to expansion for smaller networks.

164 Network effects are one of the factors taken into account in by regulation and competition authorities all around the world in their assessment of barriers to entry in developed and saturated markets. However, the same reasoning cannot be applied in a market where the take up of mobile services and mobile penetration are still relatively low, as in PNG.

Network effects do not constitute a significant barrier to entry when overall penetration is low

165 When considering the likelihood of network effects to create a real barrier to entry and expansion for Digicel's competitors, regard must be had to overall market conditions. The European Commission discussion paper on the application of Article [102] of the Treaty³⁵ underlines the importance of looking at the market as a whole to infer evidence of the possibility of foreclosure.³⁶ This is especially important if it can be shown that there are customers situated in a geographic area well suited to new entry.³⁷

166 The key point is that with so many potential customers still outside the mobile market, Digicel's competitors have ample opportunities to attract customers without having to lure them away from Digicel. In conclusion, Digicel's market share

³⁵ DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses (Public consultation - Brussels, December 2005). See <http://ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf>.

³⁶ Ibid, paragraph 196.

³⁷ Ibid.

cannot be regarded as proof of dominance creating barriers to entry in the market of PNG in the event when the country's total penetration rate is so low³⁸.

Price discrimination is perceived by economic literature as having welfare-enhancing effects

167 There are no signs of predation by Digicel, for example in conjunction with subsidizing its low on-net prices by off-net prices. Assuming that Digicel does not price below-cost, its pricing strategy cannot be held to be foreclosing³⁹. Rather, what Digicel appears to be doing is a classic example of price discrimination which is not only a commercially logical move, as it increases the attractiveness of its network, but it actually increases the surplus of its consumers – currently the biggest group of users of mobile communications services in PNG. As David Sauer noted in his recent article “Welfare implications of on-net/off-net price discrimination”:⁴⁰

When market expansion possibilities exist, however, price discrimination becomes socially desirable. Consumers benefit from price discrimination in all settings considered. High off-net prices resulting in an increased average calling price charged by networks in the presence of externalities seem to be bad for consumers at a first glance. However, price discrimination does not harm consumers since it is accompanied by lower on-net prices and fixed fees which over-compensate the rising average calling price. Allowing firms to charge different on-net and off-net prices thus has a pro-competitive effect serving consumers.⁴¹

168 Probably the most important conclusion of Sauer's research was that price discrimination is especially desirable in the developing markets, and thus should be encouraged by the regulators. One of the arguments summoned is the need to enhance total welfare in such developing economies to ensure constant investment, as opposed to tailoring regulation to maximize only the immediate consumer welfare. This strategy, of course, still benefits consumers in the long run. Admittedly, slightly different considerations may be present in the countries with “fixed market size”. This, however, is clearly not the case in PNG.

169 Thus, to prevent Digicel from price-discrimination would amount to acting against consumers' interests and not in support of them, as bemobile argues.

³⁸ Digicel PNG estimates mobile penetration to be around 40%. This is based on a census last undertaken in 2000 when PNG's population was estimated to be 5.2 million. See: http://www.spc.int/prism/country/pg/stats/2000_Census/census.htm.

³⁹ Also see to this effect *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty* where it is held that volume rebates are not illegal as long as they do not have a fidelity-inducing effect.

⁴⁰ Toulouse School of Economics (This version: March 12, 2011). See: http://web.me.com/davidsauer/research/assets/Welfare_PD_mar_2011.pdf.

⁴¹ *Ibid*, page 19.

Part E Conclusion

- 170 Digicel submits that mobile penetration in PNG remains low and raising mobile penetration will ensure that mobile services contributes to the greatest extent possible to the long-term economic and social development of Papua New Guinea. NICTA should do everything possible to encourage mobile network operators to raise mobile penetration, including in rural and regional areas of PNG.
- 171 NICTA's decision to hold its first public inquiry on retail services regulation was, with respect, a mistake. It has been an unnecessary distraction. More critically, the prospect of retail regulation in PNG is deterring investment and undermining the longer-term objective of raising mobile penetration.
- 172 Nonetheless, NICTA has an opportunity to send a clear message to mobile network operators and the investment community that having undertaken this public inquiry, NICTA concludes that:
- (a) mobile penetration in PNG is low;
 - (b) there remains considerable scope for mobile network operators in PNG to expand their subscriber base by raising mobile penetration;
 - (c) retail regulation risks undermining the objective of the National ICT Act, being *"to ensure that the ICT industry contributes to the greatest extent possible to the long-term economic and social development of Papua New Guinea"*;
 - (d) raising mobile penetration to at least 100% would ensure that the ICT industry contributes to the greatest extent possible to the long-term economic and social development of PNG;
 - (e) retail regulation risks deterring the investment required to raise mobile penetration in PNG; and
 - (f) there can be no case for retail regulation when a substantial proportion of PNG's population remains without mobile services.
- 173 NICTA should not be afraid to let Bemobile fail. Bemobile has been allocated valuable radio spectrum. If Bemobile fails, this spectrum will remain available along with the network facilities that use this spectrum. In a competitive market, these valuable resources will be reallocated to another firm that is better placed to make full use of these resources. Any disruption experienced by customers and employees will be temporary. In the long run, PNG will have a more efficient mobile sector focussed on the longer-term goal of raising mobile penetration.