DIGICEL (PNG) LIMITED

Submission to NICTA

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

Friday, 1 June 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

Digicel urges NICTA to reconsider its proposal to intervene in the mobile services market, which by any measure is one of the healthiest sectors in the PNG economy. The proposed intervention may be well-intentioned, but risks harming Digicel's goal of bringing mobile services to at least another 1 million mobile customers in PNG. The opportunity to serve these extra customers remains open to all operators. There are strong indications that new investors with a telecommunications background will enter the market in PNG within the next 3 to 6 months, possibly by taking over bemobile, and many of the present management issues that bemobile currently faces could be addressed very quickly.

This submission sets out Digicel's views in relation to NICTA's second discussion paper in its Public Inquiry into the need for a RSD regarding certain mobile telephony services. As will be apparent from this submission, Digicel's is firmly convinced that NICTA's proposed RSD is entirely inappropriate.

NICTA's proposal relies on a theory that does not apply to growing markets with low penetration, and therefore does not apply in PNG. Moreover, NICTA's attempts to validate this theory contain numerous errors of fact and interpretation.

NICTA's analysis suffers from theory-induced myopia, especially in relation to network effects. The analysis draws on models that assume saturated markets; models that are completely divorced from PNG's historical, economical and developmental context. These models cannot accommodate the fact that the mobile market in PNG has only been effectively liberalised for five years, or that mobile penetration has been rising steadily over that period but is not yet above 40%. The theoretical framework that NICTA employs also assumes that there are no constraints on investments in PNG when in reality many sectors of the PNG economy suffer from underinvestment as outlined in a recent Asian Development Bank report.[1]

As recognised by international experts Professor Martin Cave and Dr Chris Doyle, whose report is appended to this submission, it is a legitimate and beneficial part of the competitive process in growing markets for operators to internalise network effects by charging higher off-net tariffs. Digicel's pricing strategy has remained the same from the start, when it entered (with zero market share) against an established incumbent. The prospect of internalising network effects allows Digicel to continue making the investments necessary to bring mobile services to the un-served 1 million potential customers in PNG.

While this market expansion is entirely consistent with government objectives, and with the National ICT Act (2009), NICTA itself seems more concerned about protecting inefficient competitors than about raising mobile penetration in PNG. This view leads NICTA to make some rather extreme statements, such as the suggestion (page 103) that Digicel's previous and/or future investments may be "inefficient".

Digicel considers that NICTA needs to seriously re-think this initiative, abandon the RSD project and concentrate on initiatives that will help the markets to grow and develop, rather than seeking to tie the hands of the company that has been most successful in the short

[1] ADB 2012, Papua New Guinea – Critical Development Constraints.

history of competition in PNG. Digicel further submits that, for the reasons described in this submission, the proposed RSD would be a misuse of NICTA's powers under the Act.

Digicel is concerned that proceeding with the proposed RSD would soften competition, undermine incentives for the investment that is so sorely needed in PNG and result in worse short and long-term outcomes for the people of PNG. This would compromise the government's objectives for the ICT sector and set back the economic and social development of PNG.

Digicel encourages NICTA to swiftly reach a conclusion that a RSD is not required and to instead focus its energies on the many other important issues that face the ICT industry in PNG at this time.

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1 Executive Summary

1 In January 2011, bemobile wrote to NICTA asking it to regulate Digicel's off-net pricing. In October 2011, NICTA issued a short discussion paper[2] ('NICTA's first paper') expressing the view that "there were matters that warranted being tested and considered further through a public inquiry process" and seeking comment on its views and analysis. Along with other parties, Digicel provided NICTA with a submission and a cross-submission. NICTA has now issued a second, much longer discussion paper[3] ('NICTA's second paper') proposing to regulate Digicel's retail pricing in a way that "prevents discrimination between on-net and off-net prices except to the extent that any such differences are objectively justifiable based on differences in costs".

2 Digicel submits that this proposal relies on invalid and incomplete analysis and untested assumptions. Moreover, the proposed regulation would lead directly and demonstrably to

(a) Higher call prices for most of the calls PNG residents make;

(b) Less investment by the only mobile network to have seriously committed to serving the people of PNG; and

(c) Failure by the ICT sector to realize the PNG government's stated objectives and policies.

3 In this submission, Digicel explains and substantiates these facts. In particular, we show the following.

3.1 NICTA is obliged by the National ICT Act 2009 ('the Act') to promote expansion of the mobile sector, both regarding further investment in infrastructure and greater uptake (penetration) of mobile services by PNG residents. The very low levels of mobile penetration in PNG, and the rapid growth rates currently occurring, are both highly relevant to NICTA's legal obligations. This is established in Section 2.

3.2 NICTA's review of the theory on which its proposal depends is seriously flawed. In particular, it takes no account of PNG's low penetration rate which independent experts consider relevant to the theory. We show in section 3 and with reference to the attached report from Professor Martin Cave and Dr Chris Doyle that NICTA has mis-interpreted the theory, including by ignoring the positive role of price discrimination in expanding an under-developed market.

[2] NICTA, Public Inquiry into the need for a Retail Service Determination regarding certain mobile telephony services, Discussion Paper, 21 October 2011.

[3] NICTA, Public Inquiry into the need for a Retail Service Determination regarding certain mobile telephony services, Second Discussion Paper, 4 May 2012.

3.3 Our examination of NICTA's theory of harm and the evidence presented to test the theory shows the following.

(a) NICTA's theory of harm concerns effective competition in the long term. This is inconsistent with NICTA's stated view that the competition is intensifying and with the two-year horizon of NICTA's analysis.

(b) Most of the evidence NICTA presents does not bear on the central question of whether Retail Regulation Criteria would be met by the regulation that has been proposed. Instead, it seeks to compare some facts from PNG with similar facts in other countries.

(c) Regulators in a few other countries, none of which look like PNG in relevant respects, have regulated retail pricing. This is not relevant to testing NICTA's theory of harm.

(d) Contrary to NICTA's claims, Digicel's off-net price premiums are not excessive when compared with those other jurisdictions, nor are they excessive when compared with Digicel's pricing in other jurisdictions.

(e) The only evidence NICTA considers that is relevant to its theory of harm is focused on the question of whether Digicel's rivals can compete against its pricing. Digicel submits that NICTA has not framed the test correctly, having limited it to a single call type rather than the bundle of services on which NICTA agrees the mobile networks compete.

(f) This restricted setting amounts to a higher hurdle than the more relevant full bundle replication test. However, even using this higher hurdle, Citifone's off-net prices, being lower than Digicel's on-net prices, contradict NICTA's view that other networks could not pursue the "price matching" strategy on which NICTA's test is based.

(g) It follows that NICTA's theory of harm is incorrect. Since firms can compete in the market today, there is no risk to competition in the long-term.

3.4 NICTA has supported its case for regulation with reference to a three-part test of the "susceptibility of a market to ex-ante regulation". This test is a *necessary* condition for regulation, but even if all three legs of the test are established, this is not sufficient to justify regulation. As we show in section 5, NICTA has failed to recognise a number of important preliminary facts. These include:

(a) Regarding barriers to entry or expansion (the first leg of the test), NICTA makes no reference to Citifone's recent launch, to ADB's investment in bemobile, or to current investor interest in bemobile, all of which contradict the view that barriers exist.

(b) The second test should be about whether the market is "tending towards sustainable competition" which is a question of *direction* and relevant to NICTA's theory of harm. NICTA acknowledges that competition is improving, but still proposes to intervene.

(c) In assessing the third test, "whether ex-post controls are sufficient", NICTA has not made any reference to its legal responsibility of "assisting the ICCC to achieve" effective competition.

3.5 In addressing the Retail Regulation Criteria, Digicel submits NICTA has

(a) Made a large number of unjustified assumptions that have led it to erroneously conclude that Digicel has substantial market power;

(b) Ignored robust evidence that a profit maximising firm faced with NICTA's proposed regulation *will increase on-net prices* to the substantial detriment of consumers; and

(c) Misinterpreted its legal obligations in respect of ensuring Digicel is not restricted from earning a fair return on assets which is critical to ongoing investment and growth in mobile penetration, and therefore critical to achieving the government's objectives for the ICT sector.

3.6 In designing its proposed regulation, NICTA has set a five year term. This is in conflict with the Retail Regulation Criteria and its own stated view that "attempting to assess developments beyond a two year horizon may prove to be quite difficult and even unreliable".

4 In summary, Digicel says that NICTA's arguments are deeply flawed and fall well short of the legally required standards for retail market regulation.

2 PNG's objectives for the ICT sector

5 As noted in Digicel's previous submissions, there is clear international evidence that widespread availability and use of mobile phones is associated with increased levels of economic and social development. PNG's international rankings are currently very low in both mobile penetration and per capita income. It is therefore not surprising that the government of PNG has sought to increase the penetration of mobile phones, first by articulating its ICT policy aims, and then through the drafting of the legislation governing NICTA.

6 In 2008, one year before NICTA was established, the PNG government issued its National ICT Policy ('the Policy'), which contained seven objectives. The first three of those objectives bear repeating in full, in part because they disclose an intended priority ordering (emphasis added).

> *First and foremost, the overarching objective of Government is to secure the social & economic benefits of an efficient ICT sector*. These benefits can be obtained in such areas as education, health, national security, justice, agriculture, government administration and ecommerce. Increased access to information and communications technology has transformed many parts of the world and helped many developing economies.
>
> Second, Papua New Guinea must have an efficient ICT infrastructure as the backbone of ICT policy with the use of technology appropriate to circumstances of PNG. This will require *substantial investment to refurbish the existing network, extend its availability across the country, allow new networks to develop and increase technical capabilities* to support high-speed broadband.
>
> Third, the Government aims to *substantially increase access to basic telecommunications services across PNG with service to be available at affordable prices.* By reforming the ICT sector the Government intends to make telecommunications services available to ever more Papua New Guineans.

7 These objectives clearly establish economic growth and social development as the primary outcomes sought from developing the ICT sector. Regarding the ways that ICT development will occur, the Policy recognizes a central role for capital investment in networks and increased penetration of communication technologies. A critical test of any proposed regulatory intervention is therefore whether it will promote greater investment in networks and uptake of services.

8 The critical role that investments play in economic development, and the very real constraints on investments that developing economies with immature capital markets must overcome is well recognised among development economists and practitioners. These issues have been highlighted in the Asian Development Bank in a 2012 report entitled **Papua New Guinea Critical Development Constraints**, a copy of which Digicel submits to NICTA for the public record.

9 These goals are mirrored in the National ICT Act 2009 ('the Act'), which is NICTA's primary governing legislation. The objective of that Act (section 2) is (emphasis added)

> "To insure that the ICT industry contributes to the greatest extent possible to the *long-term economic and social development* of Papua New Guinea…"

10 Again, ICT is viewed as a service industry, the role of which is to promote long-term economic and social development. The National ICT Act goes on to identify eight non-exclusive ways in which the Act can make this contribution. Of particular note are:

(a) The provision of a regulatory framework consistent with a set of regulatory principles (section 2(a));

(b) two references (in sections 2(b) and 2(c)) to meeting the needs of PNG and its people;

(c) recognition of the role of sustainable investment in the ICT industry (section 2(h)); and

(d) regarding the task of promoting effective competition, the inclusion of "assisting the ICCC to achieve this" (section 2(d)).

11 The Policy and the Act clearly show that economic growth and its close associate, social development, are intended to be the primary outcomes from the mobile telecommunications sector. To advance these objectives, the Policy and the Act envisage that capital investment will help the industry meet the needs of the PNG population. This calls for the expansion of network footprints, and for service offerings that encourage mobile penetration.

2.1 Relevance of economic growth and low penetration

12 The mobile market in PNG is currently in what might be called a "land grab" phase. Uptake is growing strongly as networks are rolled out and competition between networks expands total penetration. Usage is growing in line with penetration. The international literature cited in Digicel's previous submissions suggests, and the PNG government's Policy anticipates, that this mobile market expansion will be followed by broader economic and social development.

13 At this early stage of its development, it would be especially costly to PNG's economic and social development if there was a reduction in the rate growth of mobile penetration. Protecting and advancing penetration should therefore be uppermost in NICTA's mind. Indeed, this is required of NICTA by the Act and by the Policy. However, NICTA's second paper is virtually silent on this point.

14 NICTA confirms in its second paper that mobile usage is expanding. For example, it cites a 27% increase in traffic between 2011 and 2011,[4] and a 29% increase in subscriber numbers over the same period.[5] Surprisingly however, NICTA apparently does not view this high growth rate as being positive. Its "staff note that the higher spending and thus more profitable customer segments are likely to have already been attracted into the market" (page 36). Digicel submits that there has been no evidence provided to indicate that the number of profitable customers is nearing exhaustion. Neither is there any international evidence to support such a notion. As Digicel has previously submitted, and as the Act and the Policy implies, considerable growth potential remains in the PNG mobile market, which is consequently highly attractive for rival operators.

15 It is also noteworthy that the references cited in the previous paragraph are the *only* times that NICTA mentions mobile penetration in its second paper. It is particularly disturbing that in reaching its view that "the likely benefits outweigh the likely detriments" (section 9.6) NICTA makes no reference to the clear risk that penetration growth will slow or reverse under the proposed RSD.

16 Similarly, in its review of the theory on which its proposal depends, NICTA simply cites a range of theoretical papers without checking whether the assumptions used in those papers are relevant to PNG. Digicel asked respected international economists Martin Cave and Chris Doyle to review NICTA's use of this theory. Their report, which is appended, confirms the relevance of low penetration to this topic, a matter on which which Digicel has previously advised NICTA to be relevant. For example, Cave & Doyle say

> "...we note that many of the papers that suggest price discrimination between on-net and off-net calling tariffs may be bad are predicated on assumptions that do not fit the prevailing characteristics of the PNG market. In particular, most of the papers referred to by NICTA assume implicitly or explicitly that all of the potential customers in the market are served"

> "...should the measure proposed by NICTA be applied it would be harmful for welfare as it would limit the pace of growth in mobile teledensity, and thereby limit beneficial club externality effects."

17 Digicel considers that these views of respected independent experts seriously undermine NICTA's case, on a point that is absolutely critical for market development in PNG, pivotal to NICTA's argument, and on which Digicel has previously made submissions to NICTA.

[4] NICTA's second paper, page 18

[5] NICTA's second paper, page 36

2.2 ICCC role in enforcing competition law

18 NICTA apparently views its intervention as justified on the basis of enhancing competition between mobile networks. However it does not appear that the competition authority in PNG shares NICTA's concerns or that NICTA is working to support the ICCC in order to solve a competition problem. Digicel notes that the relevant part of the Act's objective (section 2(d)) sees NICTA as playing a supporting role to the ICCC in respect of promoting and maintaining competition. The full statement of section 2(d) is:

> "Promoting and maintaining fair and efficient market conduct and effective competition between persons engaged in commercial activities connected with the ICT industry in Papua New Guinea, including by assisting the ICCC to achieve this."

19 Thus, while the Act creates a *regulatory* framework and provides for NICTA to administer that framework, it envisages that the ICCC will continue to be the competition authority. This is particularly relevant to section 4.2.3 of the second paper, where NICTA addresses the third leg of the European Regulators' Group's ('ERG') "susceptibility to regulation" test. In its own writings, the ERG frames this third leg as concerning the potential "insufficiency of competition law alone to adequately address the market failure(s) concerned".[6]

20 Obviously, in PNG, this question relates to the ICCC Act which is administered by the ICCC. One might therefore have expected NICTA to consult with the ICCC when considering the third leg of the ERG's test. This is important as NICTA materially changes the test so that it involves a different question: "are ex-post regulatory controls unlikely to be sufficient to address concerns associated with market dominance". This change has two effects:

(a) It removes any suggestion that NICTA should consult with the ICCC, or even mention the ICCC in assessing the test; and

(b) It changes the supposed problem from "market failure(s)" to "concerns associated with market dominance.

21 As discussed further in section 0 below, Digicel considers that NICTA would over-step its mandate if it continues to advocate the proposed regulation. The Retail Regulation Criteria in the Act are not intended to help NICTA manage competition. They are intended as an alternative tool, for use in specific circumstances where competition is not working and has no reasonable prospect of working.

Digicel has previously submitted to NICTA that retail regulation, at this point in the growth of PNG's mobile market, carries a high risk of becoming self-justifying and irreversible. Those concerns have not been addressed in NICTA's second paper.

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6 ERG Report, on Guidance on the application of the three criteria test, June 2008, page 2.

3 Tariff mediated network effects

22 Digicel submits that the case for NICTA's proposed intervention is almost entirely theoretical. There are two levels to the theory. First is the non-controversial proposition that, by discounting the price of on-net calls, mobile networks can create a stronger incentive (known as a network effect) for end-users to patronize it. There is nothing illegitimate about network effects per se, nor is it illegitimate for an operator to raise off-net prices to internalise network effects. On the contrary, seeking to internalise network effects is a normal part of the competitive process and it encourages firms to compete for new mobile customers.

23 However, NICTA goes one step further. Early on,[7] NICTA notes the view that on-net discounting "*can* have anti-competitive consequences" and that it "*can* lead to …foreclosure". But by the end of its second paper, NICTA claims to have set out "how the retail mobile services market *is being subjected to pricing arrangements of major anti-competitive importance and effect*".[8] This is a very strong conclusion, one that is not supported by NICTA's actual evidence. NICTA says [9]

> "Digicel's pricing structure is highly discriminatory in a number of ways that are not based on any differences in underlying costs and which are excessive by international comparisons. This indicates that Digicel has, and is, acting …in a way that is anti-competitive"

24 Digicel submits that neither the theory nor the evidence cited by NICTA is sufficient to justify the extremely intrusive regulation being proposed.

25 This submission on tariff-mediated network effects is supported by

(a) Professor Martin Cave's review of NICTA's interpretation of the tariff-mediated network effects literature.

(b) A review of the evidence NICTA cites.

26 Our conclusion from this work is that NICTA's interpretation of the theory is flawed because NICTA has simply transplanted complex economic models designed for markets with full penetration. Digicel also submits, for reasons explained below, that NICTA has failed in its attempt to validate the theory.

3.1 Cave and Doyle review of theory

27 Digicel asked two internationally respected economists to review NICTA's description and use of the theory of tariff-mediated network effects. Professor

[7] NICTA's second paper, page 12.

[8] NICTA's second paper, page 105.

[9] NICTA's second paper, page 58.

Martin Cave and Dr Chris Doyle have undertaken this review and their full report is appended to this submission.

28 Among other things, Cave and Doyle note that the precise effect NICTA considers pernicious, namely the club effect generated by on/off-net price discrimination is *beneficial* during the early stages of market development. They consider that

> "...the move to prohibit discrimination between on-net and off-net prices would slow down market expansion. Overall welfare would likely be lower and the contribution of mobile telecommunications to the economy more widely would be less pronounced."

29 Cave and Doyle also review NICTA's proposed RSD and the analysis advanced in support of it. They say that the proposal

> "...has not been considered in a way that meets with international best practice. The measure appears disproportionate as it would likely cause costs outweighing perceived benefits."

30 We note that research co-authored by Professor Cave is cited by NICTA, and presume NICTA agrees with Digicel that he and Dr Doyle are reliable and independent experts. We trust that NICTA will seriously re-think its proposal in light of these views.

4 Is Digicel's pricing harmful?

31 In this section, we analyse NICTA's theory of harm and evidence relevant to testing that theory.

32 NICTA has a very carefully framed concern regarding Digicel's price structure. Recognising that the market is expanding rapidly and that Digicel's rivals are attracting new (i.e. entry) capital, Digicel submits that it is not possible for NICTA to construct a theory of harm from the recent market trends in PNG.

33 Instead of attempting this, NICTA suggests that action is needed now to avoid harm occurring at some (unspecified) future date. The clearest statement of this position is on page 54 where NITCA says that Digicels's pricing

> "creates a substantial risk of impeding the *long term* development of effective competition in retail mobile services market and potential market foreclosure" (emphasis added).

34 However this view, which Digicel considers to be unsupportable in the circumstances, is irrelevant to the retail regulation criteria and unsubstantiated. It is also in conflict with NICTA's own statements, scattered throughout the second paper, that competition is improving. A summary of those statements is presented below at paragraph 79.

35 It is equally difficult to reconcile NICTA's long-horizon theory of harm with its view (page 6) that "ICT markets in PNG are developing rapidly, making it difficult to assess likely or potential developments beyond a two year time horizon". Similarly on page 30, NICTA say that "attempting to assess developments beyond a two year horizon may prove to be quite difficult and even unreliable." Indeed, NICTA's decision not to consider even very likely developments beyond its two-year time horizon is critical to its argument,[10] even though it is inconsistent with NICTA's theory of harm.

36 Notwithstanding these fundamental conflicts, NICTA presents a range of evidence. In this section, we examine the accuracy and relevance of that evidence.

4.1 NICTA's factual claims

37 NICTA's claims about Digicel's on-off net price differential can be summarised by two propositions:

(a) it is not cost based; and

(b) it is excessive by international comparisons

[10] For example, on page 24, NICTA relies on its two-year horizon to argue that the market is not trending towards sustainable competition, saying "although the barriers to entry are high and continuing they are not insurmountable. Of greater importance for present purposes is the fact that there are three licensed MNOs who have entered the market. The question then is whether the market is tending towards a sustainably competitive state in the two year time horizon of this analysis."

38 Digicel submits the first of these claims is irrelevant for three reasons.

(a) First, as NICTA itself recognises, price discrimination is by definition not cost-based, and it is not presumptively anti-competitive. To use NICTA's own words (page 57), "price discrimination occurs when customers in different market segments are charged different prices for the same product or service for reasons *unrelated to costs*. *Price discrimination is not necessarily anti-competitive and can be a precompetitive welfare-maximising strategy*" (emphasis added).

(b) Second, it is a common and legitimate practice for firms to price discriminate in ways that do not simply reflect underlying costs. Indeed, this approach is fundamental to the Ramsey/Boiteaux pricing structure that is widely accepted as being efficient, including by regulators and competition authorities. For example, the New Zealand Commerce Commission says "the costs of airfield activities should be recovered as efficiently as possible by using pricing structures that adhere as closely as possible to Ramsey principles. Under Ramsey pricing, the price for each user (or group of users) would be set by adding a percentage mark-up on marginal cost, with the size of the mark-up being inversely proportional to the price elasticity of demand of that user or group of users".[11]

(c) Third, as NICTA notes (page 65) "bemobile and Telikom have adopted a similar (though not identical) pricing structure to Digicel and have off-net to on-net price ratios that are similar to those of Digicel".

39 It follows that NICTA's empirical case rests primarily on the second claim, that Digicel's price ratio is "excessive by international comparisons". NICTA has assembled two sets of international comparison data. The first is shown in Table 18 on page 73. It compares Digicel's pricing in PNG against pricing from four other countries. NICTA's argument in respect of this group is effectively that (a) some other countries have regulated retail prices and (b) Digicel's price differential is excessive by comparison with those, so (c) PNG should also regulate retail prices.

40 In what follows, we examine this argument and show that

(a) There are significant and relevant differences between PNG and the comparator countries chosen by NICTA; and

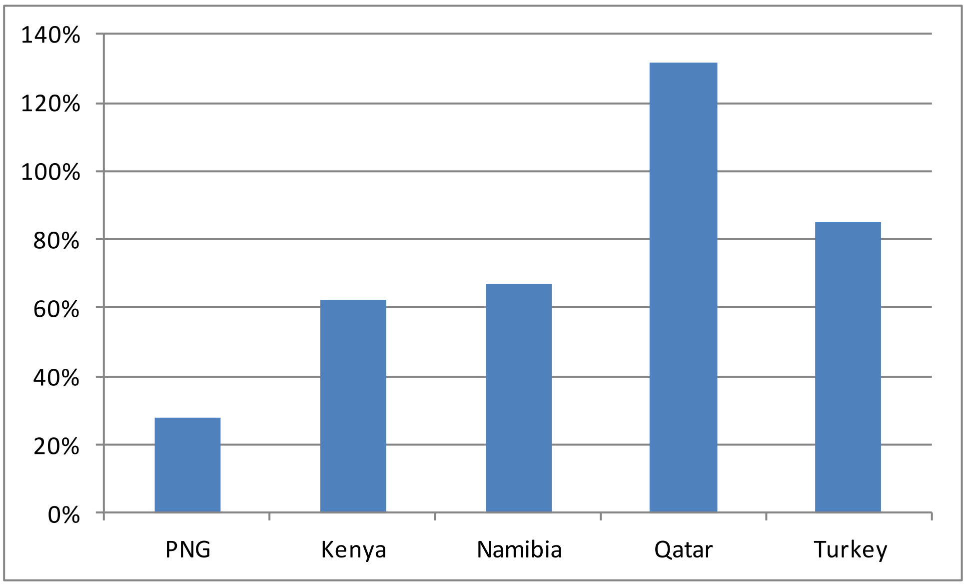
(b) NICTA's price differential comparison is out of date and its conclusions are contradicted by current pricing.

[11] New Zealand Commerce Commission, Draft Report, Price Control Study of Airfield Activities at Auckland, Wellington, and Christchurch International Airports, 3 July 2001, paragraph 89.

41 More generally, Digicel considers that the "other countries have regulated" argument falls well short of confirming NICTA's theory of harm, which relates specifically to the long term development of effective competition in PNG.

42 Let us begin by examining mobile penetration and income levels, and the time since liberalisation in NICTA's chosen comparator countries.

Figure 1: Mobile Penetration in NICTA's country selection (Source: ITU)



43 Figure 1 is compiled from ITU data for 2010 which is the latest available. It will tend to understate current penetration rates when penetration is growing, but the relativities across countries are of primary importance. Clearly, PNG has far lower penetration levels than the countries NICTA is comparing against.

44 Low penetration in PNG is relevant for two reasons. First, it means that adding subscribers is the primary goal of network operators. In growing markets, increasing customer numbers is more important than maximizing revenue per customer, so operators offer moderate tariffs designed to attract customers. Secondly, as Digicel has clearly explained to NICTA already, the PNG mobile market is very attractive to competing network operators. In particular, bemobile is clearly a take-over target because of two obvious facts.

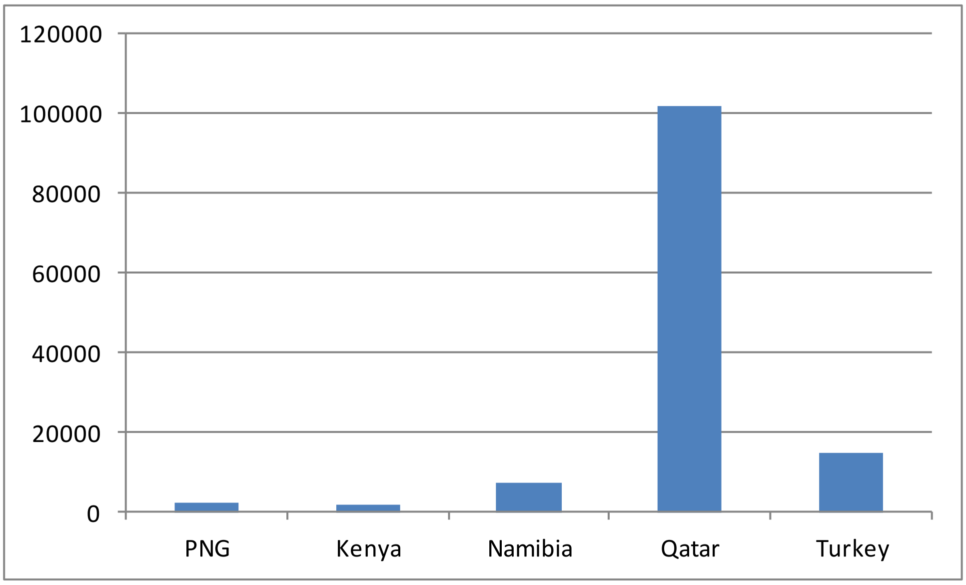
(a) There is significant growth potential in the PNG market.

(b) bemobile's difficulties are mainly due to past management decisions and under investment.

45 Digicel considers it likely that bemobile will have new, outside investors within three to six months and encourages NICTA to test this view because this change would materially change the outlook for competition in PNG over NICTA's two-year time horizon.

46 PNG is also quite different to NICTA's comparator countries in respect of average income. Figure 2 presents the relevant data. With the sole exception of Kenya, NICTA's comparator countries have GDP per capita figures that are higher by a multiple of 3 or more.

Figure 2: GDP per capita for 2011, in $US at PPP rates (Source:CIA)



47 Income is relevant because it affects the total budget that end-users are able to spend on mobile services. Digicel's price structure allows it to offer significant discounts for on-net calls, which drives uptake and usage of mobile phones as envisaged in the government's Policy and the Act.

48 A third relevant difference between PNG and the comparators chosen by NICTA is the amount of time that elapsed between liberalisation and regulation. This indicates the extent to which the regulator was willing to allow market forces to play out before intervening.

(a) Turkey has had competing mobile networks since 1994 and an independent regulator since 2000.[12]

(b) Qatar established an independent telecommunications regulator in 2004.[13]

(c) Kenya established an independent telecommunications regulator in 1999.[14]

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12 Atiyas, I. and Dogan, P. (2007) 'When Good Intentions Are Not Enough: Sequential Entry and Competition in the Turkish Mobile Industry,' Telecommunications Policy 31(8-9), 502-523

13 http://en.wikipedia.org/wiki/IctQATAR

14 WTO, Telecommunications Services in Africa: The Impact of Multilateral Commitments and Unilateral Reform on Sector Performance and Economic Growth, November 2006, Table 1.

(d) Namibia established an independent telecommunications regulator in 1992.[15]

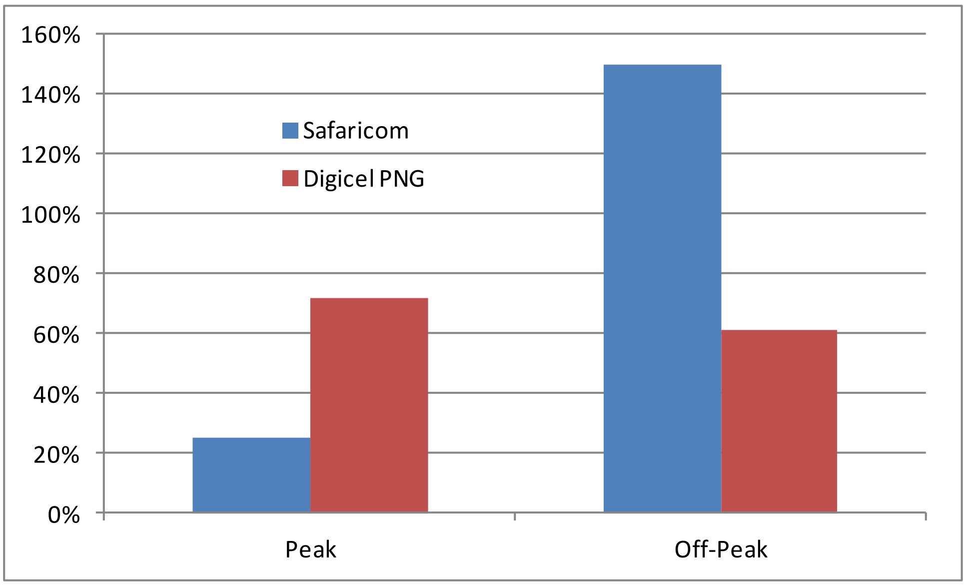
49 By contrast, mobile competition in PNG dates from as recently as 2007 and the National ICT Act was not established until 2009. This suggests that NICTA is materially less willing to allow time for the market to develop than the regulators it seeks to copy.

50 Overall, on these three measures (mobile penetration, income levels and regulatory forbearance) PNG is very different to the comparators cited by NICTA. By not taking into account these significant differences in mobile penetration and income levels, Digicel submits NICTA has omitted relevant information from its analysis.

51 Even if these countries were relevant comparators, the data presented by NICTA for these countries appears to be inaccurate and has been misinterpreted.

52 Regarding accuracy, the "off-net price premium" cited for Kenya is 88% whereas TMG says the correct figure is 96%.[16] Perhaps more importantly, even though Kenya is cited by NICTA as a country that has "acted to address anti-competitive price discrimination between on-net and off-net calls", Safaricom's *current* pricing[17] shows "off-net price premiums" of 25% and 150% for peak and off-peak calling respectively. Figure 3 compares the "off-net price premiums" currently being charged by Safaricom in Kenya and Digicel PNG.

Figure 3: Off-net Price Premiums, Kenya and PNG, 2012



[15] WTO, 2006, Table 1

[16] TMG, On-net/Off-net Price Differentiation: Review of International Precedent, February 2011, Table 1.

[17] http://www.safaricom.co.ke/index.php?id=148, accessed 18 May 2012.

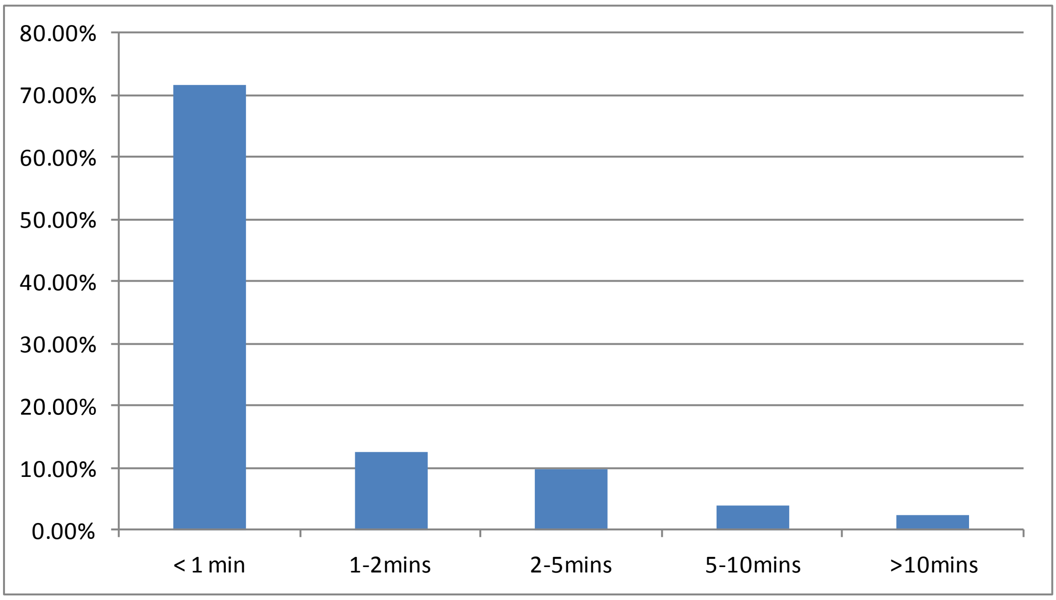
53 This data suggests that Digicel's pricing structure for on/off-net calling is broadly similar to that of Safaricom in Kenya. Digicel has a higher peak time premium but a much lower off-peak premium. It is difficult to see how this data could support NICTA's view that Digicel's price structure is "excessive by international comparisons", particularly since NICTA cites the Kenyan regulator as a precedent for its proposal.

54 Digicel has not yet had sufficient time to investigate further the figures presented by NICTA in its Figure 18, but we consider that the above information regarding Kenya calls into question the other data cited, and we reserve the right to make further representations on the factual accuracy of those data.

55 Even if the data in Figure 18 was accurate, Digicel submits NITCA has misinterpreted it. The key column in NICTA's Figure 18 is the one showing the "off-net price premium", which presumably means the difference between the on- and off-net prices, divided by the on-net price.

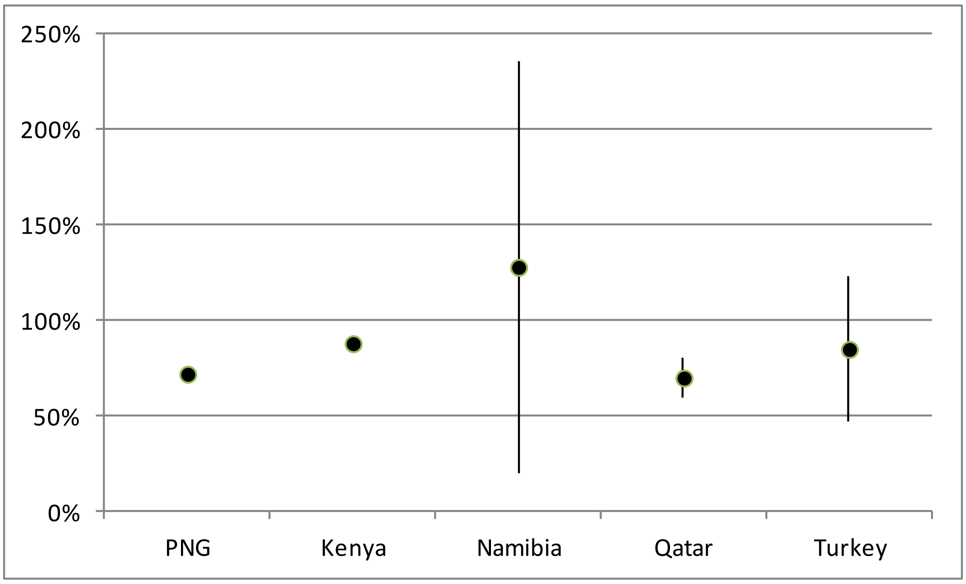
56 The structure of Digicel's pricing means that this comparison varies depending on call length. To assist comparison, Figure 4 shows the call duration distribution for Digicel's customers

Figure 4: Distribution of Outbound Call Durations, Digicel PNG



57 Since the vast majority of calls are less than one minute in duration, one minute is the relevant call length for comparison. Using this call length, Figure 5 shows PNG's off-net premium compared to the ranges cited by NICTA for other countries in its comparison. The solid dots represent the average for countries with ranges reported.

Figure 5: PNG's Off-net Premium Not Excessive Compared to NICTA's sample



58 So even if NICTA's data is accurate, which is uncertain, it does not support NICTA's view that Digicel's price structure is excessive by international standards.

59 NICTA also presents data on off-net premiums charged by Digicel and other operators in a range of Pacific and Caribbean markets (NICTA's Figure 19 on page 73). In doing so, NICTA appears to concede that PNG's off-net premiums are not excessive for calls of up to one minute, which is over 70% of calls (see Figure 4 above). NICTA relies heavily on unusual call durations to support its view that off-net premiums are excessive in PNG. For this reason, Digicel considers that, NICTA's Figure 19 is misleading and cannot reasonably be relied upon.

60 As noted above (paragraph 41) Digicel considers that international comparisons are of very limited value in testing NICTA's theory of harm. The type of test NICTA considers from page 78 is much more relevant, because it focuses on the key question of relevance to competition: can Digicel's rivals compete with its pricing.

61 Unfortunately, while NICTA has asked the right question in section 6.4.3.5, it has not answered it correctly. NICTA's key error is to fail to take into account its own market definition, which concludes that Digicel and its rivals compete across a *bundle* of retail services. NICTA asks whether Digicel's rivals could profitably sell off-net calls at the price Digicel charges for on-net calls. This approach would be valid if there was a separate market for calls to Digicel customers, but it is common ground in this proceeding that there is no such market.

62 Incidentally, we note that even within the (incorrect) terms of NICTA's test, there is clear evidence against NICTA's theory of harm. In particular, while NICTA's analysis leads it to conclude that rivals could not compete with off-net pricing at the level of Digicel's on-net pricing, the plain fact is that Telikom, through Citifone is doing

exactly that. Citifone charges 0.39 Kina per minute for anytime calls to Digicel or bemobile. This is well under Digicel's on-net price.

63 Citifone's pricing underlines the fact that customers buy many different services and network operators compete for customers (both existing and potential). Whether a customer is profitable depends on the total revenue earned as a result of having that customer on the network, across all services, and the total cost of providing those services. So the question NICTA needs to ask itself, is whether an efficient network operator could profitably replicate Digicel's *bundle* pricing. If so, there is no harm to competition and NICTA's theory of harm is demonstrated to be incorrect.

64 The correct test, at the level of the bundle, is likely to be less onerous (i.e. easier to pass) than the more limited "price matching" test outlined by NICTA. So the fact that there is clear market evidence (from Citifone) that price matching is feasible implies that the bundle test will also be passed. The conclusion is that Digicel's pricing does not harm competition.

65 The final piece of evidence presented by NICTA[18] concerns traffic flows. Figure 24 on page 84 of NICTA's second paper is used by NICTA to support its argument (discussed at paragraph 41 above) that "other countries have regulated". It shows on-net traffic shares for the largest operator in several countries that have, and have not, regulated retail prices. The impression given by Figure 24, is that once on-net shares reach about 70%, regulators act.

66 Digicel notes that the evidence NICTA refers to is susceptible to an "availability bias" in that data on the share of on-net traffic shares is generally confidential and not publicly available. They generally become available only in cases where the national regulators have chosen to regulate. There are likely many countries where the largest operators have similarly high on-net traffic shares, but the regulator takes no action.

4.2 Conclusion on NICTA's theory of harm

67 This section has examined NICTA's theory of harm and the evidence presented to test it. We have shown the following.

(a) NICTA's theory of harm concerns effective competition in the long term. This is inconsistent with the two-year horizon of NICTA's and with NICTA's stated view that the competition is intensifying.

(b) Most of the evidence NICTA presents does not bear on the central question of whether competition is being harmed by Digicel's pricing. Instead, it shows that regulators in a few other countries, none of which look like PNG, have regulated retail pricing.

[18] We are ignoring section 6.4.3.4 which is titled "price discrimination not based on costs" for the reasons explained in paragraph 38.

(c) Contrary to NICTA's claims, Digicel's off-net price premiums are not excessive when compared with those other jurisdictions.

(d) The only "evidence" NICTA considers that is relevant to its theory of harm is focused on the question of whether Digicel's rivals can compete against its pricing. Digicel submits that this section is incorrectly framed, being limited to a single call type rather than the bundle of services on which NICTA agrees the mobile networks compete.

(e) This restricted setting amounts to a higher hurdle than the proper full bundle replication test. Citifone's off-net prices, being lower than Digicel's on-net prices, contradict NICTA's view that other networks could not pursue the "price matching" strategy on which NICTA's test is based.

(f) It follows that NICTA's theory of harm is incorrect. Since firms can compete in the market today, there is no risk to competition in the long-term.

5 Susceptibility to regulation

68 In section 4 of its paper, NICTA outlines a three-legged "test" of the hypothesis that the relevant market is "susceptible to ex-ante regulation". This test was framed in the context of European markets, and was intended by its creators to identify[19]

> "markets that are at first sight susceptible to ex ante regulation. However, this does not mean that regulation will always be necessary."

69 This is clearly a *screening test*, necessary but not sufficient to justify regulation. Digicel considers proper application of the three components (each of which is necessary) would not support the view that there is a problem in the PNG mobile market.

70 Citing this test, NICTA asks three questions about the relevant markets in PNG.

(a) Are there high and continuing barriers to entry?

(b) Is the market tending towards sustainable competition?

(c) Is ex-post regulation likely to address concerns associated with market dominance?

71 Digicel considers that NICTA has erred in the way that it has addressed each of the three legs of the ERG test. This section explains why.

5.1 Are there high and continuing barriers to entry?

72 Digicel submits that NICTA's discussion of the first question is semantic and theoretical. Despite the presence of three mobile networks and despite bemobile's breach of its roll-out commitments, NICTA's consideration of this test does not mention the relevance of network *expansion.* Instead NICTA relies solely on the prospects of entirely new operators entering the market. It also seems that substantial financial commitment by a new investor (ADB) in bemobile is not regarded as "entry".

73 Digicel submits that rather than relying on narrow wording taken from Europe, NICTA should ask itself the question that underlies the words and which is of much greater relevance to PNG: are there reasonable prospects for the emergence of an efficient and effective rival to Digicel (to the extent that it is considered that one does not already exist)?

74 Digicel says that there are no material barriers to expansion by bemobile and we point to the recently confirmed capital injection by the Asian Development Bank of US$40m as robust evidence of this fact. In addition, as noted above, bemobile is likely to have new investors within three to six months. These facts, combined with

[19] ERG, Report on Guidance on the application of the three criteria test, June 2008, page 6.

the enormous growth potential for mobiles in PNG, are inconsistent with a view that there is no prospect in PNG for rivals to Digicel.

75 Digicel also notes with interest NICTA's own statement that "barriers to entry … are not insurmountable".[20] It is not clear how this view can be reconciled with the NICTA's position as described in section 4.2.1 of the discussion paper.

5.2 Is the market tending towards sustainable competition?

76 The relevant question here is just as stated above: is the market trending towards sustainable competition? This is the correct question because if the market is heading in this direction, prudent regulators would forbear rather than intervene.

77 In our opinion, NICTA has not provided a simple answer to this very clear question. Instead, it has conflated it with a second issue about whether competition will be sufficiently strong in two year's time. For example, NICTA says:[21]

> "the question then is whether the market is tending towards a sustainably competitive state in the two year time horizon of this analysis"

78 We note that the two year time horizon was not imposed by law but was instead chosen by NICTA. We also note that it is well short of the five year period for the regulation NICTA proposes, and well short of the "long-term" risks that underpin NICTA's theory of harm. These differences also seem contrary to the ERG's view that "the relevant time horizon to assess the second criterion should in principle be the same time horizon that is taken into account in the relevant market analysis" and the requirements of section 158 which require that the operator licensee subject to a RSD must have a substantial degree of market power for the particular period that the RSD applies.

79 However our main concern with NICTA's approach is that it effectively denies the relevance of observable trends in the market, trends that are clearly apparent in NICTA's own paper. For example:

(a) "the current differences in service availability and the level of competition reflect a situation that is likely to be interim";[22]

(b) Digicel's share of the total market is falling, whether one looks at subscriber numbers, revenues, or mobile voice minutes;[23]

(c) Digicel's advantage in coverage has been eroded and will be further eroded in the near future;[24]

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20 NICTA's second paper, page 24.

21 NICTA's second paper, page 24.

22 NICTA's second paper, page 15.

23 NICTA's second paper, page 30.

(d) Telikom is still in the process of entering the retail mobile services market;[25] and

(e) "There is evidence of increasing competition on [non-price factors] in PNG";[26]

80 Digicel does not understand how NICTA, while clearly accepting that the market is trending towards being sustainably competitive, could reasonably have come to the view that these trends are insufficient. This is all the more puzzling since NICTA's theory of harm is that competition in the *long-term* might not be intense enough. We do not understand how NICTA can simultaneously

(a) subscribe to this long-term theory of harm;

(b) acknowledge that competition is intensifying; yet

(c) still conclude that it should intervene.

5.3 Are ex post controls sufficient?

81 The third leg of the ERG test concerns "insufficiency of competition law alone to adequately address the market failure(s)".[27] NICTA has reframed this to focus not on market failure, but on NICTA's expressions of "concern". This change allows NICTA (inappropriately in Digicel's view) to avoid identifying a market failure and seek only to assuage its own "concerns".

82 Even with this artificially low hurdle, the only support NICTA can draw from the ERG itself (page 27) refers to "difficulties in the detection and proof" of excessive pricing. While such difficulties certainly can exist, in this particular case they do not. NICTA and any member of the public at large is fully informed about Digicel's pricing.

83 Importantly, in framing its test, the ERG was careful to note that there may be other ways of controlling market power if necessary. The respective roles of NICTA and the ICCC are relevant to this leg of the test, for two reasons:

(a) the ICCC is responsible for enforcing general competition law in PNG; and

(b) the Act explicitly references this role in section 2(d).

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24 NICTA's second paper, page 34.

25 NICTA's second paper, page 38.

26 NICTA's second paper page 47.

27 ERG, Report on Guidance on the application of the three criteria test, June 2008, page 2.

84 It is curious therefore to note that in its discussion of whether other laws are sufficient, NICTA (section 4.2.3) makes no reference to the ICCC or its governing legislation. Instead of examining this alternative option seriously, NICTA makes a series of vague and general statements about its own views of the market situation.

85 NICTA's first paper is also relevant to this question of how the ICCC might handle the matters at issue. In that paper, NICTA said:

> "The ICCC Act is administered by the Independent Consumer and Competition Commission (ICCC). It is not appropriate for NICTA to consider issues that arise under the ICCC Act and which thus can be addressed by the ICCC using the powers and the processes set out in that legislation. If there are concerns arising under the ICCC Act, then those issues should be raised directly with the ICCC."

86 It seems that NICTA has maintained this view when preparing its second paper, even though this particular issue (the third leg of the ERG test) falls squarely within the ICCC's mandate.

5.4 Do no harm

87 With all due respect to the European Regulator's Group, Digicel considers that a fourth leg is appropriate for this test, even though it only establishes thresholds that regulators must clear before promoting interventions. We suggest that the "do no harm" principle, often associated with the Hippocratic oath,[28] is appropriate here. We accept that these considerations could also be analysed under the cost-benefit aspect of the retail regulation criteria, but they are particularly relevant here.

88 There are at least four ways in which NICTA's proposed intervention will do harm. We elaborate on these points in section 0 below, but record them here briefly.

89 First, it will soften price competition. Digicel's pricing will be constrained, limiting its ability to optimise its on-net call prices to drive customer growth. Digicel's rivals, knowing this, will then have weaker incentives to compete on price.

90 Second, NICTA's proposal will harm consumers. Digicel will be obliged to reduce its off-net price and, for sound commercial reasons, will also be forced to increase its on-net prices. The latter price increase will harm more than 70% of mobile phone users in PNG, and is likely to lead to lower levels of penetration.

91 Third, a non-discriminatory rule undermines Digicel's capacity to offer short-term promotions to encourage greater use of its network when traffic is low, thereby detracting from the objective of promoting efficient use of Digicel's network.

[28] http://en.wikipedia.org/wiki/Hippocratic_Oath

92 Fourth, by preventing Digicel from internalising network effects, NICTA's proposed intervention would undermine investment incentives and threaten to slow the increase in mobile penetration.

6 Substantial market power

93 Digicel has already submitted extensively on the question of substantial market power (SMP), and will not repeat those submissions in this paper. However since NICTA has now tried to substantiate its claim that Digicel has SMP, we comment on that analysis.

94 NICTA cites four factors that it found "most compelling" in forming its opinion on SMP (page 52):

(a) Digicel's high and prevailing market shares;

(b) Digicel's network reach and being first in with a high coverage of both territory and population;

(c) Digicel's price leadership and its ability to sustain on average higher prices than its competitors; and

(d) Digicel's use of club effects to reinforce its market share and overall market position.

95 While it is true that Digicel has a large market share, it is also clear that this is being eroded (see NICTA's Table 2 on page 30). The trends in Table 2 are important because they demonstrate that, despite previously having larger shares of subscribers, revenues and minutes, Digicel's rivals are making progress against it.

96 In a rapidly growing market like PNG, all firms have an opportunity to grow. However if the largest firm's *share* is growing or constant during the growth phase, then, in the words of BEREC[29]

> "this could mean that the company's scope for using competitive parameters or market strategies can no longer be adequately constrained by its competitors"

97 By contrast, the erosion of Digicel's market share suggests that its competitive strategies *can* be "adequately constrained by its competitors", and indeed *are* being constrained. This is not a market that is heading towards monopolisation. On the contrary, it is either already effectively competitive or is trending towards sustainable competition.

98 Digicel therefore disputes NICTA's view that its high market share is "prevailing", a view that is contradicted by NICTA's own data.

99 A similar dynamic is in play regarding network coverage. Digicel's advantage is being eroded as Telikom's Citifone service continues its expansion and bemobile builds another 300 base stations. If this market was destined for domination by one network, then it is difficult to understand why Telikom would be launching and

[29] As cited by NICTA on page 29.

bemobile would be investing, right now, in capital-intensive coverage assets. Under these conditions, Digicel cannot “behave independently from other suppliers” as NICTA puts it (page 33).

100 Turning to pricing, NICTA reproduces a chart from a 2011 Network Strategies report that shows “monthly spend on mobile services for a typical pre-paid subscriber”. The chart is in a section of NICTA’s report headed “excess pricing and profitability” and NICTA (while noting the difficulties in such comparisons) uses it to conclude that “retail prices in the retail mobile services market could be considered high relative to other Pacific island nations which are unlikely to have lower costs”.

101 Digicel disputes the suggestion that the other countries in this sample are “unlikely to have lower costs”. This claim is not correct in our experience, and we note that NICTA also recognises some of the special challenges associated with PNG including

> “PNG’s terrain; land ownership and access issues; a lack of infrastructure (such as grid power and access roads) and the consequential complication of logistics (for example to keep up supplies of diesel fuel to on-site diesel generators)”[30]

102 Moreover, it seems that, along with the market share data, the pricing trends are also indicating an erosion of Digicel’s position. Figure 6 is reproduced from the latest (2012) version of the same report cited by NICTA.[31] It shows:

(a) A significant reduction in spend for a typical Digicel PNG customer over the last 12 months;

(b) A much smaller reduction in spend for a typical bemobile PNG customer over the last 12 months; and therefore

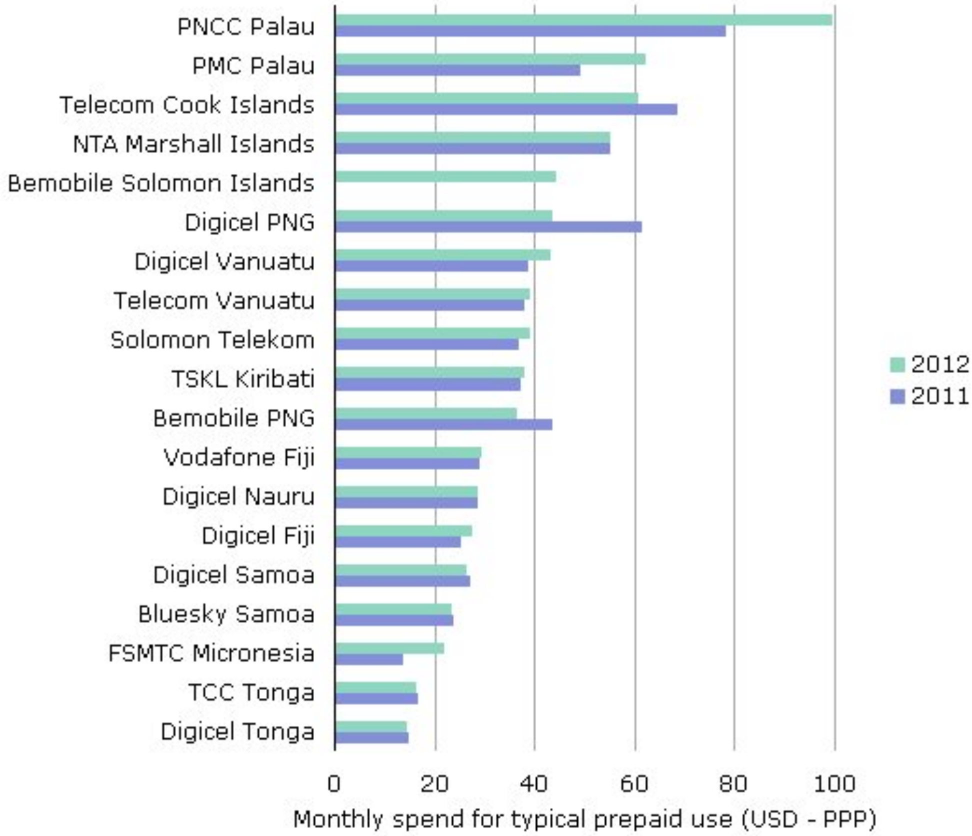
(c) A very significant reduction in the gap between spends for typical customers of Digicel and bemobile in PNG.

103 There are some other interesting features of Figure 6. Clearly, Digicel’s customers in PNG have had the largest monthly spend reduction of any other customers in this sample. We also note that spends for Digicel’s PNG customers are lower than for bemobile’s customers in the Solomon Islands, and broadly similar to spending by customers of both Digicel and Telecom in Vanuatu. The Vanuatu comparison is notable because market shares in that country are much more even than in PNG.

[30] NICTA’s second paper, page 33

[31] Network Strategies, 2012 Pacific Island mobile market update, available at http://www.strategies.nzl.com/wpapers/2012011.htm

Figure 6: Monthly Spend on Mobile Services for a Typical Prepaid Subscriber



104 NICTA's final "compelling" factor is the fact that Digicel has different prices for on and off-net calls. Digicel disagrees that this can be legitimately viewed as an indicator of SMP. We note in particular the following points.

(a) Both of Digicel's rivals in PNG also use these price structures. The following quote from NICTA's second paper is relevant (page 65): "NICTA notes that bemobile and Telikom have adopted a similar (though not identical) pricing structure to Digicel and have off-net to on-net price ratios that are similar to those of Digicel".

(b) These pricing structures are common around the world and cannot be viewed as an indicator of SMP. As NICTA puts it (page 58) "it is commonly found in many mobile markets that are effectively competitive".

105 Stepping back slightly from these points, Digicel considers that NICTA's view that Digicel has substantial market power ("SMP") is based on a number of key assumptions that are unjustified. In what follows, we summarise those assumptions and explain why they are unjustified.

106 *Assumption 1*: Digicel's market share remains high despite "competitive responses by bemobile and the entry of Telikom".[32]
Response: Digicel's market share is only high because bemobile and Telikom are inefficient and managed incompetently. This situation is unlikely to persist, so it is unreasonable to assume that Digicel's market share gives it SMP

107 *Assumption 2*: Digicel's prices are not falling.[33]
Response: Digicel's prices have not increased since it entered the PNG market, notwithstanding high inflation in PNG (approaching 10% pa in some years). Consequently, PNG consumers have benefitted from falling real prices for mobile services. Further, Digicel has succeeded in raising mobile penetration in PNG at these prices.

108 *Assumption 3*: bemobile and Telikom are equally efficient rivals. While this assumption is not expressly stated, it is implicit throughout NICTA's analysis, and crucially in relation to NICTA's conclusion that the proposed RSD would promote the efficiency objective.
Response: There is extensive anecdotal evidence of inefficiency in bemobile and Telikom in the areas of marketing, sales and distribution. In bemobile's case, this inefficiency is a symptom of its inability to retain senior executives who have a long-term commitment to the business. bemobile has had at least 4 CEOs over the past 2 years, and currently has no CEO. Telikom is encumbered with bureaucracy and have difficulty making timely investment decisions. Neither of these weaknesses is sustainable in the medium term.

109 *Assumption 4*: The relevant time frame for assessment is two years.
Response: Mobile networks are long-lasting assets. The investment horizon is at least 15 years (which is also the period of a network licence). Even if a shorter horizon is appropriate for the purposes of assessing the case for ex-ante regulation, two years is an extremely short horizon.

110 *Assumption 5*: To compete, bemobile/Telikom must set off-net prices that match Digicel's on-net price.
Response: The arena of competition is far broader than the price of off-net calls of one operator vs the price of on-net calls of another operator. It is at least the entire cluster of mobile services available to a subscriber. Further, the arena of competition is not limited to existing mobile subscribers. It includes new mobile customers who do not yet have mobile services. NICTA's conclusion that bemobile/Telikom cannot compete (at p 79) is fundamentally flawed.

32 NICTA's second discussion paper, p 25

33 This assumption is made at page 25 in the context of whether the market is effective competitive or tending towards competition, and at 52 in the context of whether Digicel has SMP.

111 The assumptions outlined above have biased NICTA towards a particular set of crucial conclusions – i.e., that the mobile market is not effectively competitive, that Digicel has SMP, and finally that regulatory intervention is required.

112 In summary, Digicel considers that NICTA has incorrectly concluded that DIgicel has substantial market power. Moreover, the available factual evidence on the four points NICTA finds “most compelling” all point clearly towards an erosion of any such market power, even if it did exist which Digicel disputes. This clear evidence of Digicel’s position being eroded contradicts the hypothesis that Digicel has SMP and instead shows that Digicel is being “adequately constrained by its competitors”, that it cannot “behave independently from other suppliers” and therefore that it does not have SMP.

7 Retail regulation criteria

113 The retail regulation criteria ('RRC') in the Act are demanding and broad. NICTA may not proceed with retail regulation unless it is satisfied that *all* of the hurdles imposed in the RRC would be met. This is a positive obligation on NICTA to prove its case. Digicel submits that this needs to be supported by cogent and convincing evidence and analysis. It is apparent from NICTA's second paper that no such evidence or analysis exists.

114 NICTA's second paper falls well short of making a case for intervention that satisfies the RRC. For reasons discussed in this section, Digicel strongly disagrees with NICTA's views on:

(a) The competition objective, because the proposal will soften rather than intensify price competition;

(b) The efficiency objective, because the proposal will deter efficient investment in infrastructure;

(c) The expectation that Digicel will have a substantial degree of market power for the five year period of the proposed RSD, because NICTA concedes that any such power is already being eroded and that it cannot predict what the market will look like beyond even a two year time horizon;

(d) The risk of higher prices, because the RSD itself will itself cause higher on-net prices for more than 70% of customers;

(e) The question of return on assets, because returns depend on revenues as well as costs; and

(f) The cost-benefit analysis, because of a number of errors of fact and interpretation.

115 We now explain these points.

7.1 Competition and efficiency objectives

116 The proposed rule is intended to restrict Digicel's pricing freedom. Despite the evidence that the position of Digicel's customers and rivals is improving, NITCA seeks to tie Digicel's hands, because doing so will assist bemobile and Telikom.

117 There is an important and widely recognised distinction between promoting the process of competition, which is a legitimate and desirable goal (although not the Act's intended purpose of a RSD), and promoting the interests of particular firms. NICTA has confused the two, and decided that it needs to assist Digicel's rivals.

118 There is no need for such assistance. All of the evidence shows that these firms are well resourced and already making headway against Digicel.

119 More importantly, the proposed assistance will tend to soften competition rather than intensify it; so the proposal undermines effective competition and is contrary to section 124(1)(a) of the Act. To understand this point, consider the following effects of the proposal:

(a) Digicel's price differential between on- and off-net calls is limited by regulation, so it cannot reduce on-net prices without also reducing off-net prices;

(b) Other operators, knowing this, have an easier target to aim at when competing against Digicel for new customers in a growing market;

(c) Somewhere in the long list of price and non-price attributes of service, Digicel's rivals are able to attract customers while giving them less;

(d) This is clearly a softening of competition that benefits Digicel's rivals but harms consumers and harms the process of competition.

120 Turning to the question of efficiency, we are deeply concerned by NICTA's argument (page 103), which suggests that Digicel's previous investments were inefficient. This view is strongly contradicted by the fact that Digicel's activities have been the primary driver of the rapid growth in network coverage and service uptake in PNG. It also ignores the fact that Digicel's investment in network coverage has largely been driven by honouring its Licence obligations. Notably, had bemobile and Telikom also honoured their own network coverage commitments, the issue of competitive advantage due to coverage or being a "first mover" simply would not have arisen.

121 Digicel also considers that NICTA has mis-interpreted the crucial concept of efficiency. Any investment for which the social returns exceed social cost is efficient. Since mobile investments quite clearly have positive externalities, any investment that is privately profitable must be efficient from a social perspective. NICTA's presumption that efficient investment can only take place in competitive markets is unjustified and incorrect. Even if the mobile market were a monopoly (which if obviously is not), investments that raise mobile penetration and are privately profitable would be efficient. There is no presumption in economics that only competitive markets deliver efficient investments.

122 Moreover, If NICTA were motivated to promote efficient investment, it would be wary of diverting resources away from Digicel to bemobile and Telikom as the latter two have a poor track record of making investments at all, let alone efficient investments.

123 Digicel's final point on investment is that, we simply do not understand how NICTA can argue that Digicel's current pricing is reducing its rivals' investment below an efficient level. These firms have clearly committed to market-expanding investments *while Digicel's pricing is in place*. There is absolutely no factual or theoretical basis

for believing that they would have invested more if Digicel had different retail pricing.

124 Digicel also notes that efficient *use of existing assets* is part of NICTA's efficiency obligation. The proposed RSD will increase Digicel's on-net prices, which will raise the usage price for most of the calls made in PNG. Digicel submits that this will not promote efficient use of its network.

7.2 SMP and the risk of higher prices

125 NICTA says that if the status quo remains it is "more likely than not to augment and reinforce Digicel's SMP over time" (page 104). This view is clearly contradicted by the evidence discussed above (section 6), which shows that Digicel's market share is falling, its coverage advantage is being eroded, and there is apparently a falling and now quite small gap between its pricing and bemobile's. Any SMP that might exist (which Digicel denies) is clearly being undermined by market forces.

126 The statutory criterion in section 158(b)(ii)(A) says: "in the absence of the RSD *for that period*, that SMP is likely to persist in the market *over that period*" (emphasis added). The "period" is the proposed period of the RSD, which in this case is five years. Throughout the second paper, NICTA refuses to look beyond a two year horizon. For example, NICTA says (page 30) "the ICT markets in PNG are developing rapidly and as a result NICTA staff believe that attempting to assess developments beyond a two year horizon may prove to be quite difficult and even unreliable". As a consequence,

(a) NICTA has not properly considered the test required by law; and

(b) If NICTA did properly consider the test, it would be obliged to admit that the recent observed trends show that Digicel's market position is being eroded, which means that market forces are working adequately and in any event an RSD could not be contemplated for any period that even approached two years.

127 Turning now to section 158(b)(ii)(B), this component of the RRC requires NICTA to show that,

> "in the absence of the RSD for that period, that SMP is likely to 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" (emphasis added).

128 The retail service at issue is the service bought and sold in the relevant market, which is a retail market for a bundle of retail services (see section 3 of NICTA's second paper).

129 In assessing this component of the RRC however, NICTA refers (page 104) not to the price of the relevant bundle of services, but to "very high off-net prices". The off-net

call price is just one element of the service bundle, whereas the "retail service" referred to in the RRC is the whole bundle.

130 So the relevant question is: how will the RSD affect the price of the whole bundle? NICTA has not addressed this question, so it has not met the statutory requirements.

131 Moreover, once one addresses the statutory requirement, the impact of the RSD on Digicel's on-net pricing becomes highly relevant. As Digicel has previously explained to NICTA, the pricing of rational multi-product firms exhibits what is known as a "waterbed effect".[34] This is a robust and well-understood concept that has very broad applicability. Applied to NICTA's proposed RSD, the waterbed effect tells us quite clearly that this proposal will cause Digicel's on-net price to rise.

132 To put this into perspective, assume (using data from NICTA's second paper at page 36) that Digicel has 75% market share and (from NICTA page 81) that 95% of Digicel's traffic is on-net. It follows that 71% of all mobile calls in PNG are Digicel on-net calls. By contrast, the calls that NICTA's proposed RSD is aimed at (from Digicel to off-net customers) amount to 4% of all mobile calls made in PNG.

133 The waterbed effect tells us, without doubt, that suppressing the price of 4% of all mobile calls in PNG will *increase the price of 71% of all mobile calls in PNG*.

134 Digicel concludes that

(a) NICTA's analysis of the RRC at section 158(b)(ii)(B), is in error because the relevant service is a bundle, not an off-net call; and

(b) When viewed at the level of the bundle, the RSD would breach section 158(b)(ii)(B) by exposing customers to a far greater risk of high prices than exists under the status quo.

7.3 Return on assets

135 The RRC oblige NICTA to ensure that Digicel "will not be prevented from achieving a return on assets during [the five year] period sufficient to sustain investment necessary to supply the retail service". NICTA discusses this pivotal issue in three short paragraphs (page 105).

136 Without presenting any evidence, NICTA argues that the RRC is met because the RSD "does not increase the cost burden on Digicel". With the greatest respect, this is simply wrong. A return on assets is the difference between revenues and costs. Returns can therefore fall for two reasons: cost increases or revenue reduces.

137 Digicel's pricing is designed to maximise its revenue. By seeking to intervene in Digicel's pricing, and restrict its structure, NICTA is quite obviously proposing an RSD

[34] A. Schiff, The 'waterbed' effect and price regulation (2008). Review of Network Economics, 7 (3).

that will reduce Digicel's revenue. If the proposed restrictions were revenue-enhancing, Digicel would have done them already. They are not.

138 Clearly, therefore, NICTA has failed in its obligation to ensure that the RSD will not compromise Digicel's return on investment or even to undertake any analysis with respect to this question.

7.4 Cost benefit analysis

139 Section 158(b)(ii)(d) requires that "the aggregated likely benefits of making the RSD outweigh any aggregate likely detriments". This is clearly a cost-benefit test, notwithstanding NICTA's view (page 106) that it "does not require a cost benefit analysis". Digicel submits that a formal cost benefit analysis is demanded by the Act and that such analysis requires the foreseeable consequences of the proposal to be compared against those of other relevant counterfactuals.

140 As NICTA acknowledges, one potential counterfactual is "taking no regulatory action at all". NICTA says (page 106) this would lead to "inevitable detriments" but does not explain them in any detail. However NICTA's views can be inferred from the table on page 108 as being that forbearance will lead to:

(a) Risk of long-term market foreclosure (items 1 & 2 of Fig 26);

(b) Unduly intense club effects (item 3);

(c) Risk of a connectivity breakdown (item 5);

(d) Excessive investment by Digicel (item 7); and

(e) Above-cost prices for off-net calls (item 8).

141 Digicel notes that the legislative standard concerns "likely" benefits and detriments. We consider that long-term market foreclosure is an extremely remote possibility, well beyond any reasonably view of what is *likely* if NICTA was to forbear, allowing market forces to play out.

142 The worst case scenario is that bemobile, suffering from years of mismanagement, fails financially. In that scenario, a more competent operator would buy the assets and be a more effective competitor. It is inconceivable that PNG's mobile market will be monopolised in the "long term".

143 Digicel submits that there is no evidence that there will be "unduly intense club effects" under this counterfactual. NICTA has no basis for this claim because its entire argument in respect of club effects is theoretical. With a purely theoretical argument it is not possible to make any claims about magnitude.

144 Digicel submits that it is extremely *unlikely* that there will be a connectivity breakdown under this counterfactual. All of the empirical evidence points towards that situation becoming less likely over the recent past and there is no reason to

expect that trend to reverse. All the more so given bemobile's expansion programme and Citifone's ongoing development.

145 As noted above (paragraph 120), Digicel strongly objects to the suggestion that its capital investment programme is in any way inefficient. Moreover, NICTA has advanced no evidence to suggest that it is, or that it would be under this counterfactual.

146 Finally, regarding the pricing for off-net calls, we refer to our above analysis in paragraphs 127 to 134 inclusive. This establishes that on-net calls cannot be considered in isolation, and that when the full bundle is considered the RSD is extremely likely to impose material detriments.

8 Conclusion

147 It is clear from information known to NICTA that the PNG mobile market is

(a) In a rapid growth phase

(b) Attracting new investment into three competing networks; and

(c) Delivering on the policy goals set down by the government.

148 Concurrently with these positive trends, Digicel's position as the market leader is being increasingly and successfully attacked by its rivals, such that

(a) Digicel's market share is falling; and

(b) The price premium Digicel may have achieved in the past is apparently being eroded.

149 NICTA nevertheless seems committed to seeking retail market regulation. NICTA's theory of harm and proposed intervention amounts to the following story.

(a) Yes, competition is developing well now, and it will improve over the next two years,

(b) But competition won't be strong enough (for us) in two years time, which is as far ahead as we can see,

(c) So we really need to intervene now.

150 In support of this view, NICTA consistently downplays the relevance of the observed trends towards increased competition, and cites the actions of other regulators who (it turns out) were much more willing to allow market forces to play out.

151 NICTA's assessment against the legislative criteria is extremely weak. The main errors are:

(a) Mismatch between the period of analysis (two years) and the proposed period of regulation (five years);

(b) Excessive weight given to market foreclosure which, bearing in mind that the competing assets are in place, is extremely unlikely; and

(c) Unduly narrow price assessment focused on one service rather than the bundle that defines the market and ignoring the increase in on-net prices.

152 For these reasons, Digicel maintains that this deeply flawed proposal should be abandoned.

Schedule 1 Answers to Questions

Questions	Answers
Question 1 (for MNOs only): What assumptions about price elasticity of demand do you make when determining or reviewing your retail prices for mobile services?	Digicel considers this commercially sensitive, but as noted above, we do not object to NICTA's market definition.
Question 2 (for MNOs only): What information do you have on price elasticities of demand for mobile services in PNG?	Please see answer to question 1.
Question 3 (for MNOs only): Do you have any international benchmarks of retail mobile pricing or other information that indicates whether the current retail prices for mobile services in PNG are competitive (i.e. that they are prices that would be set by a competitive market)?	Digicel considers itself to be actively competing against its rivals in PNG, and expects its rivals also consider themselves to be competing. PNG prices are competitive because they are set by competing firms.
Question 4: Are fixed voice call origination services and mobile voice call origination services in the same market? Is the situation the same for all call types (e.g. local/national calls, international calls, calls to mobile phones, calls to fixed phones)? Please provide argument and evidence to support your views.	Market definition is purposive, i.e. it is done for the purpose of examining particular issues. Digicel is comfortable with NICTA's market definition but notes that the appropriate market definition may change as different issues are considered.
Question 5: Do you agree that fixed access services and mobile access services are in separate markets? Please provide argument and evidence to support your views.	See above answer to question 4
Question 6: Are mobile data services and mobile voice (i.e. mobile access and mobile call origination) services in the same market or in separate markets? Please provide argument and evidence to support your views.	There is no need for NICTA to form a view on this question for the purpose at hand.
Question 7: Do you agree with NICTA staff's proposed conclusion that the relevant market is the national market for retail mobile services with both the inclusions and exclusions as set out in this paper? Provide evidence and data to support your answer.	See above answer to question 4
Question 8: Do you agree with NICTA staff's proposed conclusion that the retail mobile services market is susceptible to en ante competition regulation? Provide	No. Please see section 5 of this submission.

evidence and data to support your answer.	
Question 9: Do you agree with NICTA staff's proposed conclusion that Digicel has a substantial degree of market power in the retail mobile services market? Provide evidence and data to support your answer.	No. Please see section 6 of this submission.
Question 10: If you agree with NICTA staff's proposed conclusion that Digicel has a substantial degree of market power in the retail mobile services market, do you also agree that that market power is harmful to competition for the reasons identified by NICTA staff? Provide evidence and data to support your answer.	Digicel does not agree that it has a substantial degree of market power. In any case, market power is not harmful as such. NICTA has not shown that Digicel's pricing is harming competition or consumers in PNG. Please see our submission for details.
Question 11: Do you agree with NICTA staff's proposed conclusion that it is appropriate for NICTA to consider the making of a retail service determination, in the circumstances in the form of a non-discrimination pricing principle or policy? Provide evidence to support your answer.	No. Please see our submission for details.
Question 12: Do you agree with the terms of NICTA staff's proposal for a retail service determination (as described in section 8 and set out in Annex C)? If not, please identify the specific amendments that you think are necessary and accompany those proposed changes with an explanation as to why such changes are necessary.	No. Based on the evidence and analysis undertaken to date Digicel does not believe it would be open to a regulator acting reasonably to propose imposing a retail service determination.
Question 13: Has your organisation done any economic modelling of the effect of the proposed determination or of any restriction on on-net/off-net price discrimination? If so, please provide the model and results.	No, but we understand the waterbed effect and agree with its predications.
Question 14: Do you agree with NICTA staff's proposed conclusion that the proposed retail service determination (at Annex C) satisfies the statutory retail regulation criteria? Provide evidence and data to support your answer.	No. NICTA's analysis is deficient and its conclusions are incorrect. Please see our submission.