

The regulatory jewel of the South Pacific: Samoa's decade of telecommunications reform

Introduction

Samoa - a small island developing state (SIDS) in the South Pacific - has substantially reformed its telecommunications sector over the last decade. The country privatised the state-owned company SamoaTel (now called Bluesky Samoa) and introduced a new private competitor Digicel, who could directly challenge SamoaTel's monopoly position in the market. The Office of the Regulator was also established and empowered to set fair interconnection rates, negotiate disputes between the two companies and protect consumer interests. These reforms have had a dramatic impact on mobile usage in Samoa, with the cost of phone calls, internet data and mobile phones all drastically reduced. Mobile phones (and regular internet access) have become an everyday (and affordable) reality for a vast majority of the population. This was supported by the International Development Association (part of the World Bank) and has been considered so successful that other countries in the region have followed this path and also opened up their telecommunications sector to competition (see World Bank, 2011).

As one of the most mature mobile markets in the Pacific region (World Bank, 2011; Tacchi et al., 2013) and in light of the wider regional influence of these changes, this paper seeks to provide a critical account of these reforms. It also offers a detailed account of how the liberalisation of this sector has impacted wider social, cultural and technological practices in Samoa. Finally, we explore what the Samoan reform experience can tell us about telecommunications reform in developing countries more generally. A case study of Samoa is interesting for a number of reasons. It is an isolated island with a small population, foreign companies have played a significant role in their telecom sector for a number of years and citizens retain strong familial ties with major countries in the region (namely Australia and New Zealand). Collectively, these elements challenged and ultimately shaped the results of the World Bank reform process, revealing the incredibly social life of what on its face, appeared to be a bureaucratic process of telecommunications reform.

Our analysis is supported by grey literature (such as relevant policy documents) as well as data from eight key informant interviews with individuals who were active Samoa's telecommunications sector and had had a major influence on telecommunications policy in the country's recent past. We spoke with executives at Bluesky and Digicel, two policy advisors and an executive at the Ministry of Communication and Information Technology (MCIT), a consultant (and former public service executive) still active in the sector, a telecommunications infrastructure expert and the telecommunications regulator. The interviews were conducted in Apia, Samoa during March and April 2014. This might appear to be a small sample but it is worth remembering that Samoa is a small country consisting of

two small islands in the middle of the Pacific Ocean. It has a population of 191,000 people, with around 40,000 residing in the Apia, which is the capital city and sole urban centre across both islands. Subsequently, the telecommunications sector is of an equivalent size. To give some brief illustrative examples, three MCIT employees were responsible for developing telecommunications public policy for the whole country during our interviews, two of whom we interviewed along with the sole executive in this ministry. The regulator functioned with a limited support staff in a compact office close to the national Parliament. Therefore, while we present data from a small amount of interviews, these discussions represent a significant portion of the sector.

Infrastructures and geographies of mobile media: Turning towards the South Pacific

The majority of mobile phone subscriptions worldwide are based in developing countries (see Pearce, 2013; International Telecommunication Union, 2011), and so it is unsurprising that an increasing amount of research is being conducted on mobile media usage in the global south. Scholars have paid particular attention to the innovative use of mobiles (see Donner, 2008; Horst and Miller, 2006; Taylor, Baptiste, & Horst, 2011) as well as how mobiles are used in political contexts (Goggin and Torres, 2014). The extant scholarship has also located various local appropriations of mobile media, which challenge normative assumptions of mobile practices, formed from the perspective of developed or emerging economies (Pearce, 2013; also see Horst, 2013; Ling and Horst, 2011). However, as Heather Horst (2013) notes, this examination of practice has often obscured the much more boring analyses of ‘infrastructure’. Extending Gerard Goggin’s (2010, p. 7) argument, that ‘little [work] focuses on the political economy of mobile media’; Horst (2013, p. 148) suggests that there is still an absence of work that examines the relationship between ‘policy, regulation and consumer practices’. We have responded to this call by examining the telecommunications reform process in Samoa in detail. Rather than focusing on ‘users, consumption and meaning’ (Horst, 2013, p. 143), we instead examine the socially and culturally embedded nature of telecommunications reform and provide a policy context through which to explore various mobile practices occurring in Samoa.

Today, mobile phone penetration is high across the Pacific region and scholars have conducted a series of detailed studies that outline the various ways the mobile is changing people’s lives in the region. Existing research has examined the circulation of music on and through mobiles phones in Vanuatu (Stern, 2014), the uptake of mobile phones in Papua New Guinea (Watson, 2011; 2013) and Fiji (Peseckas, 2014) and how mobile phones are used by collective weaving enterprises in Tonga (‘Ilaiu Talei and Memmott, 2014). However, while each of these studies provides a compelling insight in to the different ways that mobiles are used in daily Pacific life, and how communities (and countries) understand these moments of technological and social change, not much time is granted to the direct ‘infrastructural’ study

of telecommunications policy reform and how these reforms interact with changing social and cultural practices (exceptions include Cave 2012; Watson 2011). Our study therefore, provides a useful account of the first country to go through a comprehensive telecommunications reform process in the Pacific region, and in doing so, also asks questions of the market liberalisation narrative: What have been the successes, what have been the failures and perhaps most importantly, what is still left to do?

Finally, this study stands as a useful point of comparison with countries beyond the Pacific region that have experienced similar transformations. India also gradually opened up its telecommunications market over the last decade and witnessed a dramatic growth in mobile phone use (Doron & Jeffrey; 2013 p. 6). Much like Samoa, the introduction of a regulator (the Telecom Regulatory Authority of India) and the Telecom Dispute Settlement Appellate Tribunal (TDSAT) was central to this process (Doron & Jeffrey, 2013, p. 41). However, different issues emerged in each country as this reform process took place. India saw the Department of Communications engage in a protracted battle with newly privatised companies and a scandal ridden reform process take place, with a questionable spectrum auction (overseen by Government) leading to 122 mobile licenses being revoked in 2012 (Doron & Jeffrey, 2013, p. 59). In contrast, Samoa was quickly ushered through the reform process by the World Bank. The Samoan Government also strongly supported the introduction of competition in the mobile market and it was seen as an excellent way to fulfil universal access obligations. But as we will see below, this World Bank approved process comes with its own problems, largely from attempting to set up a competitive market on an incredibly small and remote island nation.

From monopoly to duopoly: outlining the Samoan reform process

Mobile phones were introduced to Samoa in the mid-1990s through a joint partnership between Telecom New Zealand and the Government of Samoa, which operated under the name Telecommunications Samoa Cellular (TSC). This body was granted a ten-year exclusive license to provide analogue mobile services, and this agreement inadvertently locked Samoa in to a 'low-quality and high-cost service' (World Bank, 2011, p. 8). The mobile network only covered the capital Apia, the Faleolo international airport and two tourist resorts and the network did not expand any further during the life of the agreement. Telecom New Zealand (who owned 90% of the venture) had promised to build a mobile network, which covered at least 90 per cent of the population (Favaro et al., 2008, p. 220). However, with Telecom New Zealand operating as a private company, they had little pure commercial reason to invest in network expansion in order to reach underpopulated areas (MCIT Employee 1, Personal Interview, 26th March 2014). Furthermore, during the late-1990s and early-2000s purchasing and using a mobile was also expensive and little effort was made to place the mobile in the reach of the everyday consumer (MCIT employee 1, Personal

Interview, 26th March 2014). Realising that this exclusive license would see the Samoan population continue to receive limited access to mobile phones and poor coverage well into the mid-2000s, there was already significant public disquiet around the performance of TSC by the late-1990s (Favaro et al., 2008, p. 221).

Samoans also had limited access to telecommunications more generally. In 2002, at the beginning of the reform process, fixed-line telephone penetration was at 6.5 per 100 inhabitants and mobile penetration was at 1.7 percent of the population (World Bank, 2011, p. 1). Fixed-line telephones were also expensive, with the high price of international voice calls not ‘reflecting the real cost of service provision’ (World Bank, 2011, p. 1). In addition, there were only 3,000 subscriptions to Internet Service Providers at this time (World Bank, 2011, p. 2). Finally, there was a lack of effective regulation in the sector with the Post Office Department both operating and regulating the sector until the Postal and Telecommunications Services Act became effective in 1999 (MCIT Annual Report, 1999 – 2000, p.1). The act attempted to separate the policy and regulatory functions by creating a new entity called Samoan Communications Limited, who would be responsible for ‘operations, postal and telecom operations, and domestic and international telecommunications’ (MCIT employee 1, Personal Interview, 26th March 2014). The Ministry of Post and Telecommunications would now focus solely on policy matters (MCIT employee 1, Personal Interview, 26th March 2014).

However, this legislative reform did little to fix the sector. The World Bank (World Bank, 2011, p. 2) noted that the ‘lack of a regulatory framework and legislation limited [Samoa’s] capacity to regulate the sector’ and suggested that Samoan Communications Limited (now called SamoaTel) and TSC’s inability to agree on interconnection rates, also hindered ‘the capacity of TSC to deploy a nationwide network’. Furthermore, issues around cost and coverage were becoming of increasing interest to the Prime Minister Tuilaepa Aiono Sailele Malielegaoi (from the Human Rights Protection Party), who was ‘very taken’ by the potential of technologies like the mobile phone (Former Ministry of Finance employee, Personal Interview, 28th March 2014).¹ This political interest and the wider problems in the sector led the Samoan Government to request a \$4.48 million (US) loan from the International Development Association order in order to enact new reforms. By 2002, Samoa had started a World Bank project that as stated earlier, looked to open up the sector to competition, privatise the public telecommunications operator and introduce regulatory oversight through the means of a regulator as well as new legislation. This would hopefully increase mobile phone take up as well as have ‘a positive impact on the accessibility and affordability of Internet service’ (World Bank, 2011, p. 12). The basic goal of this reform process was to

¹ Examining the wider political situation in Samoa is beyond the scope of this paper so we recommend the following publication for further context: Favaro, E., Halewood, N. and Rossotto, C, ‘From Monopoly to Competition: Reform of Samoa’s Telecommunications Sector’, in Favaro, E. (Ed.). (2008). Small states, smart solutions: improving connectivity and increasing the effectiveness of public services. World Bank Publications, for further context.

supplement the limited telecommunications and internet infrastructure available in Samoa by exploiting the affordances of the mobile phone.

The project began with the Samoan Government attempting to re-negotiate the exclusive license granted to TSC. After a tense negotiation process TSC ‘agreed to relinquish’ their ‘exclusive rights’:

[I]n exchange for being granted a GSM (digital mobile) license. [Samoa] then proceeded to tender, and to award through an international, open, and competitive process a second license to introduce competition in the mobile market (World Bank, 2011, p. 8).

While the tender process was still ongoing, the opening up of the sector was supported by the passing of the *Telecommunications Act 2005*, which would assist in organising and regulating this new era of competition between private telecommunications companies. The legislation established an independent Office of the Regulator and an appeals tribunal where disputes in the sector could be adjudicated. The Act outlined the role of the Regulator, stating that the appointee was to ‘advise the Minister on policy for the telecommunications sector’; implement the Act itself and ‘monitor and enforce compliance by licences with the conditions of their licences’ amongst a range of other tasks (*Telecommunications Act 2005 Samoa*). This role followed international best practice (World Bank, 2011) and was set up to not just implement policy regulations, but to also support competition and fair practice (Former Ministry of Finance employee, Personal Interview, 28th March 2014). The position was to be funded from ‘annual license and spectrum fees’ collected by the Ministry of Finance (World Bank, 2011, p. 13). The issue of universal access to telecommunications was also placed on the agenda and was directly addressed in the legislation, which empowered the Regulator to set out a Universal Access policy and establish a fund for that policy if the appointee so wished. The fund would require individual licensees to regularly contribute an amount determined by the Regulator.

The second license was released to tender with an ‘emphasis ... placed on coverage obligations’ (World Bank, 2011, p.8), underlining both the Government and World Bank’s motivation to expand the mobile network quickly across Samoa. The license was awarded to a new company called Digicel Samoa Ltd. in March 2006. The company was jointly owned by ‘Computer Services Ltd. (CSL), Samoa’s largest internet service provider ... and Digicel Ltd. who at the time operated ‘GSM networks in 15 Caribbean island nations’ (World Bank, 2011, p. 38). However, in a strange turn of events, Digicel chose not to exercise their right and instead bought out TSC (who as noted previously was awarded a GSM mobile license in exchange for abandoning its right to exclusivity in the Samoan market). This was a strategic move on Digicel’s behalf. By purchasing a 90% share in the mobile provider TSC from

Telecom New Zealand at \$26.6 million tala (roughly \$10.5 million USD) they immediately acquired a customer base of 33,000 at the outset (MCIT Annual Report, 2006 - 2007). The fallout from this exchange was that the Samoan Government sold its minority holding in TSC and with a private competitor now in the market, Government-owned fixed-line provider SamoaTel obtained the second mobile license (Favaro et al, 2008, p. 231).

Following these deals, Digicel formally entered the market and began the process of expanding the mobile network, promising to cover 80% of Samoa's population in the first year (Favaro et al., 2008, p. 219). One of our informants worked with Digicel during these early years of the rollout and outlined how it occurred (Bluesky executive, Personal Interview, 1st April 2014):

[W]e rolled out a total of 43 cell sites across the whole country and this is something that Digicel had repeatedly done throughout all the islands of the Caribbean and the model was sound ... we [would] build a national coverage network and the customers would respond. It happened again in Samoa, everybody therefore has universal access to a telephone in any part of the country and obviously the ability to move with that mobile anywhere.

Within six months of launching, Digicel had increased coverage to 85% of the country and immediately captured most of the market (MCIT Annual Report, 2006 - 2007). The fact that the fixed line telephone system was still not universal at the time of the rollout, only reaching roughly 50% of the populated areas of Samoa, is one clear reason why mobile services were taken up so quickly following this market liberalisation (Bluesky executive, Personal Interview, 1st April 2014).

The other reason for such a quick take up of Digicel's mobile services was because of how they entered the market: aggressively and facing no real competition. The Government licensee SamoaTel had been privatised yet or sufficiently strengthened to handle competition and suffered from the introduction of a 'cutting edge, really aggressive and well-prepared' company (Digicel executive, Personal Interview, 25th March 2014). Digicel immediately rolled out over forty cell towers in contrast to SamoaTel's twenty-two planned towers and claimed a significant share of the Samoan customer base, in turn shaping the market for years to come. As our informant at Digicel (Digicel executive, Personal Interview, 25th March 2014) explains:

They basically allowed them to come in and absolutely decimate ... SamoaTel, which was the government one. That's why we're 80% now and [Bluesky, SamoaTel's privatised successor] 20%. It's hard once you reach that critical mass. On a good day, if they do a promotion for one or two months they'd get 2%, 3% but ... we'll get it back.

Despite the planning and consultation that had gone on in the years prior, as the above example shows the opening up of the telecommunications market did not go entirely to plan. But importantly, Digicel was strongly committed to expanding the mobile network and making mobile phones more accessible to the general public. While mobiles were still 'expensive' (MCIT employee 2, Personal Interview, 26th March 2014), Digicel attempted to establish 'pricing models that would be deemed as affordable by the customer base' (Bluesky executive, Personal Interview, 1st April 2014) and so mobiles were at least within the reach of the average consumer.

The final goal of the reform process was the privatization of the state-owned SamoaTel. This was achieved in March 2011. SamoaTel was sold to Bluesky Communications (a telecommunications company owned by Elandia International) who bought a 75 percent stake in the company for \$11 million. The company's lack of readiness for a competitive market place was noted by a current Bluesky employee who explained that when Bluesky took over from SamoaTel, they immediately adjusted their pricing, which was at a 'level that we saw was possibly unaffordable by some pockets of the market' (Bluesky executive, Personal Interview, 1st April 2014). This involved providing better value for money rather than drastically lowering prices:

[When we took] over SamoaTel, for 99 Tala (\$40 USD) you could buy half a gig, which is 500 MBs at a speed of 500 megabits per second. Today you still spend 99 Tala where you get 3,000 MBs; so you're getting 6 times what you could get in 2011 and you're getting it at twice the speed.

The strategy of privatisation directly assisted in making mobile phones and mobile Internet access more affordable and turned changed the culture of the second operator from a publicly owned enterprise to a commercially oriented company.

At a general level, one can say that the reforms were a success. Samoa now has two private telecommunications companies in the market, who offer a range of mobile and data packages across a range of price points and who regularly offer special deals to entice customers. Indeed, only two years after the introduction of competition there was a marked increase across the sector. The total number of fixed and mobile subscribers jumped from 12,500 in 2002 to 101,400 152,800 in 2008 and subscribers in rural areas rose from 1,500 to 6,000 (World Bank, 2011, p. 3; also see Figure 1, sourced from World Bank, 2011, p. 2). Network coverage immediately improved and at the time of the interviews sat at roughly 95% - 98% population coverage (Bluesky executive, Personal Interview, 1st April 2014; Digicel executive, Personal Interview, 25th March 2014) and mobile penetration (per hundred subscribers) was over 95% of the population (World Bank, 2011, p. 16). These achievements are laudable. However our research found that key players held a range of opinions around

the broader outcomes of this process and about what Samoa's digital future should look like, which we discuss in the following section.

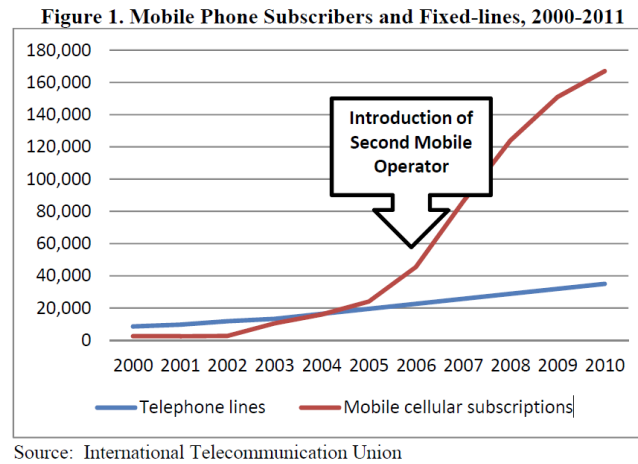


Fig 1: (World Bank, 2011)

Assessing telecommunications reform: regulation, access and use

Regulation

Established actors and newer entrants to the telecommunications sector saw the reform process as a necessary step. However, this does not mean that the outcomes have been exempt from criticism. During our interviews it was clear that various informants had particular expectations about the reform process and they offered a range of opinions about the best policy approach for a small island like Samoa. The efficacy of the regulator was a key sticking point, with informants noting that a range of issues outside of the office's control initially hamstrung the role. When Digicel entered the Samoan market the company immediately started engaging in litigation, challenging decisions made by the regulator as well as pushing back against what they saw as an over-regulated market with 'lofty aspirations' (Digicel executive, Personal Interview, 25th March 2014). However, the Samoan Government was not prepared for this litigious strategy, which stretched the sector's resources (MCIT employee 1, Personal Interview, 26th March 2014).

This led to the amendment of the *Telecommunications Act* in 2008 allowing the Government to strategically manage expenditure through the use of a tribunal. Instigated in order to avoid

the costs of going through a High Court process, it involved the Chief Justice selecting two experts – one technical and one financial – to assist in adjudicating appeals to decisions made by the regulator. Instead of paying specialist lawyers from overseas to advocate for parties in court, the tribunal would stand as cost-efficient final court of appeal for the sector (MCIT employee 1, Personal Interview, 26th March 2014). However, in order to appeal a decision and take it to the Telecommunications tribunal, the amendment stipulated that a fee of \$100,000 tala (~\$41,000 USD) needed to be paid. This has (perhaps unsurprisingly) led the two market players to completely eschew a formal tribunal and instead turn to mediation. As the Bluesky executive explained:

Our position at the moment is to seek mediation and talk to our competitors and [...] not take them to court. It just costs too much money and time and effort to have someone rule one way that may be fair otherwise but it's never worth the amount of time and effort and cost that goes into it (Bluesky executive, Personal Interview, 1st April 2014).

This position was echoed by a Digicel executive, who noted that their strategy was to 'stay away from the tribunal' and to '[l]ook for commercial negotiations and outcomes'. It was 'easier for [Digicel] to talk to my competitors ... than to ask a regulator to help me or find the courts to help me' (Digicel executive, Personal Interview, 25th March 2014).

The regulator is respected by both companies and has a reputation for transparency, carrying numbers by both providers (Bluesky executive, Personal Interview, 1st April 2014). The regulatory process is also relatively straight forward and follows a series of familiar steps:

Whether we write to him or any other competitor writes to him and complains, he will copy every other party that is involved in the complaint or in the query and then we sit down and discuss it. We have a right to respond and then he adjudicates on based on all the responses that come in and he'll make a decision. Put an order out and then we all set a timeframe by which we can appeal. As long as the process is followed, it's fairly straight forward. If you do not appeal it's therefore implicated that you agree with the order and the order stands (Bluesky executive, Personal Interview, 1st April 2014).

However, the regulatory ideal embedded in legislation is not always achievable in practice and the unique demands of being a SIDS places the current telecommunications policy under particular pressure. The attempt to establish a regulatory scheme that does not draw substantially on the islands resources (and in fact now attempts to directly enhance them through the payment of a fee) has instead led to private companies sometimes completely bypassing these regulatory processes.

Universal Access

The current debate around the extent to which universal access has been achieved in the country offers another useful perspective through which to assess these reforms. There is a

presumption amongst private companies that universal access has largely been achieved. They view their provision of mobile coverage to around 98% of Samoa's population to be a success and note that the population group left over are living in 'very rural and inaccessible areas with respect to investment' (Bluesky executive, Personal Interview, 1st April 2014). As a Bluesky executive explained:

Building a tower costs a quarter of a million Tala [\$102,800 USD]; so to get back your investment over a, normally a 7 to 10 year depreciated value, your rate of return needs to be fairly good. If you don't have the population to return it, it becomes very difficult to even consider the business case (Bluesky executive, Personal Interview, 1st April 2014).

Companies are still providing coverage to remote locations, but now they require a convincing commercial case for doing so. Subsequently, the provision of remote coverage is largely driven by the tourism sector rather than any public policy concerns around universal access. Resorts in remote locations will provide a business case to telecommunications companies, incorporating the population of the resort over its planned lifetime and expected revenues from broadband, Wi-Fi and mobile usage (Bluesky executive, Personal Interview, 1st April 2014). Unsurprisingly, projections from resorts present a much more financially viable option for telecommunications providers when considering network expansion.

Public service members contest this notion of universal access. The current regulator (Regulator, Personal Interview, 2nd April 2014) argued that just because 'we have mobile coverage to most of the populated areas [does not mean] we have universal access'. An MCIT employee (MCIT employee 2, Personal Interview, 26th March 2014) echoed this statement, noting that the current network was '[geared] towards population instead of demography or geographical location'. While people were broadly able to get coverage where they were living, he identified an interesting tension between population centres and mobility stating 'isn't that why you're supposed to have mobile communication so wherever you want to go you can get connected' (MCIT employee 2, Personal Interview, 26th March 2014)? He also suggested that competition between companies played a role in this awkward geography of mobile coverage, with Bluesky and Digicel mobile towers in 'close proximity' rather than co-sharing, which would drive down the prices, and allow the towers to fan out across the country. However, he also notes that there are very good commercial reasons for not tower sharing, namely that the owner of the tower will always use the most advantageous point on a tower in order to achieve the best coverage (MCIT employee 1, Personal Interview, 26th March 2014). This conflicting narrative, as well as the example of the tourist economy driving network expansion, further underlines some of the tensions around expecting private companies to directly achieve public policy goals such as universal access.

The public service is hoping to entrench universal access for Samoa through a fund, which will support these public policy objectives with contributions from the private sector.

However, despite a universal access fund policy being in place for a close to five years the fund is not yet active, with the regulator still finalising the funding mechanism (Regulator, Personal Interview, 2nd April 2014). In contrast, the regulator noted that universal access did not rest solely on the mobile phone and suggested that ‘it's in terms of broadband access, not simply voice because voice is no longer the name of the game’ (Regulator, Personal Interview, 2nd April 2014). These debates reveal how contested the notion of universal access is within the public service and highlights one of the many awkward policy issues that the increased take up of the mobile phone raises. While the over-arching reform narrative has been one of success, these debates around universal access and mobile coverage reveal a series of problems that are still yet to be solved.

Mobile Use in Samoa

Indeed, one policy area that has only recently emerged as a point of concern has been around the *use* of the mobile. The increased take up of mobile phones has raised a number of issues around how they should be used in Samoan society, but also how the usage of the mobile should be regulated – both socially and legally. Our informant from Bluesky provided us with a broad outline of mobile usage in contemporary Samoa, noting that “the general use in Samoa it’s voice still, but we’re certainly aiming that data will hit 50% within the next couple of years [...] At the moment it’s just internet and email and a lot of Facebook”. However, our Digicel informant contextualised this by noting that 72% of the market did not have smartphones and so texting was still most likely the dominant practice (Digicel executive, Personal Interview, 25th March 2014).

However, this increased use of the mobile does not always mesh with *Fa’a Samoa* (the Samoan Way), a socially enforced set of norms that entrench an expectation of respect and most importantly, duty to ones family, ones elders and the village as a whole. The mobile phone significantly alters these long standing configurations of family and community. Under *Fa’a*, because children are expected to show respect and deference to their elders this allowing elders to maintain control over the lines of communication:

Because in Samoa, we are a small country, it's very easy, I think in the past, for families to be very close to each other and control the flow of communications to their children and the family in general (Former government telecommunications consultant, Personal Interview, 25th March 2014).

However, the mobile phone allows young members of the community to maintain regular lateral contact amongst their peer group, avoiding these culturally entrenched means of control. This is done cheaply through the use of Digicel and Bluesky’s ‘free nights’, which allow people to make free calls at night-time and ‘free texts’, where a bundle of free texts are granted to a subscriber after sending a pre-determined number of SMSs. Similarly, informants in the public service noted that Bluetooth was also used in schools to circulate

inappropriate content (MCIT employee 2, Personal Interview, 26th March 2014), further underlining how the affordances of mobiles radically challenged the effective operation of *Fa'a*.

The affordances of social media platforms like Facebook have also directly assisted in challenging these existing hierarchies of control. In early 2014, when this research was being conducted, a young boy was arrested for creating a video that ridiculed Samoa's Prime Minister. The video was widely circulated on Facebook and also across various mobile phones through Bluetooth:

A village friend who is a student took the video clip on his phone. He took his phone to school and showed it to his teacher. The teacher then circulated the video clip (Shameful video hurts village, 2014).

The village of the young man offered a traditional apology to the Prime Minister and the *Ali'i ma Faipule* (village council) punished his family. This incident was seen a clear example of how the mobile phone directly challenged authority, and our key informants regularly noted the need to balance technological progress with existing cultural and social norms.

Our informants also noted that the emergence of mobile has also directly impacted on the finances of Samoans. A significant number of mobile phones in Samoa are still pre-paid, which means that people need to 'top them up' or transfer credits from another phone, in order to continue to use their phone. However, as one informant from MCIT noted, many Samoans were not able to fund regular mobile usage:

People are buying credits instead of buying coffee or sugar or some bread for the kids. It's true. It's happening. It's happening everywhere. Kids are hiding money from the parents' purse or the wallet of the dad. They don't pick the big notes but maybe the coins and two dollar and five dollar because they won't realize that's missing from the wallet or the purse. Kids, instead of buying their lunch or buying a pen, they buy credits. Even if the phone lies idle somewhere, he just transfers credits (MCIT employee 1, Personal Interview, 26th March 2014).

Continuing, he noted that the ministry had hired a consultant through the ITU and the UN to conduct a survey in communities, which asked the question 'If you have five tala left, what would you use it for?' The answer was phone credits' (MCIT employee 1, Personal Interview, 26th March 2014). This of course shows how important the mobile phone is in maintaining social relationships, but also underlines that Samoan mobile phone use operates within a difficult economic context where finances are often stretched.

If is of course worth noting that *Fa'a*, the mobile phone and the Samoan economy are not always in opposition. While many of our informants were critical of the impact of the mobile phone when considering how it affected young people or the economy, they also recognised its usefulness in asking for remittances. Similar to many other developing countries,

remittances form a central part of the Samoan economy. Family members often move to Australia and New Zealand and transfer some of their income back to family and community organisations in Samoa. This practice is strongly backed up by the doctrine of *Fa'a*, which calls on individuals (particularly the young) to care for their family and elders not just emotionally but also financially, if asked to do so. In more recent times, this practice has also been supported by the affordances of the mobile phone. One informant noted:

It has made life much easier for some people, just pick up the phone and call the son to send some money instead of going to work in the plantation (MCIT employee 1, Personal Interview, 26th March 2014).

While this informant was critical of the practice, other informants recognised the value of the mobile phone for the remittance economy. Indeed, this economy has been directly incorporated into the operation and continual function of the mobile phone in Samoa. Both Digicel and Bluesky encourage Samoans to get overseas family members to 'top up' their phone remotely through the Internet (Former Ministry of Finance employee, Personal Interview, 28th March 2014). This practice further entrenches the links between *Fa'a* and the use of the mobile phone by linking communication practices with family obligations. However, it also provides a useful cultural-economic nexus through which to ground the telecommunications industry, with remittances meaning that telecommunications companies do not have to solely rely on the Samoan economy.

Telecommunication reform cultures: the phenomenon of access before competition

This article has provided a detailed case study of the last ten years of telecommunications reform in Samoa. From this we can learn something about how the introduction of competition into telecommunications markets operates across different countries, as well as gain an insight into the social life of telecommunications regulation. In India, the introduction of a regulator, and the opening up of the telecommunications market was a highly political process and was filled with controversy. As discussed earlier, the Indian Department of Communications challenged early efforts to liberalise the market and Government continued this interventionist tendency through more underhanded means such as corruption and stacking the telecommunications referee TRAI (Doron and Jeffery, 2013, p. 45-46). In Samoa these tensions were still present, albeit in a less sensational manner. Despite the introduction of "best practice" regulation for the purposes of supporting competition and staving off corruption, once the market was opened up and an uneven duopoly established, the two providers started to use commercial mediation as a way of avoiding the recently established (but costly) regulatory process.

In these two examples, the push back against regulation comes from different locations. In India, particular sections of the Government challenged the newly established regulatory

body, whereas in Samoa this pressure comes from the private rather than public sector. However, both examples are instructive because it underlines the fact that the reform process is embedded with tensions that persist after the initial boom. While the initial process of liberalisation is generally lauded as a success, with the cost of mobile phones and phone calls lowered through the introduction of competition, the real issue is what happens after this. Our interviews show that this reform process was not viewed as an unqualified success and both public and private actors took alternate approaches to regulation. This was illustrated most aptly in the tacitly approved evasion of the regulatory process and the ongoing debates around universal access. In a sense, the transition to an open market is the easy part, especially once we consider the ability of transnational actors like Digicel to quickly enter a market and establish competitive price points. The challenges really emerge after the reform process, especially as the previously dormant (or absent) private actors start to assert themselves and offer a market-oriented position on regulation.

However, Samoa is obviously smaller than India in terms of land mass and population, which carries different implications for how the notion of competition and regulation is enacted in practice. India's large population means that despite the phenomenon of corruption, the country can sustain numerous players in the telecommunications market. In such a highly competitive market a regulator or (regulatory body) has a vital role to play. In contrast, the introduction of competition in Samoa resulted in a duopoly that is dominated by Digicel. This is a common occurrence elsewhere in the Pacific. For example, Fiji strengthened their sole mobile provider Vodafone before opening up the market (unlike Samoa) but a similar duopoly occurred (Peseckas, 2014, p.25). Because only a limited number of companies can be sustained in these small countries, this in turn suggests that the introduction of competition is more about increasing access and developing infrastructure rather than fostering the ideal competitive environment. Therefore, while the regulator clearly has to ensure that prices are low enough so mobiles are within the reach of everyday Samoans, Digicel and SamoaTel's avoidance of the formal regulatory process is not as damaging as it may seem. In such a small market, true competition is going to be difficult to establish and instead a (largely) friendly Digicel near-monopoly that provides infrastructure and access stands as a more accurate account of Samoa's post-reform telecommunications market.

These findings underline the benefits of both examining social and cultural contexts in which public and private actors operate, and of studying infrastructure more generally. This study has shown that for Samoa the reform narrative (one so common to many developing nations) is an aspirational one, which is necessarily shaped by various cultural, social, and geographic demands. Therefore once we take this social life of telecommunications reform into account, the challenges for Samoa and other countries in this predicament are not really to do with competition per se, but rather around the tensions between private service provision and public goals. Private companies provide a high-level of service but at a particular point, their

goals are understandably driven by profit rather than the broader good. In Samoa, this has emerged in particular decisions around coverage (which is now oriented towards tourist sites), as well as the provision of ‘free nights’ in order to encourage mobile use during times where the network is at high capacity. These decisions have rankled some in the public service, who feel that universal access obligations haven’t been met, as well as some Samoans who consider the emerging culture of mobile use to be damaging to existing familial and wider cultural relations. With a duopoly entrenched in Samoa, the next stage in the reform process involves finding a way through these tensions. This involves ongoing consultation and negotiation between public and private parties and reveals the limits of ‘best practice’ policies and laws around competition. While a strong regulatory structure can provide the foundations for a mobile culture, countries like Samoa still have to deal with the natural restrictions that come with being a small country (both geographically and population-wise), a limitation that carries its own unique social, cultural and regulatory challenges.

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