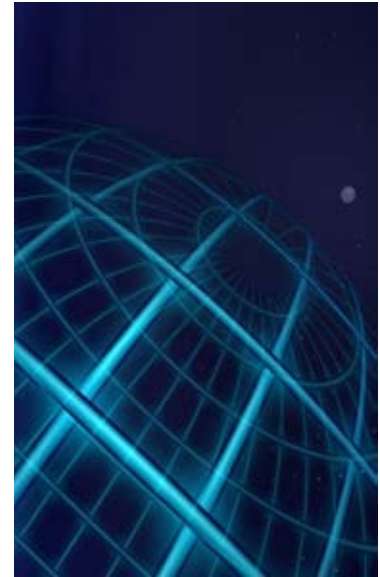


THE CONSUMPTION OF MOBILE SERVICES BY AUSTRALIAN UNIVERSITY STUDENTS

Australian University Students

The premise of this paper was to study how the youth population in Australia consumes mobile services. The findings revealed that the youth segment utilize mobile services for utilitarian needs and hedonic use, but more so for hedonic reasons, and their peers influence consumer behavior in regards to the choice of mobile service providers and mobile services usage. While this paper focused on Australia, the conclusions would be relevant elsewhere. Mobile data services are seen as the key to driving growth for mobile service providers in many developed markets. And the growing importance of the youth segment is not only due to their increasing numbers in terms of potential subscribers, but because they are the biggest consumers of mobile data services. Ultimately it would make sense to develop marketing programs that in some way focus on the youth segment or at least are relevant to them.

— Shannon McClatchey



INTRODUCTION

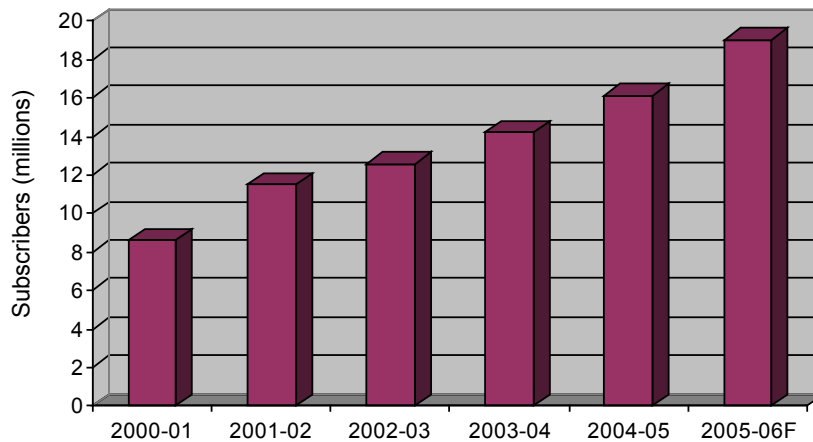
Mobile telecommunications have come a long way since the 1940s when radiotelephony connected a few users in cars to public fixed networks. Commercial interest in mobile phones took off in the 1970s when the invention of digital microprocessors made manufacturing mobile phones economically viable and practical for the masses (Nicopolitidis, Obaidat, Papadimitriou, & Pomportsis, 2003). Boosted by ongoing technological innovations, mobile telecommunications continue to be one of the world's largest growth industries (Feldmann, 2003; ITU, 2003; Mackenzie, Mendez-Villamil, Pawsey, & Zoller, 2004).

Demonstrating this growth, the International Telecommunications Union (2003) reported global mobile telecommunications service (*mobile service* for short) subscribers grew 47% annually from 1993 to 2002. At over one billion, mobile subscribers overtook fixed telephone subscribers by the end of 2002. A 2005 press release puts the global subscriber base at about two billion, or a third of the world population (GSM, 2005).

Australia's mobile industry parallels this global trend (see Figure 1). According to the Australian Mobile Telecommunications Association (2005), in 2004 the

industry employed over 33,000 people, added A\$6.1 billion to the local economy and contributed about \$180 million or 2% of total industry payments to the federal government. Spurred on by market deregulation, technological development and innovations, mobile service subscribers climbed steadily to about 19 million in June 2005 (ACMA, 2005). This represents a penetration rate, mobile service subscribers per 100 people, of 90%.

Despite its continued global expansion, mobile user growth is slowing. This decline is acute in developed markets such as Australia and reflects saturating market conditions; people who desire a mobile phone have one (Aafjes, Bensauou, & Shaikh, 2004; Mackenzie et al., 2004; OECD, 2005). For example, the Australian Communications and Media Authority (2005) reported subscriber growth dropping from 39% in 2001 to 12% in 2005.



Source: AMTA, 2005

Figure 1: Australian mobile service subscriber base from 2000-2005

Youth and mobile data services drive growth

As mobile service providers seek to counter the slowing growth, youth have emerged as an important segment (Anderson, 2004; Elkin, 2002; Landor, 2003; Mackenzie et al., 2004; Wilson, 2005). In 11 developed markets including Australia, the International Telecommunications Union (2004) forecasts the number of mobile service subscribers aged between five and 24 years to rise from 103 million in 2002 to 152 million in 2004. Similarly, In-Stat (2005), a telecommunications market researcher company, reported that the youth market is key to overall market development, particularly in Asia Pacific.

Their potential has led many mobile service providers to focus on youth. For instance, they offer discounts around school hours or for calls between buddies with the same mobile service providers (Nelson & Cooper, 2004; Pawsey & Mendez-Villamil, 2004). Youth are so critical to mobile service providers that

they position brands on youth (Elkin, 2002; Gibney, 2004; Kydd, 2005). Mobile service providers who adopt youth-oriented brands include AT&T Wireless of the US (Elkin, 2002), MobileOne of Singapore (Wilson, 2005), and Virgin Mobile of Australia (Kydd, 2005).

In addition to youth, perhaps because of it, mobile service providers are targeting data services as another growth area. Mobile services may be voice – making and receiving calls – or data such as short message service (SMS), games and downloading content. Comparing the two services, industry sources report that mobile data traffic growth outpaces voice traffic growth (Haydon, 2004; OECD, 2005). According to In-Stat (2005), the Asia Pacific youth market for applications such as SMS, ringtones, wallpapers, logos, games, and multimedia entertainment services was about \$15 billion in 2004 and will grow about 15% annually until 2010. The Australian market shows a similar trend; the Sydney Morning Herald (30 March, 2006) forecasted mobile content revenue to exceed \$1 billion by 2009.

To tap this burgeoning growth, mobile service providers roll out an array of data services and content such as multimedia music video (Wilson, 2005), games (New Age Media, 2005), weather forecast (Optus, 2005), public transport information (Precision Marketing, 2005) and mobile commerce (Mendez-Wilson, 2001). While weather forecasts, transportation information and mobile commerce may appeal more to older users, New World Mobile of Hong Kong concentrates on youth with pop-themed brands and a range of mobile gaming and entertainment applications (NWM, 2006).

Research on mobile service consumption is under explored

Despite the growing importance of the youth segment, few studies investigate their consumption behaviour (for examples, see Aoki & Downes, 2003; Carroll, Howard, Peck, & Murphy, 2002; Ling, 2000, 2001a, 2001b; Selian, 2004; Wilska, 2003). Investigating youth's consumption of mobile services from a behavioural perspective, these studies generally contend that youth use mobile services for both utilitarian and hedonic reasons. At least four areas, however, remained under explored.

Firstly, it is unclear whether youth view mobile services predominantly as a utilitarian tool or a hedonic toy. Understanding the extent that youth use mobile services for hedonic purposes is important because consumers often use affective and sensory channels to perceive and evaluate products (Ahtola, 1985; Hirschman & Holbrook, 1982; Holbrook & Moore, 1981; Shiv & Fedorikhin, 1999; Voss, Spangenberg, & Grohmann, 2003). Hirschman and Holbrook (1982, p. 100) assert that "the hedonic viewpoint represents an important extension of traditional consumer research and offers a complementary perspective for conceptualizing many otherwise neglected consumption phenomena."

Secondly, questions remain on what services youth are more likely to use to serve hedonic or utilitarian purposes. With mobile service providers handling more data than voice traffic (Haydon, 2004; OECD, 2005; SMH, 2006), is this growth in data services driven by youth's hedonic consumption? That is, are youth inclined to use one service for utilitarian reasons and the other for hedonic reasons? Knowledge on how youth consume specific mobile services would help providers develop attractive applications to increase youth's adoption and use of mobile services.

Thirdly, reference groups may influence consumers' usage and buying behaviour (Childers & Rao, 1992; Stafford, 1966). How pertinent is peer influence for mobile telecommunications, a service that usually requires more than one party? In addition to influencing the consumption behaviour, do peers influence youth's choice of mobile service providers?

Finally, studies of youth's consumption of mobile services are mainly US- (Aoki & Downes, 2003; Carroll et al., 2002) and Scandinavia-based (Ling, 2001b; Wilska, 2003). Little research exists on mobile service consumption among Australian youth (for an exception, see Funston & MacNeill, 1999). How do Australian youth differ from their global counterparts, who seem to favour using mobile services for hedonic reasons?

This paper investigates these four under explored areas by studying youth consumption of mobile services in Australia. The next section describes the qualitative research methodology, followed by a discussion of the findings and then the implications for future research.

Methodology

This study uses qualitative in-depth interviews and a focus group to investigate how youth consume mobile services. Both techniques suit exploratory research to understand the behaviour better (Babbie, 1992; Bonoma, 1985; Rao & Perry, 2003). These qualitative techniques provide rich insights into the participants' thoughts and feelings about the subject matter. Participants for both the in-depth interviews and focus group responded through an email invitation sent via the university's email system.

Two in-depth interviews gathered insights on differences between youth and adults in consuming mobile services by contrasting the two interviewees; one was a 19-year-old female undergraduate and the other, a PhD candidate, was a 35-year-old mother of two young children. Each interview took about 45 minutes and was unstructured to allow flexible exploration of the subject matter. Each interviewee received a token gift.

Analyses of the in-depth interviews led to questions for guiding the focus group discussions and addressing the research objectives. The questions concerned:

- How youth use mobile services?*
- What roles do mobile services play in their daily life?*
- What particular services or features youth use and how*

often they use them?

In what ways and how often do youth use mobile services to interact with their peers?

To what extent do peers influence youth's use of mobile services as well as their choice of mobile service providers? What are the bases for these influences?

Table 1 profiles the focus group participants, all of whom are university students. To reduce bias and reflect diverse demographics, there were equal numbers of males and females as well as undergraduate and postgraduate students. Participants' age ranged from 19 to 27 years. All participants have been using mobile service for at least three years. The focus group took about 60 minutes, and the session was audio taped. Each participant received a token gift.

TABLE 1: Profile of Focus Group Participants

Participant	Gender	Age	Level	Years using mobile service
P1	Male	23	Undergraduate	6
P2	Male	22	Undergraduate	4
P3	Male	23	Postgraduate	4
P4	Male	27	Postgraduate	3
P5	Female	19	Undergraduate	3
P6	Female	23	Undergraduate	3
P7	Female	25	Postgraduate	8
P8	Female	27	Postgraduate	5

Guided by two facilitators, the focus group discussions revolved around consumption of mobile services. Once the facilitators obtained sufficient information on one question, they moved on to the next question until exhausting the questions. The facilitators ensured that all participants had sufficient opportunities to voice their views on the posed issues.

Results and Discussions

This paper investigates what drives youth to adopt mobile services and how they use mobile services? Analysis of the qualitative discussions reveals that youth adopt mobile services because of 1) utilitarian needs, 2) hedonic use, and 3) reference group influence. The three motives are inclusive and one reason may be more pertinent than the others.

Utilitarian Tool

A key and common reason for the popularity of mobile services among youth is the ability to contact a person rather than a place, a utilitarian function that reflects societal changes for greater mobility and personal freedom. Essentially, mobile services are "enablers of freedom" that "free people from the place-centredness of schedules, which require that people commit to physical presence at certain times to be assessable to other" (Palen, Salzman, & Youngs, 2001, p. 121). Consequently, mobile phones emerge as indispensable and ubiquitous for today's lifestyle, even more so in developed countries such as Japan and Australia than in less developed ones (Bowman,

2004; Fortunati, 2001; McClelland, 2005; Palen et al., 2001).

P3 indicated that the main purpose for having a mobile service was to contact friends, and to be contactable by friends. He reasoned, "If I call their homes, I may not get to them. So I'd rather call their mobile phones."

Ling and Haddon (2001) remark that mobile telephony removes the limitation of being in a fixed location and softens time in that one does not need to agree upon an absolute time and place to meet, but rather can 'micro-coordinate' in real time the meeting place and time.

P5: *If there is something on that night, then there will be lots and lots of messages. If not, then fewer. For example, if we are going to the movie or nightclubs, then we will be messaging about things like who are we meeting or what clothes are you going to wear.*

Aoki and Downes' (2003) survey of US college students also indicates utilitarian uses such as for personal safety and emergency, and time management, or simply to stay in touch with friends and family. Security, safety, accessibility, and coordination are also motives that drive Norwegian youths' adoption of mobile services (Ling, 2000).

P2: *I use the mobile phone very little and have it especially for emergency...I get it mainly to keep in touch with family.*

Hedonic Toy

Although utilitarian use is one purpose, youth often use mobile services for hedonic reasons (Barnes, 2001; Selian, 2004; Wilska, 2003). Referring to "those facets of consumer behavior that relate to the multisensory, fantasy and emotive aspects of product usage experience" (Hirschman & Holbrook, 1982, p. 92), hedonic consumption drives the adoption and use of mobile services by youth.

Norwegian youth, for instance, make more outgoing calls and text messages compared with older consumers (Ling, 2001a). Moreover, most of their calls or text messages are for fun and social reasons rather than for information purposes. Reflecting the substantive growth in the youth market, Wilska (2003, p. 447) describes teenagers as "impulsive, hedonic, visible, and expressive" consumers who view mobile phones as an everyday necessity.

Further attesting to the hedonic appeal among youth, Wajcman and Beaton's (2004) study of mobile services in Australia indicates that young Australians are more prone to use

mobile phones for leisure than their older counterparts do.

P3: *When I am driving and am bored, I call someone up.*

P5: *I simply enjoy using the phone. Most of my usage is for fun and killing time.*

P7: *It's fun and I enjoy using [mobile services]...and it's good for killing time on a bus.*

Similar to these remarks, *P8* supposed that she would have sent more frivolous messages if they did not cost her much.

Data services drive hedonic use

Driven by technological developments, mobile services are more than talking on mobile phones. While voice communications remain an important feature of mobile services, consumers increasingly use the phones for data services.

Probably the most popular data application, SMS is the primary mode of mobile phone communications among youth in many countries including Australia (AMTA, 2005; Carroll et al., 2002; Ling & Yttri, 2002; Taylor & Harper, 2001). Being non-intrusive and low-cost, the popularity of SMS extends beyond communications among peers to include applications such as voting in reality TV shows (Gibbs, 2005) and gaming (New-Media-Age, 2005).

Youth, in particular, use SMS for hedonistic pursuits. For example, Australian youth often send sexual, flirtatious, and romantic messages via SMS (Welsh, 2005). Alluding to youth's use of SMS, Brier (2004, p. 18) remarks one can be more

American youth between 18 and 24 years old cast twice as many votes for American Idol shows than for political elections

flirtatious in a text dialogue than in conversation, and "for a group prone to bouts of raging hormones, text messages offer an alternative and safer way to communicate." Likewise, American youth between 18 and 24 years old cast twice as many votes for *American Idol* shows than for political elections, and the majority of the *American Idol* votes were by SMS (Brier, 2004).

P4: *My SMS are more frivolous and less serious than the phone calls.*

P5: For my friends, I mostly SMS. Unless I haven't spoken to a friend for a long time, then I will call and talk. I enjoy using SMS because you get all sorts of funny messages, and they make you laugh.

Likewise, **P8** indicated that she retained many SMS messages, especially of "girlie things like 'I love you', 'you're such a great friend', and little funny stuff". To her, "something written down is different from spoken. You keep that kind of stuff for sentimental reason."

Other than SMS, youth also often use other hedonic data services, particularly retrieving content via their mobile phones. To meet these demands, mobile operators commonly provide content such as movie news and entertainment information (McClelland, 2005; Optus, 2005). Likewise, StarHub, a Singapore mobile service provider, appeals to youth by offering value-added services such as music television videos to download and play on mobile phones (Wilson, 2005). Ringtones, another popular youth application, allow Australian mobile service subscribers to customise what callers hear (e.g., jokes, jingles, and messages) when they call the subscribers (ACMA, 2005).

Similarly, data applications such as games, dating services and horoscopes feed subscriber growth for Japan's NTT DoCoMo (Krishnamurthy, 2003; Scott-Joynt, 2002); entertainment data services account for 55% of mobile usage among DoCoMo subscribers. Barnes (2001) suggests that the large amount of quality content available from DoCoMo helps cement customer loyalty; subscribers cannot leave for other mobile service providers as NTT DoCoMo has a monopoly on the desired application.

P4: I like Three (3) because of all these fanciful stuff I can do. For example, I can retrieve my voicemails as emails attachments. I like to take pictures and videos and send them to my friends. Three (3) has this cool feature that allows me to do that.

P6: I check sports scores or horoscopes. They are a good way to kill time! And a good way to make yourself popular as the go-to person for sports scores during a game.

P7: I use the fun services such as downloading ringtones and games, [and] retrieving some information like movies and places to eat. They are fun, and I find them useful at times as well. It's fun when you are playing games and useful when you want to find out what movies are available and when and where the movies are being played.

P7 added that she regularly changed her ringtones "to keep up with my friends, who have the newest ringtones."

Voice for utilitarian purposes and SMS for hedonic purposes

Not only is SMS mainly used for hedonic reasons, many participants appeared to segregate SMS and voice communications, respectively, depending on the purpose being fun or functional.

P4: I send a half-dozen [SMS] each way, each day. Phone call is infrequent. It is more for contingency and short to the point, for coordination and change of plan. I use SMS more, and some of the SMS are more frivolous, and less serious than the phone calls.

P5: I SMS 75% of the time and talk 25% of the time. The talking is mainly for things like calling a taxi, calling my parent, or running errands. I use SMS more because it is easier to use. Also, SMS is more fun. Most of my usage is for fun and killing time.

P6: I talk more than I SMS. It is easier and faster. Nearly all my calls are functional, but some SMS are fun.

P7: I send about 200 to 300 SMS messages each month, and it upsets me if I am contacting my friends less. Most of the SMS [messages] are for fun. But if I need to contact my family, then I'll call. About 80% of the time is used for fun SMS; voice is more for functional [uses].

Further supporting consumer usage migrating from voice communications to data services, most industry watchers believe that the advent of third generation, or 3G, technology will further enhance mobile data applications (Ahonen, 2003; Mansell-Lewis, 2005; Televisual, 2005). The download speed offered by 3G technology – typically about 10 times faster than conventional mobile service (e.g., Telstra, 2004) – opens the doors for applications such as video conferencing, music videos and gaming. 3G's high-speed internet access also allows mobile phones to access information and services on the World Wide Web.

Reference Group Influence

Reference groups are "social groups that are important to a consumer and against which he or she compares himself or herself" (Escalas & Bettman, 2003, p. 341). Deutsch and Gerard (1955) concur that reference groups influence individuals to conform to the normative expectations of the groups. Youth are more susceptible to reference group influence than older consumers are (Childers & Rao, 1992; Lessig & Park, 1982; Park & Lessig, 1977).

Aligned with this research, youth use mobile services to develop a sense of belonging and maintain a good image with

their peers (Aoki & Downes, 2003; Carroll et al., 2002; Wilska, 2003). According to Spero and Stone (2004), youth often participate in activities such as chats and multi-user mobile games where peer involvement underpins the usage experience and acceptance by their peers. Likewise, US college students acquire mobile phones because of peer pressure to maintain a good image with their peer groups (Aoki & Downes, 2003).

P2: Everyone I knew had Optus, and I had to have Optus.

P8: I knew I wanted to go with Optus anyway, and I just go out to get it. Because my friends have them.

Youth also coordinate their choice of mobile service providers for economic reasons. They select the same mobile service provider, who does not charge or charges minimal amounts for calls and messages within its network (Birke & Swann, 2005). Furthermore, coordination is stronger within groups who interact frequently, but weaker with those from outside the groups. Participants echoed the theme of selecting a common mobile service provider to lower costs.

P5: I didn't select Virgin or other companies because my friends were on Optus and we cannot call each other for free. Besides, I think Optus has a pretty good image and they advertise very well.

P7: My friends are on Three and I am on Three. We'll talk because we have [the] first 10 minutes free.

P8: I use Optus because my boyfriend and family are also on Optus. So I get free calls to them. It's all about value.

In summary, Ling (2001a) suggests that mobile services are instrumental to youth because peer groups are often the dominant social focus for them; mobile services facilitate this orientation. He (2001a, p. 9) notes that for Norwegian youth between 13 and 20 years, mobile phones are "becoming increasingly a reflection of one's personality via the use of icons, ringing sounds, covers and other paraphernalia." That is, mobile phones are icons that reflect the youths' identities vis-à-vis older generations.

Conclusions

This paper examines how Australian youth consume mobile services and suggests that they resemble their counterparts in other countries (Aoki & Downes, 2003; Carroll et al., 2002; Ling, 2001b; Wilska, 2003). The students use mobile services for both utilitarian and hedonic reasons, and more so hedonically. This finding, however, contradicts a 2003 Australian Psychological Society (APS) report that Australian adolescents use mobile

services mainly for communicating with parents and for emergency and safety reasons.

This difference may be due to the APS (2003) study using students up to school year 12, whereas this study used higher education students. Non-Australian research in age groups similar to the APS (2003) study, however, shows that adolescents resemble older youth in consuming mobile services (Carroll et al., 2002; Ling, 2001a, 2001b). That is, adolescents use mobile services mostly for hedonic reasons and for communicating with peers. Subject to future research, Australian adolescents – like their foreign counterparts – may use mobile services mostly for hedonic purposes and peer communications.

The study also concludes that different types of mobile services serve hedonic and utilitarian purposes. For youth, data services such as SMS and content download are mainly hedonic, whereas voice communications are mainly utilitarian.

Besides youth's hedonic use of mobile services, this paper corroborates research on the influence of reference groups on consumer behaviour. Reference groups pressure youth to conform to their peers' choice of mobile service providers and play a key role in shaping how youth consume mobile services. In essence, mobile services reinforce group identity and symbolise belonging to a group (Carroll et al., 2002). Without a mobile service, one may be ostracised and excluded from a group. For many young people the mobile service is a lifeline (Wilska, 2003) and an inherent part of their identity (Ling, 2001a).

That peer influence may dictate youth's choice of mobile service providers is important for mobile service providers targeting youth. Mobile service providers need to develop marketing programs that address youth both as individuals and as parts of a larger target group. Extending this notion, Spero and Stone (2004) assert that youth, motivated by peer pressure, align with peers to create their own rules of engagement with marketers.

Limitations and Future Research

This exploratory nature of this study results in several limitations that future research can address. Firstly, participants in this study are university student. Future research should consider participants who are non-students. Compared with students, would working youth with disposable incomes indulge more in hedonic mobile applications and further imbalance the hedonic-utilitarian usage ratio?

While the qualitative approach in this paper provides rich insights into the phenomenon, future studies could enhance the findings by quantifying the hedonic-utilitarian usage imbalance. For example, empirical testing may reveal if gender relates to the extent of hedonic use. Are females, as this study suggests, more prone to using mobile services for hedonic pursuits than males?

Finally, the findings suggest that reference groups influence youth's choice of mobile service providers and that youth's mobile service use is mainly hedonic. It is, however, unclear if

reference group influence and hedonic interact to determine loyalty. For example, are youth who use mainly hedonic services more susceptible to peer group influence than those with mainly utilitarian uses?

A related future research area is how youth's mobile service usage correlates with their loyalty towards mobile service providers. Is cognitive evaluation of mobile services arising from utilitarian use or affective evaluation arising from hedonic use more salient to customer loyalty? Some studies assert that loyalty towards mobile service providers stems from cognitive evaluation of such factors as service quality and customer satisfaction (Gerpott, Rams, & Schindler, 2001; Lee & Murphy, 2005; Wang & Lo, 2002). Barnes (2001), in contrast, suggests that the large amount of content available from NTT DoCoMo helped NTT DoCoMo cement customer loyalty; subscribers cannot leave for other mobile service providers as the desired applications are available only with NTT DoCoMo.

These research areas would contribute to academic knowledge in an under-exposed stream. The findings would also be useful to mobile service providers, for whom both youth and data services are critical and lucrative segments.

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