

TECHNOLOGY TALKING: AN EMPIRICAL STUDY OF YOUNG PEOPLES USE OF TELECOMMUNICATIONS

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Abstract

This paper discusses exploratory research examining the usage of mobile phones by the young people and identifies the differences in usage patterns, specifically SMS and voice, based on age group and gender. The youth market is worthy of research due to its increasing size and value. This research demonstrates that the youth market is not a single segment and that there are significant differences in usage, preferences and purchasing decisions.

Introduction

Mobile telephones have become a fashion accessory and a necessity. Parents are encouraged to purchase mobile phones for security reasons and young people are the single largest users of short-text messaging systems (SMS). The rapid developments in mobile phone and associated digital technologies mean that mobile phones have a short product lifecycle; a new model is introduced at least twice a year. This, combined with young consumers' need to have the latest technology, creates a key market segment for mobile phone suppliers. This research seeks to provide a better understanding of the mobile telephony youth market in regional Queensland. The research proposes that there are significant differences in technology uptake and usage, based on age and gender.

Relevance of the youth market

Marketers are increasingly turning their attention to the youth market (Cardona & Cuneo 2000; Rice 2001; Sellers 1989) and it has become an important target group for business (Pecora 1995). The sheer size of this group encourages attention, for example, in the industrialised world more than 800 million children are aged between four and 12 years (McNeal & Yeh 1996) and 'one out of every six persons worldwide is between the ages of 15 and 19' (Moses 2000 cited in Shoham and Dalakas 2003, p. 238). The under 20s age group accounts for roughly 40 percent of Saudi Arabia's population (Yavas & Abdul-Gader 1993) while the United States has 34.3 million consumers aged 13 (White-Sax 1999).

Coupled with sheer size is purchasing power; young people have money to spend, earned through pocket money, gifts or part time work (Shoham & Dalakas 2003). In 2001, US adolescents spent a record \$155 billion (National Institute on Media and the Family 2002 cited in Shoham & Dalakas 2003). The teenage group, being more involved with constantly changing image, branding and trends than any other age group, is considered the 'trendsetter' (Zollo 1995, cited in Martin & Bush, p. 441; Taylor & Cosenza 2002).

Technology adoption – living with technology

The technological experiences of the youth market appear markedly different to those of previous generations with increased attention being paid to ‘technology savvy youths’ (Yeong 2001, p. 1). Today’s youth have grown up with the Internet and mobile telephony and have incorporated it into their daily lives. The Internet has become an essential part of communication and shapes their functioning as a community (Young 2000).

Daily exposure to this type of technology from such an early age is resulting in the creation of technological epicentres, where children develop their own social dynamic governing behaviour in their online community (Van Rompaey & Roe 2000, p. 274). Intrusions into this online world are judged harshly. Online advertising is mistrusted as it intrudes into both lifestyle and community. The Internet becomes a home and a haven, offering privacy from family and the opportunity for unmonitored communication with peers. Thus, advertising messages are mistrusted and unsolicited advertising campaigns are rejected (Young 2000).

Telecommunications technology usage

Research indicates that the mobile phone is a status symbol and offers an instant communication network to young people (Pearce 2003). A study by the Australian Financial Review (2004) found that SMS, currently worth between \$700 million to \$1 billion per year, is young people’s favourite means of communication. SMS usage accounts for 10 per cent of the total mobile phone market. Almost 64 million Americans used an instant message application from AOL, MSN or Yahoo!, with a further calculation showing 57 minutes per day spent sending and receiving instant messages (Van Camp 2004).

Considering mobile phone usage from the product life cycle perspective may account for the size of the market. Young people are the early adopters for technological products and services (Zollo 1995 cited in Martin & Bush, p. 441; Taylor & Cosenza 2002). These early adopters recognised the potential of SMS and developed their own language, sometimes called ‘text speak’, which is now becoming part of every day usage (AFR 2004). When considering phone functionality versus accessorising capacity, one study found that Australians, particularly young females, were less enthusiastic about phone functionality (Han Sze Tjonh, Weber and Sternberg 2003).

Thus, while key reasons for having a mobile phone were the immediacy of its use and its mobility, young people considered the primary reasons were sociability and affection (Leung & Wei 2000).

Research Objectives

The objectives of the study were:

- 1) To examine mobile phone usage in the youth market in central Queensland;

- 2) To identify differences in the use of mobile telephony (data, voice and technology preferences) in youth market segments.

Methodology

The research utilised a quantitative methodology through the administration of surveys for the purpose of data collection. A survey was identified as a 'quick, inexpensive, efficient and accurate means of assessing information about a population' (Zikmund 2003, p175), this was conducive to both our research timeframe and sample population.

The survey consisted of fixed, limited response and open ended questions which sought to provide a concise overview of mobile phone usage by young people in central Queensland. Prior to the research, the survey was pilot tested on a cross-section of Central Queensland University students who were part of the target market. Pilot testing was conducted with the aim of identifying survey administration errors as well as any possible causes of response and non-response bias through question ambiguity, survey layout and design, exhaustiveness of response categories, length of survey and ease of survey administration. Respondents were also provided with contact details of the researchers to whom comments regarding the study could be directed if required.

Interviews were conducted in Rockhampton, Emerald and Mackay in Central Queensland. The survey was carried out by two researchers aged 24 and 26. It took between two and five minutes to complete and was anonymous. The population frame consisted of young people aged between 12 and 25 with a total of 168 responses being received. A Nokia 3200 prepaid camera phone was offered as a prize, as an incentive for people to participate. There were a higher number of female respondents than males in shopping centres and it was observed that this was because more females than males frequent the shopping centres. It was also observed that fewer groups of boys would approach the table.

The incentive of a camera phone seemed to skew the responses in some respects, as in the main, only people who wished to win a camera phone approached the table. It was suggested that perhaps only people without a phone would participate due to the prize, however, in the 200 surveys that were carried out only 32 did not have a mobile phone. Therefore, it can be assumed that most of the respondents approached the table out of curiosity, the desire to upgrade the phone, or for the chance of winning the phone and giving it away to a friend or relative.

Results

Type of Plan vs. Gender and Age Group (Teenagers and Young Adults)

An analysis of the type of plan according to age group of respondents was conducted. The age group, 12-18 years old, regardless of gender, has a prepaid plan much more frequently than the

age group 19-25 years old, young adults being more likely to pay a fixed amount per month. This was confirmed using a 2X2 ANOVA that evaluated the effects of age and gender on the choice of a mobile plan. The ANOVA indicated no significant interaction between gender and age group, $F(1,163) = 1.71, p = .19$ and no significant main effect was found for gender $F(1,163) = 1.71, p = .19$. However, a significant main effect was found for age $F(1,163) = 9.33, p < .01$. Additionally one-sample Chi-square test was conducted to assess whether there were significant differences in the distribution of the sample according to the chosen plan by age and gender. The findings for both males and females and for age group in the type of the mobile plan were $\chi^2 = (1, N=159) = 4.28, p = .04$ and $\chi^2 = (1, N=159) = 29.85, p < .01$. These results indicate the existence of significant differences in the type of plan that respondents have, by gender and age group. It seems that young adults are more likely to have fixed plans whereas teenagers are more likely to have a prepaid plan. In addition, female teenagers are more likely to have a prepaid mobile plan than male teenagers.

Type of Plan vs. Location and Age Group

No significant differences were found in the mobile plan type by location. The results of the one-sample Chi-square test $\chi^2 = (2, N=159) = .56, p = .76$ indicate that there were no significant differences in the plan by the location of respondents. In addition, a Chi-square test was conducted to test differences in the type of plan by each of the age groups, making distinctions as follows: 12-15 years old, 16-18 years old, 19-21 years old and 22-25 years old. Significant differences were found in the type of plans chosen by age groups $\chi^2 = (3, N=159) = 35.53, p < .01$.

Number of SMS Sent per day vs. Gender and Age Group

The majority of the sample send fewer than 20 SMS per day no matter the age group or gender of respondents. In order to test this hypothesis a 2x2 ANOVA was conducted.

The findings indicated that there was no significant main effect either for gender $F(1,155) = 1.25, p = .27$ or for age group $F(1,155) = .362, p = .54$. In addition, there was no significant interaction between gender and age group on the number of SMS sent per day $F(1,155) = 1.24, p = .27$.

These results confirm that neither the gender nor the age group significantly affects the number of SMS sent per day. In addition, one-sample Chi-square test was conducted to test differences in the number of SMS sent per day by age groups, making distinctions as follows: 12-15 years old, 16-18 years old, 19-21 years old and 22-25 years old. No significant differences were found $\chi^2 = (9, N=159) = 9.31, p = .27$.

Number of SMS Received per day vs. Gender and Age Group

The majority of the sample sent fewer than 20 SMS per day no matter the age group or gender of respondents; however, it seems that an important proportion of teenagers are more likely to

receive more than 20 SMS per day than do young adults. In order to test this, a 2x2 ANOVA was conducted. The findings were similar to the results obtained in the number of SMS sent per day. There was no significant interaction between gender and age group in the number of SMS received per day $F(1,154) = 1.13, p=.29$. A significant main effect was found for gender $F(1,154) = .04, p=.84$. However, there was no significant effect for age group $F(1,154) = .01, p=.91$. These results suggest that the number of SMS received per day does not vary significantly as a function of gender, but does vary significantly as a function of age. In addition, one-sample Chi-square test was conducted to test differences in the number SMS received per day by the age group. No significant differences were found $\chi^2(4, N=158) = 1.70, p=.79$.

Number of Voice Calls Made and Received per Day vs. Gender

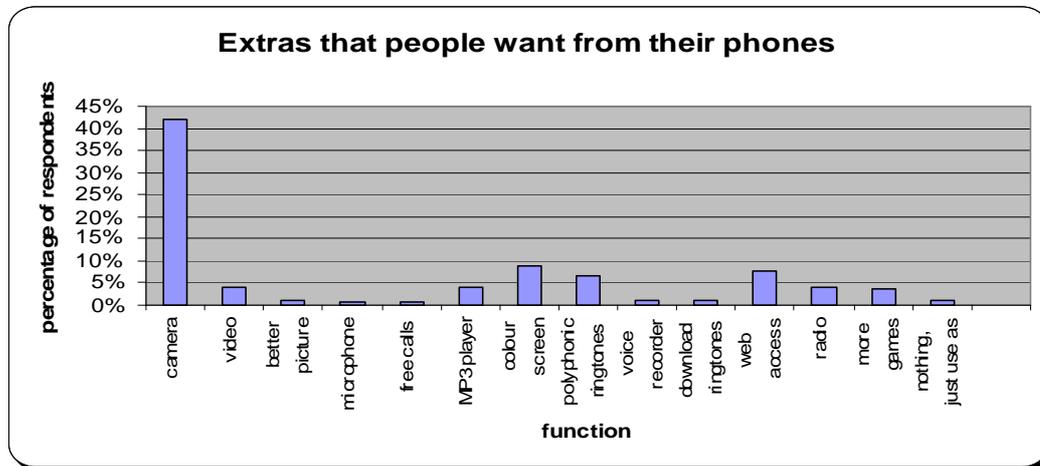
The majority of the sample made less than 5 voice calls per day regardless of the age group or gender of respondents; however, a significant proportion of young adults, mainly males, is more likely to make more than 20+ voice calls. A 2x2 ANOVA was conducted to evaluate the effects of gender and age on the number of voice calls made per day. No significant main effects for gender were found $F(1,151) = 1.39, p=.24$. However, a significant effect for age group $F(1,151) = 9.99, p<.01$ was found. In addition, there was no significant interaction between gender and age group on the number of voice calls made per day $F(1,151) = .14, p=.71$. These results suggest that only the age group significantly affects the number of voice calls made per day, not the gender or the interaction between gender and age. Additionally a one-sample Chi-square test was conducted to assess whether there was significant differences in the distribution of the sample according to the number of voice calls made by the age groups, 12-18 and 19-25. Significant differences were found for females in the number of voice calls made per day by the age group of respondents $\chi^2(2, N=101) = 9.24, p=.01$. This confirms that significant differences exist in the number of voice calls made between female teenagers and young adult females. In addition, when the age group was distributed in smaller groups (12-15, 16-18, 19-21, 22-25 years old), the one-sample Chi-square test that was conducted to test differences in the number calls made per day by the age group indicated significant differences between the ages, $\chi^2(9, N=164) = 21.73, p=.01$. A significant proportion of male teenagers are more likely to receive more than 5 voice calls per day. A 2x2 ANOVA was conducted to evaluate the effects of gender and age group on the number of voice calls received per day. The results indicate that neither the gender nor the age group significantly affects the number of voice calls received per day.

Extras that young people want from their phones

Figure 1 shows the frequencies of the extras that people want from their phones. The most common extra was the camera facility, 42% of the sample, followed distantly by colour screen,

9% and web access, 8% and polyphonic ring tones, 7% . All, the other extras were mentioned by less than 4%.

Figure 1.Extra features desired in a new phone



One-sample Chi-square tests were conducted to evaluate if there were significant differences in the preferences of the extras that people want from their phones by age and gender. Significant results were found in the preference of a camera as an extra by age group, $\chi^2 = (3, N=168) = 24.44, p < .01$, this indicates that younger respondents (12-15) want the camera service as extra more frequently than older respondents (15+ years old). A significant difference by gender was also found, $\chi^2 = (1, N=168) = 30.06, p < .01$, suggesting that females are much more likely than males to want a camera. Another significant difference was found in the preference for MP3 playing capabilities on phones, $\chi^2 = (3, N=168) = 8.51, p = .04$. This indicates that 19-21 year olds wanted an MP3 player more often than younger age groups. The results also indicate that the group of respondents between 22 and 25 years old are significantly more likely to want phones with web access $\chi^2 = (3, N=168) = 8.47, p = .04$, than the other age groups.

Conclusions and recommendations

Clearly the youth market is large and has the potential to be highly profitable for the companies which approach it appropriately. However, they should approach with caution and research their target segments carefully before committing themselves. Given the way the youth market has taken to this technology a change in marketing communications strategy for telcos is required. Just from the microcosm of the market addressed by this research there are some conclusions which may help in developing a marketing plan. There is a very strong divide, based on age, between prepaid and fixed plans, younger consumers use prepaid, probably because parents are paying. Both types of plan appear to be debt reduction or avoidance strategies. Females are more likely to have prepaid plans; again this could be as a result of the action of concerned parents. The

key usage of mobile phones is not voice but SMS, with less than five calls per day being made. One counter-intuitive finding is that the number of calls and SMS's are not affected by age or gender. Finally, the killer application for new phone sales is the camera feature, particularly for females. Clearly before any generalisable conclusions are drawn much wider research is necessary over a wider geography.

This study has highlighted the current use of mobile phones by the central Qld youth markets. Therefore, outcomes from this study and future research endeavours seek to consider extensions of these usage patterns and the development of targeted marketing campaigns for use by practitioners. In order to formulate an empirically tested theoretical usage model several future studies are possible including a series of personal interviews with a sample of young mobile phone users and the continuation of a comprehensive content analysis of literature pertaining to the growing body of knowledge of mobile phone usage and mobile communications. This could be extended to include technology usage by the young people into all forms of mobile communication including, person-to-person messaging, email, banking, games, shopping, music, ticketing and news and other information access.

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