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Product Features Affecting Buying Decision for Mobile Phone Handset: A Study on Tertiary Students Segment in Bangladesh

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Abstract

In recent times the different features of the mobile handsets have led to great modernization in mobile phone development. All mobile handset companies have added numerous features in their different brands. Manufacturers also try to set apart from their own products by implementing supplementary functions to formulate them more striking to the consumers. This study analyzes the features of mobile handsets affecting buying decision of consumers in tertiary student segment. In this study, sixteen diverse features of mobile handsets have identified under five factors. The purposes of this study are to find out the effect of specific features, to explore relationship between purchase decision and features and to estimate variation in purchase decision for various features through the consumers. Data has been collected from randomly selected 80 respondents from the students of the Comilla University, Bangladesh. In this case the collected data have been analyzed by using statistical devices. Results suggest that internet facility, multimedia, long lasting battery, camera, brand recognition, performance and color of mobile handset mostly persuade purchasing decision and external memory capacities, warranty period, price, customer-care service, phone memory capacities, country of origin have some influence over purchase decision. It is expected that the findings will be useful to improve our understanding about the features of mobile handset. Mobile handset manufacturers also will grasp idea for innovating features for their brands.

Key Words: Consumer purchasing decision, mobile handset, features of mobile handset, Tertiary student segment.

1. Introduction

Communication technology now turns this world into global village and let people to reach others in different parts of the world within a short time distance. Since it invention in 19th century, land telephone technology has been serving the world society for their communication purposes. With view to the chain of technological expansion movable cell phone has introduced and accelerated for last few decades. A booming growth can be seen into the progress of mobile phone technology within shorter life span than land phone technology. Swedish Mobile first introduced official mobile phone in 1946 and Motorola created first strictly calling "portable cell phone" in 1983 (www.tech-faq.com). From its invention mobile phone is being using as one of important tools of information and communication technology (ICT). Mobile communication lets us to keep in touch with every one surrounded us at anytime at anywhere. Young generations are leading users of mobile communication. After the invention, mobile phone usage continuously rises over period of times. Researchers found that one billion mobile phone users were generated in 20 years after its invention but growth was so astonishing that it required just 40 months to accumulate another one billion and then only two years to reach three and half billion users (www.mobilephonereviews.org). Hence, mobile phone is considered as an elementary part of personal communication across the globe.

Bangladesh is not different from that global change in communication technology. Pacific Bangladesh telecom ltd. introduced mobile phone operation in 1993. At present six mobile services provider companies are working in the country to serve telecommunication service. The present number of mobile phone subscribers are almost 83 millions increasing at a rate of 10 million per year (The Independent, 23/9/12). Bangladesh places herself to twelve position of total number of user in the world. This continuous increasing of subscribers of mobile phone boosts up opportunity for mobile operator companies as well as handset companies to Bangladeshi market. Recently, many world famous handset producing companies are increasingly showing interest to this market due to higher growth rate in this sector. Currently, out of total subscribers, the number of young subscribers is

notable. Youngsters develop new relationships and maintain older ones using mobile phone (Power and Horstmanshof, 2004). For mobility, access and expediency of mobile technology; sense of security, sharing and social fulfillment benefits are added to their life (Chapman and Schofield, 1998; Taylor and Harper, 2001; Carroll et al. 2002; Tjong et al. 2003). Mobile technology lets them to share their experiences with both of their close or distance family members (Frissen, 2000; Matthews, 2004; Chen et al. 2007). Thus, dependence on mobile phone is growing day-by-day and it has become central communication device to our lives. The young segment of mobile handset market has been considered for the study because they are a key segment of potential mobile phone buyers in Bangladesh. Main objective of the study is to measure importance of each features of mobile handset that influence buying decision of consumers. Specific objectives are to find out effect of specific features, relationship between purchase decision and features and variation in purchase decision for various features. Addressing the objectives, this study will explore the key feature that young university students prefer most when they buy mobile handset. The results of the study are expected to be contributed to the mobile handset manufacturing companies in designing their future product and marketing systems. This study can also contribute to the existing literature discovering customer buying behavior of mobile handset market. This will open new rooms for future research in the field of communication technology.

2. Literature review

Singh and Goyal (2009) work on different age and gender group buying behavior of mobile handset. This study finds that physical appearance, brand, value added features, and core technical features are more important than price to youngster but above 50 aged people is more price sensitive. However, study was made on Punjab state, India and give focus on overall view of entire consumer segment but not concentrate to only youngster segment.

Singla and Bansal (2011) research on factors that affecting choice criteria of consumer for mobile handset. This paper reveals that important features of handsets are consecutively price, product design, availability and brand image. This paper lacks to describe all other features of handset that affect consumers' buying decision.

Karjaluoto, Karvonen, Kesti, Koivumäki, Manninen, Pakola, Ristola, and Salo, (2005) try to discover mobile phone choice factors. This article recognizes price, brand, interface, and properties are key factor for mobile phone selection. This study is taken place in Finland and it gives narrow focus to young segment.

Ahmed and Qazi (2011) investigate adoption and consumption patterns of university students for mobile phone. Paper finds economical use of mobile phone, remain loyal to their service provider and consider all features of mobile handset before purchase. It focuses on consumer behavior on basis of mobile operator, brand preference of mobile handset and some preferred features but not their relative importance to make purchase decision.

Islam, (2011) works on farmers' mobile phone adoption process in rural area. Author develops Rural Technology Acceptance Model (RUTAM) and identifies that social factor than technology plays key influential role in early stage adoption. This paper also finds Nokia as highest preferred brand because of affordable price. This study is made on basis of mobile operators and only to farmers and give narrow focus on mobile handset features for young and educated generation.

Mobile phone technology is not far old technology in the world context. Kwon and Chidambaram (2000) find much unexplained variance in this field of mobile technology. Studies have been taken place in the filed of mobile phone operator services (Ashaduzzaman, Ahmed and Khan 2011; Kaapanda 2012) in relation to customer switching behavior (Kumar, Vani and Vandana, (2011) or any other aspects across the world. Some studies have been conducted on mobile phone features in different country where features are studied scatteredly. No such study is even found in Bangladesh context where youngster segment is considered for mobile handset market. This provides us a ground to study what features are important to university student in their choice criteria of mobile handsets. Hence, identification of affecting features of mobile handsets of student in Bangladesh would be a value addition to this area of research.

3. Research Methodology

This study conceptualizes the importance of mobile handsets features preferred by student segment in Bangladesh. Structured questionnaires have been used to collect data. The questionnaire consists of 22 questions. The first six questions were related to demographic variables such as gender, age, earnings of family, number of earning members in family, number of mobile phone in family and number of family members. The remaining 16 questions are related to the features of mobile handset. Questionnaire is designed with Five Point Likert scale

where 5=Extreme important, 4=Very important, 3=Important, 2=Not bad, 1=Not important at all. A total of 80 successful respondents have been randomly approached for data collection from the students of Comilla University, Bangladesh who use mobile phone. The respondents have been asked to rate the selected features on the above mentioned scale that they have meditated most while buying their mobile handsets. Respondents have been asked for relative importance of color, multimedia, camera, dual SIM option, styling, size, brand recognition, country of origin, internet facilities, warranty period, price, performance, long-lasting battery, customer-care service, phone memory capacities, and external memory option. These factors were chosen from two studies conducted by Ahmed and Qazi, (2011) and Karjaluoto, Karvonen, Kesti, Koivumäki, Manninen, Pakola, Ristola, and Salo, (2005) on mobile phone handset. The reliability of sixteen mobile handset features in the questionnaire is verified with Cronbachs' alpha (Cronbach, 1951). Cronbach alpha reliability coefficient is 0.808 which is greater than the suggested level of 0.70 (Nunnally, 1978). It recommends that the questionnaire is having reliability and can be used for further analysis. With the intention of measuring importance of each factor, data have been analyzed using descriptive statistics like frequency distribution, percentage, mean and standard deviation. Later, factor analysis has been run to know which of the features are more important to the customers. In the final part of the analysis, authors have measured correlation among the factors identified.

4. Results

4.1 Characteristics of Respondents

Table-1 shows demographic factors of the study. Out of the total respondents, majority are male (69%) and rest of them are female (31%). 40% respondents are between 16-20 years of age, 57% respondents are between 21-24 years of age and rest of them are more than 24 years of age. 65% respondents have family consist of 1 to 5 members, 32% respondents have between 6 to 10 family members and rest of 3% respondents' family members are more than 10. 99% percent respondents' earning person in family are between 1 to 3. Between 1 to 3 mobile phone users in family are about 37%, between 4 to 6 mobile phone users in family are about 48% and rest of the respondents' family members use more than 6 mobile handset. Majority (45%) respondents' monthly family income was 20000-30000 taka, 25% respondent have more than 40,000 taka family income, 16% respondents' family income is below 20,000 and rest 14% respondents' family income is between 30000-40000 taka.

Table- 1: Descriptive statistics

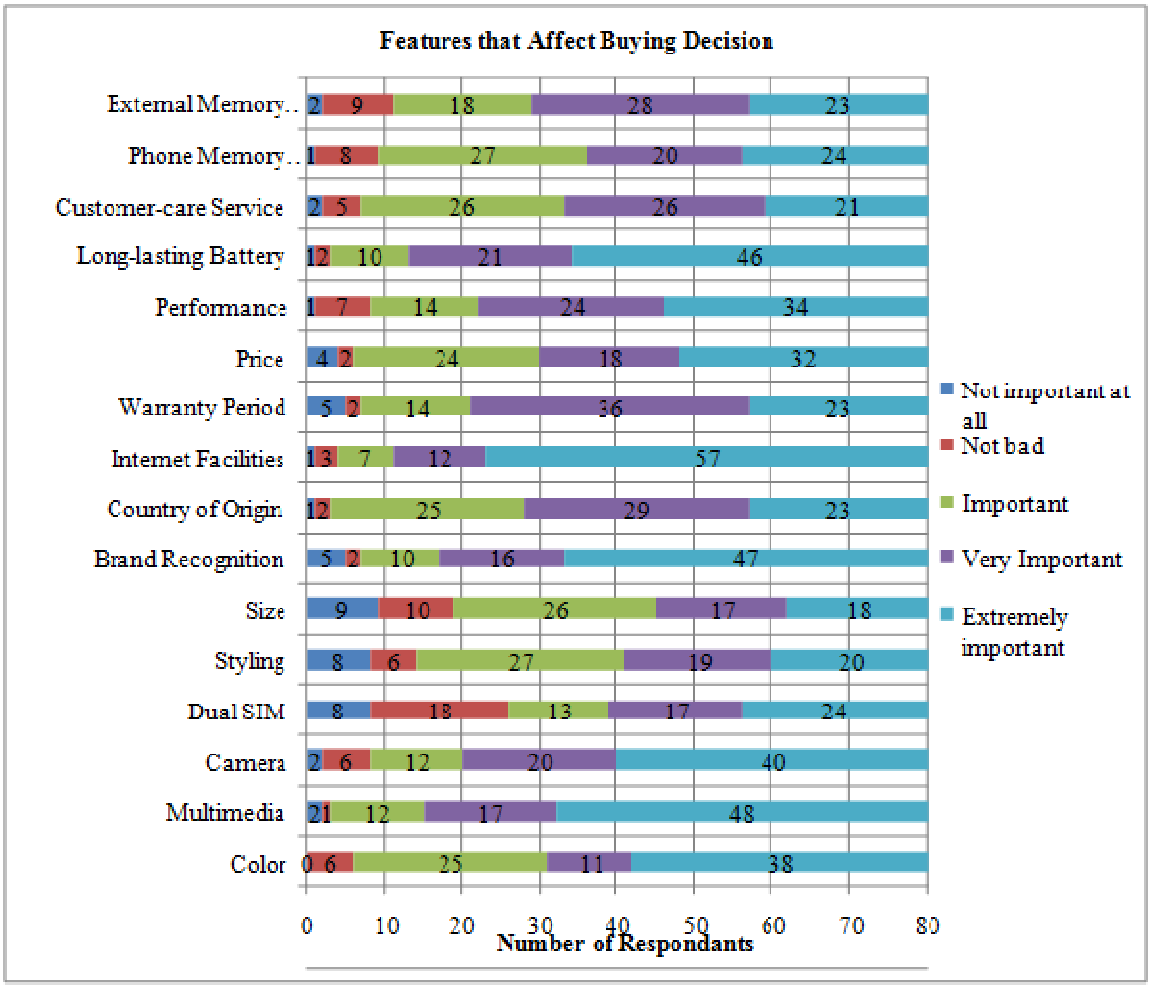
Demographic variables		Number	Percentage
Gender	Male	55	69%
	Female	25	31%
Age	16-20	32	40%
	21- 24	46	57%
	25-above	2	3%
Number of family members	1-5	52	65%
	6-10	26	32%
	10- more	2	3%
Number of earning members in family	1-3	79	99%
	4-6	1	1%
	7-more	0	0%
Number of mobile phone in family	1-3	30	37%
	4-6	38	48%
	7-more	12	15%
Earnings of family (Monthly)	Below 20000	13	16%
	20001-30000	36	45%
	30001-40000	11	14%
	40001- more	20	25%

Source: Field data

4.2 Customer evaluation about handset features

This study has considered 16 features of mobile phone handsets that affect customer choice. This study shows that 71% respondents prefer the mobile phone handsets which have internet or browsing facility; 60% respondents favor multimedia facility of the handsets such as music, mp3, mp4, radio and wallpaper; 59% respondents have fanaticism to the brand recognition of handsets; 57% respondents have resembling to the long lasting battery life of the handsets; 47% to 50% respondents have passion to camera facility and color display of the handsets; 42% to 40% respondents have zeal to the sound performance and reasonable price; 29% to 30% respondents have keenness to the dual-sim using facility, phone memory capacity, external memory option, warranty period and country of origin of the mobile handsets; 23% to 26% respondents have concentrated on customer care service, style and size of the handsets that help them to choose a mobile handset.

Figure-1: Customer choice option for mobile handset features



Source: Field data

This study reveals that the less important factors to choose the mobile handsets are style, color and dual-sim using capacity (10% to 11% respondents). However, respondents believe that color is more or less important while they purchase mobile handset. Respondents rank the internet facility or browsing option (Internet facilities) of handset is most important to purchase decision which results a higher mean score of 4.51 which is closed to the upper limit of the scale and with a minimum variation (S D= 0.90). Long lasting battery of handsets is a vital factor to choose a mobile handset with also a higher mean score of 4.36 and minimum standard deviation 0.89. Multimedia facility of handsets is a preferable feature of mobile handsets with higher mean score of 4.35 and lower deviation (0.96). Brand recognition, camera facility and sound performance of handsets are also imperative features to choose a mobile handset which also result higher mean score of 4.23, 4.13 and 4.04 respectively, where standard deviation results are 1.16, 1.08 and 1.04 respectively. Price, country of origin, warranty period, external memory option and customer care service and phone memory capacity of

handsets are also essential features to prefer a mobile handset with mean score of 3.9, 3.89, 3.88, 3.76, 3.74 and 3.73 respectively, and standard deviation scores are 1.12, 0. 90, 1.06, 1.07, 1.00 and 1.04 respectively. The comparatively less important features for mobile handsets are style, dual sim using option and size of handsets with mean score of 3.46, 3.39 and 3.31respectively, and standard deviation 1.23, 1.38 and 1.27 respectively. The results of all 16 features reveal that students consider all the factors are important when they purchase a handset.

4.3 Exploratory factor analysis

From the 16 observed features we have identified five factors that explain the pattern of feature belong to the mobile handset. We have slightly modified the factor construction from our contextual point of views which have been categorized under five factors such as performance feature of handset, memory capacity, brand name, multiple use option and outlook views. Except the performance feature and brand name, all other factors have been modified by changing one feature. Table shows that each of all 16 features has satisfactory factor score which is ranged between 0.837 to 0.49. Mobile handset size (.837) and multimedia using option (.832) secure higher factor score on the other hand, phone memory option (.491) gets lower score. Since data were collected from field source, these results are acceptable. This study has found satisfactory score of Kaiser-Meyer-Olkin measure of sampling adequacy (.709) and Bartlett's test of sphericity (373.133) which is highly significant (1% level). The scree plot indicates that data are normally distributed that can be entered for factor analysis.

Table- 2: Rotated Component Matrix

Component		Mean	SD	N
Factors	Factor loading			
Performance feature				
Performance quality	0.668	4.04	1.04	80
Long lasting battery capacity	0.630	4.36	0.89	80
Warranty period	0.716	3.88	1.06	80
Customer care service	0.790	3.74	1.00	80
Memory capacity				
External memory option	0.750	3.76	1.07	80
Phone memory capacity	0.491	3.73	1.04	80
Dual SIM option	0.769	3.39	1.38	80
Brand name				
Style feature	0.564	3.46	1.23	80
Brand recognition	0.712	4.23	1.16	80
Country of origin	0.777	3.89	0.90	80
Multiple use options				
Multimedia facilities	0.820	4.35	0.96	80
Camera option	0.637	4.13	1.08	80
Internet facility	0.712	4.51	0.90	80
Outlook views				
Color of the handsets	0.630	4.01	1.05	80
Size of the handsets	0.837	3.31	1.27	80
Price of the handset	0.615	3.90	1.12	80

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 15 iterations.

Source: field data

4.4 Correlation

To see the relationship among newly constructed factors of mobile handset, we measure correlation. The correlation matrix indicates that the factors are mostly positively correlated, however, there have been negative correlation observed between multiple use option and memory capacity, between brand name and memory capacity and performance feature and memory capacity. From the correlation matrix, ten relationships are observed, where five relationships are significant at 1% and 5% level. There are three relationships found negative, these relationships belong to memory capacity versus multiple use option, brand name and performance feature of mobile handset.

Table-3: Correlation Matrix

Correlations					
	Multiple use options	Outlook views	Brand name	Performance feature	Memory capacity
Multiple use options					
Outlook views	0.38**				
Brand name	0.17	0.22*			
Performance feature	0.33**	0.08	0.15		
Memory capacity	-0.22	0.03	-0.021	-0.29	
Note: **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). N=80					

Source: Field data

5. Discussion and Conclusion

Technology is all around us. Our life is fully shaped with technology from morning to raise and sleep at night. So it does same effects on communication. Mobile communication lets us to keep in touch with every one surrounded us at anytime at anywhere. Young generations are leading users of mobile communication. This study carried out among university student to scan important factors that they consider before purchasing mobile handset because students are more feature oriented that other segments. Findings suggest that internet, multimedia, long lasting battery, camera, brand recognition, performance and color of mobile handset mostly persuade purchasing decision and external memory capacities, warranty period, price, customer-care service, phone memory capacities, country of origin have some influence over customer purchase decision. They hardly consider dual-sim facilities, size and styling at purchase time. Mobile phone users give preference to price, availability and look of mobile handset (Singla and Bansal, 2011) but they have no or little on students' purchasing decision. The study concluded that majority of senior students want internet browsing facilities through their mobile device with rich multimedia and long lasting battery backup which is supported by Singh and Goyal (2009). Since the aim of this study is to measure comparative importance of each features of mobile handset that influence buying decision of consumers. This study have shown five factors such as performance feature of handset, memory capacity, brand name, multiple use option and outlook views based on prototype of features of mobile handset. First factor is defined by performance quality, long lasting battery capacity and warranty period as performance features and have average factor loading. Second factor consists of three variables related to storage capacity of mobile handset and score lowest. Third factor; styling, brand recognition and country of origin; relates below average factor loading score. Forth factor is called multiple use option defined by multimedia, camera and internet facilities and exhibits heavy loadings for variables transmitting the importance of each features. And last factor of this study is founded on outlook views with healthy loading score. Mobile handset size and multimedia using option secure higher factor score and phone memory option gets lower score. This study also has explored relationship among each factors and found that multiple use option to outlook views, multiple use option to of handset and brand name to outlook views have high significant positive correlation. Brand name has positive correlation with outlook views; performance feature has positive correlation with outlook views and also with brand name. Besides, negative correlations are found with memory capacity to multiple use option, with memory capacity to brand name and with memory capacity to performance

feature. These negative relations are presence because of less impotency of memory capacity factors to mobile set users. This article has contributed to buying decision of consumer for mobile handset and measures relative importance of each feature. In particular, the result in this research can help researchers to recognize important features and their influences on buying decision.

References

Ahmed I. and Qazi T. F., (2011) "Mobile Phone Adoption & Consumption Patterns of University Students in Pakistan". *International Journal of Business and Social Science 2(9):205-213.*

Ashaduzzaman M.; Ahmed S. M. S. and Khan M. M. (2011), "Consumer choice behavior towards mobile phone operators in Bangladesh".

Brent C. M. (1975), "International Patterns of Consumer Behavior", In Advance Consumer Research Volume 02, eds. Mary Jane Schlinger, Association for Consumer Research, pp. 93-103.

Carroll, J., Howard, S., Peck, J., and Murphy, J. (2002). A Field study of perceptions and use of mobile telephones by 16-22 years olds. *Journal of Information Technology Theory and Practice*, 4, 49-61.

Chapman, S., and Schofield, W. N. (1998). Lifesavers and cellular Samaritans: emergency use of cellular (mobile) phones in Australia. Sociology of the Mobile Phone Online Publications. Retrieved on January 13, 2011, from http://socio.ch/mobile/index_mobile.htm, (Sept 14, 2009).

Chen, Y. & Katz,J.E. (2007). Extending Family to School Life: College Students‟ Use of Mobile Phone. *Paper presented at the annual meeting of the International Communication Association, TBA, San Francisco.* Retrieved on January 02, 2011, from http://www.allacademic.com/meta/p171018_index.html

Cronbach, L J., (1951), "Coefficient Alpha and the Internal Structures of Tests",. Psychometrika, 16(3):297-333.

Frissen, V. (2000). ICT in the rush hour of life. *The Information Society*, 16:65-75.

Independent (2012), The Independence, An English Daily (Dhaka), September 23, 2012, Retrieved on September 23, 2012 from http://www. theindependentbd. com/ business/ others/87679-bangladeshs-mobile-phone-users-surpass-82m-in-nov.html

Islam M. S., (2011), Adoption of mobile phones among the farmers: A case study from rural Bangladesh. *Submitted for master thesis program, Örebro University, Swedish Business School, MSc in Informatics program.* Retrieved on January 13, 2011 from www.sljol.info/index.php/ICTER/article/veiwFile/4670/3766.

Kaapanda L. N., (2012), An evaluation of factors determining the selection of mobile telecommunications service providers in the northern region of Namibia. *3rd international conference on business and economic research (3rd icber 2012) proceeding*: 8-30.

Karjaluoto H., Karvonen J., Kesti M., Koivumäki T., Manninen M., Pakola J., Ristola A., and Salo J. (2005) "Factors Affecting Consumer Choice of Mobile Phones: Two Studies from Finland.". *Journal of Euromarketing*, Vol. 14(3):59-82.

Kumar G. N. S., Vani H. and Vandana S. (2011), An Empirical Research on Factors Affecting Mobile Subscriber Intention for Switching between Service Providers in India. International *Journal of Management & Business Studies* 1(3):41-46.

Kwon, H. S., & Chidambaram, L. A., (2000). Test of the Technology Acceptance Model, the Case of Cellular Telephone Adoption. Proceedings of the 33rd Hawaii International Conference on System Sciences, USA

Ling, R., & Yttri, B. (2002). *Hyper-coordination via mobile phones in Norway*. In J. Katz & M. Aakhus (Eds.), Perpetual contact: *Mobile communication, private talk, public performance* (pp.139-169). Cambridge, UK: Cambridge University Press.

Matthews, R. (2004). The Psychosocial aspects of mobile phone use among adolescents. *In Psych*, 26, 16-19.

Nunnally, J C. Psychometric Theory, New York : McGraw-Hill, 1978.

Power, M. R., and Horstmanshof, L. (2004). YYSSW (Yeah, yeah, sure, sure, whatever): keeping and supporting relationships through SMS text messaging. *Human Communication and Technology Communication, National Communication Association Annual Convention, Chicago, Illinois.*

Singh J. and Goyal B. B. (2009), "Mobile Handset Buying Behavior of Different Age and Gender Groups", *International Journal and Management*, 4 (5):279-287.

Singla S. and Bansal S. (2011), "A study on the factors affecting choice criteria of consumers for mobile handsets a comparative analysis in Ludhiana & Sangrur districts". *Asian Journal of Management Research*, 2(1):443-456.

Taylor, A.S. & Harper, R. (2001). Talking activity: *young people and mobile phones. Paper presented at CHI 2001 Workshop*: Mobile Communications: Understanding Users, Adoption and Design.

Tjong, S., Weber, I., and Sternberg, J. (2003). Mobile, youth culture, shaping telephone use in Australia and Singapore. *ANZCA03 Australian and New Zealand Communication Association*: Designing communication for diversity, Brisbane, Queensland.

Worldwide mobile phone users to exceed adult population by 2014. Retrieved on January 09, 2013, from http://www.mobilephonereviews.org/mobile-phone-news/worldwide-mobile-phone-users-exceed-adult-population-2014/