

Determinants of Mobile Phone Demand among University Students

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Abstract

This study examines the determinants of mobile phone among the university students special reference to Rajarata University of Sri Lanka. The sample is selected by using stratified sampling method. The data collected through 10 mixtures of open and closed questions. The study used mainly primary data but secondary data too used in books and internet sources. This research is hypothesises that monthly income is the most effective factor for university students? demand on mobile phone and phone?s facility is positively affect to mobile phone demand. Results of the study reveals that there is a possitive and significant relationship between mobile phone demand and income levels among university students and facilities provided by the phone is not possitively affects on mobile phone demand . However, the study suggested that a country level study in this regard will be more helpful for mobile phone producers and their marketing strategies.

Index terms— demand, mobile phone, stratified sampling.

University students are facilitated common land phone facilities inside university promises and hostels. Most of the university students in Sri Lanka still depend from their parents' income and very little of them are engaging part time jobs or full time jobs. Normally researcher saw that many of students are using Mobile Phones even they are child of the low income level families. Therefore, the research problem can be indicated as: what are the determinants of mobile phone demand among university students.

The general objective of this research is to study the determinants of mobile phone demand among University students. Specific Objectives are: ? To estimate the demand function for Mobile phone ? To find out the most usage mobile phone brand among the students. ? To identify the problems faced by university students when they use the mobile phones.

H 1 = "Income is the most effective factor for university student's demand on Mobile phone".

H 2 ="Facility of the phone is positively affects on mobile phone demand".

The 21st century can be interpreted as infocommunication age. When new communication technologies spread among the people, one of them is the mobile communication. Researcher thinks how choose a mobile device is an interesting question, which parameters are important in the decision, and which are not. How we use the new technologies in everyday life, when and for what we use it because; in researcher opinion the technological development and the usage habits are interdependent. Researcher would like to examine consumer behavior in the field of mobile phone, so researcher think it should consider the mobile marketing as well.

Kimiloglu H. et al (2010) noted that, pragmatic consumers are found to give high importance to functional, physical and convenience based attributes of the product mobile phone from their research report "Discovering behavioral segments in the mobile phone market". This research aims to discover consumer segments with different behavioral profiles in the mobile phone market. As a research design, they employed factor analysis on 32 different attributes to which consumers attach in purchasing a mobile phone. The study proved pragmatic consumers are found to give high importance to the functional, physical and convenience-based attributed of the product.

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45 Ongondo F.O. et al. (2010) pointed out from their report, "The potentially significant environmental and
46 economic impacts; a large scale survey of students at 5 UK universities was conducted to assess the behavior
47 of students with regard to their use and disposal of mobile phones". Additionally, a small scale trial mobile
48 phone take back service at one of the universities was carried out. The findings indicate that many students
49 replace their phones at least once a year; replacing broken phones, getting upgrades from network operators,
50 remaining fashionable and a desire to have a handset with a larger battery life are the main reasons for such
51 rapid replacement. Almost 60% of replaced phones are not sent to reuse or recycling operations but, are stockpiled
52 by students mainly as backup phones. Although many students are aware of UK mobile phone take back services,
53 only a moderate number have previously used the services. Students' recycling of other waste materials such as
54 paper and glass did not have a significant impact on their disposal actions for their unwanted mobile phones,
55 although students who often recycled these waste materials were also the most willing to participate in mobile
56 phone take back services. Monetary incentives such as cash payments and vouchers have the greatest influence over
57 students' willingness to utilize take back services, followed by convenience and ease of use of the services. James
58 D et al (2005) published report named "Exploring Addictive Consumption of Mobile Phone technology". This
59 paper examines addictive consumptions of mobile phones within the domain of consumer behavior. Specifically,
60 it explores what characterizes addictive users of mobile phone technology, factors that increase their usage, and
61 adverse consequences from addiction. Two exploratory studies undertaken in Brisbane are the basis for a larger
62 project now in progress. Ten semi-structured interviews were conducted in March 2005, followed by a focus group
63 containing six participants in June 2005. A judgment sample of eight consumers of mobile phone technology was
64 used in this study. These subjects represented a broad spectrum of the population in terms of usage levels,
65 occupation, and age. Interviews were recorded on audio cassettes and transcribed. The focus group was a
66 convenience sample of six young people, enrolled full-time at university. This research was found that these users
67 had a long established relationship with their phone with an average of 6.5 years, and all subjects were using their
68 third to fifth mobile phone upgrade. Usage time was high ranging from 1.5 to 5 hours per day, and the average
69 bill per month was \$140, which is expensive given restricted student incomes. In this study, both attitudinal and
70 behavioral characteristics were found among mobile phone users who self-identified as problematic. Further, the
71 results revealed adverse consequences of mobile phone consumers as damaging relationships, falling stress and
72 feeling emotional stress.

73 According to Endre A. (2009) noted on his research "Mobile phone usage and device selection of university
74 student". The research took place in May 2009, and researcher used an online inquiry form. The respondents
75 were students of the Corvinus university of Budapest, and the most of them were 1st year university student.
76 For data base 642 questionnaires proved to be appreciable. Researcher asked the respondents to rank for main
77 categories (price, available features, look, shape and brand) of the mobile device selection. After ranking, the
78 next group of questions was a list of properties according to mobile device. The respondents had to consider
79 how important are each listed aspect for them. Data present using graphs and charts and also find correlations.
80 According to this study, the university students prefer to choose their phone by good price, look and shape. The
81 brand and the available applications are less important. The most important features of the mobile phones are
82 technical parameters, like good battery or durability of the device. Beauty is the most important feature among
83 appearance parameters. Mobile phone has determinant importance for the young, and they rather use it more
84 in public situations or places, than in private ones. The time-management applications are used more often than
85 other information based ones. They use clock, alarm clock and calendar most often, while sound recorder and
86 internet are used most rarely.

87 Chakraborty S. (2006) studies his research, "Mobile phone usage pattern amongst university students:
88 A comparative study between India and USA". This study investigated motivations of usage, common usage
89 scenarios and the attitude towards mobile phones in public settings among university students in a mature market
90 (United States) and a rapidly growing new market (India). This research is intended to be a questionnaire-based
91 exploratory study to investigate the cross-cultural usage patterns of mobile phones. The survey had both closed
92 and open ended questions. It collected demographic information like age, gender and educational level. Then the
93 survey moved on to collect usage and behavioral characteristics such as, individual use or shared use phone, and
94 time of use. Respondents were also asked to rank their pre dominant usage of the phone. Participants for the
95 study included only university students above the age of 18 years from India and the United States. Responses
96 were accepted regardless of full-time or part-time, undergraduate or graduate student status. In this study, it used
97 convenience sampling method. This study gives an insight in to the similarities and the differences in the usage
98 of mobile phones across two very different countries. There were marked similarities with the usage of phones to
99 communicate with others and there were similarities in the perception of mobile phone usage in public settings.
100 Many participants felt the need for etiquette or guidelines for mobile phone usage in public settings. According
101 to Ahmed I. (2011) research report named "Mobile phone adoption and consumption patterns of university
102 students in Pakistan" try to study explores buying and re-buying activities of mobile phone; preferences for
103 brands, purchasing features and network providers, account recharge activities and calling and testing patterns
104 of mobile phone users in Pakistan. Students were selected as population and simple random sampling technique
105 was used consisting of 500 respondents as tool sample size. 400 students responded back comprising 80% response
106 rate for this study. For this purpose questionnaires were used as data collection tool. To encompass all important
107 activities related to mobile phone usage. Questionnaire was designed and major portion of questionnaire was

108 taken from the research report conducted by Market Analysis and Consumer Research Organization (MACRO)
109 in May 2004. The overall reliability of the questionnaire was estimated to be 0.81. Then, collected data was
110 analysis using SPSS 17.0. Data present only by using tables. Majority of mobile phone users have started using
111 mobile phone at 10-18 years of their age and they consider mobile phone as necessity of life. This leads to conclude
112 that mobile phone users in Pakistan are not exhibiting addictive or over excessive usage pattern of mobile phone,
113 they are loyal customers of network providers and consider almost all features of mobile phone at the time of
114 purchasing.

115 Selian A.N (2004) done a study named "Mobile phones and youth: A look at the US student market". Through
116 this research a wide variety of information about the characteristics and trends of the youth market for mobile
117 phones has been compiled both through extensive secondary research and through the execution of an independent
118 survey on a small sample of 12-29 year old individuals in their respective phases of high school, undergraduate
119 and/or graduate education. This survey was undertaken as part of a study of mobile technology and youth,
120 and was designed to independently explore the relationships between gender, age, behavioral trends and mobile
121 phone usage patterns of teenagers and young people. The sample of survey respondents consisted of 189 teenagers
122 and young adults across a spectrum of socioeconomic, cultural and ethnic backgrounds in the area of Boston,
123 Massachusetts. All respondents were students in high school, college, or graduate school; questionnaires were
124 distributed at the Rindge Latin High School in Cambridge, Ma, as well as to undergraduate students at Tufts
125 University, and graduate students at the Fletcher School (both located in Medford, Ma.)The findings revealed
126 that mobile usage in the context of educational settings are strong, reflecting a higher group penetration level
127 than on average in the United States. Consequently, the proposed hypotheses relate to the factors identified that
128 could possibly affect adoption. Intention to adopt has been identified as the dependant variable that all the other
129 variables were analyzed again. Positivism will be used as the major philosophy to obtain quantifiable data that can
130 be statistically analyzed. The time horizon was cross-sectional. The research strategy was survey/questionnaire
131 based. The sample considered for the study was thus limited to the general public living in South Africa. In
132 order to collect a nonbiased and representative sample of respondents, a few Cape Town malls were visited. The
133 research questionnaire was developed in both hard-copy and online format. To overcome geographical constraints,
134 an internet website was used to host the online survey questionnaire. The test items were based on previous
135 studies, this hypothesis proves that adoption of mobile technology is very closely related to cost in a negative(D
136 D D D)

137 way. Consumers are aware of cost implications for 3G mobile video as they associate these with 2.5G services
138 like GPRS and MMS. Although the sample was relatively small, the results seemed to be fairly conclusive in
139 terms of isolating the four most important factors which are likely to influence the South African user adoption
140 of 3G mobile video when it becomes available. These four factors are (in order of importance): the complexity
141 of the technology, the level of technological (Internet) experience, the cost and the perceived compatibility with
142 the user's lifestyle.

143 This study use both primary data and secondary data but, mainly based on primary data. Secondary
144 data collected by using, Books, Journals, Magazines and Internet sources. Primary data collected by using
145 Questionnaire and group discussions. This study includes 10 mixtures of open and closed questions.

146 Total population of this research is total student population in Rajarata university of Sri Lanka. There are
147 3915 students (Field survey, 2011) and researcher selected sample size as 80 students by using Stratified random
148 sampling method. Under this scientific selection give equal chance to each five faculties, each batches and gender
149 such as total population divided in to five faculties and each faculty divided in to four batches and each batches
150 divided in to male and female. After that number of students divided from total population and multiple by
151 sample size (80) then can select a sample.

152 1 a) Testing Hypothesis

153 Using multiple regression analysis, researcher built demand function for mobile phone demand. In this demand
154 function openion on using mobile phone is dependent variable. Opinion found by giving a statement as
155 "Usage of mobile phone is needed for university students" and ask respondents' idea about to this statement
156 as: strongly agree, agree, neutal, disagree, strongly disagree and rank it using Likert Scale method. X 1
157 (close commiunication),X 2 (Monthlyincome),X 3 (Taste/fashion),X 4 (other offered facilities), X 5 (Monthly
158 expenditure) are independent variables. According to "t' test, only monthly income (X 2) is in significant and
159 other factors are not significant. But, overall model is significant (at.95%) according to the F value in Table 2.

160 Table 1, shows that the determinants of mobile phone among university students .The results reveal that
161 monthly income is the most effective factor for university students' demand for mobile phone and facility of the
162 phone is negatively affected to mobile phone. Therefore, hypothesis one is accepted and the second hypothesis
163 is rejected. b) Problems Faced by Mobile Phone Users Some problems arise when using mobile phones such
164 as problems due to unknown numbers, scarcity of signals, disturb to education, spend extra cost, bad affect to
165 health, not protect secrecy of users etc. According to the research many of respondents are that means 38.8%
166 of them faced scarcity of signals problem. It negatively affect to their mobile phone using activities. And also
167 30% of them most suffering problem is happen to bear extra expenditure. Many of university students' are still
168 dependents and therefore this extra expenditure for mobile phone is big problem to them. 10% of them said that
169 it is bad situation due to problems arise unknown numbers and persons. 8.8% and 7.5% of them agree to problems

1 A) TESTING HYPOTHESIS

170 they faced due to mobile phone as bad affect to health and phone disturb to their education respectively. 2.5% of
171 them agree about not protect secrecy and also 2.5% of some respondents response that they faced other problems
172 than these problems. The researcher use mainly five famous mobile phone brand and tried to find out students'
173 usage through those brands. According to above pie chart, students' percentage of usage brand can clearly found.
174 Relevant to those data, most of the students' are use Nokia brand phone and their using percentage is 63.8% of
175 students use Sony Ericson brand phone and 7.5% students use Samsung phone. 2.5% and 1.2% of students use
176 E-tell and Motorola brand phone respectively. Many of them use Nokia brand phone and also secondly 16.2% of
177 them are used other brands than Samsung, Sony Ericson, Motorola and E-tell.

178 Figure No

179 There are many studies on determinants of mobile phone demand among university students in the world.
180 But, a few studies in Sri Lankan case. Therefore the researcher tried to fill this gap. The study examines the
181 determinats of mobile phones demand among university students for the case of Sri Lanka. Results of the study
182 prove that there is a possitive and significant relationship between mobile phone demand and income levels among
university students. ^{1 2}



Figure 1:

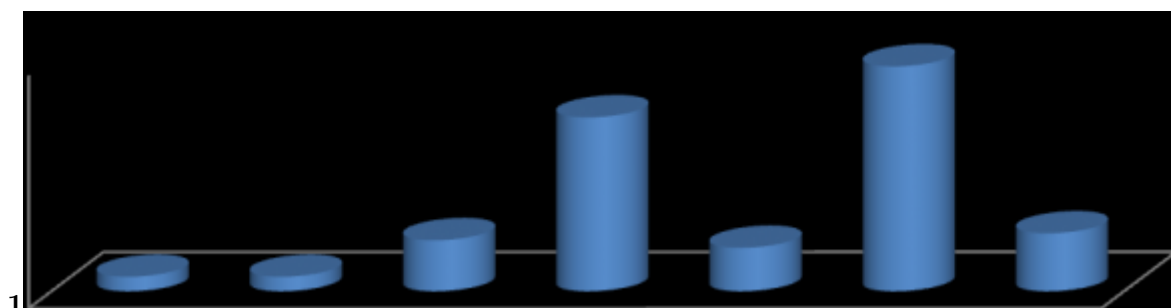


Figure 2: . 1 Source

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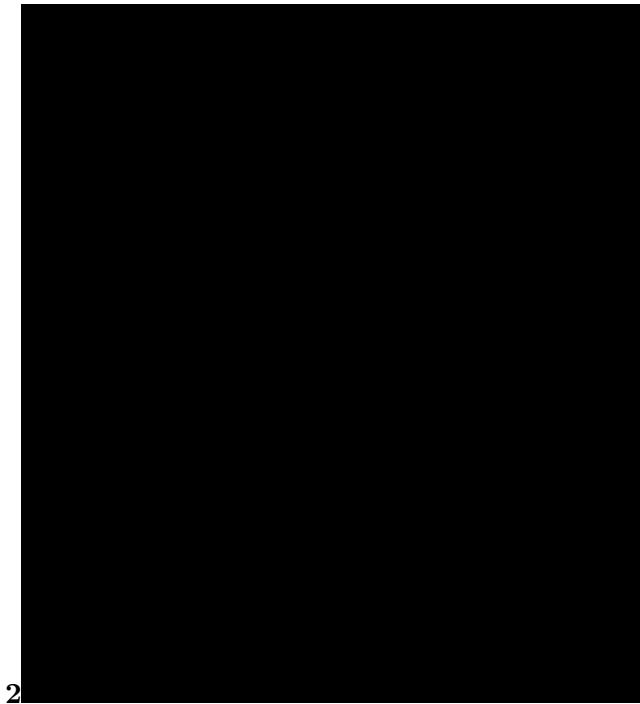


Figure 3: Figure No. 2 :

1

Model	Unstandardized Coefficients		Standardized Beta	t	Sig.
	B	Std. Error			
1 (Constant)	4.864	1.587		3.064	0.003
Close communication	-0.107	0.200	-0.062	-0.538	0.592
Taste (Fashion)	0.003	0.218	-0.002	0.015	0.988
Facilities of phone	-0.207	0.157	-0.157	-1.318	0.192
Monthly Expenditure	-0.183	0.206	-0.154	-0.890	0.377
Monthly Income	0.446	0.160	0.433	2.796	0.007

Source : Author Calculation using Survey Data (2011)

Figure 4: Table 1 :

1 A) TESTING HYPOTHESIS

2

Model	Sum of	df	Mean	F	Sig.
	Squares		Square		
Regression	23.095	5	4.619	2.34	0.049
Residual	145.705	74	1.969		
Total	168.800	79			

Source : Author Calculation using Survey Data (2011)

According to above coefficient table demand

function can be derived as:

$$Q_d = 4.864 - 0.107X_1 + 0.446X_2 + 0.003X_3 - 0.207X_4 + 0.183X_5$$

Figure 5: Table 2 :

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