

Factors Influencing The Selection Of Mobile Phone Among University Students In Kenya

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Abstract: *Mobile phone technology has reached unprecedented level leading to unconstrained selection nightmare. This study investigates the selection priorities of mobile phone among university students in Kenya. A total of 310 undergraduate students participated in the study. A survey research design was used in this study. Questionnaire was employed in collection of data and the collected data was analyzed using descriptive and inferential statistics. The findings from this study revealed that university students yearn for the latest technology phones which come with numerous features although not all features are actually used. The study established that the phone appearance, technology used in the phone, accessibility and connectivity are the most important considerations when selecting a mobile phone. The information obtained from this study will provide a baseline understanding of the factors influencing the selection and hence usage of mobile technology among university students in Kenya. Furthermore, the study shows how mobile features can be used as indicators of mobile phone selection.*

Key terms: *selection, mobile phone, features, technology, students*

I. INTRODUCTION

Advances in technology and the marketing strategies of features together with users' desire for new features lead to an exponential increase of the number of features to choose from. Although users use only a limited number of features available on their phones, specific features and the number of features are important when selecting the mobile phone even though the features may not be used regularly or not used at all. As noted by Ling and Huddon (2011), the influence on various orientations, e.g. accessibility and display, is generally more important to the youth. A study by Cohen et al. (2002), noted that the needs of people vary according to age group. As pointed out by Ling (2011), Gilbert and Kendall (2013), the youth use mobile phone for accessibility, display (self-image), entertainment and socialization.

A study by Economides and Grouspoulou (2009) found that when purchasing a mobile phone, university students in Greece consider certain features and characteristics of the phone more important than others. According to Balakrishnan

and Raj (2012); Economides and Grouspoulou, (2009) the desired features have to be determined and compared to the extra price for the added feature on the mobile phone, as price is a major factor for university students in Malaysia and Greece. Students know about the "curse of technology markets" referring to the fact that new technologies reduce in price over time. As found out by Karjaluoto et al. (2005), the expected price reduction results in some Finnish students purchasing older models of mobile phones.

A study by Dresler-Hawke and Mansvelt (2008), Hargittai and Kim (2010) found that almost all university students in new Zealand own a mobile phone and most of them purchased a new mobile phone, not because they wanted a new model, but mainly because their old phone was no longer functional.

Another study by Tsai (2012) found that university students in Taiwan were less interested in the practical functions (e.g. battery life) when purchasing a mobile phone, and more interested in the functions related to entertainment, such as taking pictures easily. In a study by Balakrishnan and Raj (2012); Karjaluoto et al. (2005) and Petruzzellis (2010)

Malaysian, Finnish and Italian university students' three main considerations when purchasing a mobile phone were found to be brand, trend and price whilst in a study by Balakrishnan and Raj (2012), usability was ranked the lowest factor to be taken into consideration amongst Malaysian university students. It was out of this vast development that this paper aimed to investigate factors considered by university students when selecting a mobile phone.

II. METHODOLOGY

Respondents for the study were selected using random sampling technique. 350 questionnaires were distributed to participants recruited from universities in Kenya. Of these, 315 were returned, giving a response rate of 87.5%. There were 310 usable questionnaires 181(58.4%) of which were male and 129 (41.6%) were female. All participants owned and used a mobile phone regularly.

The study sought to investigate if there were factors considered when selecting a mobile phone by the students. The method of data collection was a questionnaire developed by the researcher. The questionnaire consisted of three aspects addressing (1) Demographic details, (2) Mobile phone selection (3) Mobile phone usage. Respondents were asked several questions about the selection of mobile phone for use, for instance, (a) What do you consider when selecting a mobile phone? (b) What do you consider most important when acquiring a new phone? (d) Why did you choose your current phone?

Descriptive statistics were used to determine the distributional characteristics of each of the study variable. Factor analysis was used to determine the factors considered when selecting a mobile phone by the respondents.

III. PRESENTATION AND DISCUSSION OF RESULTS

The participants were asked to identify the factors considered when selecting a mobile phone. The question required the participants to mark the aspects as *totally unimportant, not important, important and very important*.

Figure 3.1 illustrates the graph and percentages of features considered when selecting a mobile phone.

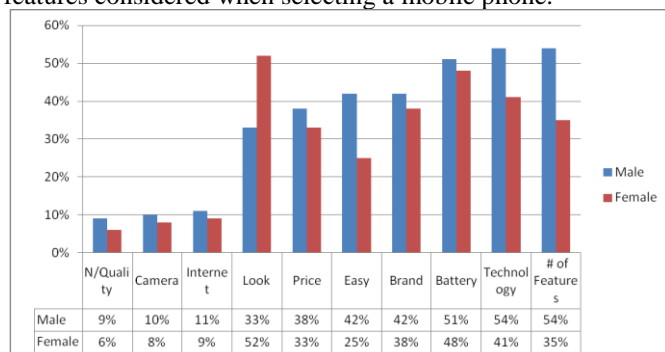


Figure 3.1: Features Preference when selecting a new phone

Figure 3.1 shows that the most important factors included the number of features, the latest technology, battery life, brand, ease of use, price, and look and feel of the phone. However, there exists variation in gender consideration. Males consider number of features (54%) and latest technology

(54%) to be most important factors while females consider the look and feel of the phone (52%) to be most important factor.

To gain more insight to the preferences on the above features, the items were then subjected to exploratory factor analyses (extraction method: Principal Component Analysis, rotation method: Varimax with Kaiser Normalization). Rotation converged in 5 iterations and Table 4.18 contains the results.

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.291	29.918	29.918	2.147	19.516	19.516
2	1.837	16.697	46.616	2.045	18.588	38.104
3	1.520	13.822	60.438	1.868	16.984	55.087
4	1.275	11.595	72.033	1.864	16.946	72.033
5	0.888	8.077	80.110			
6	0.721	6.554	86.663			
7	0.529	4.810	91.473			
8	0.409	3.715	95.188			
9	0.321	2.916	98.104			
10	0.191	1.739	99.843			
11	0.017	0.157	100.000			

Extraction Method: Principal Component Analysis.

Table 3.1: Total Variance Explained

From Table 3.1 it can be seen that four components had eigen-values greater 1 and these explained 72% of the variance. Consequently, the four components had to be identified by performing factor analysis in order to group the factors considered when selecting a mobile phone. The remaining components 5-11 were omitted because they have eigenvalues of less than 1 and could not be subjected to further analysis.

Table 3.2 shows the groupings of each of each of the items considered when selecting a mobile phone with the components (factors) identified.

Items	Component			
	Appearance (Component 1)	Accessibility (Component 2)	Technology (Component 3)	Connectivity (Component 4)
Price	-0.029	-0.141	0.698	0.117
latest technology	0.175	0.191	0.791	0.002
The number of features	0.190	0.133	0.781	0.035
Easy to use	0.163	0.973	0.079	0.032
Battery life	0.323	0.234	0.728	0.008
"look and feel" of the mobile phone	0.844	0.137	0.020	-0.030
Brand of Phone	0.837	0.060	0.102	-0.008
Network coverage	0.050	0.031	0.014	0.940
Network Quality	-0.010	0.023	0.123	0.915
Able to connect to computer	0.178	0.971	0.059	0.047
Camera	0.467	0.063	0.051	0.352

Extraction method: Principal Component Analysis

Rotation Method: varimax with Kaiser Normalization

Rotation converged in 5 iterations

Table 3.2: Factor Analysis on factors considered when selecting a mobile phone

Examining Table 3.2, it is observed that two items considered when selecting a mobile phone cluster together in component 1 with a loading coefficient of more than 0.6. These items included look and feel with a coefficient of 0.844 and brand of phone with a coefficient of 0.837. These items represented as component 1 in table 4.18 can generally be

grouped as the appearance. This concerns the aesthetics of the phone, how it looks like, or generally the appearance of the phone.

The second component is explained by two items. The item “ease of use” with a loading coefficient of 0.973 and “ability to connect to computer” with a coefficient of 0.971 can be grouped as accessibility features of the mobile phone. With these items it is possible for an average mobile phone user to access the functionalities of the phone and computer without much strain.

The third component concerns technology and the number of features in a mobile phone. The items grouped under this component included the price with a loading coefficient of 0.698, latest technology with a loading coefficient of 0.791, the number of features with a coefficient of 0.781 and battery life with a loading coefficient of 0.728. The fourth component consisted of network quality and network coverage and can be grouped as connectivity. The item network coverage had a loading coefficient of 0.940 and network quality had a coefficient of 0.915.

Factors considered	Average loading coefficient on mobile phone selection
Appearance (A)	0.841
Accessibility (AC)	0.972
Technology/#Features (TF)	0.750
Connectivity (C)	0.928
Total	3.491

Table 3.3: Summary of Loading coefficients of factors considered when selecting a mobile phone

The contribution of each of these factors to selection of mobile phone is given by the formula

$$SP = \left(\frac{A \times 0.841 + TF \times 0.750 + AC \times 0.972 + C \times 0.928}{3.491} \right) \times 100\%$$

Using this formula we can get the total percentage contribution of all the factors considered when selecting a mobile phone.

The factors considered when selecting a mobile phone can therefore be summarized in a block diagram shown in Figure 3.3.

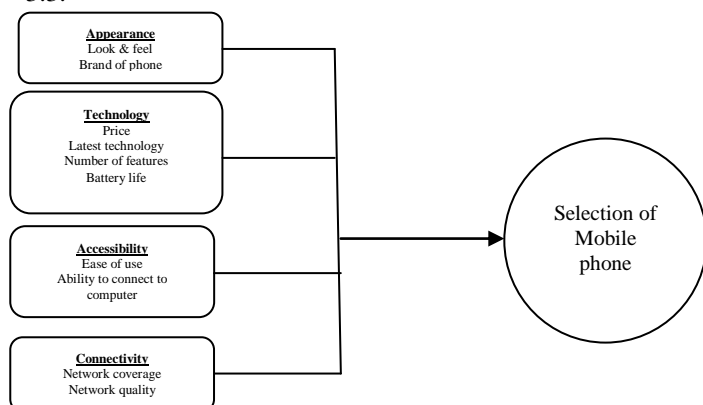


Figure 3.3: Block diagram representing summary of factors considered when selecting a mobile phone

It can be observed in Figure 3.3 that mobile phone appearance, technology, accessibility and connectivity influence the selection of mobile phone.

IV. CONCLUSION

We presented an in-depth study of the selection of mobile phones among university students in Kenya. Towards this end, we analyzed the factors considered when selecting a mobile phone. To simplify analysis of mobile phone selection, we proposed abstractions and clustered phone features based on these abstractions which included the physical appearance of the phone, the latest technology used in the design and operation, the accessibility and connectivity of the phone. Our analysis provides new insights that can inform various stakeholders (e.g., mobile phone designers, service providers, mobile phone users and content providers) in the mobile phone ecosystem for improving mobile selection and use.

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