Usage Characteristics of Mobile Telecommunication Services: Individual Service Recipient Perspective in Rajshahi District of Bangladesh

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ABSTRACT

Mobile telecommunication services proved to be a significant part of everyday life for the people of Bangladesh. The study's primary purpose was to examine the usage characteristics of subscribers to know the reality through an empirical study. The research study was descriptive and quantitative in approach to drawing meaningful facts. This study was conducted in the Rajshahi district in the northern region of Bangladesh. The sample size resulted in three hundred and seventy-eight for completing the survey. A simple random sampling technique was used to draw samples from male and female sampling units. The research used a cross-sectional survey design to collect primary data. In addition, the researcher administered a structured questionnaire as a research tool to find out the facts from the individual service recipients. Research findings show that individual service recipients' usage characteristics influence the service marketing mix and brand equity to achieve a competitive advantage. For example, the study found that consumers are more interested in using services other than voice calls through their affordability does not support it. Moreover, responses from service recipients varied significantly, which becomes a significant challenge for the operators to blend the elements of the marketing mix. This study also shed light on the Inconvenience or problems the recipients face in consuming services. For example, the topmost inconvenience service recipients' face is 'poor service quality' like network interruption, poor quality network, and poor quality video streaming experience. Finally, the study suggests mobile operators in Bangladesh need to trigger a marketing mix by consistently considering the dynamism of usage characteristics of individual service recipients to utilize their marketing investment, increase brand equity, and achieve a significant competitive advantage.

Key Words: Usage Characteristics, Consumer Demographics, Mobile Telecommunication Service, Non-voice Service, Bangladesh

INTRODUCTION

Marketers are constantly confronted with the investment in marketing activities to achieve the highest efficiency and take a position in the consumers' minds (Dominici, 2009). Consumer perception is used to ascertain how customers perceive the quality of services they consume (Islam et al., 2013). Therefore, perception such as self-perception, benefit, price, perceived customer value, customer belief in a brand, etc., determines consumer behavior

(Schiffman & Kanuk, 2000; Ahsan, 2017). On the other side, competitive advantage defines as the different skills that provide relative superiority in skills and resources compared to other competitors (Day & Wensley, 1988). It conveys the additional value created by a company to consumers that permits them (consumers) to differentiate a product or service from its substitutes or alternatives in the target market (Hoffman, 2000). As a result, it provides a win-win situation for both consumers and marketers.

Marketers always try to improve themselves and strengthen their marketing efforts to win the competition. In this context, building a solid brand is the best resistance to simultaneous changes in the business landscape as it can improve a firm's competitiveness (Masud-Ul-Hasan, 2016). As a result, it provides security and growth, competitive differentiation, premium price, higher sales volume, economies of scale, higher profitability, and higher asset value in a sustainable manner (Keller, 2003). Since marketing mix strategies are often decisive in determining service offerings, it comprehends company activities to drive demand for its products (Aghaei et al., 2014). As the socio-economic environment and competitive settings change over time, learning the dynamism of consumers is essential for a marketing mix design (Dominici, 2009; Chowdhury, 2015). Therefore, the study aims to identify the usage characteristics of service recipients in the mobile telecommunication services offered by mobile telecom operators in Bangladesh.

PROBLEM STATEMENT AND JUSTIFICATION

Mobile technology was adopted in Bangladesh as the first country in south-east Asia back in 1993 (BTRC, 2020). There are four mobile service operators in Bangladesh Grameenphone, Robi, Banglalink, and Teletalk. Now, the market has broadened with all economic and social hierarchies in urban and rural areas (Afza, 2015). So, a competitive environment exists among the operators that lead subscribers to make their choice at ease. Moreover, with the combination of limited disposable income and more mature use of services, Bangladeshi customers' are treated as more perceptive to the services (GSM Association, 2020). Thus, the pressure of independent choice of customers leads operators to track customer usage characteristics regularly (Alam et al., 2016). It also makes them more attentive in investing in service offers to win the competition.

Since the privatization and liberalization of policies, the mobile telecom industry started a blistering growth in terms of subscribers and mobile internet penetration in Bangladesh for a decade or so (Alam & Rubel, 2014; Neogy, 2013). Still, the growth in number continues to flow in urban, semi-urban, and rural areas, especially SIM card penetration of rural regions with cheap mobile handsets and surfing the Internet for using social media while mobile Internet, video streaming, utilities, some daily activities, and multiple SIM card penetration from urban and semi-urban areas (GSM Association, 2018). Nevertheless, the mobile phone service penetration in terms of growth percentage has been decreasing year by year, although the rate of the unique subscribers has increased a bit (Neogy, 2014). As a result, mobile operators search for innovative revenue streams except for basic voice calls that support basic human needs in economic and social aspects like employment, education, health, utility, financial services, recreation, fun, games, VAS, and others. Therefore, the study at hand would be handy in the present scenario of this industry.

The study objective was to examine the usage characteristics of service recipients' who take services from mobile telecommunication service operators of Rajshahi district in Bangladesh.

RESEARCH METHODOLOGY

The research was exploratory in design with descriptive nature and quantitative approach to draw meaningful facts. The study was directed purposively at the Rajshahi district of the northern region in Bangladesh as it the homogeneous in usage nature and ease of collecting data. In this context, the sample size resulted in three hundred and seventy-eight (378) in number from the study population of twenty thousand three hundred twenty-six (20326) using the statistical formula:

$$n = \frac{z^2.N.p.q}{e^2(N-1)+z^2.p.q} = \frac{(1.96)^2 \times 20326 \times .5 \times .5}{.05^2(20326-1)+(1.96)^2 \times .5 \times .5} = \frac{19521.0904}{51.7729} = 377.05 \text{ i.e., } 378 \text{ (Kothari, 2004).}$$

A simple random sampling technique draws samples from male and female sampling units. The study has consisted of both primary and secondary data. The research work developed a cross-sectional survey design with a self-administered questionnaire for data collection. After data collection revealed that the drawn samples of individual recipients use six hundred and seventy-two SIMs of different mobile telecom operators. The assimilated data of six hundred and seventy-two SIMs have been processed. Secondary data been collected through extensive literature review from relevant books, recent dissertations, research papers published in the refereed journals, BTRC annual reports (2019-20) of the mobile telecom operators, websites, newspapers, etc.

ANALYSIS, FINDINGS, AND DISCUSSION

Demographic Profile of Respondents

Table 1: Age Distribution of the Respondents

Age	Percent
18-28	46.7
29-39	36.8
40-50	15.6
51+	.9
Total	100.0

In the age distribution table, the age among the respondents is categorized into four ranges e.g., from18 years to 28 years, from 29 years to 39 years, from 40 years to 50 years, and above 51 years. It shows that 46.7 percent of the total respondents are 18-28 years old, which indicates that most respondents are young. Moreover, 36.8 percent, 15.6 percent, and the rest .9 percent are from the 29-39 years, 40-50 years, and above 51 years, respectively. So, persons aged 51 years and above are reluctant to use their cell phones.

Table 02: Income Distribution of the Respondents

Income	Percent
No Income	42.4
<5000	1.6
5000-20000	25.3
21000-36000	22.2
37000-52000	7.4
53000+	1.0
Total	100.0

In the income distribution table, is shown up, six classes of income are considered. 42.4 percent of total respondents do not have any income level, which indicated that most of the respondents' source of income comes from other persons. Besides, 1.6 percent has less than TK. 5000; 25.3 percent has income range from TK. 5000 to TK. 20000; 22.2 percent has income range from TK. 37000 to TK. 52000. 7.4 percent have income fall between TK. 37000 and TK. 52000; the rest 1 percent of the total respondents have an income of above TK. 53000. Therefore, few users have an excellent economic condition in this study.

Table 3: Gender of the Respondents

Gender	Percent
Male	70.8
Female	29.2
Total	100.0

The table shows that males are 70.8 percent of the total used cell phones, more than two-thirds of female users.

Table 4: Educational Qualification

Education	Percent
Below primary	1.3
Primary	3.7
SSC	11.0
HSC	38.5
Graduate	32.3
Postgraduate	13.1
Total	100.0

The level of education table shows that 38.5 percent of the respondents had an HSC degree, followed by a graduate degree of 32.3 percent, 13.1 percent of postgraduate, 11 percent of SSC, 3.7 percent of primary, and the remaining 1.3 percent were below primary level all the respondents.

Table 5: Variation of Occupation

Occupation	Percent
Business	22.4
Govt. job	3.04
Housewife	14.3
Private job	17.4
Self-employed	3.7
Student	26.8
Unemployed	6.7
Others	5.4
Total	100.0

The table shows that 22.4% is businessman, 14.3% is homemakers, and 26.8% is students, with 17.4% being private job holders in the study area.

USAGE CHARACTERISTICS OF RESPONDENTS

From the survey, the following findings have been acquired. Statements, results, and interpretations are discussed below:

No. of SIM(s) Use: In the case of using several SIM cards, 62.5 percent, e.g., more than half of the users, have 2 SIMs. In addition, a single SIM was used by 19.2 percent, 3 SIM used by 13.4 percent, 4 SIM used by 4.2 percent, and 5 SIM used by the rest .7 percent of all users.

Name of Mobile Operator for SIM: Concerning the mobile operators, Grameenphone has the highest number of customers, i.e., 55.8 percent, who are the respondents in this study. Robi and Banglalink have almost equal users in the current research, i.e., 20.2 and 20.5 percent. The last 1 percent of users use the SIM card of Teletalk.

Number of Calls per Day: The study indicates that 36 percent of users make ten calls a day, and 13.5 percent make 15 calls a day in the study area.

Duration per Call (in minutes): The study found that 36.5 percent of users make a call for 5 minutes, and 17.4% make a call of 4 minutes per Call.

Time spent in a day for Voice Call (in minutes): The study shows that 78% of people spend 1 to 2 hours a day, and 13.5% spend 2.5 hours a day on mobile calls in the study area.

Time of Voice-call for Long-duration: The study shows that users talk much at night for long-duration voice calls at 37.8 percent, 26.5 percent talk in the afternoon, 25.6 percent talk in the evening, 8.3 percent talk at noon, and only 1.8 percent of users talk in the morning. So, it is evident that the respondents are more likely to talk at night than on any other day.

Expenditure per Month for Voice Call (in taka): The study shows that 52.5% of users spend 250 to 300 taka for voice calls in a month, and 6.45% of users spend 500 to 600 taka for the same period.

Influencing Person(s) in Choice of SIM: The analysis of influencing persons in choice of SIM shows that 47.9 percent of users buy SIM by their own choice, 34.7 percent of users buy SIM by getting suggestions from family, 14.4 percent of users purchase SIM by suggestions from their friends, and 1.9 percent of users purchase SIM by the influence of both family and friends, 3 percent of users purchase SIM by the influence of neighbor. The rest .7 percent of users are motivated by 'others' to select their SIM.

Source(s) of Influence in Choice of SIM: According to the survey, 78.6% of users get information about operators from electronic and personal sources.

Choice factor(s) for Using the SIM: The study indicates that network facilities and lower call rates most influence 39% of users.

Use of Smartphone: From the statistics, there is no doubt that more than three-fourths of the respondents have smartphones compared to 22.5 percent of non-smartphone users. Specifically, the tendency to use smartphones among young people is found most in Bangladesh.

Reasons for Choice of SIM: The choice of SIM is influenced by the five preferred factors found in this study. This analysis reveals that the network plays a crucial role in selecting SIM, which was proved by half of the respondents. The second influencing factor is call

rate at 35.9 percent means that more than one-third of the users consider the cost of talking from one place to another via cellular phone. Among the respondents, the other three factors were preferred by 6.8 percent for quality, 5.7 percent for customer service, and 1.6 percent for value-added service.

Most Influencing Source in Choice of SIM: The analysis table regarding the most influential source for the choice of SIM points out that electronic advertising influences 44.8 of users, and confidential sources influence 41.7 of users, respectively among the total users. The rest of the two sources, such as printed advertising (6.7 percent) and outdoor advertising (6.8 percent), slightly influence the users' choice of SIM. Thus, both electronic and personal sources of advertising have a significant impact on selecting the SIM of users.

Most Preferred-Value Added Service(s): The study shows that 30.5% of users like to drive on entertainment VAS, and 12.5% use Call waiting as a major VAS.

Time Spends per Day on Mobile Internet Browsing (in minutes): The study shows that 46.4% of the users spent one to two hours, and 25% spent two and half hours mobile Internet browsing per day.

Preference of Time of a Day to Browse the Internet for Long Duration: About a particular browsing session of a day, 55.8 percent of users prefer to browse at night. User browses the Internet at other times, such as evening, afternoon, morning, and noon, which constitutes 10.1, 6.4, 2.8, and 1.9 percent, respectively.

Internet Data Use per Day (in MB): The study shows that 66.9% of users use 30-50 MB of data in a day, e.g., in a month, 900 MB to 1500 MB, which is according to the operators' expectations. However, many users do not use mobile Internet to spur ARPU for the operators.

Expenditure per Month for Internet Browsing (in taka): The study shows that 76.8% of users spend 200 to 300 taka in a month on internet browsing.

Social Networking and Its value: The study indicates that most people do not believe in adding value to their lives through social networks. It has been reflected by 44 percent disagree, 21.1 percent strongly disagree, 1.8 percent agree, and 1.5 percent strongly agree. It is also mentionable that nearly one-tenth of the respondents do not perceive the importance of social networks, which is 8.3 percent.

The study revealed that consumer behavioral study is the key to achieving a competitive advantage. The usage characteristics of mobile services of the recipients are the major contributing factor in setting strategic marketing efforts and increasing brand equity for the mobile operators in Bangladesh. The habit of using services like talk-time, Internet, video streaming, utility services, service package differentiation, price sensitivity, convenience to get assistance, perception of service providers, sensitivity towards service delivery timing and process, the appearance of the service proving packages, various apps, network, broadband facilities, customer service; overall the service offerings put a significant impact in preparing value proposition for the customers and gaining value from customers to mobile telecommunication service operators.

Consumers' Inconvenience in experiencing Mobile Telecom Services

The researcher acquired the data consumers experienced in continuing mobile telecom services of a particular brand through the survey. According to their response, the following table has been prepared:

Table 06: Consumers' Inconvenience in Using Service

Particulars	Percent
SIM	6.0
Network	27.7
Price	28.9
Internet	14.7
Value-added services	5.7
Predispositions	0.6
Network, and Price	1.8
Price and Internet	2.8
SIM, and Network	0.4
Price, and Value-added services	1.3
Network, Internet, and value-added services	1.5
Network, and Internet	1.6
Network, price, and Internet	1.2
Network, price, and Value-added services	0.6
SIM, Call rate, and Value-added services	0.4
Call rate, Internet, and Value-added services	1.2
Network, and value-added services	0.7
SIM, and Internet	0.7
Network, and Predispositions	0.7
SIM, Network, Price, and Internet	0.6
SIM, and Predispositions	0.1
Others	0.6
Total	100.0

The table shows that, in terms of Inconvenience in using mobile services, 28.9 percent of respondents opined that price is high for voice and non-voice services both and it is beyond their affordability; followed by network problems with 27.7 percent of respondents, internet problem with 14.7 percent of respondents, and VAS usage problems with 5.7 percent of respondents. In some cases, e.g., 16.5 percent of respondents face joint-inconveniences including Network, Internet; Network, price, and Internet; Network, price, and Value-added services; Call rate, Internet, and Value-added services. Therefore, attracting customers toward a particular brand is subject to improving issues like price, network, Internet, VAS, and a few joint-inconveniences in the mobile telecom industry in Bangladesh.

Table 07: The Major Problem Faced in Using the Operators' Services

Particulars	Percent
SIM	5.4
Network	28.8
Price	36.7
Internet	19.9
Value-added services	7.6
Predispositions	.9
Others	.6
Total	100.0

From the table, the researcher got that the topmost problem the consumers face is the high price with 36.6% and the network with 28.7% opined by the respondents. It is mentioned that the internet browsing was19.2% and the rest including value-added services and others count for 15.5% in total in terms of the topmost prom in using services of the operators.

From the discussion, the researcher found a clear concept about the consumer behavior of the service recipients regarding their usage pattern, affordability, preference, the demand of services, price sensitivity, the convenience of using the services, awareness level, and its sources, attitudes towards VAS, customer service and its employees, delivery process of services, and the environment recipients love to enjoy in using mobile telecommunication services in the study area.

INCONVENIENCES TO CONSUMERS

The study also shed light on the Inconvenience or problems recipients encounter through surveys, secondary sources of knowledge, and gaining experience from the insight of the study process.

- Service recipients face dissimilarity between service quality and operators' promises.
- Subscribers are currently facing network interruption, poor quality network, below-graded video streaming experience, frequent messages daylong interrupting attention to other activities, and frequent offers to puzzle the mind thinking about opportunity cost and recall existing services occupied in using services.
- Moreover, a small but significant number of users are not comfortable with the mobile operation, especially android mobile, in terms of activation of apps, packages, dealing utility services, and widespread use of non-voice services though they like to use those. Another problem these users face with handling android phones correctly and are far away from the significant experience of services.
- In rural areas, and few cases in sub-urban areas, broadband facilities are more or less poor and absent, sometimes depriving them of the experience of Internet facilities.
- Most users feel uncomfortable with Id security on Facebook and other social media and unwanted calls and messages in the SIM; therefore, they interrupt their regular life.

The primary difficulty service recipients face the deviation of operators' promises. Subscribers face network interruption, poor quality network, poor video-streaming experience, frequent messages, high price for non-voice services, a small but significant number of users are not comfortable in operating, activation of apps and packages, dealing utility services, and widespread use of non-voice services, handling android phone properly, in rural areas. Few cases, sub-urban areas' broadband facilities are not desirable, interrupting their regular life.

THEORETICAL AND MANAGERIAL IMPLICATIONS

The study may improve the worth of previous literature on the study of interest. This study also contributes to understanding 'consumer behavior' as consumers have considerations to repeat any service based on the value they have in their minds. Further, it contributes to brand management practices to enrich branding. By relating the study findings to the marketing mix and brand-building strategies, mobile operators can improve the strength of their brands. In addition, it can help operators to use resources appropriately and provide a suitable value proposition at different times to win the competition.

CONCLUSION

Over the past decade, the central mobile telecom monopoly has been changed, and a comparatively open or competitive market developed in Bangladesh. Consequently, both functional and fundamental reforms have been done in this industry. Therefore, increasing attention should be paid to increasing customers' overall value. With rapidly changing technologies, dynamic customer needs, and growing awareness of customers, it becomes crucial to seek for consumer behavior to retain existing customer base, attract prospects, and acquire market positioning by effective service program that turns into a unified program to achieve company's marketing goals as well as desired value to customers. Through the learning of the study, a mobile telecom operator can learn the perception of what the market values a service and, therefore, provide a value proposition created as brand equity which results in an increased chance to gain a sustainable competitive advantage against the competitors in the mobile telecommunication industry in Bangladesh.

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