

Dynamicity of Behavior of IT Users in Bangladesh: A Study on Dhaka Metropolitan City

Md. Ismail Haidar^{*}
Shahidul Islam^{**}
Mohammad Saiful Islam^{***}

Abstract:

This study investigates the dynamicity of behavior of IT users in Bangladesh. By collecting data from 300 IT users in Dhaka Metropolitan City, researchers conducted descriptive statistics, a number of chi-square tests, and t-test and found a number of key findings as to the behavior of IT users in Bangladesh. First, Most of the IT users fall in the age category less than 35 years. IT users are highly educated and have income category of BDT 5000-BDT 30000. Second, young people, who are students or joined the job recently, are mostly influenced by family members and friends/co-workers. Third, students and fresh executives, who are the critical mass of this study, mostly use IT for accessing internet. Finally, quality, brand, service facilities, and product configuration are the most important attributes to IT users and have significant relationship with the entire demographic variables under study.

Keywords: Dynamicity of behavior, IT users, descriptive statistics, chi-square test, t-test

Introduction

With the growth evolve Information Technology is playing the facilitating role of revitalizing the competitiveness of business across the countries. At present Information Technology (IT) is a subject of widespread interest in Bangladesh. Bangladesh is developing the digital infrastructure for the nation. By 2021 the largest sector of Bangladesh is going to be digitalized. More than 300 registered IT firms are operating activities in Bangladesh. This number has been increasing day by day. As a result, competition among IT firms becomes immense. To face the competition, IT firms have to understand the IT users' behavior because understanding and satisfying users' are essential for commercial success. The study of consumer behavior enables marketer to understand and predicts consumer behavior in the marketplace. The better the firm understands its consumers, the more likely it becomes successful in the marketplace. To identify unsatisfied customer needs, companies had to engage in extensive marketing research. Although such formal research is important, a small firm can usually avoid this expense. Typically, the owner or manager of a small concern knows the customers

^{*} Lecturer, Department of Marketing, Bangladesh University of Business & Technology (BUBT)

^{**} Lecturer, Faculty of Business Administration, Eastern University

^{***} Free Lance Researcher

personally. From this foundation, understanding of customers can be built by a systematic effort. Consumer behavior is concerned not only with what consumers buy but also with why, when, where and how often they buy it (Schiffman & Lazar Kanuk, 2010). *Consumer behavior* is the study of how individuals, groups, and organizations select, buy, and dispose of goods, services, ideas, or experiences to satisfy their needs and wants (Kotler et. al, 2010). Customer behavior study is based on consumer buying behavior, with the customer playing the three distinct roles of user, payer and buyer. It blends elements from psychology, sociology, social anthropology, and economics, attempts to understand the buyer decision making process, both individually and in groups, and studies characteristics of individual consumers such as demographics and behavioral variables in an attempt to understand people's wants.

Researchers have identified demography as a very important tool for market segmentation to identify target customers and their needs. Demographic information helps to describe groups of buyers such as heavy users of a products or brands. Demographics used in combination with buyer behavior information are useful in segmenting markets, selecting distribution channels, designing promotion strategies, & other decisions on marketing strategies (Cravens & Piercy, 2008). Bowen and Hedges (1993) noted that the importance of various quality improvements differs among customer segments (Stafford, 1996). It is particularly important to focus first on those customers who are most valuable to the IT firm. One possible method of determining those valuable customers is by utilizing customer demographics. Hansman and Schutjens (1993) also support the above researchers by proposing a “rational assumption” that age is a strong predictor of changes in attitudes and behavior (Stafford, 1996). Age is inversely related to IT product use; younger adults use IT product significantly more than older adults. Demographic variables describe buyers according to their age, income, education, occupation, and many other characteristics (Cravens & Piercy, 2008). In a study on computer literacy and usage pattern, Jose and Abraham (2010) used gender and age to evaluate the users demographic. The current study considered ‘gender’, ‘age’, ‘income’, ‘profession’ and ‘education’ as customers’ demographic factors that form customer profile. The study excluded ‘nationality’ as a demographic factor as the population of Bangladesh is highly homogenous on ‘Bangladeshi nationality’.

Within the context of consumer behavior, the concept of reference groups is an extremely important and powerful idea. A person’s reference groups are all the groups that have a direct (face-to-face) or indirect influence on their attitudes or behavior (Kotler et. al, 2010). When a group has a direct influence it is called membership group, for example: family, neighbors, and coworkers. Indirect reference groups consist of those individuals or groups with whom a person does not have direct face to face contact, such as movie stars, sports heroes, political leaders, TV personalities, or even

well-dressed and interesting-looking people on the street (Schiffman & Lazar Kanuk, 2010). Reference groups are used in order to evaluate and determine the nature of a given individual or other group's characteristics and sociological attributes. Robert K. Merton (2007) hypothesized that individuals compare themselves with reference groups of people who occupy the social role to which the individual aspires. Thompson & Joseph (2005) noted that reference groups are groups that people refer to when evaluating their (own) qualities, circumstances, attitudes, values and behaviors. From a marketing perspective, reference groups are groups that serve as frames of reference for individuals in their purchase or consumption decisions (Schiffman & Lazar Kanuk, 2010). A house wife's reference groups, for example, include her family, circle friends, neighbors, and clubs. The current study includes family members, relative, friends/coworkers, and commercials as the users' reference group.

Customer function/usage pattern considers the role or purpose of the goods or service. It is the value provided to the customer (Cravens and Piercy, 2008). According to Cravens and Piercy (2008) customer usage pattern in case of personal computer may include entertainment for the household, information search, Internet purchasing, or the performance of various business functions. Jose and Abraham (2010) noted that peoples use IT products for games, movies, education, internet access, and workplace. Purpose of using IT products may be either effective or non effective. The effective use includes the use of IT products for educational purpose, at workplace for job based needs and for accessing the Information Communication Technology or Internet. The non effective purpose includes the use of IT products for entertainment like playing games, listening to music or watching movies (Jose and Abraham, 2010). This study considers movie watching, hearing music, internet access, preparing academic papers, playing games, research activity, web design, and doing official work for analyzing usage pattern of IT users.

Users' preference is considered to be the most important determinant of buying behavior. Preferences could be conceived of as an individual's attitude towards a set of objects, typically reflected in an explicit decision-making process (Lichtenstein & Slovic, 2006). Alternatively, one could interpret the term "preference" to mean evaluative judgment in the sense of liking or disliking an object (e.g., Scherer, 2005) which is the most typical definition employed in psychology. According to Schiffman & Lazar Kanuk (2010) an attitude is a learned predisposition to behave in a consistently favorable or unfavorable way with respect to a given object (i.e. a product category, a brand, a service, an advertisement, a website, or a retail establishment). From the study of literature review about users' preference, this study concentrates on few factors that motivate users to purchase the IT products. Such factors are product configuration, brand, price, service speed, service facilities, product design, durability, and quality.

This study is limited to develop demographic profile, identify reference group, the examination of usage pattern of IT product, and users' preference to select the IT products. Research findings from this paper can be useful in order to understand the

dynamicity of behavior of IT users in Bangladesh. Additionally, by understanding the demographic variables, reasons for using IT products, customer's reference group, and users' preference on IT products, IT firms would be able to incorporate suitable marketing strategies. The major objective of this study is to investigate the IT users' behavior in Bangladesh. Specifically the objectives are-

to find out the demographic profile of IT users;

- to find out the reference groups of IT users based on users demographic;
- to analyze the usage pattern of IT products based on users demographic;
- to find out the users preference for selecting the IT products; and
- to find out whether there is any relationship between users preference for selecting the IT products and users demographic variables.

Methodology

The study has a descriptive research design to fulfill the research purpose. Both primary and secondary data have been used for effective research findings. The population of this study comprises of all the IT users in Bangladesh. But no such comprehensive list of IT users is available. Therefore the study approached at Capital city because it was assumed that IT product users at Dhaka City are more sensitive compared to users at other cities in Bangladesh, as users' education levels are higher. Hence the study adopted a non-probability sampling methods. Data required for fulfilling the objectives of the study were collected from 300 IT product users.

The survey instrument for collecting the primary data was a structured questionnaire including multiple choice questions, five point Likert scale. Also this study has reviewed different published articles, books, and websites to collect the necessary data. However, exact references are mentioned in this study. Data analyses were done using descriptive statistics and hypothesis testing using both t- distribution and chi-square tests. SPSS 15.0 software was used to find out the output.

Results and Discussions

A summary of findings on customer profile along five variables: gender, age, profession level of income (average monthly income of the respondent), and level of education has been presented in **Table 1 (Appendix 1)**. The reason for using monthly income is that in Bangladesh salaried employees are contracted on the basis of monthly payment. So, people have a tendency to remember their salary on a monthly basis hence convenient to respond during surveys.

Out of 300 IT users, 255(85%) users are male and 45(15%) users are female. The reason for high concentration of male may be high interest of male to response in this study or male may use IT product more than female. The majority of the IT users lie between 25-35 years of age. Consumers who lie less than 25 years of age come next. The reasons for high concentration in less than 35 years of age may be short history of IT product used

in Bangladesh. Service holders constitute the most (53.3%) IT users. Students (43.3%) come next. The high concentration of these categories may be explained that most of the private and public organization tends to use IT products to perform their regular activities. Also, students are to use IT products to perform their academic activities. About half of the respondents have an average monthly income ranging between BDT 5,000 to BDT 30,000 (Bangladesh Currency = BDT). A high concentration in that particular income category may be well-explained by the finding on the age variable that the major concentration is between 25 to 35 years of age. It is to note that such age category in Bangladesh generally include entry and mid-level executives and professionals both in the private and public sector. Though no recent compensation surveys are available to validate such arguments, one may still argue, given the observation in reality so rife, that a large number of entry and mid-level position holders in the public and private sector of Bangladesh are most likely to have a monthly basic salary in the range from BDT10, 000 to BDT20, 000. The respondents have been found to possess a high level of education (51.7% having a college/bachelor degree and 46.7% with either a Master or a PhD degree). Only 1.7% of the respondents have education at or below HSC level. A high concentration of higher educated people may be explained that they generally are to use IT products for performing activities such as preparing academic papers, Internet use, and research activity.

Table 02 (Appendix 1) shows that out of 300 users, 57.3% influenced by friends/ co workers, 56% influenced by family members, 50% influenced by commercials, and 36% influenced by relatives to use/purchase IT products. (As the reference group influenced overlap, the percentage will not add up to 100. Example: A person influenced by family members may also influenced by friends, commercials etc.)

The impacts of reference group vary based on users' demography. **Table 03 (Appendix 2)** shows that among male, most of the respondents (58.63%) are influenced by friends/co-workers, whereas most of the female respondents (57.78%) are influenced by their family members. Among respondents in the age groups less than 25 years, most of the respondents are influenced both by family members and by friends/coworkers at the same rate (58.52%), while among respondents in the age groups 25 to 50 years, most of the respondents are influenced by friends/ coworkers. Among professionals, students are mostly influenced by both family members' and friends/coworkers at the same rate (57.69%), service holders are mostly influenced by commercials (59.37%), and housewife are mostly influenced by both family members and commercials at the same rate (60%). Among the respondents in the income group less than BDT 30,000 or unemployed, the majority of the respondents are influenced either by family members or by friends/coworkers, but among the respondents in the income group more than BDT 30,000 are mostly influenced either by friends/ coworkers or by commercials. Respondents having HSC (60%) are mostly influenced by family members, relatives, & friends/coworkers but respondents having graduate (59.28%) are mostly influenced by

friends/coworkers, and respondents having undergraduate (58.08%) are mostly influenced by their family members.

Table 04 (Appendix 2) shows that out of 300 IT users, 46.7% use for movie watching, 61.3% uses for hearing music, 28% uses for playing games, 60.7% uses for preparing academic papers, 66.7% uses for internet access, 20% uses for research activity, 29.3% uses for web designing, and 52% uses for performing official activity. (As the usage pattern overlap, the percentage will not add up to 100. Example: A person using computer at work place may use it for accessing Internet, hearing music, and watching movies in addition to job requirement). These findings suggest that most of the respondents use IT products effectively.

Usage pattern of IT vary based on users demography. **Table 05 (Appendix 3)** shows that among gender both male respondents and female respondents mostly use IT product for accessing internet at the same rate (66.67%). This finding suggests that both male and female respondents use IT product effectively. Respondents, whose age is less than 25 years, use IT products for accessing internet, but respondents, whose age is 25 to 50 years, use IT products for doing office works. This finding suggests that all of the age group people use IT product effectively. Among professionals, the majority of the students (90.77%) use IT products for preparing academic papers, while the majority of the service holders (97.5%) and house wife (60%) use IT products for doing office activities and watching movies respectively. These findings suggest that students and service holders use IT product effectively but housewife does not use IT product effectively. Among different income group people, most of the people use IT products for accessing internet, preparing academic papers, doing office work, and hearing music. This finding suggests that user use IT product effectively. Respondents, having HSC, use IT product both effectively and ineffectively. But respondents, having undergraduate and graduate, use IT product effectively.

The result of the descriptive statistical analysis presented in **Table 06 (Appendix 3)** reveals that quality, according to mean score, is the most important criteria among IT users in Bangladesh followed by brand, service facilities, configuration, price, durability, product design, and service speed. However, to determine whether the mean score on the users' preference are above average (i.e. a score of more than 3) the following hypothesis has been tested for each variable separately. A general form of the hypotheses is stated below.

Null hypothesis: IT users in Bangladesh have an average preference for each IT product selection criterion (i.e. $H_0=3$).

Alternate hypothesis: IT users in Bangladesh have an above-average preference for each IT product selection criterion (i.e. $H_A>3$).

The *t-test* results (**Table 07, Appendix 4**) show that all of the variables have an above-average preference among the IT users in Bangladesh. However the *Chi-square test*

results (**Table 08, Appendix 4**) suggest that among the IT product preference criteria, configuration, speed of service, service facility, and quality depends on gender, age, profession, income, and education (at a significance level of 5%), brands depends on profession and income (at a significance level of 5%), price depends on income and education (at a significance level of 5%), product design depends on age, profession, education, and income (at a significance level of 5%), and durability depends on gender, education, and income.

Conclusions

IT sector has been becoming the most important sector in Bangladesh. The numbers of users of the IT are increasing very rapidly. Most of the IT users fall in the age category less than 35 years. The reasons might be short history of IT product used in Bangladesh. About half of the users under study fall in the income categories of BDT 5000-BDT 30000. Users' high concentration in this income category is consistent with the findings of age category since entry and mid level executives and professionals both in private and public sector of the age category less than 35 years tend to have a similar level of monthly income. 96.4% of the users under study were either undergraduate or graduate. Such findings indicate that highly educated people use IT more. Most of the users are influenced by their family members and friends/coworkers. Also it is found that young people, who are students or joined the job recently, are influenced by both of these groups. Most of the users use IT for internet access. It is also found that students and fresh executives, who are the critical mass of this study, use IT for accessing internet. Quality, according to mean score, is the most important criteria among IT users in Bangladesh followed by brand, service facilities, configuration, price, durability, product design, and service speed. All of the preference criteria under study have above average preference among IT users. Among users preference, quality, brand, service facilities, and product configuration have relationship with the entire demographic variable under study. From the conclusions of the study, the following recommendations can be reasonably forwarded for IT users in Bangladesh.

First, as young people, who are students or joined the job recently, mostly use IT. They are the critical mass for the IT. IT firms should concentrate its marketing mix on them. Such a technique will ensure attraction of them towards IT products and also retention of the people who are likely to remain long-term loyal customers.

Second, IT users are generally influenced by their friends/ co-workers and family members in case of purchasing/using IT products. As it is hard to measure the quality of the IT products before use, they take references from their friends and families about their past experience of using such product. Thus IT firms should focus on increasing the customer loyalty and use it as a competitive edge.

Third, as most of the IT users use IT products for accessing internet, IT firms should offer high quality internet accessories, such as updated hardware and software for both broadband and wireless internet connection, that enable the users accessing internet more quickly.

Finally, Quality of the product, brand, service facilities, and product configuration are the most important attributes to IT users purchase preference. So IT firms should make an appropriate blend of these attributes to provide an effective marketing offer.

References

- Bowen, J. W., & Hedges, R. B. (1993). Increasing service quality in retail banking. *Journal of Retail Banking*, 15(3), pp. 21-28.
- Cravens, David W. & Nigel F. Piercy (2008), Strategic Marketing, 9th ed., Mc Graw. Hill: International Edition, pp.
- Hansman, H., & Schutjens, V. (1993). Dynamics in market segmentation: a demographic perspective on age-specific consumption. *Marketing and Research Today*, 21(3), pp. 139-47.
- Jeeva Jose and Bindu Abraham (2010) Inference Model for Computer Literacy and Usage Pattern among Rural Population of Piravom Grama Panchayat, Ernakulam District, Kerala, India, *Journal of Social Science*, Vol.24(3), pp.
- Kotler, Philip & et al (2010), Marketing Management: A South Asian Perspective, 13th ed. Prentice-Hall: India, pp.
- Lichtenstein, S., & Slovic, P. (2006). The construction of preference. New York: Cambridge University Press, pp.
- Robert K. Merton - Biographical Memoirs (2007). *Proceedings of the American Philosophical Society* 148 (4): , pp. 506-517
- Scherer, K.R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44, pp. 695-729.
- Schiffman Leon G. & Leslie Lazar Kanuk (2010), Consumer Behavior, 9th ed. Prentice-Hall: India, pp.
- Stafford, M. R. (1996). Demographic discriminators of service quality in the banking industry. *The Journal of Services Marketing*, 10(4), pp. 6-22.
- Thompson, William; Joseph Hickey (2005). *Society in Focus*. Boston, MA: Pearson. ISBN 0-205-41365-X, pp.
- http://en.wikipedia.org/wiki/Consumer_behaviour as on January 15, 2011

Appendix 1

Table 1: Demographic profile

Variable		Categories	Percent
	Gender	Male	85.0
		Female	15.0
	Age	Less than 25 years	45.0
		25-35 years	50.0
		36-50 years	5.0
		More than 50 years	0.0
	Profession	Student	43.3
		Service	53.3
		House wife	3.3
	Income	Unemployed	11.7
		BDT 5,000-BDT 10,000	31.7
		BDT 10,000- BDT 20,000	3.3
		BDT 20,000- BDT 30,000	13.3
		BDT 30,000- BDT 40,000	11.7
		BDT 40,000- BDT 50,000	1.7
		More than BDT 50,000	26.7
	Education	HSC	1.6
		Undergraduate	51.7
		Graduate	46.7

Table 2: Reference group

	Frequency	Percentage
Family Members	168	56.0
Relatives	108	36.0
Friends/ Co-workers	172	57.3
Commercials	150	50.0

Appendix 2

Table 3: Cross tabulation of users' demography and users' reference group

Variable	Categories	Reference Group			
		Family members	Relatives	Friends/ Coworkers	Commercials
Gender	Male	55.69	35.69	58.63	49.41
	Female	57.78	37.79	55.55	53.33
Age (in years)	<25	58.52	32.59	58.52	48.15
	25-35	54.67	38.67	56.67	51.33
	36-50	46.67	40.00	66.67	53.33
	>50	00	00	00	00
Profession	Student	57.69	33.85	57.69	48.46
	Service	54.37	38.12	59.37	50.62
	House wife	60.00	30.00	40.00	60.00
Income (In BDT 000)	Unemployed	54.28	42.86	57.14	45.71
	5-10	60.00	32.63	56.84	48.42
	10-20	40.00	50.00	60.00	50.00
	20-30	57.14	32.05	55.00	57.50
	30-40	50.00	42.86	62.86	45.71
	40-50	60.00	20.00	40.00	80.00
	>50	56.25	35.00	60.00	50.00
Education	HSC	60.00	60.00	60.00	40.00
	Undergraduate	58.06	34.19	56.77	49.03
	Graduate	53.57	37.14	59.28	51.43

Table 4: Usage pattern

	Frequency	Percentage
Movie Watching(MW)	140	46.7
Hearing Music (HM)	184	61.3
Playing Games(PG)	84	28.0
Preparing Academic Papers (PAP)	182	60.7
Internet Use (IU)	200	66.7
Research Activity (RA)	60	20.0
Web Design (WD)	88	29.3
Performing Official Activity (POA)	156	52.0

Appendix 3

Table 05: Cross tabulation of user demography and usage pattern

Variable	Categories	Usage Pattern							
		<i>MW</i> (%)	<i>HM</i> (%)	<i>PG</i> (%)	<i>PAP</i> (%)	<i>IU</i> (%)	<i>RA</i> (%)	<i>WD</i> (%)	<i>POA</i> (%)
Gender	Male	45.49	60.78	27.84	61.57	66.67	19.21	28.63	51.76
	Female	53.33	64.44	28.89	55.55	66.67	24.44	33.33	53.33
Age (in years)	<25	46.67	59.26	28.89	61.48	67.41	19.26	26.67	18.52
	25-35	48.00	65.33	26.67	62.00	65.33	20.0	31.33	79.33
	36-50	33.33	40.00	33.33	40.00	73.33	26.67	33.33	80.00
	>50	00	00	00	00	00	00	00	00
Profession	Student	46.15	58.46	30.00	90.77	70.77	19.23	26.15	00
	Service	46.25	67.50	25.62	43.75	66.25	21.87	33.75	97.50
	House wife	60.00	80.00	40.00	00	20.00	00	00	00
Income (In BDT 000)	Unemployed	57.14	54.28	22.86	60.00	71.43	11.43	22.86	25.71
	5-10	45.26	61.05	33.68	65.26	61.16	23.16	26.31	15.79
	10-20	50.00	70.00	20.00	60.00	70.00	10.00	40.00	90.00
	20-30	47.50	75.00	20.00	55.00	75.00	15.00	37.50	50.00
	30-40	37.14	48.57	34.28	51.43	65.71	28.57	28.57	80.00
	40-50	40.00	60.00	20.00	60.00	40.00	20.00	40.00	80.00
	>50	45.00	62.50	26.25	62.50	66.25	20.00	30.00	76.84
Education	HSC	60.00	60.00	20.00	60.00	60.00	00	20.00	20.00
	Undergraduate	45.81	61.29	28.39	60.64	68.39	18.71	28.39	22.58
	Graduate	47.14	61.43	27.86	60.71	65.00	22.14	30.71	85.71

Table 6: Descriptive statistics for degree of preference for IT

User Preference	N	Mean	Std. Deviation	Std. Error Mean
Product Configuration	300	4.1367	.59932	.03460
Brand	300	4.2833	.52661	.03040
Price	300	3.9333	.51941	.02999
Service Speed	300	3.1800	.75465	.04357
Product design	300	3.4833	.50056	.02890
Durability	300	3.5167	.50056	.02890
Quality	300	4.3833	.55142	.03184
Service Facilities	300	4.1833	.69618	.04019

Appendix 4

Table 7: Result of test of hypothesis for above average preference on IT

User Preference	t	Sig.	Mean Difference	Conclusion
Product Configuration	32.850	.000	1.1367	H _A is established; H ₀ is rejected
Brand	42.210	.000	1.2833	H _A is established; H ₀ is rejected
Price	31.123	.000	.9333	H _A is established; H ₀ is rejected
Service Speed	4.131	.000	.1800	H _A is established; H ₀ is rejected
Product design	16.725	.000	.4833	H _A is established; H ₀ is rejected
Durability	17.878	.000	.5167	H _A is established; H ₀ is rejected
Quality	43.451	.000	1.3833	H _A is established; H ₀ is rejected
Service Facilities	29.440	.000	1.1833	H _A is established; H ₀ is rejected