IMPACT: International Journal of Research in Business Management (IMPACT: IJRBM)
ISSN(E): 2321-886X; ISSN(P): 2347-4572
Vol. 2, Issue 6, Jun 2014, 13-18
© Impact Journals

EFFECTS OF CUSTOMER DEMOGRAPHICS ON PERCEIVED FRUSTRATION TOWARDS 'INTERACTIVE VOICE RESPONSE SYSTEMS' OF MOBILE TELECOMMUNICATION SERVICES

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ABSTRACT

Interactive Voice Response system (IVR system) is the self service technology which provides the round the clock service for the customers. The purpose of the research paper is to identify and study the effect of certain demographic factors (gender, age and educational qualification) in relation to the customer perceived frustration. The paper used a structured questionnaire to obtain data from the IVR system users. Based on the collected data, the tools such as, independent sample t-test and ANOVA were utilized to analyse the relationship of demographic factors and perceived frustration. The paper found that IVR system users different age groups have a positive relationship on perceived frustration and whereas the gender and educational qualification does not have a significant effect on customers perceived frustration.

KEYWORDS: Interactive Voice Response System, Age, Frustration, Mobile Telecommunication, Chennai

INTRODUCTION

Customer Relationship Management (CRM) is defined as the process of acquiring, retaining and growing profitable customers (Farooqi and Dhusia, 2011). Companies strive hard to have a superior relationship with their customers' round the clock. Companies strategies the customer relationship and service plans uniquely. As mentioned by Chao, et al (2007), in the 21st century, CRM has been one of the greatest technological contributions to enterprises. Companies offer their customer service either through human or through technologies. Self Service Technologies (SST) has been the first to be used in recent scenarios. SST is a facility which enables consumers to seek the required information (service) without any assistance from the company's employees (Meuter, et al, 2005). SST includes many customized sub-systems. One among such system is Interactive Voice Response systems (IVR system). Interactive Voice Response system is a SST which provides an automatic customer service by technology rather than a human. Kumar, et al (2010) stated that, IVR system is a software application that allows a telephone caller to select options from voice menu. In IVR system, the standard voice menu or options is designed by the service providers according to their industrial requirement and the customers are urged to use the system according to their need.

Gooding (1996) highlighted that IVR system is an interactive system and it use pre-coded messages and accepts customer response from touch tone phones. Further Dyche (2002) mentioned that IVR systems provide round-the-clock service to the customers which are based on the customer response to questions typed on their phone keypad. It is to be noted that the customers can seek the IVR system service through two options available in IVR operation,

either by typing the response on the keypad or reply through saying the option (voice reply). However, in both the cases the IVR system is automatic and it is a technological service to its customers.

Many a times, IVR system is also used as a data collection tools by several companies, Cohen and Lemish (2003) Numerous clinical researches too use IVR system for collecting data for their research. Companies use technologies (IVR system) to make competence but often they forgo the personal connection with customers (Howard, 2010). In a similar way, IVR system is also a part of technology which lot of times fails to satisfy the customers rather it dissatisfies the customers in several aspects. As such, the customers get a negative feeling towards the IVR system and it results in frustration. Bushey, Joseph and Martin (2002) have explored that interface design style of IVR system should match the customer mental model, so as to make the customer satisfied of using the IVR systems.

Before studying further, it is worth to understand the term frustration. Popplestone and McPherson (1988) defined frustration as, "blocking or prevention of a potentially rewarding or satisfying act or sequence of behavior". Frustration is also a state of emotional stress characterized by confusion, annoyance and anger (Stagner, 1961). Customers feel frustrated whenever their expectations do not match with the actual performance. In a recent research attempt, Guchait and Namasivayam (2012) have added that frustration results from barriers to attain the goal and not from the failures to attain the goal. The barriers may erupt from numerous sources and where there are two broad categories of barriers such as internal and external barriers. Customer personal feeling or the ability may concern the internal barrier and the discomforts faced from the environment, technology or by any other source, etc may turn out to be as external barriers for customers.

It is a well known fact that, every customer may not have a hold on using technologies whenever the customers feel that, they are uncomfortable with the technologies, they get a negative feeling towards it. The negative feeling, developed initially would result in frustration. Bessiere, et al (2006) also highlighted that frustration is the emotional outcome of a negative technological experience. The inability of customers to use technology to use technology would make them feel uncomfortable and it influences the customers to avoid technology in future. The negative feeling towards technology is one of the major reasons behind customer frustration.

Unfulfilled goal leads to frustration and it lowers the customer satisfaction (Lazar et al, 2005). IVR system is evidently used by the service providers to provide customer service and eventually, customers should feel happy by utilizing the IVR system. But, in the recent scenario, it is very clear that companies force their customers to use technology and that troubles the customers to contact the service providers for solving the problems (or) to get information.

Further the, IVR system operation is also influenced by the demographic factors. According to the existing literature, the significant factors which usually effect in marketing studies are gender, age groups, educational qualification, income and marital status. Although a handful of researchers have attempted to study about IVR system usage, the present research is a new attempt to find the effect of customer demographics on the perception of IVR system service. Many industries and companies adopt Interactive Voice Response systems for their customer service initiatives. The present paper particularly focuses on the customer perception about the Mobile Telecommunication service providers' IVR system service in Chennai city. The effort of the current paper is to find the effect of customer demographical profiles on the IVR system usage. The paper considers the repeated customer demographical factors such as gender, age and educational qualification.

METHODS

Measures

The perceived frustration measure was solely developed for the current research, as the variable was not popularly discussed in previous researches. Further, this measure paved way to develop a new scale for measuring the variable. The developed frustration scale constituted a high Cronbach reliability value of 0.91. The various demographic variables such as gender, age and education were measured with categorical scale with 5-point Likert scale ranging from *Strongly Agree to Strongly Disagree*.

Sampling

In India, among the mobile telecommunication services, Chennai peaks the 22 mobile circles (Telecom Annual Report, 2013) and thus Chennai as the research location was chosen for the present research effort. Convenience sampling method was used to collect the data from the respondents and this study was mainly focused on the graduate phone users who use IVR system on self operating basis. Graduate users are particularly concentrated, as they have an elevated ability to understand, evaluate and infer the information provided in IVR system than the others. Survey approach was adopted to collect the data from the respondents with a structured questionnaire.

Before finalizing the questionnaire for data collection, its reliability and validity of the questionnaire have to be analyzed so as to be a strong instrument for measuring the variables (Li, 2013). Pilot test was conducted among 50 respondents to check the understanding and reliability of the questionnaire. Usually, Cronbach alpha above 0.70 is accepted to be a superior scale for measuring the variable (Nunnally, 1978; Hair et. al., 2010). The pilot study Cronbach alpha was 0.91 which is above the standards. To ensure the content validity of the questionnaire, the instrument was also tested with a marketing academic and industrial expert who is more experienced in Customer Relationship Management areas. After receiving the positive opinion of the experts on questionnaire, it was finalized for further data collection.

Data Collection

Mobile recharge shops and mobile customer care centers which attracts the mobile telecom customers were chosen randomly from Chennai. The respondents were initially enquired about their readiness to respond for the questionnaire and based on their readiness to respond, responses were collected. The total number of responses collected was 800 and of which eliminated due to incomplete information and 627 responses were chosen for further analysis.

RESULTS AND DISCUSSIONS

The present data possess 627 samples for the further study. Out of the 627 responses, 71.5% were male and 28.5% were female. As per the age wise sample, 16 – 25years, 26 – 35years, 36 – 45years, 46 – 55 years, greater than 56years, the proportion were 22.8%, 23.8%, 25.4%, 23.3% and 4.8% respectively. Further, among the total number of respondents majorly, 70.7% were graduates, post graduates were 21.9% and 7.5% were above post graduates.

Table 1 in appendices depicts the independent sample t-test result of the study in detail. An independent sample t-test was performed to compare the two gender groups i.e., male and female with respect to customers perceived frustration on using mobile telecommunication IVR system. As per the analysis, since the p-value is greater than 0.05, there is no significant difference between male and female with respect to level of frustration on operating IVR system.

Age of respondents play a vital role on IVR system usage. Table 2 in appendices interprets that the p-value is greater than 0.05 and therefore the hypothesis is rejected at 1% level of significance. Hence, it is concluded that there is significant difference between age groups with respect to level of frustration on operating IVR system. Duncan multiple range test reveals that, the age group of 16 – 25, 36 – 45, 46 – 55 and 55 and above are significantly different from the alone age group of 26 – 35 years. In general, mobile device is aggressively used by 26 – 35 years of age group of people and may be that is the reason for IVR system users in the age group of 26 – 35years is significantly different from the other four age groups.

Analysis of variance was used to find the significance from the educational qualification and customer frustration after using IVR system. From the table 3 in appendices, it is highlighted that, since the p-value is greater than 0.05, the hypothesis is accepted. There is no difference between customer perceived frustration on using IVR system and the education level. Based on the respondents mean score of above post graduation level of education, have high opinion towards frustration on using IVR system. Since, comparatively, it is also that customers who have higher education may not be interested to use IVR system and may get more frustrated feeling towards using IVR system.

The demographic profiles of IVR system users shows, majority of the respondents were male. The respondents were normally distributed and 36 – 45years of respondents were constituted more (25. 4%) in the total respondents. In the IVR system users' education level, graduate respondents were remarkably high with 71.7% and which were predominantly more than the post graduates and above post graduate respondents.

The demographic factors essentially play a vital role on using IVR system, the present research attempt identified which gender, age group and the educational level of IVR system users do perceive frustration after using IVR system. In a different research attempt, Bhatnagar (2012) also found a positive relationship between gender and frustration among B.Ed trainees. Whereas, in the present research attempt, reflects that gender and educational qualification of mobile telecommunication IVR system users, does not have any significant relationship with customers frustration emotion.

It also indicates that the two gender and all the three educational levels have a similar emotion and without any difference according to the gender and education. But, the age desperately affects the IVR system users' frustration level. The research findings showed that there is a strong significance of age groups with regards to customer frustration after using IVR system. The customer perception on frustration level of mobile telecommunication IVR system users differs with different range of age groups.

CONCLUSIONS

As age group of IVR system users play a significant role on frustration, the IVR system menu could be customized. According to the age group, the priority of the instruction (or) information can also be sorted out and therefore, an optimum menu could be designed by the service providers for their diversified age group of customers.

It can be concluded from the research results that, neither the gender nor the educational qualifications of IVR system users play a role on customer frustration. Therefore, the mobile telecommunication companies while designing the IVR systems in future may consider the age (groups) of customers rather considering the gender and educational qualifications.

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APPENDICES

Table 1: Independent Sample t-Test for Gender with Perceive Frustration

Gender	N	Mean	S.D	t-Value	p-Value
Male	448	69.49	14.974	0.911	0.362
Female	179	68.29	14.608		

Table 2: ANOVA Test for Age Group with Perceived Frustration

Age Group	N	Mean	S.D	f-Value	p-Value
16 – 25	143	67.04[a]	15.162	6.182	0.000**
26 – 35	149	74.28[b]	13.479		
36 – 45	159	67.28[a]	14.673		
46 – 55	146	68.05[a]	14.691		
55 & more	30	68.87[a]	16.876		

Table 3: ANOVA Test for Educational Levels with Perceived Frustration

Educational Qualification	N	Mean	S.D	f-Value	p-Value
Graduation	443	68.55	14.934	1.483	0.228
Post Graduation	137	70.14	14.172		
Above Post Graduation	47	71.91	16.054		