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DEMOGRAPHY CORRELATES BEHAVIOURAL INTENTIONS OF CUSTOMERS FOR ADOPTION OF GAMIFICATION

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Abstract

E-commerce deals not only with the buying and selling of products or services online but it also includes many other activities, which are being performed on this platform, e.g. advertising and promotions. Many digital marketers have started thinking on these lines to promote their products and services online and have come up with many innovative ideas of promoting the business with the use of wide array of upcoming technologies and techniques for enhancing the efficiency and effectiveness of their business process. Gamification is one such technique and it seems, it is proving to be one of the most successful promotion techniques for many companies, but the adoption of same by the customers depends upon various factors like consumer behaviour, demographic factors etc. Therefore, it is very important for any marketers to know the demography of the customers who are willing to adopt the gamification as mode of getting discounts while shopping online, Hence, an attempt is made through this study to understand the same for which different t test and ANOVA test were done accordingly to know difference in the behavioural intentions among different demographics.

Keywords:

Behavioural Intentions;

Gamification;

Demograpgy;

Online shopping;

Age;

Occupation;

Gender.

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1. Introduction

Today most of the things are being operated digitally through e-commerce and giving rise to the different types of commerce or transactions like business to business (B2B) where transactions happen between two corporates (Kotler, 2005). Business to Government (B2G) where transaction happen between the government and a corporate, Business to customer (B2C) where transaction happen between corporate and customers, customer to customers (C2C) where transactions happen between customer to customer e.g. Bidding

The recent trends in online retail industry has shown that along with the sale, various online or digital promotion techniques are being used by the e-retailer to promote their product, to increase engagement of customers, increase customer loyalty towards their brand etc. Doyle and Stern (2006) stated that by using online sales promotions companies get their targeted results faster than traditional promotional activities which may take much more time than online promotions. Lamb et al. (2009) stated that online or digital promotions proved to be more cost-efficient and effective as compared to the offline promotions. As it has been noticed that consumers are more attracted and get stimulated to buy online products with online line promotions on the company websites (Percy et al., 2009). There are various kinds of promotion techniques which are being used by various marketers, but according to Lamb et al. (2009), the most effective ones which any marketer can implement to get immediate results are free shipping and coupons. Schultz (1998) found that online promotions are itself a big business in the United States that generate lots of money every year, e.g. it was found that in 1975, 40 billion coupons were distributed in the U.S. which increased to approximately 300 billion in 1995. According to him, in the U.S., most of the consumer product companies allocate 75 percent of the marketing budget to their promotion activities. There is huge scope for this promotion industry running independently, but to bridge this gap, it needs concrete planning, careful choice and proper implementation of related techniques and technologies for promoting the brand. It being an emerging and biggest opportunity for e- retailers, it will also be a challenge for the e retailers due to high expectation from the customers (Blakney, & Sekely, 1994). Therefore, this study is conducted with the objective to find the demography of the consumers having intentions for adoption of gamification.

Gamification is innovative concepts in marketing to promote a brand and to keep customers attracted therefore like other innovation; this also depends on the consumer acceptance of new technique as marketing channel (Zichermann, (2013). Therefore, for a well-informed divination, it is obligatory to know the adoption and behaviour of the consumers for such new innovations. Companies are well aware of the competitive advantage of the new techniques like gamification which they use for promoting their brand and most importantly its possibility to gain efficiency in completing the company's goal to increase customer engagement and loyalty (Donald, 2014). The customer service sector like e-retailing have many challenges in front of them like reducing the resolution time, promoting self-service, bringing more conversion rate of customers towards the e-commerce, attracting more and more customers to their websites and brand, increasing loyalty of customers towards their brand etc.

The emergence of technology has created different ways of online promotions like e coupons which are published on web pages, where the users can print these coupons for redemption at physical store where as the m coupons are the form of e-coupons which are send by SMS, MMS or Bluetooth and can be redeemed on physical as well as online shopping (Blundo, Cimato & De Bonis, 2005), Loyalty awards are where every online purchase get some points which can be used later for purchase of some other merchandise (Bisen, Singh, & Anand, 2013). Till 2010, gamification was not in much use within the industry but after 2010 it started gaining popularity among different industries. The term gamification becomes more popular after its appearance in several books like Zichermann (2013) "Game Based Marketing" in which the author supported and explained the game mechanics in marketing as a part of loyalty programs. It is found that adopting any new technique or technology largely depends upon the personal characteristics of the customers (Blackwell, Miniard, & Engel, 2001). Though there are considerable studies done on the consumer behaviour related to the adoption of gamification, but relating the behavioural intentions with demographic characteristic of the customer are limited therefore, this research concentrated on the finding the same.

2. Research Method

As this survey is based on the behavioural intentions related to the demographic characteristics of the customers for adoption of Gamification. This study considers all the errors and aims to

collect the sample by various different means like face to face interview and mail surveys and various other online Medias. The primary data for this research is obtained through face to face interview and the use of an e-mail survey.

The area selected for study is Bangalore, with sample size of 400 which was selected with the judgemental method of sampling. The data was checked for any outliers with box plot method which revealed 33 cases as outliers. The final number of the responses considered for the data analysis was 367. Data was checked for the normality. Skewness of all the items of the data is within the acceptable limits of -1 to +1. Kurtosis value for most of the items lies between -1 to +1. The data is normally distributed and nearly symmetrical.

Different t test and ANOVA test were done accordingly to know difference in the behavioural intentions among different demographics. This section represents the results of independent sample t test and the ANOVA for different demographics like occupation, age and gender.

3. Results and Analysis

The data is analysed for both descriptive and inferential statistics. Descriptive analysis includes the demographic analysis and the inferential statistics includes the various T test like independent T test and ANOVA analysis including demographic and behavioural intentions.

Table:1 Profile of respondents

Measure	Scale	Frequency (N) Total = 367	Percentage (%)
Gender	Male	180	49
	Female	187	51
Age	≤ 24	161	43.9
	25-35	127	34.6
	36-45	47	12.8
	46 – 55	17	4.6
	55 and above	15	4.1
Occupation	IT Professional	64	17.4
	Self- employed	30	8.2
	Student	182	49.6
	Homemaker	28	7.6
	Other	63	17.2

3.1. Independent T Test for Gender and Behavioural Intentions

For this research the t test is done to see whether there is any difference in the means for the behavioural intentions among males and females

Table 2: *Group Statistics*

	Gender	N	Mean	Std. Deviation
BI	Male	180	3.3444	1.03262
	Female	187	3.2317	1.05172

From the table 2 Numerically it can be said that, there is a very little difference in the mean values for males and females (0.1127) but whether this difference is significant enough, to come to conclusion for difference in behavioural intentions of males and females, is given by the independent test.

Table 3: Independent Samples Test

			BI Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F		.415	
	Sig.		.520	
t-test for Equality of Means	T		1.036	1.036
	Df		365	364.855
	Sig. (2-tailed)		.301	.301
	Mean Difference		.11272	.11272
	Std. Error Difference		.10884	.10881
	95% Confidence Interval of the Difference	Lower	-.10133	-.10125
		Upper	.32676	.32668

Table 3 shoes that the p values are 0.52 which is more than the accepted significance level of 0.05 therefore it is concluded that both males and females have the equal variances. i.e. There is no significant difference between the means for the behavioural intentions among males and females.

3.2. Analysis of Variance (ANOVA) for Age and Behavioural Intentions

For this research, ANOVA is done to know whether there is any difference in the behavioural intentions towards adoption of gamification among different age groups.

Table 4: ANOVA – Group statistics

	N	Mean	Std. Deviation
18-24 yrs	161	3.1739	.99867
25-35 yrs	127	3.4304	1.08144
36-45 yrs	47	3.3688	1.12768
46-55 yrs	17	3.5882	.67216
56 yrs and above	15	2.6889	.97155
Total	367	3.2870	1.04250

In the table 4, it is noticed that the mean values for the age group 46-55 is highest i.e. 3.58 and for age group 56 and above is lowest i.e. 2.68. Therefore, numerically it is noticed that there is difference in the mean values for behavioural intentions among different age groups.

Table 5: Test of Homogeneity of Variances and ANOVA

Levens's test and ANOVA					
Levene Statistic	df1	df2	Sig.		
1.774	4	362	.134		
ANOVA	Sum Squares	ofDf	Mean Square	F	Sig.
Between Groups	11.895	4	2.974	2.790	.026
Within Groups	385.873	362	1.066		
Total	397.768	366			

Table 5 shows that the p values are significant (.026) therefore, it can be concluded that the difference in the means of the different groups is significant. i.e. there is significant difference in the behavioural intentions of customers of different age group.

Table 6 Post Hoc test – Multiple comparisons

(I) Age	(J) Age	Mean Difference (I-J)	Sig.
18-24 yrs	25-35 yrs	-.25653*	.037
	36-45 yrs	-.19488	.256
	46-55 yrs	-.41432	.116

	56 yrs and above	.48502	.083
25-35 yrs	36-45 yrs	.06165	.727
	46-55 yrs	-.15779	.554
	56 yrs and above	.74156*	.009
36-45 yrs	46-55 yrs	-.21944	.453
	56 yrs and above	.67991*	.027
46-55 yrs	56 yrs and above	.89935*	.014

From the table 6 it is noticed that the difference in the means is highest between the age group of 46-55 and 55 and above followed by the age group 25-35 and 56 and above. The means for the behavioural intentions for the age group 18-24 significantly differs from the age group 25-25 with the p value 0.037 that is less than 0.05 levels of significance. Similarly, the means for the age group 25 -35 significantly differs from age group 55 and above with p values 0.009, age group 36-45 from 56 and above with p value 0.027 and 45- 55 with 55 and above with p value 0.014. It can be concluded that the age group 55 and above significantly differs from the all other age groups and does not show any positive behavioural intentions towards the adoption of gamification whereas the other age group has shown the positive behavioural intentions towards the adoption of the gamification

Table 7 Tukey's b

Age	N	Subset for alpha = 0.05	
		1	2
56 yrs and above	15	2.6889	
18-24 yrs	161	3.1739	3.1739
36-45 yrs	47		3.3688
25-35 yrs	127		3.4304
46-55 yrs	17		3.5882

Table 7 shows the results from the Tukey's B test which indicates that there are majorly two sub groups where respondents from different age group can be divided based on their behavioural intentions for adoption of Gamification. It is noticed that age group 56 yrs and above lies in 1st group with no intentions for using gamification and the age groups from 25 years and above lies

in second group with positive intentions to adopt gamification as mode of getting discounts. Whereas age group below 24 years lies in both where they have mixed intentions for adopting gamification.

3.3. Analysis of Variance (ANOVA) for Occupation and Behavioural Intentions

Similar to the age group, another ANOVA is done to know whether there is any difference in the behavioural intentions towards adoption of gamification among different occupational groups

Table 8 ANOVA – Group statistics

	N	Mean	Std. Deviation
IT professional	64	3.7865	.92270
Self-employed	30	3.2667	1.13934
Student	182	3.1007	.98122
Homemaker	28	3.4405	1.02662
Other	63	3.2593	1.14134
Total	367	3.2870	1.04250

Table 8 shows that the mean values for the IT professional is 3.786 with standard deviation 0.922, for self-employed mean is 3.266 and standard deviation is 1.13, for student mean is 3.10 and standard deviation is 0.981, for homemaker mean is 3.44 and standard deviation 1.02 and for others mean is 3.2 and standard deviation 1.14It is noticed that the mean values for IT professional is highest i.e. 3.78 and for student is lowest i.e.3.1. Similar to age here also difference in the means for behavioural intentions is noticed.

Table 9: Levene's test and ANOVA

Levene Statistic	df1	df2	Sig.		
1.763	4	362	.136		
ANOVA	Sum Squares	ofdf	Mean Square	F	Sig.
Between Groups	23.000	4	5.750	5.554	.000
Within Groups	374.768	362	1.035		
Total	397.768	366			

The p value is 0.136 which is more than the accepted significance level of 0.05 therefore it can be concluded that the different occupational groups have the equal variances and the assumption of equal variances is not violated. From the table 9, it is noticed that the F value is 5.554 and p value is 0.000 which is less than the accepted significance level 0.05 therefore it is concluded that the means of the behavioural intentions for different occupational groups are significantly different.

Table10: Post Hoc test – Multiple comparisons

(I) Occupation	(J) Occupation	Mean Difference (I-J)	Sig.
IT professional	Self-employed	.51979*	.022
	Student	.68573*	.000
	Homemaker	.34598	.134
	Other	.52720*	.004
Self-employed	Student	.16593	.408
	Homemaker	-.17381	.516
	Other	.00741	.974
Student	Homemaker	-.33974	.101
	Other	-.15853	.287
Homemaker	Other	.18122	.433

From the table 10, it is noticed that the difference in the means is highest between the occupational group of IT Professional and Student followed by the IT professional and the homemaker and others. The means for the behavioural intentions for the IT professional significantly differs from the self-employed with the p value 0.022, student with p value 0.000, and others with p value 0.004 as these are less than 0.05 level of significance. It can be concluded that the IT professional significantly differs from the all other occupational groups and show strong positive behavioural intentions towards the adoption of gamification in comparison to the other occupations.

Table 11 Tukey's b

Occupation	N	Subset for alpha = 0.05	
		1	2
Student	182	3.1007	
Other	63	3.2593	3.2593
Self-employed	30	3.2667	3.2667
Homemaker	28	3.4405	3.4405
IT professional	64		3.7865

From table 11 noticed that students lie in 1st group with little intentions for using gamification and the IT professional's lies in second group with strong positive intentions to adopt gamification as mode of getting discounts, whereas other occupational group lies in both subgroups with mixed intentions for adopting gamification

4. Conclusion

The t test analysis was done to see the intentions of the respondents to use gamification as one of the mode of getting discounts while shopping online. As the results show that there is no difference in the intentions of the males and females for using gamification and it can be justified with the observation while interviewing the respondents, as, in this digital world, male and female both are equally educated and are tech savvy. Therefore, females, who are aware of or are made aware of this techniques showed positive intentions for acceptance of gamification.

On the other hand, it was found that there is difference in the behavioural intentions of different age groups as respondents above 56 years and above have clear intentions of not using gamification as mode of getting discounts, as most of them are not much comfortable with the use of IT and shopping online and are willing to stick to their traditional ways of shopping and getting discounts through various seasonal offers and bargaining. All other age groups have shown the positive intentions of using gamification in future. The age group 24 and below has positive but little intentions of using gamification. The reason behind this was revealed during the interaction with these age groups as they are more tech savvy and get excited to see a new product of their choice at affordable prices from different website and, therefore, make purchases

immediately when they get product of their choice at satisfactory price. Similarly, difference in the intentions was found among respondents from different professions. The results show the IT professional are strongly intended to use gamification for their online shopping discounts, which can be explained as these people belong to the same industry and are highly aware of this technique and its benefits. However other groups also have positive intentions to use gamification. The house wives also have shown strong positive intentions to use this technique as explained earlier the females are also equally educated and are aware of IT usage and during personal interaction they revealed that it is convenient for them to shop online and save time. It appeared very exciting to them to use the points gained after completing the goals for getting discounts while shopping online. Students have shown positive but little less intention to use gamification. As explained earlier, the young generation is more tech savvy and shop online as and when they get products of their choice at their satisfactory prices.

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