BRAND LOYALTY OF FEMALE CONSUMERS
- STUDY CARRIED IN SFÂNTU GHEORGHE AND THE SURROUNDING AREAS

Assistant Ph.D Erika KULCSÁR
"Babeş Bolyai" University of Cluj Napoca
Email: elerhetetlen@yahoo.com
Ec. Szende BARTIS

Abstract:
Today, the role of women in society has significantly changed, they work as men so they have their own income that they can spend as they wish and as necessary. We need to pay particular importance to consumer behaviour of female and as such it should be treated as a particular segment. This paper aims to study the simultaneous effects - based on data from quantitative marketing research – that the independent variables generate on the dependent variable. The variables introduced in the analysis of variance are: How often do you drink coffee /tea every day?, Age, Income, Last graduated school. We applied the hi square test we in order to analyze the links between two variables measured with nominal scale. The variables analyzed are: Do you always buy the some brand and The highest level of education achieved.

Keywords: analysis of hypothesis, brand, loyalty, behaviour, squared hi, ANOVA

Introduction

According to Philip Kotler the brand is a seller's promise to consistently provide buyers with specific products, benefits and services. The best brands convey a warranty of quality of goods and services. (Kotler, 2001, p.558)

One of the first advantages of branding is that the loyalty of the clients is enhanced. When branding is in place, clients are more likely to remain loyal to their brand, even when the promise of another brand is appealing or our brand is facing quality problems on the short-run. (Barbu, Ogarcă et al, 2010, pp. 31-38).

Loyalty can induce a higher perceived quality, stronger associations, or increase awareness. (Moisescu and Bertoncelj, 2010, pp. 137-145).

As we well known consumer behaviour of goods and services differs by gender.

According to the trends that have an influence on consumer behaviour, four categories of female behaviour have been formed:

- The girl in search of experiences (she is enjoying every moment of her life and she is always in search of thrilling). The main characteristics that define her are spontaneity, diversity, desire of continuous entertainment. Regarding the professional plan the career is not important yet but to win so that expenses are covered;

- Ecological spiritist - the essential characteristic that defines her is the desire for self - realization. For her communication is extremely important, they rather read than watch TV, they are romantic and they are attracted by foreign cultures;

- Modern housewife, she proudly assumes her position of housewife, providing support for a spouse who is

already successful. She buys quality products and she has a rather classical style. The role as mother is very important for her;

- The modern Amazon is innovative, she is interested in her future, individual, seeking success, but she is not a cold careerist without feeling as the 90's woman who was very interested in power. She buys practical things, she has an elegant style. For her family, social life and services are important. (Törőcsik, 2006).

Since consumer behaviour of female is an extremely broad topic, it can not be studied universally because of the fact that the intensity of loyalty may differ from one product category to another, it may show a different intensity. (Margetics, 2004, pp. 3-72).

Based on the study conducted by Ogilvy Action Romania which was conducted on a sample of 39 stores around the world and which included six categories of products: - beer, coffee, shampoo, body care products, soft drinks and cigarettes – the main findings for Romania are:

➢ Up to 8% of customers purchase a class without priory planning this. The probability that the phenomenon occurs is high for categories such as coffee, beer, body care products. It was found that soft drinks, snacks, sausages, coffee and beer are product categories where the possibility to change the brand depending on the communication in the stores is very high.

Based on these results we were interested in how powerful and intense is the relationship between female consumers, namely their loyalty to coffee (in the area of Sfântu Gheorghe and surrounding areas). In the research carried out by us being also included tea because both products belong to the same product category. We chose this category of products so that the quantitative marketing research does not include only a thin "layer" of female

consumers as in such case we wouldn't have reached an overall picture about the loyalty of women to the brand.

During the research 130 female were surveyed. The quantitative research took place between 15.01.2009 - 15.03.2009. Due to the fact that the quantitative marketing research aimed at analysing the brand loyalty of female consumers and , only those women who regularly consumed coffee or tea who are loyal to the brand purchased at a certain level were asked to fill in the questionnaires. The investigation began with addressing several filter questions: Do you frequently consume coffee or tea? Is there any favourite brand of coffee or tea? If both questions had been answered in the affirmative, they were asked to fill in the questionnaires. The investigation took place in Sfântu Gheorghe and surrounding areas.

According to the data obtained through questionnaires, 84% of women regularly consumed coffee and 16% tea. Most of them consume daily coffee or tea 2-3 times a day and most of them buy their preferred brand of coffee or tea once a month. In Sfântu Gheorghe and the surrounding areas the most preferred brand of coffee is Jacobs and the most preferred type of tea is the tea made from herbs.

Female consumers buy based on information acquired. It is less important to them if the products are fashionable. The great majority of women claim to buy the product already tried. They are not interested in the activity of the producer and for them it is not important if the company is involved in charitable activities, this does not affect them when choosing a brand.

The brand personality is important for female consumers, since the vast majority of respondents considered that the mark purchased is unique. By analyzing the primary data collected we found an influence of generations to this category of products: 79.62% of the respondents stated that they consume

the same brand of coffee as the older generation, where with the 72.72% of respondents consume the same brand of tea as the older generation.

Test χ^2 (squared hi)

Test χ^2 is classified as non-parametric test or a test with the free distribution as they are also called. (Lefter,2006). It is used to analyze the connections between two variables measured in nominal scale.

It aims to highlight the significance of the differences between the observed frequencies (obtained from the sample) and some frequencies based on an assumed distribution of population, called expected frequencies.

For application of the test with the bivariance analysis, the following assumptions represent the starting point:

H_0 - Between the observed frequencies and the expected ones there are no significant differences, implying that the two variables are not considered related

H_1 - There are significant differences between the observed frequencies and the expected ones, which means that there is a connection between the analyzed variables. (Constantin, 2006)

Next we shall try to highlight the connection between the last graduated school and the option to always buy the same brand.

Table 1

Frequencies observed and the expected ones in the contingency table

Do you always bay the same brand? * The highest level of education achieved Crosstabulation

			The highest level of education achieved			
			Vocation School	High School	University degree	Total
Do you always bay the same brand?	yes, if I can find it in the store where I usually do the shopping	Count	3	9	8	20
		Expected Count	2.9	10.9	6.2	20.0
	yes, even if I have to go to another store	Count	5	19	12	36
		Expected Count	5.3	19.7	11.1	36.0
	I sometimes try other brands but I always	Count	11	43	20	74
		Expected Count	10.8	40.4	22.8	74.0
Total		Count	19	71	40	130
		Expected Count	19.0	71.0	40.0	130.0

From the analysis of the differences between the studied frequencies and the expected ones

there are differences in all subgroups formed by crossing the two variables (table 1).

Table 2

Critical Report for χ^2 test

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.512[a]	4	.825
Likelihood Ratio	1.495	4	.828
Linear-by-Linear Association	.723	1	.395
N of Valid Cases	130		

a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 2.92.

In order to make the decision the value of χ^2_{calc} = 1.512 (table 2) is compared to the theoretical value in the table for a signification level α = 0.05 and a number of liberty degrees df = 4. The critical value in the table $\chi^2_{0,05;4}$ = 9.448. Since χ^2_{calc} = 1.512 < $\chi^2_{0,05;4}$ = 9.448 the null hypothesis is accepted as a probability of 95% cannot be guaranteed for the fact that at the level of the entire population there will not be inconsistencies between the expected and the observed frequencies. In other words, the differences between the observed frequencies and the ones expected existing at the level of the sample are not significant statistically for guaranteeing with a 95% probability that there is a connection between the two variables. In conclusion there is no connection between the last graduated school and the option to buy every time the same brand.

The same decision may be drawn based on the minimum signification level for which the alternative hypothesis may be accepted, that may be read in the „Asymp. Sig. (2-sided)

column in the table 13. It shall bear the value of 0.825. It is higher than α = 0.05 therefore H_1 shall be rejected and H_0 shall be accepted according to which between the two variables there is no connection.

The analysis of variance with two independent variables
Economic phenomena can be very rarely explained based on the influence of a single factor. Starting from this shortcoming, the analysis of variance may also consider the simultaneous influence of several independent variables on a dependent variable. (Constantin, 2004)

Next we shall present ANOVA with two variables which are not in interaction.

Dependent variable: How often do you drink coffee/tea every day?

Independent variables: Age and income of respondents

The results of the variance analysis are presented below:

Table 3

Means – variable "Age"

1. Age

Dependent Variable: How often do you drink coffee/tea every day?

Age	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
between 20-29 years old	1.600	.067	1.468	1.732
between 30-39 yers old	2.181	.175	1.834	2.529
between 40-49 years old	1.900	.137	1.629	2.171
between 50-59 years old	1.581	.192	1.201	1.962
between 60-65 yeras old	2.372	.417	1.546	3.197

At the level of the analyzed sample the existence of some differences between the average daily consumption of coffee or tea with the three groups formed based on age is observed (table

3). Thus, people between 20-29 years old consume daily, on average, 1.60 (times) coffee/tea. Examined people between 30-39 years old consume every day, on average, 2.18 (times)

coffee/tea, those surveyed aged 40-49 years consume daily on average 1.90 (times) coffee/tea, the respondents classified within 50-59 years old consume daily on average 1.58 (times) coffee/tea and finally those aged 60-65, on average, 2.37 (times) the daily consumption of coffee or tea.

The system also creates a confidence interval for these averages at the level of the total population.

Table 4
Means – variable "Income"

2. Income

Dependent Variable: How often do you drink coffee/tea every day?

Income	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
less than 440 RON	1.879	.178	1.527	2.231
between 441-640 RON	1.644	.149	1.349	1.938
between 641-840 RON	1.968	.171	1.630	2.306
between 841-1040 RON	1.555	.120	1.318	1.793
between 1041-1240 RON	2.252	.227	1.802	2.701
between 1241-1440 RON	2.294	.210	1.879	2.710
more than 1441 RON	1.896	.168	1.563	2.228

The averages of the daily consumptions of coffee/tea, in case of the revenues variable are also different at the level of the sample (table 4)

Table 5
Grand Mean

3. Grand Mean

Dependent Variable: How often do you drink coffee/tea every day?

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
1.927	.106	1.718	2.136

In table 5 the general average of the daily consumption of coffee /tea, not taking account of the grouping factors, as well as the estimation of a confidence interval for this average at the level of the total population. Thus, we can guarantee with a 95% probability that the general average of the daily consumption of coffee/tea at the level of the total population shall be between 1.72 and 2.14.

Table 6

Two – ways ANOVA results – variables are not in interaction

Tests of Between-Subjects Effects

Dependent Variable: How often do you drink coffee/tea every day?

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	345.193[a]	11	31.381	96.230	.000
Var.26	4.932	4	1.233	3.781	.006
Var.28	7.060	6	1.177	3.608	.003
Error	38.807	119	.326		
Total	384.000	130			

a. R Squared = .899 (Adjusted R Squared = .890)

In the ANOVA table there are the values of squared amounts for the variances due to each of the two independent variables, the mean squares for each of these components and F_{calc} values for testing the differences between calculated averages at the level of the categories of each independent variable.

Thus a separate testing is carried on the influence of each of the independent variables on the dependent variable (table 6).

With the "age" variable F_{calc} = 3.781 > $F_{0,05;4;119}$ =2.447, so the alternative hypothesis H1 is accepted, according to which age has a significant influence on the frequency of daily consumption of coffee/tea.

Similarly, the "income" variable F_{calc} = 3.608 > $F_{0,05;6;119}$ =2.175, which

leads us to conclude that income significantly influence the frequency of daily consumption of coffee/tea.

It can also be noticed that in both cases, minimum levels of meaning that can accept H1 is less than 0.05, which means that we reject H_0 according to which the average daily consumption for that independent variable categories are equal and H_1 is accepted which means that there are differences between the averages registered at the level of the respective ANOVA categories with two variables between which there are interaction relationships.

To make a complete analysis of the influence of income and age on the frequency of daily consumption of coffee or tea, we have studied the effect of the interaction between independent variables on dependent variable.

Table 7

Two – ways ANOVA results – variables in interaction

Tests of Between-Subjects Effects

Dependent Variable: How often do you drink coffee/tea every day?

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	352.421[a]	20	17.621	61.379	.000
Var.26	6.641	4	1.660	5.783	.000
Var.28	9.076	6	1.513	5.269	.000
Var.26 * Var.28	7.227	9	.803	2.797	.005
Error	31.579	110	.287		
Total	384.000	130			

a. R Squared = .918 (Adjusted R Squared = .903)

In the ANOVA table there are data corresponding to the variance due to the interaction effect (the distribution manner of age * income). The sum of squares in this case is 7.227, with a total of 9 degrees of freedom df = (r-1)(c-1).

F_{calc} = 2.797, (table 7) which is higher than the critical value in the table $F_{0,05;09;110}$ = 1,96. The hypothesis H_1 is accepted according to which the effect of interaction significantly influences the dependent variable. This is also observed from the low levels of significance Sig .= 0.005 <0.05. Since the interaction effect influences the dependent variable, it will be based on this model, namely the model with two variables which have interaction relationships.

ANOVA with three variables which have interaction relationships

ANOVA with three independent variables involves decomposition of total variance in several explained variances related to the effect of each of the independent variables. If there is interaction between these variables, the decomposition continues, being highlighted the variances due to the interaction between the independent variables taken two by two, and the variance due to simultaneous interaction of the three independent variables. (Constantin, 2006)

We have added another independent variable representing the last school graduated.

We started from the assumption that this variable may influence the frequency of the daily consumption of coffee/tea.

The analysis of variance with three variables in interaction relationships is presented in the following table.

Table 8
ANOVA with three variables in interaction

Tests of Between-Subjects Effects

Dependent Variable: How often do you drink coffee/tea every day?

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	363.951[a]	35	10.399	49.271	.000
Var.26	9.420	4	2.355	11.159	.000
Var.28	2.609	6	.435	2.060	.065
Var.27	2.911	2	1.456	6.897	.002
Var.26 * Var.28	3.405	7	.486	2.305	.033
Var.26 * Var.27	.088	2	.044	.208	.812
Var.28 * Var.27	4.878	8	.610	2.889	.006
Var.26 * Var.28 * Var.27	.377	2	.189	.894	.413
Error	20.049	95	.211		
Total	384.000	130			

[a]. R Squared = .948 (Adjusted R Squared = .929)

ANOVA table contains information on the variances due to each independent variable and on the variances due to the effects of the interaction between variables (table 8).

It can be noticed that the variable newly introduced in the model (var27) significantly influences the dependent variable, the application of the F test leading us to a minimum level of

significance that can be accepted H_1 less than 0.05 ("Sig .= 0.002")

But the influence of "revenue" becomes insignificant ("Sig. = 0.065> 0.05). This is due to the effects of interaction between variables which decreases the effect of each variable separately.

Some effects of the interaction between age and income and the interaction between income and last graduated school have significant effects on the dependent variable.

Conclusion

Following analysis of variance it can be concluded that both age and income have a significant influence on the frequency of daily consumption of coffee or tea. Also the effect of interaction between the two independent variables significantly influence the dependent variable. In conclusion, the inclusion of the third variable (the last school graduated) brings added value to the model.

By applying the hi test we concluded that there is no link between the last graduated school and the option to always buy the same brand of coffee or tea.

As a final conclusion of the quantitative marketing research it can be stated that taste and quality are the most important attributes in choosing a brand of coffee or tea for female consumers in Sfântu Gheorghe and the surrounding areas. It is also true that female consumers are not necessarily faithful to the brand consumed as only 27.69% of the respondents regularly buy the same brand, the vast majority of the gentle sex purchase from time to time also other brands, but they always return to the brand that they have previously used.

REFERENCES

Barbu, Mihail Cătălin, Ogarcă Radu and Mihai Răzvan Constantin Barbu (2010), "Branding in small businss", *Management&Marketing*, vol VIII, 1, 31-38.

Constantin, Cristinel (2006), *Marketing Information Systems - marketing analysis and data processing applications in SPSS*, Braşov: Infomarket Publisher.

Kotler, Philip (2001), Marketing Management – Analysis, Planning, Implementation and Control , Bucharest: Publisher Teora.

Lefter, Constantin (2004), *Marketing research - theory and applications*, Braşov: Infomarket Publisher.

Margetics, Marianna (2004), The brand loyalty, http://elib.kkf.hu/edip/D_10635.pdf.

Moisescu and Andrej Bertoncelj, "A comparative study of the relationship between brand durable and non-durable products", *Management&Marketing*, 2, 137-145.

Törőcsik, Mária (2006), *Consumer-behaviour - Trends*, Budapest: Publisher Akadémia.