Loyalty Programs in Czechia, Slovakia, and Russia

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Abstract

Establishing and curating customer loyalty is an ever more important feature of contemporary marketing. In order to strengthen this aspect, companies frequently develop specialized loyalty programs. This paper aimed to provide better understanding of this topic by means of quantitative analysis of consumers' socio - demographic and lifestyle factors influencing the participation in loyalty programs. In this study, we addressed diverse types of loyalty programs and different types of product categories. This paper compared and put into context information on customer behaviour in three countries: our research is based on primary data collected in Czechia, Slovakia, and Russia. We provided a detailed and empirically oriented interpretation of the results obtained. At the same time, the tables with summarized output would allow readers to draw their own conclusions, given the socio - demographic or product category of interest. New information concerning customer loyalty programs is presented, which may be utilized both in further academic research and in business marketing.

Keywords: customer, loyalty program, product category, lifestyle factors, market research, primary data

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For today's consumers, the choice of goods and services is enormous. Existing academic surveys of customer acquisition and retention may be summarized into two key implications: First, it is more expensive to acquire a new customer than to retain an existing one. Second, even a small reduction in customer attrition rates may lead to significant positive impacts on profits (e.g. Murthi, Steffes, & Rasheed, 2011). Hence, customer loyalty is one of the core topics of modern marketing that covers both rational aspects (price, availability, warranty conditions) and emotional aspects (staff behaviour, selling space arrangement, etc.) (see Kursunluoglu, 2014).

Research studies and papers often bring forward the question of intensity (degree) of customer loyalty. Different aspects of loyalty are investigated for use by corporate marketers and as building stones for follow-up studies by academic researchers. Both theoretical studies and commercial marketing analyses agree in defining customer loyalty as a process that starts through customer's need for a product or service and - ideally - result in creating emotional bonds for a particular brand. McMullan (2005) described the steps towards loyalty as follows: first step - purchasing becomes more than a random event; second step - purchasing is related to a behavioural response; third - characteristic behaviour related to purchase is being expressed over a period of time; fourth - the retailer should be able to measure customer behaviour either on the level of an individual customer or a customer segment.

Loyalty programs (LP) are among the most used marketing tools for creating and retaining customer loyalty (Saili, Mingli, & Zhichao, 2012), with the purpose of rewarding current customers for buying products or using

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services, securing their loyalty in the long term (Quinn, 1996) and acquiring confidence among potential customers. LPs aim at influencing customers who have already bought goods or used services towards becoming permanent and loyal customers. LPs are useful, especially in product sectors and categories with a higher frequency of repeated purchases, typically for fast moving consumer goods (FMCG) and selected services (Srivastava & Sharma, 2013). Odell (2011) and other authors of studies who have focused on LPs emphasized a few key features of successful LPs :

(i) Plainness : Program parameters should be understood by customers ; superfluous and redundant steps should be avoided.

(ii) Reward Frequency : Organizers should control (limit) the time span the loyalty action(s) customers are required to undertake in order to obtain their reward.

(iii) Cost : The program does not have to be expensive for the organizer (in relative terms). However, program participants should feel as getting more attention than those customers who are not involved.

(iv) Measurability : The program organizers should be able to monitor the impact on sales and profit, the amount of positive references, likes, etc.

By means of quantitative analysis, this paper contributes to the knowledge of customer groups who participate in LPs, characterizing their lifestyles and relations to the product categories that the LPs refer to.

Literature Review

Odell (2011) found that the "average top 100 brands saw a 46% decline in "highly loyal" customers, who make at least 70% of their category purchases from a single brand over the course of a year" (p.1). Customer loyalty is an extensive topic comprising of both rational and emotional aspects.

According to Yi, Jeon, and Choi (2013), "the impact of LPs has shown divergent findings: some researchers claim that it is difficult to alter consumers' purchasing patterns and hence increase sales with LPs, whereas others argue that firms can increase sales by utilizing LPs" (p. 1239). Allaway, D'Souza, Berkowitz, and Kim (2014) also addressed this topic by concluding that "the design of a LP involves creation of a full framework of components intended to work together to influence customer behaviour and reinforce both behavioural and attitudinal loyalty" (p. 19). Many authors (see e.g. Chavadi, Hiremath, and Hyderabad, 2014) have emphasized the importance of converting disloyal customers into loyal customers.

"Investigations to determine whether benefits derived from a LP could influence customer satisfaction, trust, commitment and loyalty are critical for the identification and proper design of key aspect of LPs along with advancing management practice" (Omar, Wel, Musa, & Nazri, 2010, p.6). As Shoemaker and Lewis (1999) asserted, "Loyalty programs are a marketing strategy based on offering an incentive with the aim of securing customer loyalty to a retailer. Rewards are often related to the purchasing frequency and such programs may be referred to as frequent purchase programs" (as cited in García Gómez, Gutiérrez Arranz, & Gutiérrez Cillán, 2006, p. 387).

"A reward scheme of a loyalty program entails a deliberate use of incentives to encourage a continuous relationship with a firm (Yi et al., 2013, p. 1239). Carbonara (2015) summarized three simple loyalty-program rules as follows: "Define what you want for your company, determine what your customers expect, and implement the right systems to deliver" (p.1). Steinhoff and Palmatier (2016) also stressed the importance of clarity in LPs: "Program-rule clarity suppresses both the negative bystander and the positive target effects, while reward visibility enhances both types of effects" (p. 88).

Due to the complexity of customer loyalty dynamics and determinants, we stress the importance of analyzing individual customers' satisfaction across various types of LPs and various product categories as well as focusing on the profile of a typical LP user (in terms of demographic and lifestyle factors).

As Wedel and Kamkura (2000) asserted :

> Segmentation, the notion that nearly any market can be divided up into several behavioural, demographic, and psychographic groups with potentially different reactions to marketing stimuli is one of the cornerstones of marketing theory and practice and one of the most researched topics in the marketing literature. (as cited in Allaway et al., 2014, p.19)

The effect of product categories on customer loyalty was confirmed by Ho and Svein (2013), who focused on the relationship between satisfaction and repurchase loyalty at the product category level. González-Benito and Martos-Partal (2012) reached a similar conclusion and stressed out the importance of product categories for LP participation.

Research Questions

In today's highly competitive market environment, companies invest a significant effort to build up loyalty schemes and programmes in order to retain their customer portfolios. The description of target groups by means of lifestyle factors is very useful for marketing purposes. It is convenient for a company to imagine a typical customer in a broader context, that is, not only from the viewpoint of "hard facts" of basic socio- demographic characteristics, like age, living place, education, but to be able to see even the profile based on "soft information". An essential part of such soft information is comprised by purchasing habits, technologies used, cultural background, work preferences, free time activities, and attitudes toward issues such as nature conservation, etc. For example, Chung and Hsu (2012, p.304) stressed out the benefits of quantified lifestyle factors' knowledge for tasks such as developing market strategies or market segmentation.

In this paper, we aim to answer two main research questions:

(i) Research Question 1: What are the socio - demographic and lifestyle factors that characterize consumers who participate in LPs?

(ii) Research Question 2 : For customers who participate in LPs, are there any differences in motives for the program usage that would be determined by product category?

Data Handling and Research Methodology

Our research on LP usage focuses on socio - demographic and lifestyle factors that influence the adoption and usage of LPs by consumers. We distinguish consumers who do not use LPs from active LP users, that is, those who report using at least one LP. Furthermore, active LP users are stratified into three groups - consumers actively using at least one LP (Lp1+) ; consumers actively using at least three LPs (LP3+) ; and finally, LP5+ consumers. For the purpose of our study, LP3+ group is defined as a subset of LP1+ as all LP3+ consumers also count as LP1+ (by analogy, LP5+ is a subset of the other two groups).

We take into consideration the following product categories where LPs are usually used: (a) drugstore, (b) master domestic appliances, (c) small domestic appliances, (d) electronics, (e) hobby & garden, (f) toys,

(g) clothing, (h) shoes, (i) food & beverages, (j) restaurant, (k) cinema. This classification reflects the practice when products are categorized for purpose of retail audit - this view is also supported in literature (see e.g. Oliver, 1999).

For consumers who used LPs, we explored their motives in this respect. We categorized the following reasons for LP usage: (a) One-off discount based on accumulated "bonus points", (b) Voucher for a next purchase, (c) Immediate discount upon presenting LP, (d) Small gifts /toy, pendant, etc./, (e) Lottery /car, holiday tour, etc./, (f) Discounts on products selected by the seller, (g) Discounts on customer's favourite merchandise, (h) information & news.

Our research is based on primary data collected from three selected countries: the Czech Republic (CR), the Slovak Republic (SR), and the Russian Federation (RF). Given practical data-gathering limitations and RF's inherent cultural and economic diversity, only the Moscow Region and the Southern Federal Region were used for this research paper. A complex anonymized survey was performed, gathering respondents' sociological data and answers to questions related to consumer habits, LP usage in different product categories, free-time preferences and attitudes (including self-positioning) toward diverse categories of work and leisure activities. Different types of closed and open-type questions were used in the survey: quantitative (mostly interval-based), qualitative (Yes/No), and Likert scale (different degree spans).

The survey was performed by researchers at the University of Economics, Prague. The research team was led by university employees and teachers who coordinated and supervised the work of students specializing on marketing research. This study is part of a long-term project of systematic surveys and analyses of customer loyalty (see. e.g. Tahal & Stříteský, 2014a). An overall summary of the survey methodology is provided in the Table 1. Stratified/quota sampling was based on gender, age segmentation, and location (domicile) of the respondents. The empirical analysis (based on logistic regression and related tests and methods) is adjusted to control for stratified/quota sampling. Hence, our methodology ensures interpretability of the results and conclusions may be drawn with respect to the population. Data-validation "Runs" test was used to test the H_0 of random order of observations against the H_1 of potential survey mishandling (see Gibbons & Chakraborti, 2003).

Table 1. Survey Description

Characteristic	Survey value/description
Population	Retailer consumers, age 15+
Sampling method	Stratified/quota sampling
Sample size	490 respondents
Sampling date/period	November 2015
Sampling location	The Czech Republic, the Slovak Republic, Russian Federation
Survey method	Combination of personal and online data collection. Data gathered by a research team at the University of Economics, Prague

In the survey, the respondents were asked questions about their LP usage : how many LPs they used (four categories were used : 0, 1+, 3+, and 5+) ; what were their reasons for LP usage (eight types of benefits/reasons for use, as described above) ; and what were the product categories (11 categories, described above) where LPs were used. For the sake of quantitative analysis, most of the surveyed data were transformed into binary variables, including answers gathered from interval-based questions and answers to Likert scale-based questions. For example, respondents were presented a statement "I like trips/walks in nature". Respondents were asked to position themselves on a 5- degree Likert scale ("1" = this statement describes me very well,… ,

"5" = this statement does not describe me at all). Both the actual extent and frequency of nature trips/walks and its subjectively perceived importance to one's lifestyle are addressed here. Surveyed answers to these questions were used to produce two binary variables: : LS_nature_yes equals 1 for those who reported "1" on the Likert scale and zero otherwise ; LS_nature_no equals 1 for those who dissociated themselves from the statement by answering "5" (and it equals zero otherwise). This way, we gathered all the cases where respondents had a strong position - either positive or negative - towards a specific activity or lifestyle: e.g. watching TV, playing sports, reading magazines, being a vegetarian, etc. To finalize the trips/walks in nature example, we should note that all the remaining Likert scale answers ("2" to "4", i.e., not a very strong position of the respondent) were implicitly combined into one reference category that can be used in the analysis. In a rather similar manner, other lifestyle factors addressed in the survey along with the socio - demographic categorization and other relevant questions were used to produce 90 variables for subsequent analysis.

The Research Question 1 was addressed as follows: From the 490-row and 90-variable dataset gathered from the survey, we selected three dependent variables describing LP usage and a total of 68 potential/conceivable explanatory variables with socio - demographic, lifestyle, and other relevant information concerning the respondents. As we aim to identify, quantify, and describe the influence of diverse factors on LP usage, we need a robust algorithm to select a relatively small, yet representative, informative, and consistent set of explanatory variables for our estimation. For this purpose, we combine the forward-stepwise selection (a potentially suboptimal algorithm that produces nested sequences of models) with the non-parametric random forest approach to regressors' importance evaluation. Differences in outputs from the two methods are analyzed in order to detect any potential sub optimality in the stepwise algorithm. This combined approach allows for assessing the importance of explanatory variables in a way that takes prediction accuracy into account while observing computational feasibility. The brute-force search for a true optimum specification in model (1) is computationally inaccessible as it would require an estimation and evaluation of a total of 3×2^{68} models, while the stepwise method only requires some 3×68^2 models to be evaluated and we used 5.000 trees for each of the three random forests evaluated. Although our approach does not guarantee the best model setup possible (at least in theory), it may be regarded as an acceptable approximation with a relatively low potential for sub optimality.

For detailed description and comparison of all the selection methods mentioned, see Hastie, Tibshirani, and Friedman (2009).The variable importance evaluation process described was used to generate a consistent model specification as outlined in equation (1):

$$y_i = \beta_0 + \beta_1 Female_i + \beta_2 SVK_i + \beta_3 RUS_i + \beta_4 Age\_15\_24_i + \beta_5 Educ\_Uni_i + \beta_6 LS\_Paycard\_yes_i + \beta_7 LS\_Cons\_loan\_yes_i + \beta_8 LS\_greenfing\_no_i + \beta_9 LS\_nature\_yes_i + \beta_{10} LS\_Active\_drive\_no_i + \beta_{11} LS\_exotics\_yes_i + u_i \qquad (1)$$

where,
y_i is a binary dependent variable - three different dependent variables are used with the right hand side (RHS) of the equation and ,therefore, three different equations are estimated using the model (1) : $LC\_Used\_1\_plus_i$ is a baseline dependent variable that describes consumers who actively use LPs (i.e. consumers who use at least one LP : LP1+). $LC\_Used\_3\_plus_i$ describes a subgroup of LP1+ respondents who actively use at least three LPs. Our last dependent variable is $LC\_Used\_5\_plus_i$ and we use it for quantification of socio - demographic and lifestyle factors that are associated with strong LP usage. On the RHS of (1), β_j are the coefficients to be estimated through logistic regression (see Davidson & MacKinnon, 2009, pp.454-465). $Female_i$ is a binary explanatory variable distinguishing between female and male respondents, $Age\_15\_24_i$ is a binary indicating the 15-24 age group (upon variable importance evaluation as described above, all age ranges 25+ are combined into a single base category). SVK_i and RUS_i describe the residence of the respondents : the Slovak Republic and the Russian Federation (the Czech Republic serves as the reference category). Respondents with a university degree are

discerned using *Educ_Uni$_i$* (people with basic and secondary education are combined into a single base category). *LS_Paycard_yes$_i$* is a lifestyle variable that indicates whether the *i*-th respondent uses pay cards (credit and debit) frequently, and *LS_Cons_loan_yes$_i$* determines whether respondents are willing to take consumer loans. *LS_greenfing_no$_i$* marks respondents who dissociate themselves from gardening (growing fruits and vegetables, lawn mowing, etc.), and *LS_nature_yes$_i$* has been introduced above. *LS_Active_drive_no$_i$* discerns people who dissociate themselves from driving a car (both the actual car driving volume and its subjectively perceived importance are addressed here). *LS_exotics_yes$_i$* identifies respondents who like exotic holidays and travels. Finally, u_i is the potentially heteroskedastic random element.

The Research Question 2 is addressed using a methodologically similar approach: For the 265 respondents who were active LP users, we want to analyze the differences in motivations for LP usage that would be determined by the product category where LP is used. For this purpose, we construct a separate regression model :

$$y_i = \beta_0 + \beta_1 LC\_U\_Drug_i + \beta_2 LC\_U\_HoApp_i + \beta_3 LC\_U\_SmHoApp_i + \beta_4 LC\_U\_Electro_i$$
$$+ \beta_5 LC\_U\_HobGard_i + \beta_6 LC\_U\_Toys_i + \beta_7 LC\_U\_Cloth_i$$
$$+ \beta_8 LC\_U\_Shoes_i + \beta_9 LC\_U\_FoodBev_i + \beta_{10} LC\_U\_Restaur_i + \beta_{11} LC\_U\_Cine_i + u_i \qquad (2)$$

where,
y_i is a binary dependent variable. Separate regression models are estimated for eight different dependent variables describing the reasons for LP usage, as categorized at the beginning of this section : for (a) One off discount based on accumulated "bonus points," we create a binary dependent variable *LP_cumul_disc$_i$* that equals 1 if the respondent uses LPs for this purpose and 0 otherwise. For LP-usage motives (b) to (h), analogous pattern is used to produce dependent binaries. All the explanatory variables in equation (2) relate to the product categories where LPs are used by consumers (LP users). Again, the classification has been outlined at the beginning of this section : for the category (a) Drugstore, we create dummy regressor *LP_U_Drug$_i$* that determines whether the *i*-th respondent uses a LP in the Drugstore product category. For products in the categories (b) to (k), binary explanatory variables are created using identical approach. It should be noted that equation (2) does not use any of the socio - demographic or lifestyle factors as explanatory variables. Those regressors are used in equation (1) to determine the probability of success such as : $P(LP\_Used\_1\_plus_i = 1 | x_i^T)$. On the other hand, equation (2) serves for a different purpose: for those respondents who did use LPs (265 out of the 490 sample size), we want to quantify the relationship between product categories (regressors) and motives for LP usage (dependent variables). The logistic function used for estimation of the β_j coefficients in equations (1) and (2) may be expressed, see equation (3), as :

$$P(y_i = 1 | x_i^T) = F(x_i^T \beta) = exp(x_i^T \beta) / [1 + exp(x_i^T \beta)], \qquad (3)$$

where,
$P(y_i = 1 | x_i^T)$ is the probability of success, given the observed row vector of explanatory variables x_i^T. $F(x_i^T \beta)$ is a simplified notation for the logistic function $exp(x_i^T \beta) / [1 + exp(x_i^T \beta)]$ ensuring that all fitted values of the dependent variable lie within the <0, 1> interval. For a logistic regression, the direction of the effect of change in the explanatory variable x_j on the probability of "success" in the dependent variable is always determined by the sign of the corresponding β_j coefficient. However, the magnitudes of the individual β_j coefficients are not particularly informative by themselves, given the nonlinear nature of the logistic function. The effect of a change in x_j on the probability of "success" for the *i*-th respondent must be calculated individually: it is a composite function of β_j, all the remaining coefficients in vector β and all the observed values of the explanatory variables for the *i*-th respondent(x_i^T). Hence, for the *i*-th respondent and a chosen binary explanatory variable, say x_k, the

partial effect from changing x_k from 0 to 1 (while holding all other explanatory variables unchanged) may be simply calculated as :

$$\Delta F(.) = F(\beta_0 + \beta_1 x_{1,i} + \cdots + \beta_{k-1} x_{k-1,i} + \beta_k) - F(\beta_0 + \beta_1 x_{1,i} + \cdots + \beta_{k-1} x_{k-1,i}), \qquad (4)$$

where the $F(.)$ functions come from (3). In the expression (4), we may note that the β_k coefficient is present when $F(.)$ is evaluated for $x_k = 1$ and omitted for $x_k = 0$. The expression (4) may be easily evaluated using the sample estimates of β_j (commonly denoted as b_j) at the individual level. However, for model interpretation purposes, we need to summarize the information in equation (4) across all individuals, that is, for $i = 1, 2, \ldots, n$. This may be done using the average partial effect (APE) statistics, where the expected partial effect of changing a given binary regressor x_k from 0 to 1 (*ceteris paribus*) is calculated for each of the survey respondents and then the average value $APE(x_k)$ is reported along with its variance/standard error and significance statistic. Consistent estimates of $APE(x_k)$ for binary regressors may be obtained by evaluating the expression :

$$APE(x_k) = n^{-1} \sum_{i-1}^{n} [F(b_0 + b_1 x_{1,i} + \cdots + b_{k-1} x_{k-1,i} + b_k) - F(b_0 + b_1 x_{1,i} + \cdots + b_{k-1} x_{k-1,i})]. \qquad (5)$$

Using expression (5), APEs may be calculated for all binary regressors x_j in our models (1) and (2). Although all regressors in models (1) and (2) are binary, the specification chosen provides enough control for diverse observed factors that it allows for a straightforward interpretation of individual APEs ; a situation analogous to the ignorability of treatment assumption (as in Wooldridge, 2010, p. 908).

Analysis and Research Results

First, our analysis concentrates on answering the Research Question 1. Given the choice of socio - demographic and lifestyle explanatory variables, the model (1) was estimated for the binary dependent variables describing whether consumers used LPs. Three groups (Lp1+, LP3+, and LP5+) are used for stratification of the quantity of LPs used: differences are identified and interpreted. All the estimated logistic models based on (1) are statistically significant at the 5% significance level and provide reasonable prediction accuracy. Because individual estimated coefficients of the logistic regressions are not very informative - except for their signs - we skip the regression output tables from this article and focus on the APE values and their interpretation. All estimation outputs omitted from this article can be obtained from us upon request, along with supporting plots and raw data.

In Table 2, we report APE values calculated for all the selected explanatory variables and for all three levels of LP usage. The individual $APE(x_j)$ values are reported along with their standard errors (heteroskedasticity corrected values) and *p*-values. Columns in Table 2 are organized by the amount of LP involvement (LP1+, LP3+, and LP5+), thus allowing for a simple comparison of APEs between regressors in adjacent columns.

For interpretation purposes, we shall use the *LP_Used_1_plus* dependent variable (LP1+ group) as an example. Given the estimation results, we may conclude that gender plays a statistically significant role in determining an active LP user : women are almost 13 % more likely to be active LP users, that is, likely to use at least one LP program. This result (and all the results presented in Table 2 and Table 3) may be interpreted *ceteris paribus* - given all other explanatory variables explicitly defined in the model. There is no significant difference in LP usage between Czech Republic (reference group) and Slovak Republic. However, consumers in the RF are about 21 % less likely to be active LP users. People aged 15 to 24 years are 12.3 % less likely to use LPs as compared to the reference group of people aged 25 years and older. With this sole exception, consumer age seems to have little effect on LP use : the variable *Age_15_24* has no significant effect on *LP_Used_3_plu*s and

Table 2. Estimated APEs of Individual Regressors for Different LP Usage Categories

	LP_Used_1_plus	LP_Used_3_plus	LP_Used_5_plus
Female	0.1298 *	0.2070 *	0.0649 *
(standard error)	(0.0444)	(0.0416)	(0.0254)
[p-value]	[0.0035]	[0.0000]	[0.0108]
SVK	0.0224	-0.0215	-0.0017
	(0.0547)	(0.0484)	(0.0340)
	[0.6821]	[0.6577]	[0.9594]
RUS	-0.2098 *	-0.1067 ·	-0.0439
	(0.0603)	(0.0544)	(0.0324)
	[0.0005]	[0.0500]	[0.1749]
Age_15_24	-0.1228 *	-0.0337	-0.0238
	(0.0564)	(0.0530)	(0.0295)
	[0.0296]	[0.5245]	[0.4201]
Educ_Univ	0.1342 *	0.0687	0.0364
	(0.0455)	(0.0420)	(0.0241)
	[0.0032]	[0.1016]	[0.1314]
LS_Paycard_yes	0.0734	0.1071 *	0.0125
	(0.0449)	(0.0421)	(0.0261)
	[0.1020]	[0.0110]	[0.6325]
LS_Cons_loan_yes	0.1915 *	0.1843 *	0.0177
	(0.0684)	(0.0777)	(0.0461)
	[0.0051]	[0.0177]	[0.7004]
LS_greenfing_no	-0.1012 ·	-0.0634	-0.0265
	(0.0525)	(0.0471)	(0.0321)
	[0.0539]	[0.1777]	[0.4099]
LS_nature_yes	0.0655	0.0915 *	0.0545 *
	(0.0450)	(0.0415)	(0.0266)
	[0.1454]	[0.0276]	[0.0401]
LS_Active_drive_no	-0.0934 ·	-0.0425	-0.0427
	(0.0518)	(0.0483)	(0.0280)
	[0.0714]	[0.3795]	[0.1270]
LS_exotics_yes	0.0241	0.0480	0.0732 *
	(0.0480)	(0.0461)	(0.0325)
	[0.6164]	[0.2972]	[0.0242]

Note: * - coefficient significant at $\alpha = 0.05$; · - coefficient significant at $\alpha = 0.1$.

LP_Used_5_plus dependent variables (LP3+ and LP5+ groups). Also, further age group stratification (adding age groups 25-34 years and 35-49 years with a 50+ reference group) proved to be statistically insignificant and thus it was removed from the model (1). Similar conclusions may be drawn for the relationship between education and LP usage. Consumers with a university degree are 13.4 % more likely to use LPs (dependent

variable *LP_Used_1_plus*). However, the effect of education is not statistically significant for the LP3+ and LP5+ groups and neither of the other education levels show statistical significance when included to the models. Information on consumer earnings (four earnings-based categories are used in the survey) does not provide predictive power to the model (1). Hence, none of the earnings-related explanatory variables is included.

Focusing on the lifestyle factors, consumers who reported they would take consumer loans (explanatory variable *LS_Cons_loan_yes*) are 19.2 % more likely to use LPs. Also, such consumers are 18.4 % more likely to belong to the LP 3+ group as compared to those who were not willing to take consumer loans. The explanatory variable *LS_greenfing_no* describes people who dissociated themselves from gardening (growing fruits, vegetables, lawn mowing, etc.). Such respondents are 10.1 % less likely to use LPs as compared to the reference group which combines active gardeners and respondents without a strong position on the subject. Similarly, dissociation from driving a car is linked to a decrease in probability of active LP use by 9.4 %. Both *LS_greenfing_no* and *LS_Active_drive_no* are only significant at the 10% significance level. Regressors *LS_nature_yes* and *LS_exotics_yes* do not have a significant influence on the dependent variable *LP_Used_1_plus* in specification (1) ; however, they bear a predictive power for the classification of LP3+ and LP5+ individual members.

Female consumers are always more likely to be LP users. This difference is most prominent for the LP3+ group: there is a 20.7% increase in probability of using three or more LPs. We did not identify any differences in propensity to LP usage between the Czech Republic and the Slovak Republic. On the other hand, LPs are less used by consumers from the Russian Federation *(ceteris paribus)*. For the remaining results presented in the Table 2 and not discussed explicitly, readers may draw their own conclusions based on the estimates provided and the socio - demographic/lifestyle factor of their interest.

Next, we turn our attention to customers who actively used LPs and to the Research Question 2. Equation (2) serves for identification and quantification of differences in motives for LP usage that are determined by product category. In the earlier section, we provided a classification of the eight main motives for LP use, as well as the classification of the 11 product categories where LPs are commonly used. The Table 3 summarizes the APE values for all given dependent variables (motives for LP usage), consistently calculated across all selected regressors (product categories).

All underlying logistic regression models for the results presented in Table 3 are statistically significant at the 5% significance level and provide reasonable prediction accuracy. However, with Table 3, we face some specification and interpretation limits. First of all, the sample size used for estimation is reduced significantly (*n* = 265 of active LP users instead of the whole *n* = 490 sample of respondents). Also, model specification and interpretation is limited due to the selection of explanatory variables - we are unable to use the socio - demographic and lifestyle regressors as in Table 2. Apart from statistical significance considerations for most of the regressors from equation (2), we face potential sample selection bias. Although approaches such as Heckman's two-stage regression or hierarchical regression models are available (see e.g. Davidson & MacKinnon, 2009, pp.470-499), those did not yield statistically significant and interpretable information for our data.

The results presented in the Table 3 may be explained using the example of *LC_cumul_disc* dependent variable. Consumers who used LPs in the Master domestic appliances product category (variable *LC_U_HoApp*) are 20.2 % less likely to be motivated by : (a) One-off discount based on accumulated "bonus points". On the other hand, using LPs in the Hobby & garden category is associated with a 21.5 % increase in probability for "success" in the *LP_cumul_disc* dependent variable. Consumers who used LPs in the Electronics (*LP_U_Electro*) and Clothing (*LP_U_Cloth*) categories are 13.5 % and 12 % more likely to be motivated by (a). For a second example, we turn our attention to the small domestic appliances product category (*LP_U_SmHoApp*). Active LP users who used their LPs program in this product category are 20.5 % more likely

Table 3. Estimated APEs of Individual Regressors for Different Motives of LP Usage

Product category	motives of LP usage							
	cumul disc	disc vouch	memb disc	small gift	lottery	disc by sell	discon favs	Informa tion
LP_U	0.0021	0.1183·	0.1199·	0.0181	-0.0319	0.1088·	0.1800 *	0.0361
Drug	(0.0539)	(0.0623)	(0.065)	(0.0524)	(0.0496)	(0.0609)	(0.0580)	(0.0536)
	[0.9683]	[0.0578]	[0.0651]	[0.7299]	[0.5207]	[0.0740]	[0.0019]	[0.5013]
LP_U	-0.2017 *	-0.1367	-0.2183 *	-0.0825	0.0356	-0.0115	0.0355	-0.1452 *
HoApp	(0.0999)	(0.1005)	(0.1077)	(0.0755)	(0.0860)	(0.1002)	(0.0848)	(0.0575)
	[0.0435]	[0.1737]	[0.0427]	[0.2748]	[0.6792]	[0.9086]	[0.6756]	[0.0115]
LP_U	-0.0918	-0.1297	0.2046 *	-0.0383	0.0955	-0.2213 *	-0.2504 *	0.1966 *
SmHoApp	(0.087)	(0.0999)	(0.0883)	(0.0912)	(0.0931)	(0.1015)	(0.0975)	(0.0981)
	[0.2912]	[0.1944]	[0.0204]	[0.6741]	[0.3049]	[0.0293]	[0.0102]	[0.0450]
LP_U	0.1345·	0.2342 *	0.0952	0.1789·	-0.0277	0.2997 *	0.2812 *	-0.0599
Electro	(0.0757)	(0.0833)	(0.0759)	(0.0938)	(0.0823)	(0.0834)	(0.0769)	(0.0769)
	[0.0757]	[0.0049]	[0.2095]	[0.0566]	[0.7367]	[0.0003]	[0.0003]	0.4358
LP_U_	0.2147 *	0.1137	0.0716	0.0365	0.0442	-0.0673	0.0830	-0.0262
HobGard	(0.0508)	(0.0701)	(0.063)	(0.0613)	(0.0610)	(0.0748)	(0.0617)	(0.0609)
	[0.0000]	[0.1045]	[0.2557]	[0.5519]	[0.4684]	[0.3679]	[0.1784]	[0.6667]
LP_U_Toys	-0.0305	0.0596	-0.1645 *	0.0921	-0.0473	0.0045	-0.0333	-0.0288
	(0.0673)	(0.0748)	(0.0703)	(0.0654)	(0.0597)	(0.0735)	(0.0674)	(0.0646)
	[0.6507]	[0.4256]	[0.0192]	[0.1593]	[0.4282]	[0.9514]	[0.6211]	[0.6558]
LP_U	0.1197 *	0.1794 *	0.0695	0.1093·	-0.0131	-0.0158	0.2403 *	-0.0181
Cloth	(0.0606)	(0.0713)	(0.0696)	(0.0619)	(0.0565)	(0.0619)	(0.0652)	(0.0583)
	[0.0483]	[0.0118]	[0.3180]	[0.0774]	[0.8171]	[0.7984]	[0.0002]	[0.7564]
LP_U	0.0411	0.0502	0.0463	0.0553	0.0706	0.0567	-0.1168·	0.1012·
Shoes	(0.0572)	(0.0699)	(0.0684)	(0.0649)	(0.0597)	(0.0642)	(0.0612)	(0.0598)
	[0.472]	[0.4725]	[0.4983]	[0.3937]	[0.2373]	[0.3770]	[0.0562]	[0.0906]
LP_U	0.0319	0.1316·	0.0630	0.1834 *	0.1637 *	0.2802 *	0.2888 *	0.0559
FoodBev	(0.0605)	(0.0692)	(0.0691)	(0.0566)	(0.0408)	(0.0687)	(0.0667)	(0.0563)
	[0.5977]	[0.0573]	[0.3623]	[0.0012]	[0.0001]	[0.0000]	[0.0000]	[0.3207]
LP_U	0.0950	0.1196	-0.0465	0.1095·	-0.0193	-0.0069	0.0464	-0.0056
Restaur	(0.0603)	(0.0728)	(0.0635)	(0.0664)	(0.0596)	(0.065)	(0.0658)	(0.0650)
	[0.1149]	[0.1003]	[0.4639]	[0.0992]	[0.7459]	[0.9152]	[0.4809]	[0.9317]
LP_U	0.0366	-0.0456	-0.0472	0.1729 *	-0.0260	0.1185	0.0927	-0.0362
Cine	(0.0682)	(0.0826)	(0.0719)	(0.0740)	(0.0627)	(0.0722)	(0.0717)	(0.0661)
	[0.5910]	[0.5805]	[0.5118]	[0.0195]	[0.6784]	[0.1009]	[0.1959]	[0.5838]

Note: * - coefficient significant at α = 0.05; · - coefficient significant at α = 0.1.

Table 4. Pairwise Correlations Between Different Motives of LP Usage

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
(a) cumul_disc	1.0000	0.3713*	0.0184	0.2359*	0.1399*	0.1167˙	0.1781*	0.0770
(b) disc_vouch		1.0000	-0.0348	0.3154*	0.1271*	0.1131˙	0.3225*	0.0901
(c) memb_disc			1.0000	0.0039	0.1536*	0.1276*	0.1033˙	0.1630*
(d) small_gift				1.0000	0.2251*	0.2275*	0.2395*	0.1638*
(e) lottery					1.0000	0.1477*	0.1596*	0.3038*
(f) disc_by_sell						1.0000	0.3957*	0.1370*
(g) dis_on_favs							1.0000	0.1213*
(h) information								1.0000

Note: * - coefficient significant at $\alpha = 0.05$; ˙ - coefficient significant at $\alpha = 0.1$.

to be motivated by (c) Immediate discount upon presenting LP, and at the same time, they are 19.7 % more likely to use their LPs to obtain (h) Information & news. Also, for this product category, the motives (f) Discounts on products selected by the seller and (g) Discounts on customer's favourite merchandise are less likely to occur by 22.1 % and 25 %, respectively. Again, readers can make their own conclusions based on Table 3 and for the LP-types and product categories of their choice.

For proper interpretation of the results given in Table 3, it is essential to bear in mind that the $APE(x_j)$ values in different columns (across different LP usage motives) are mutually independent by the nature of our regression-based methodology. Fortunately, this does not directly alter the interpretation of APEs in Table 3. At the same time, due to the observed correlation between LP usage motives, some of the $APE(x_j)$ values for individual x_j regressors (i.e. APEs in rows) may be relatively similar in their signs, magnitudes, and significance levels.

The actual extent of the correlated nature of LP-usage motives may be observed from the Table 4, where pairwise correlations of the dependent variables from model (2) – that is, LP usage motives (a) to (h) – are summarized. As motives (a), (b), (c), (f), and (g) relate to different types of discounts, we find most of the stronger correlations among those LP usage motives (which share the same intrinsic discount-based nature). Other than that, we find relatively mild yet statistically significant correlations among most of the LP usage motives considered. We do not find supporting evidence for any mutually exclusive motivations for LP usage as none of the correlation coefficients in Table 4 is negative and statistically significant at the same time. Overall, information obtained from the Table 4 provides additional insight into the Research Question 2 as it is addressed by equation (2) and the results shown in Table 3. Our research strongly suggests that customers prefer price reduction (different types of discounts) to being rewarded by small gifts or lottery.

Managerial Implications

Retail marketing managers often have to solve the question of what kind of benefits they should offer to the customers for their brand loyalty and for their repeated purchases. Sometimes, valuable rewards are offered, but they are subjected to the condition of a high number of realized purchases within a relatively long period; sometimes, there are gifts with only a loose connection to the customers' favourite product category. However, the research proves that the retailers are most likely to gain and keep customers' loyalty if the program offers price discount on favourite goods and if the discount is available immediately, without having to collect bonus points over prolonged time periods.

It may be interesting for marketing managers to know that the highest percentage of participation in loyalty

programs is recorded in the product categories : Food & beverages, Clothing, and Drugstore. The lowest participation percentage, on the other hand, was observed in the categories : Master domestic appliances and Hobby & garden. It is obvious that the most favoured loyalty programs are those in the product categories with higher purchase frequency. This finding is undoubtedly important for practical marketing.

Conclusion

This research and its empirical results as presented in Tables 2 - 4 may be used by corporate marketers and academic researchers to study loyalty program participation and usage across different socio - demographic and lifestyle groups. Also, we provide a stratified analysis of motives for using LPs across different product categories. Our research provides relevant empirical answers to many frequently discussed questions posed by marketers, such as : what type of LP benefit is preferred by customers in different product categories. We provide a convenient and practical set of structured analysis results that may be taken advantage of by the professional and/or academic public, given their loyalty program or product category of interest.

We made comparisons of the topical research and the results of a similar research that was carried out 2 years ago. It appers that consumers' preferences and deliberations remain relatively stable, in spite of the continuously developing macro - and micro-environments. Customers like purchasing repeatedly if a retailer offers 'flat discounts on favorite items' or 'instant quantity discounts' ; on the other hand, rewards in the form of 'remuneration based on points gathering' or 'listing to the valuable gift draw' are less favoured (see Tahal &Stříteský, 2014b).

Limitations of the Study and Scope for Further Research

The research was carried out in three European countries (the Czech Republic, the Slovak Republic, and the Russian Federation). It can be expected that customer behaviour in other countries may reflect local consumer preferences. It should also be taken into account that purchasing behaviour and consumer preferences evolve as time passes. Researchers can continue research activities in this field, observing the trends of customer behaviour.

Acknowledgment

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