

CONSUMER BEHAVIOUR AND IREVERSIBILITY – A CASE STUDY

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Abstract

The paper aims at empirically constructing the hysteresis consumer behaviour model introduced by Galloway in 1999, focused on banking services quality determinants. To this end an empirical study was conducted on a sample of banking service customers focusing on the three model dimensions –quality factors attractiveness, effect and zone of tolerance. The empirical study conclusions revealed the model as able to offer a generous framework for the assessment of service quality factors and a valuable tool for managers in their quest to improve the offered services.

Keywords: hysteresis, consumer behaviour, services assessment

JEL classification: M31

1. Introduction

Consumer behaviour is an extremely vast and offering field of research, and pursuits in the direction of consumer behaviour knowledge may be identified even prior to its establishment as scientific domain. Starting with the 19th Century however the interest of economics in consumer behaviour study became obvious as a natural consequence of the importance held by consumption within the economy. Subsequently, the field became the object of reflection for sociologists, psychologists and anthropologists. Deciphering the profound implications of consumer behaviour implies the understanding of the mechanisms of the process itself as well as the elements that make this mechanism work. In this context, it is only natural that numerous approaches

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on consumer behaviour emerged. It is the scope of this paper to attempt at building a hysteresis model of consumer behaviour, based on the previous work of Galloway (1999). To this end we decided upon the following structure of this paper – in a first section the main landmarks in the common history of hysteresis and economics are presented; secondly the main features of the model introduced by Galloway are discussed; the next section introduces the research methodology, while the final section is reserved for data analysis, interpretation and construction of the model.

2. Hysteresis and Economics – a brief historical development

Hysteresis generally refers effects that prove persistent even after removing the causes that generated them. Its' origins can be traced back to the 19th Century when James Alfred Ewing (1881) coined the term from Greek word “hysterein” (that which lags behind) to describe the persistent effects of the temporary exposure to magnetic fields of ferric metals. Ewing proved to be a visionary – not only did the notion become well known in physics, but infiltrated numerous other domains, including economics. Moreover, in economics and especially consumer behaviour hysteresis found an auspicious ground. In economics, hysteresis is used to indicate the persistent, durable influence of past economic events, and this line of thought is considered to represent a considerable breakthrough in economic theory and practice. It is even credited with the potential to reduce the distance separating modelling from reality (Cross, Grinfeld, Lamba, 2009, p.30).

The term itself is still considered a rather “new entry” in economics, although it had been used sporadically also before 1970 by Schumpeter, Samuelson, Georgescu-Roegen or Phelps. The notion however was certainly present in the studies of consumption conducted by Duesenberry (1948) and Modigliani (1949), where they concluded that the highest income level attained in the past remains in the memory of the consumers thus determining the present consumption behaviour. The same effect is noticed by Brown (1952) who observed a lack of promptitude in consumer reactions, which he attributed to a kind of inertia, he called “hysteresis”. The notion was approached also by Haavelmo (1970) and von Weizsäcker (Elseter 1976) in works conducted on consumer behaviour. The most important contribution is however that of Nicholas Georgescu-Roegen (1971), in which he describes a general framework for the application of hysteresis in social sciences and especially consumer behaviour.

Following 1970's hysteresis becomes usual practice in two fields in particular – unemployment and international trade (Phelps, 1972; Kemp and Wan, 1974; Lang, 2009).

3. New approaches on hysteresis and consumer behaviour

The study of consumption and consumer behaviour represent a complex task and go beyond concrete, objective actions revealing the subjective facet of motivations, interests, desires, and habits. The objective side may be subject to statistic descriptions and analysis; the subjective one requires profound analysis able to grasp the subtle mechanism of human behaviour captive between natural impulses and acquired attitudes.

It is only natural that during the past years came to prominence a great interest for the innovative approach of consumer behaviour which led to the construction of diverse consumer behaviour models. One such model is the hysteresis model introduced by Galloway (1999). In his work he reviews a series of models in which the influence of variables is asymmetrical; in some models the variables influence consumer behaviour in one directions, in others the effect of changes in a variable seems reversible, influencing consumer behaviour in both directions, while there are also cases in which the effects is not reversible (Galloway, 1999, p. 360). These are the properties that drew the author's attention and brought forward the hysteresis model. The models reviewed by Galloway include the Order-winning and qualifying criteria, service quality assessment models, and especially the zone of tolerance models.

The presented models have been identified by Galloway as being in accordance to the hysteresis model, especially due to three common aspects (Galloway, 1999, p.367):

- there is a non-linear relationship between the applied variable and the response variable;
- the response variable becomes saturated;
- the relationship between the two variables is predictable and consistent, but non-reversible.

4. The Research Methodology

In this section of the paper we aimed at constructing a model of hysteresis in consumer behaviour based on the study of Galloway (1999) for banking services in Romania, bearing in mind the importance of the sector as

well as the model implications and conclusions for managers, in a competitive and dynamic environment still affected by recession. The hysteresis model is complex and answers in our opinion the managers need for complete information on consumers toward the three dimensions – attractiveness, effect and zone of tolerance.

To this end, a descriptive research of quantitative type was employed.

The research objectives included:

- identifying the factors that determine services quality in the sector;
- choosing a suitable scale to measure the three dimensions of the model;
- testing the internal consistency of the utilized scales;
- analysing and interpreting the results as well as constructing the hysteresis model.

The respondents were clients of a Constanta situated branch of an important bank present in the Romanian banking sector.

The research was employed during June 2013 and random sampling was used. The research tool was a 30 question questionnaire, divided in several sections. A first section included general socio-demographic data on the respondents; there were requested data on gender, age and education of respondents, while information on income, account types, or accessed banking services were not required in order to ensure the cooperation of the respondents. A second section was focused on obtaining respondents opinion on the identified service quality factors or in other words, the attractiveness of each determinant. Parasuraman *et al.* provided a widely accepted list of 10 determinants of service quality: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, understanding and tangibles, subsequently grouped in five dimensions that constituted the base for the instrument SERVQUAL (Johston, 1997, p.111). We decided upon eight factors adapted from the list provided by Parasuraman - security of client data, reliability, operations correctness, personnel responsiveness, courtesy, competence and expertise, appearance, and general atmosphere in the branch office. The next section aims at identifying the effect of each quality determinant, while the final section aims at finding the tolerance manifested by the respondents in the case of quality determinants deterioration. In order to evaluate the factors, their effects and zone of tolerance, five point semantic differentials were used. More than a hundred questionnaires were distributed and after collecting the filled in questionnaires and eliminating the incomplete

ones, the analysis was eventually conducted on 59 questionnaires, using SPSS (Statistical Data Analysis, version 20.0 for WINDOWS).

5. Data analysis and interpretation; the hysteresis model

Analysing the sample structure, the majority of the respondents (55.9%) are women. As far as age is concerned, most of the respondents (54.2%) are between 41 and 50 years old, 28.8% are less than 40, while only 16.9% are over 65 years old. An important percentage (66.1%) are university graduates and 15.3% hold also a masters' degree.

The internal consistency of the utilized scales was tested using Chronobach's alpha and the results were as follows: factor attractiveness – 0.918, factor effect – 0.961, zone of tolerance – 0.977, thus indicating the robustness of the scales.

Table 1: Variables of the hysteresis model

	Factor attractiveness	Factor Effect	Zone of tolerance
Security of client data	3.1186	2.0508	1.7288
Reliability	2.7458	1.8644	1.9492
Operations correctness	2.7458	1.6780	2.2034
Personnel responsiveness	2.9153	1.4746	2.4068
Personnel courtesy	3.4407	1.7966	2.4068
Personnel competence and expertise	2.9322	1.6441	2.4068
Personnel appearance	3.3390	1.6441	2.5085
General atmosphere in the branch office	2.7458	1.6441	2.5085

Naturally, the least tolerated deterioration regards security of client data and reliability, while the most tolerated regards personnel appearance as well as general atmosphere in the branch.

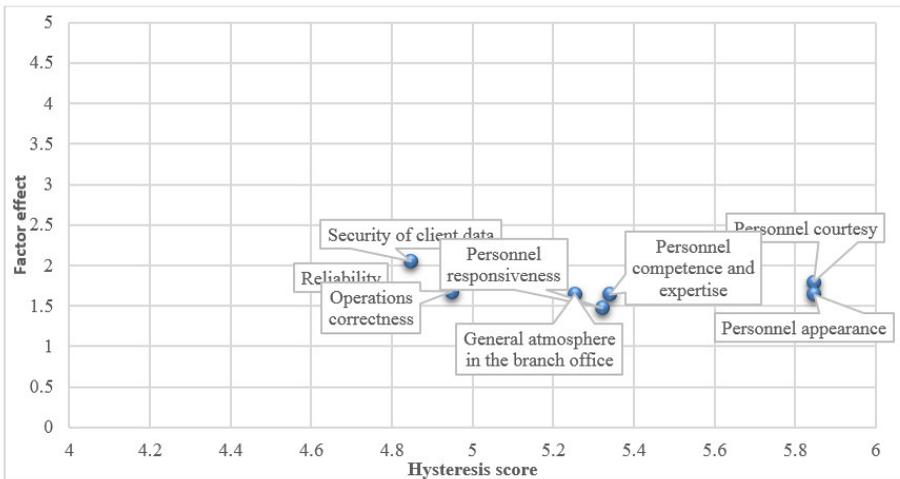
Subsequently, the distributions were tested for normality, using due to the rather reduced size of the sample, the Shapiro-Wilk test. Although the Shapiro-Wilk test values do not indicate a normal distribution of the data, the Normal Q-Q plot reveal that the distributions can be considered as normal.

The ANOVA revealed differences between groups as far as the zone of tolerance is concerned regarding the responsiveness factor. The assumption of homogeneity of variances was tested and found tenable using Levene's test

$F(2, 56) = 0.163$, $p=0.85$; the ANOVA was significant $F(2, 56) = 44.694$, $p=0.01$ and therefore the null hypothesis will be rejected and conclude there is a significant difference between variables.

In order to build the model the hysteresis scores were calculated by adding the partial scores of factor attractiveness and zone of tolerance. The resulted model is presented in figure 1.

Figure 1: The constructed hysteresis model



6. Conclusions

The hysteresis model offered a generous framework for the assessment of service quality factors as far as their attractiveness, effect and zone of tolerance are concerned. The results of our empirical study reveal regarding the attractiveness dimension that the highest scores were obtained by security of client data, courtesy and personal appearance. As far as the effect is concerned, the highest score was obtained by the security of client data, and this factor has, as expected, also the smallest zone of tolerance. However, the present study is merely an attempt to empirically test this very offering and challenging model; the main limitations in our research include the rather small sample used, as well as the territorial boundedness. But since the model proved to be a useful management tool which may be employed in order to prioritize and improve the offered services, we are convinced that

further empirical studies in the field will consecrate the model and perhaps open further research directions.

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