

Marcin Idzik*

Social Determinants of Opinions about Banks

Abstract

The objective of the research was to identify and select homogeneous segments of consumers in terms of their competence on the market of the financial services, as well as to evaluate the influence of the consumers' economic competence on the relations with banks. The sociodemographic features as well as the place that the consumer occupies within the social structures provide a poor explanation of the evaluation of the banks. Opinions about banks are poorly correlated with the socio-economic status of the consumer. There is a weak relationship between the economic status of the consumer and his/her economic competence. There is a strong correlation between the economic competence of a consumer and the overall evaluation of the banks. Four homogeneous groups of consumers were selected in terms of economic competence: Self-excluded (17%), Uninterested (48%), Second-raters (30%), and Leaders (6%). The segmentation was conducted using latent class analysis (LCA). The latent class analysis enabled one to identify the subtypes of the interconnected features which are unobserved in the traditional model. The source of the empirical data is comprised of the field research results conducted by the CAPI method on a nationwide representative sample of the residents of Poland, N=3000.

Key words: economic competence, bank assessment, typological classification, latent class model

1. Introduction

In March 2017, the Polish Bank Association informed that the reputation index, TRiM, of the Polish banking sector amounted to 38 points—*a/y* growth of 7 points [Wizerunek... 2017]. At the same time, from this research we have also learned that there is a high diversification of the social evaluation of the banks' reputation. 38% of the society evaluate the banks' reputation well or very well, whereas 34% think of it as average and the rest as poor or very poor [Poprawa... 2017]. From the Kantar TNS research we have learned that 31% of the customers evaluated well the quality of cooperation

* Marcin Idzik works at Faculty of Economic Sciences, Warsaw University of Life Science (SGGW).

with the bank: 34% evaluated it very well, 24%—excellently, and a mediocre or poor score was given by 9% of the bank customers [Zoom Finanse 2017]. Publications of this kind usually evoke multiple comments, mostly about the business sector which earned such rating, regardless of whether the rating is good or bad. However, the questions concerning the social determinants of this, and not the other evaluation of the reputation of the banking sector, remain unanswered. According to Lazar, the evaluation formulated by the public opinion is a process of complex communication which includes personal experiences, popular opinions, competence as well as suitable mechanisms of the media [Lazar 1995]. Almeida is of the opinion that there is a complex mechanism of formulating opinions and views [Almeida 2007], where the following elements play the key role, namely: social determinants, world outlook, stereotypes and prejudices, popular views, personal experiences, opinion-forming activities, competence in a given matter, education and knowledge.

The justification for a broader approach in the social evaluation of the banks can be found in the growing trend which takes interest in the influence of the human factor on the social and economic processes. This is expressed in a fact that more and more people tend to accept that the theory of human assets plays an important role in explaining and planning activities of different organizations. This trend also justifies the programs of economic education of the society [Collins 2013, Miller, Reichelstein, Salasand BilalZia 2015]. According to Fernandes, et al, the lack of competence and the gap between the desired competence and its status quo create a foundation for managing the owned assets which is far from optimal and preserving the stereotypes [Fernandes, Lynch, Netemeyer 2014].

An additional inspiration to take up this subject is the conclusion, presented by the Polish Bank Association during a press conference on April 25, 2017, explaining the high diversification of the evaluation of the reputation of the banking sector on the grounds of the social determinants: *“High indications as regards the level of knowledge, experience in using the banking services and the financial competence of the customers have a very strong relation with the evaluations of the banks’ reputation, (...). The low indications as regards the reputation are accompanied by relatively low indications in terms of being interested in the information about banks, low level of financial knowledge and no motivation to expand it as well as using financial products only to a small extent”* [Poprawa ... 2017].

The objective of this paper is to identify and select the homogeneous consumer segments in terms of their competence on the market of financial services as well as to evaluate the influence of the competitors’ customers on the perception of the banks in Poland. Moreover, this paper sought answers to the following questions: To what extent does the socio-economic status diversify the opinions about the banks? How does the economic competence of a consumer influence the evaluation of the banks? Are there any relationships between the economic status of a consumer and his/her economic competence? The conclusions in this regard may serve to better learn the complex social phenomena on the financial market, to support the communication process and planning the educational programs.

2. Research methodology

The meaning of the term competence is not defined precisely, and it is frequently understood differently [Białecki 2006, Dubois, Rothwell 2008]. The most frequent understanding of the notion “competence” is a set of certain skills, knowledge and attitudes which make a competent person be able to cope with diverse, important and typical life tasks. One of the European Council’s documents proposes to understand the notion “competence” as “*broad skills based on knowledge, experience, values and inclinations gained as a result of educational influences*” [Kompetencje... 2002]. In the recommendation of the European Parliament and the Council of the European Union, dated December 18, 2006, the notion “competence” is defined as a combination of knowledge, skills and attitudes suitable for a situation [Key Competences... 2007]. According to the definition of the International Network on Financial Education (INFE) acting within OECD, the economic competence means “*a combination of awareness, knowledge, skills, attitudes and behavior necessary to make financial decisions and leading to reaching individual financial well-being*” [Measuring... 2011]. This paper takes into account the above-mentioned areas, and following Friensen and Anderson and INFE, this paper adopted that “*Competence is defined as integrated usage of knowledge, skills, values, experiences, contacts, external sources of knowledge and tools for solving problems, carrying out different types of activities or coping in a given situation*” [Friensen, Anderson 2004].

The TRiM Index was used to evaluate the opinion about banks. This is an aggregated measure of opinions about banks which includes five detailed indexes that evaluate: liking of the banks, overall opinions, evaluation of the financial results, trust in the long run as well as the evaluation of the quality of the services. This is a weighted rating. The TRiM Index falls within the range from minus 66 to 126 points. Scores below 18 points mean a poor result and scores over 47 points mean a good result. Scores between 19 and 46 points are on an average level.

The source of the empirical data is comprised of the field research results conducted by the CAPI method on a nationwide representative sample of the residents of Poland, N=3000. This sample was of a nationwide and representative character by voivodship, size of place of residence, sex and age of the respondent. The data was analyzed using the syntax version of the LatentGOLD 4.5 program [Vermunt, Magidson 2008].

2.1. Methodological assumptions of the latent class analysis

Smith has already written in 1956 that “market segmentation is a homogeneous view of the market as a specific number of smaller homogeneous markets according to their responses to product preferences” [Smith 1956]. In order to describe the essence of the studied processes, a latent class analysis was proposed. The conducted typological classification was of a descriptive function. Segments were identified post hoc after selecting the segmentation criteria. After selecting the

segments, a profiling procedure was carried out. It was necessary to adopt a post hoc approach because it was not possible to define the values or levels of the segmentation variables.

This paper carried out the segmentation analysis using a latent class analysis (LCA). In our case, the segments were identified post hoc, and the measurement of the criteria included both the observed features as well as the directly measurable ones (behavioral). The classification was performed based on the subjective and objective segmentation. The subjective criteria include: the knowledge about finances, one's interest in the banks' offer, the current experience with the banks, and the scope of using the banks' offers. The objective criteria are the market reactions of the consumers, namely: the reactions to the need to increase one's economic knowledge, self-evaluation of one's knowledge, inclination to search for information about the banks and sharing this information, etc.). In the latent class analysis the respondent is not permanently assigned to a segment, but a probability of being assigned to each of the selected segments is calculated.

The latent class analysis serves to identify the interconnected subtypes within the multivariate categorical data. The latent classes are the segments which are directly unobserved (latent) segments—what is actually observed are their symptoms. A latent class describes a certain abstract feature or characteristics which cannot be directly observed; which, however, is a factor that diversifies the individual objects that are studied [Bollen 1989; Lubke 2005; Keel et al. 2004]. The examples of the latent variables are, among others: preferences or behavioral intentions [Formann 2003]. Such characteristics can be measured only indirectly in such a way as to obtain answers linked to the attitudes or preferences.

The latent class analysis is made up of a structural part of the model and the measurement part. The structural part estimates the probability of classifying the given case. As a result, we arrive at a percentage of the population in the given latent class. The measurement part determines the probability of k th answer to i th question under the condition of being attributed to the n th latent class. The measurement part of the model describes the relationship between the i th indicator variable, and the attribution to the c th latent class; moreover, it constitutes the basis for the description of the c th class [Vermunt, Magidson 2005].

The procedure of the latent class analysis selects segments and estimates the parameters of the density function which is characteristic of each of them. The general model follows the form (formula 1) [Vermunt, Magidson 2003; Yang 2006]:

$$f(y_i | z_i) = \sum_{x=1}^K P(x | z_i) f(y_i | z_i) = \sum_{x=1}^K P(x | z_i) \prod_{h=1}^H f(y_{ih} | x, z_i) \quad (1)$$

where:

y_i – dependent variables (latent class indicator),

z_i – independent variable (predictors),

x – latent classes (from 1 to K).

The density function for latent classes serves as a basis for determining conditional probability of occurrence of the observed values assigned to the given class [Kaplan 2003, Langeheine 2002]. The latent class regression model is depicted by a formula:

$$f(y_i | z_i^{cov}, z_i^{pred}) = \sum_{x=1}^K P(x | z_i^{cov}) \prod_{t=1}^T f(y_{it} | x, z_{it}^{pred}) \quad (2)$$

where:

y_i – dependent variables (latent class indicator),

z_i^{cov} – independent variable (covariances),

z_i^{pred} – independent variable (predictors),

x – latent classes (from 1 to K).

In order to arrive at the value of the parameters maximizing the likelihood function, the expectation-maximization algorithms and a Newton–Raphson method (NR) are used most frequently. After estimating the distribution parameters, a probability is calculated that a given case comes from a given homogeneous group. The probability of being assigned to the clusters is estimated based on the model (formula 2).

The fact that this model is estimated with the maximum likelihood method allows one to determine in a non-arbitrary way an optimal number of segments based on a set of measurements of fitting the model [Magdison, Vermunt 2007, Tofighi, Enders 2007]. In the end, we strive to such estimates of the model parameters, so that the cases included in the same class are homogeneous in terms of the specific and selected criteria; whereas, the cases belonging to the other latent classes would differ from each other as much as possible [Bartholomew, Knott 2002]. A set of indexes useful in evaluating and comparing the obtained solutions are the indexes based on the value of the likelihood function which depict part of the variability Variance Diversity which has not been explained by the model yet. These are the logarithms of the likelihood function and information criteria (based both on the logarithm of the likelihood function as well as on its squared value) [Akaike 1987]: Akaike (AIC) (formula 3), Bayesian (BIC) (formula 4) as well as the consistent Akaike criterion (CAIC) (formula 5). The lower their value, the better the model is. In practical applications, the lowest model for which BIC reaches its minimum point is chosen. All these tests come down to comparing the theoretical represented by the estimated parameters of the model and observed in empirical data [Akaike 1987].

Akaike information criterion (AIC):

$$AIC = -2\ln(L) + 2p \quad (3)$$

Bayesian Information Criterion (BIC):

$$BIC = -2\ln(L) + p * \ln(N) \quad (4)$$

Consistent Akaike information criterion (*CAIC*):

$$CAIC = -2\ln(L) + p * (1 + \ln(N)) \quad (5)$$

where:

$\ln(L)$ – natural logarithm of likelihood function,

p – number of estimated parameters,

N – number of observations.

3. Social determinants of the evaluation of the banks

The researchers of the determinants of the formation of public opinion eagerly refer to the financial and economic issues. In general, there is a belief that on an individual level specific behavior or opinion is a function of the level of education, age and socio-economic position [Domański, Sawiński, Słomczyński 2007].

A dictionary of sociology and social sciences defines socio-economic status as an index which aims at classifying individuals, families or households by profession, income or education [Słownik... 2005]. As it can be seen in the current research, some of the variables that describe the social and economic determinants have a significant influence on the consumers' decisions and opinions. The basic assumption of the socio-structural model of behavior is that a specific opinion is determined by where a given individual is placed within the social structures [Cwalina 2000]. It is frequently considered that such determinants as place of residence, professional status, and income are the most effective predictors of consumer behavior in the financial market. We can find confirmation of this trend in the criteria applied by the banks when classifying customers into specific segments [Zarządzanie... 2000]. Most frequently these criteria include the variables which determine a customer's socio-economic status, such as: education, professional position, income, and sometimes also life satisfaction and evaluation of the customer's economic situation [Marshall 2005].

However based on empirical research, it turns out that the socio-demographic features can only partly explain the customers' behavior on the banking market and the opinions formulated about banks. It can be seen in the surveys conducted in 2015 on a nationwide representative sample of holders of household credits in PLN and CHF $N=900$ that the socio-demographic features have little influence on diversifying the opinions formulated about the banks [Idzik, Gierogica 2016], despite the fact that the group of borrowers is highly diversified in terms of the above-mentioned features.

We can draw a similar conclusion when analyzing the distribution of the evaluations of the banks' reputation [Reputacja... 2016]. In terms of age, the highest rating of the banks (37 points) can be recorded in the group aged 20–29. In the other age groups defined in 10-year intervals, the reputation index fluctuates between 29–31 points (there are not statistically significant differences). From the same study

we can surmise that among the people with higher education, the TRiM Index of the banking sector in 2016 was 37 points. It was 32 points among the people with secondary education, 29 points among the people with post-secondary education, BBA—27 points, and vocational—31 points. The statistically significant difference can be seen only between the people with higher education and the other groups. Similarly when analyzing the distribution of opinions about banks by profession, the lowest evaluation of the reputation of banks is recorded in the group of unemployed people (TRiM Index—20 points), retired—28 points, farmers—29 points, entrepreneurs—32 points, skilled workers—33 points, white collars and clerks—34 points, and students—35 points (Diagram 1). In terms of the rating, the unemployed differ significantly from the other groups. When making the above-mentioned comparisons, it would be worthwhile to mention that the scope of the minimal and maximal ratings of the TRiM Index is from minus 66 to plus 126 points. In the case of a respondent's income, if the said income exceeds PLN 4000 a month, then it changes the evaluation of the banks' reputation. In the case of people with incomes under PLN 4000 a month, there are no statistically significant differences in the evaluation of the banks' reputation. When taking into consideration the place of residence, a statistically significant difference reveals itself only when comparing the ratings by the residents of cities with a population of 200k and more in comparison with the residents of smaller cities and rural areas. In this respect, we can think of the residents of the rural areas, cities with a population under 20k and 20k-50k as a homogeneous group.

The socio-economic status of the consumer is the outcome of the education, professional position and the income. Taking into consideration the above-mentioned criteria applied by Marshall [2005] to classify the socio-economic status, 23% of the Polish society can be regarded as a group of high socio-economic status, 39% as a middle-class status, and 38% as a low socio-economic status. In this view, the TRiM Index in the group of people with a high socio-economic status is 47 points. In the group with a middle-class status it is 41 points, and in the case of people with a low socio-economic status, the value of the TRiM Index is 29 points (Diagram 2).

A statistically significant difference in the evaluation of the banks' reputation is between the groups of people with the high and low socio-economic status. Taking into account all the above-mentioned results, the socio-demographic features in this case do not provide satisfactory results as the factors that diversify the evaluation of the banks' reputation. Howard and Brown [2016] also arrived at similar conclusions in their studies on trust. They claim that the socio-demographic variables are not sufficiently useful in explaining the social determinants in the changes of trust to various institutions that are studied as part of the Edelman Trust Barometer project.

The overall increase in the society's education level raises the professional competence; however in the opinion of Orczyk, "it is difficult to say whether this is linked to the need and speed of the correction of the competence" in the other areas of the consumer's life [Orczyk 2006]. The increase in the level of education

or the socio-economic changes is not closely related with the changes of attitudes and opinions about banks [Zoom Finance 2017, Kantar TNS, Warszawa]. From the above-mentioned information we can conclude that a high socio-economic status as well as a high level of education in a given field only partly compensate for the shortages in the competence in the other areas of the consumer's life. In the opinion of Almeida [2007] it has become more difficult to estimate the changes in the attitudes and behavior of the consumers on the basis of the general changes in the level of education and socio-economic status. The following are of key importance in formulating opinions and views, namely: cultural and environmental determinants, one's world outlook, stereotypes, popular views, personal experiences, opinion-forming actions and competence in a given matter, as well as education and knowledge. This opinion concerns the consumer's competence. In the view of Boyatzis [2008], competence refers to the cognitive skills, following the acceptable conduct patterns, self-awareness, self-control, and social awareness of mutual relations. The level of education and/or the socio-economic status change the attitudes through an indirect influence of the competence [Almeida 2007]. Szarfenberg [2015] restricted this notion to economic competence and indicated the economic knowledge, the skills to proceed and use information when making decisions on the financial market. This approach acknowledges the theory of human capital in explaining various social and economic phenomena. It involves leaving the commonly used criteria in favor of the real-life criteria which diversify the perception of a given fragment of reality by a consumer. Adopting such a concept requires significant changes in having and using the knowledge on determinants of the evaluation of the banking sector.

Diagram 1. TRiM Index value of the banks by profession

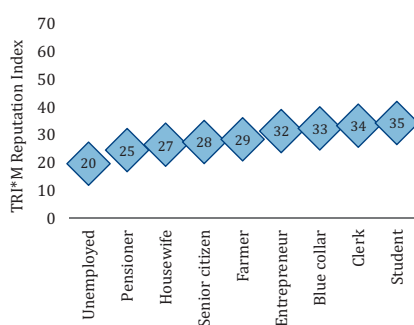
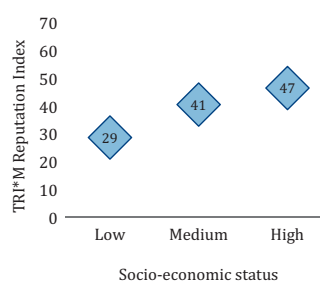


Diagram 2. TRiM Index value of the banks by groups of socio-economic status of the consumer



Source: Reputacja Polskiego Sektora Bankowego 2016 (Reputation of the Polish Banking Sector), ZBP, Warszawa.

When analyzing the results of the empirical studies of the evaluation of the banks' reputation from the perspective of the competence defined by Szarfenberg using economic knowledge, skills of proceeding on the financial market and experience as well as using information in the process of making decisions on the financial market, a clear diversification in the TRiM Reputation Index is revealed. Consumers with a very low level of economic knowledge usually evaluate low the banks' reputation. The TRiM Reputation Index in their case is 27 points. It goes up to 34 points in the group of consumers with low economic level through 47 points in the group of people with average level of economic knowledge, to reach 58 points among the people with high level of economic knowledge (Diagram 3).

Taking into consideration the scope of using the financial services, there is a relationship where the higher the scope of using the financial services, the higher the TRiM Index is (Diagram 4). In the segment of consumers with the minimal or low scope of using the financial services, the TRiM Index is 31 points and 35 points respectively, and in the segment with a high level of using the financial services it rises to 61 points.

Diagram 3. TRiM Index value by consumer's economic knowledge

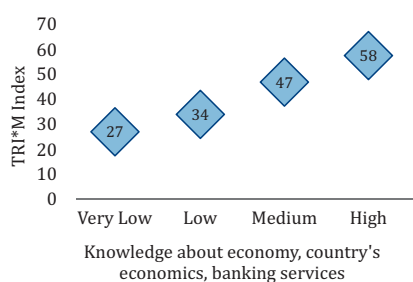
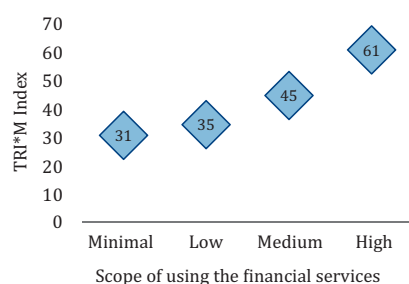


Diagram 4. TRiM Index value of the banks by the scope of using the financial services



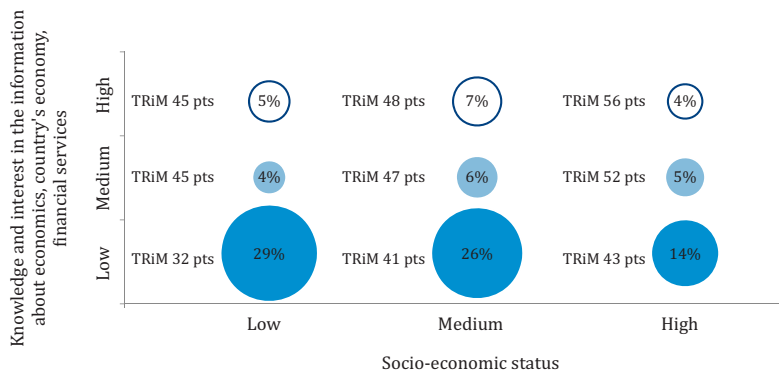
Source: Reputacja Polskiego Sektora Bankowego 2016 (Reputation of the Polish Banking Sector), ZBP, Warszawa.

Based on the criteria mentioned by Szarfenberg (the total rating of the factors: economic knowledge, the ability to act on the financial market and experience, as well as using the information in the process of making a decision on a financial market) the TRiM Index is 25 points in the segment with low competence, and 57 points in the segment with high competence.

Economic knowledge, experience in using the financial services, and being interested in information about economy have a good impact on the evaluation of the banks' reputation [Reputation of the Polish Banking Sector 2016, ZBP, Warszawa]. At the same time, the change in the socio-economic status only partially improves the economic competence of the consumer. The increase in economic and the higher

education available for masses do not have a direct impact on the improvement of the society's economic competence. Almost one-fifth (23%) of the Polish society is regarded as having a high socio-economic status. 17% in this group have high economic competence, (which is 4% of the society). At the same time, in the group of people with a high socio-economic status, 61% have low economic competence which constitutes 14% of the Polish society. In the case of the people with a low socio-economic status, 75% have low economic competence which is 29% of the Polish society, and 13% have high economic competence which is 5% of the Polish society. When analyzing the distribution of the economic competence of the consumer versus his/her socio-economic status, no relationships were recorded between these variables. This means that a consumer has formal education, holds specific professional competence, performs autonomous work, has incomes that classify him/her as an affluent person; and, at the same time is economically competent. Such a situation concerns approximately 4.5m of the residents of Poland who have a high socio-economic status; and, at the same time, have low economic competence. It also concerns 9.3m people with a middle socio-economic status and low economic competence, as well as 8.3m residents of Poland with a low socio-economic status and low economic competence [Machała, Idzik 2017].

Diagram 5. TRiM Index of the banks, consumer's economic competence by groups of socio-economic status



Source: Machała, Idzik [2017] based on: Reputacja Polskiego Sektora Bankowego 2016 (Reputation of the Polish Banking Sector), ZBP, Warszawa.

In the opinion of the authors of the report *Improving...* [2005], more favorable opinions about banks are among the consumers with higher economic competence because they understand the financial products, notions and risks which enable them to make more conscious choices, as well as the knowledge where assistance can be found and what effective actions can be undertaken to optimally use the financial services. The conclusions from the report *President's...* [2010] indicate that the consumers with

higher economic competence have the ability to apply their knowledge and skills in order to efficiently manage their financial assets. On the other hand, the authors of the report National... [2011] evaluate that the economic competence provides the ability to pass judgments and undertake effective decisions concerning the usage of the money assets and how to manage them.

4. Application of the latent class analysis in typological classification of the Polish society by financial competence

The competence is a set of cognitive and non-cognitive features which create certain potential, or rather the ability to perform life tasks which appear in a certain context. It is not possible to describe the evaluation of the financial competence of the consumers with only one variable. The economic competence includes knowledge, skills, attitudes, experience, usage of knowledge and tools in solving problems, as well as performing different types of activities aimed at economic problems [Friensen, Anderson 2004, Measuring... 2011].

From the point of view of the measurements, the indexes of different states were represented by 12 variables which described the main areas of economic competence of the consumer: 1. Evaluation of the overall economic knowledge, 2. Looking for information about banks and their services, 3. Being interested in economic issues, 4. Evaluation of the need to raise knowledge about the financial services, 5. The scope of using the financial services, 6. Sharing information about banks, 7. Experience in using the banking services, 8. Dislike towards raising knowledge about the financial services and economy, 9. The intensity of using the Internet in order to gain information, 10. The number of known financial products, the number of known bank brands, 11. The ability to manage the household budget, 12. Education. A similar concept of segmentation by selecting three segments of consumers was used in the study: Wizerunek Polskiego Sektora Bankowego 2017 (Image of the Polish Banking Sector).

Table 1. Selected criteria of fitting the latent class model

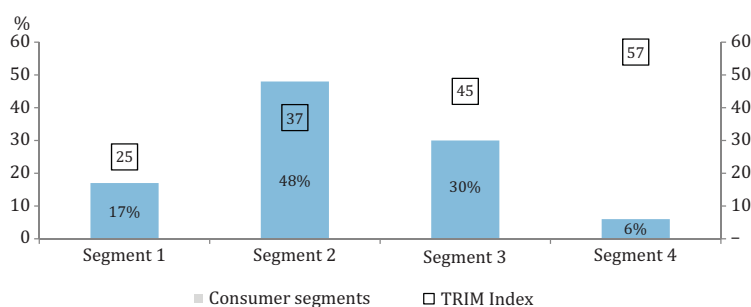
Number of latent classes	BIC (Bayesian Information Criterion)	AIC (Akaike Information Criterion)	CAIC (Consistent Akaike Information Criterion)	Classification error
2	19318.66	19195.27	19348.66	0.1954
3	18918.64	18791.13	18949.64	0.1238
4	18847.95	18716.33	18879.95	0.1044
5	18861.36	18725.63	18894.36	0.2304

Source: Results of own research on the basis of Zoom Finance 2017, Kantar TNS, Warszawa 2017.

However, it was necessary to determine the number of clusters (latent classes) in the first step. Four alternative models containing from two to five latent classes (Table 1) were estimated. The choice of the latent classes was made by comparing the BIC and CAIC ratings as well as the rating of the classification error. The lowest value of the BIC and CAIC information criteria as well as the classification error were reached for the model with four latent classes (Table 1). The classification error in the case of this solution was 0.1044, and in the case of reducing or increasing the number of latent classes, it increased. The level of p also did not exceed 0.05 in the case of the model with four latent classes.

The parameters of the latent class model were calculated for a 4-class model. All the variables had a significant impact on the discrimination of the latent segments. On the basis of the evaluation of the conditional likelihood of attributing the 12 individual indexes to each latent class, the proper names of individual latent classes (segments) were defined, and profiles of each segment were drawn up. As a result of applying a four-class model, the dimensions of each segment were determined (Diagram 6). When analyzing the banks' ratings from the perspective of four selected segments, the TRiM Index reaches the value of 25 in the first segment, 37 in the second segment, 45 in the third segment and 57 in the fourth segment.

Diagram 6. Typological classification of the Polish society by financial competence



Source: Results of own research on the basis of Zoom Finance 2017, Kantar TNS, Warszawa 2017.

Segment 1—“Self-excluded” constitutes 18% of the Polish society. It is represented by people with the lowest economic competence. Eight out of ten (81%) people in this segment have low (34%) or very low (47%) knowledge about economy, and 89% are not interested in raising one’s knowledge in this respect. It can be assumed that almost all people in this segment (98%) do not look for information about economy or banks, and 99% do not talk about banks or economic issues. Eight out of ten (72%) do not use any financial services. Statistically speaking, a person from this segment is familiar with 0.4 banking product (knows what it is for and how to use it). More than half of the people (58%) in this segment evaluate that there is a high risk that in the future they might make bad decisions when using

the banking services. Moreover, 44% say that the decisions on the market of the financial services are easy and fast, and 61% trust their skills as regards using the financial services. In the socio-demographic perspective these are the people aged under 22 (25%) and over 60 (45%); with elementary education (23%), junior high school education (23%), and vocational education (29%). 44% of them live in the rural areas or towns with a population of under 20k (14%). Fewer than half of this segment (45%) use the Internet every day; and, at the same time, 34% do not use the Internet at all.

Segment 2—“Uninterested” constitutes 48% of the Polish society. It is represented by the people with low economic competence. Half (51%) of this segment has low (32%) or very low (19%) knowledge about economy and financial services; 79% are not interested in raising their knowledge about economy. 5% of this segment look for information about economy or banks at least from time to time, and 97% of them do not talk about economic issues on their own accord. Statistically speaking, a person from this segment is familiar with 2.3 banking products (knows what it is for and how to use it). Six out of ten people (62%) in this segment think that there is a high risk that in the future they might make bad decisions when using the banking services. For 43% the decisions on the market of the financial services are easy and fast, and 66% trust their skills as regards using the financial services. In the socio-demographic perspective these are the people aged under 22 (22%), 23–35 (22%) and 36–47 (21%), with elementary education (32%), and with finished secondary technical or high-school education (41%). 36% of them live in the rural areas or towns with a population of under 20k. (14%). Fewer than half of this segment (48%) use the Internet every day; and, at the same time, 21% do not use the Internet at all.

Segment 3—“Second-raters” constitutes 30% of the Polish society. It is represented by the people with average economic competence. Two out of ten people (21%) in this segment have low (18%) or very low (3%) knowledge about economy and financial services, 65% are not interested in raising their knowledge about economy. 14% of this segment look for information about economy or banks, or the financial services at least from time to time, and 92% of them do not talk about economic issues on their own accord. Everyone in this segment uses the financial services. Statistically speaking, a person from this segment is familiar with 4.3 banking products (knows what it is for and how to use it). More than half (55%) in this segment think that there is a high risk that in the future they might make bad decisions when using the banking services. Moreover, 48% evaluate that the decisions on the market of the financial services are easy and fast, a 59% trust their skills as regards using the financial services. In the socio-demographic perspective these are the people aged 48–58 (28%), 36–47 (24%) and 23–35 (23%); with finished secondary technical or high-school education (44%), vocational education (18%) or higher education (22%). 33% of them live in the rural areas or towns with a population of under 20k (11%), and 16% live in cities with a population of more than 500k. Fewer than three-fourths in this segment (70%) use the Internet every day.

Segment 4—“Leaders” constitutes 6% of the Polish society. It is represented by the people with high economic competence. Seven out of ten (7%) in this segment have low (6.5%) or very low (0.5%) knowledge about economy and financial services, 48% are not interested in raising their knowledge about economy. 32% of this segment look for information about economy or banks, or the financial services at least from time to time, and 20% of them talk on their own accord about banks or economic issues with other people. Everyone in this segment uses the financial services. Half of the people (50%) in this segment think that there is a high risk that in the future they might make bad decisions when using the banking services. 62% say that the decisions on the market of the financial services are easy and fast. Statistically speaking, a person from this segment is familiar with 6,2 banking products (knows what it is for and how to use it), and 63% trust their skills as regards using the financial services. In the socio-demographic perspective these are the people aged 36–47 (36%), 48–58 (24%) and 23–35 (16%); with finished secondary technical or general education (35%) as well as higher education (29%). 23% of them live in the rural areas or towns with a population of 21k–50k (20%), and 18% live in cities with a population of more than 500k. Three-fourths of this segment (73%) use the Internet every day.

5. Summary

The typological classification revealed four segments of consumers diversified by the economic competence profile. The latent class model enabled identification of subtypes of the interconnected features. This allowed one to learn the social determinants of the banks’ evaluation. The results of the latent class models may serve to better learn the complex social phenomena on the financial market and support the communication process. The obtained results allowed us to refer to the selected generalizations and opinions functioning in the public space. The socio-demographic features as well as the place that a consumer occupies in the social structures are insufficient to explain the evaluations of the banks. Opinions about banks are poorly correlated with the socio-economic status of the consumer. The economic competence is one of the important predictors formulating opinions about banks. There is a strong relationship between the economic competence of the consumer and the overall evaluation of the banks. The condition for long-term improvement of the opinion about banks is the increase in the socio-economic status and a simultaneous increase in the competence of the banks’ customers.

Bibliography

- Akaike, H. (1987), *Factor analysis and AIC*. Psychometrika, 52.
- Bartholomew, D.J., Knott, M. (2002), *Latent Variable Models and Factor Analysis*, Arnold.
- Białeccki, P. (2006), *Pojęcie kompetencji a polityka wobec edukacji i rynku pracy*. Nauka i Szkolnictwo Wyższe, nr 2/28/2006.
- Bollen, K. (1989), *Structural equations with latent variables*. New York: Wiley.
- Boyatzis, R.E. (2008), *Competencies in the 21 st century*, Journal of Management Development, No. 1.
- Collins, J.M. (2013), *The Impacts of Mandatory Financial Education: Evidence from a Randomized Field Study*. Journal of Economic Behavior and Organization 95, 146–158.
- Cwalina, W. (2000), *Telewizyjna reklama polityczna. Emocje i poznanie w kształtowaniu preferencji wyborczych*, Lublin, 54.
- D'Almeida, N. (2007), *La société du jugement*, Paris.
- Domański H., Sawiński, Z., Słomczyński, K.M. (2007), *Nowa klasyfikacja i skale zawodów. Socjologiczne wskaźniki pozycji społecznej w Polsce*, Warszawa 2007, 16–17.
- Dubois, D.D., Rothwell, W.J. (2008), *Zarządzanie zasobami ludzkimi oparte na kompetencjach*, Wydawnictwo Helion, Gliwice 2008, 26.
- Fernandes, D., John, G., Lynch, J.G, Richard, Jr., Netemeyer, G. (2014), *Financial Literacy, Financial Education, and Downstream Financial Behaviors*. Management Science 60(8), 1861–1883.
- Formann, A.K. (2003), *Latent class model diagnostics-A review and some proposals*. Computational, Statistics & Data Analysis, 41.
- Friensen, N. i Anderson, T. (2004), *Interaction for lifelong learning*, British Journal of Educational Technology, Vol. 35, No. 6, 2004, 679–687.
- Howard, A. Brown, *Employee Engagement Executive Summary*. Edelman Trust Barometer 2016.
- Idzik, M., Gierogica, J., (2016), *Klasyfikacja typologiczna kredytobiorców hipotecznych z wykorzystaniem modeli klas ukrytych*. Acta Universitatis Lodziensis. Folia Oeconomica, Vol. 4, nr 323, 203–220.
- Improving Financial Literacy. Analysis of Issues and Policies* (2005), OECD, Paris, 4.
- Kaplan, D. (2003), *Latent Class Models, Forthcoming*. Handbook for Quantitative Methodology, Sage.
- Keel, P., Fichter, M., Quadflieg, N., Bulik, C., Baxter, M., Thornton, L. (2004), *Application of a latent class analysis to empirically define eating disorder phenotypes*. Psychiatry, 61.
- Key Competences for Lifelong Learning (2007), European Reference Framework, Education and Culture DG, European Communities, 3.

Kompetencje kluczowe (2002). *Realizacja koncepcji na poziomie szkolnictwa obowiązkowego*, Eurydyce, sieć informacji o edukacji w Europie, Dyrekcja Generalna ds. Edukacji i Kultury, Komisja Europejska, Bruksela, 13.

Langeheine, R. van de Pol, F. (2002), *Latent Markov Chains*, in: "Applied Latent Class Analysis", red. J.A. Hagenaars, A.L. McCutcheon, Cambridge University Press, New York.

Lazar, J. (1995), *L'opinion publique*, Paris, 1–42.

Lubke, G.H., Muthén, B. (2005), *Investigating population heterogeneity with factor mixture models*. *Psychological Methods*, 10.

Machała, P., Idzik, M. 2017, *Ja i moje plemię. Czy bank ma prawo podejść bliżej do ogniska?* Bliżej Rzecz o relacjach z klientami. Materiały konferencyjne, XVII Konferencja Finansowa Kantar TNS, 18 maja 2017.

Magidson, J., Vermunt, J.K., Tran, B. (2007), *Using a Mixture Latent Markov Model to Analyze Longitudinal U.S. Employment Data Involving Measurement Error*, in: *New Trends in Psychometrics*, red. Shigemasa K., Okada A., Imaizumi T., Hoshino T., *Frontiers Science Series*, no. 55, Universal Academy Press Inc.

Marshall, G. (2005), *Słownik socjologii i nauk społecznych*, Warszawa 2005, 357.

Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy, (2011), OECD/INFE, Paris, 3.

Miller, M., Reichelstein, J., Salasand BilalZia, Ch., (2015), *Can You Help Someone Become Financially Capable? A Meta-Analysis of the Literature*. *The World Bank Research Observer* 30(2), 220–246.

National Financial Literacy Strategy (2011), Australian Securities and Investments Commission.

Orczyk, J. (2006), *Nadwyżka wykształcenia – kłopot czy korzyść?*, in: Kryńska, E. (red.), *Polityka społeczno-ekonomiczna w dobie przemian*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź.

Poprawa reputacji sektora bankowego. Informacja prasowa 25 kwietnia 2017 r., ZBP Warszawa.

President's Advisory Council on Financial Capability (2010), Executive Order 13530, January 29, Washington, DC. 1.

Reputacja Polskiego Sektora Bankowego (2016), ZBP, Warszawa.

Szarfenberg, R. (2015), *Edukacja finansowa, ubóstwo, zdrowie finansowe gospodarstw domowych*. Materiały konferencyjne: Edukacja finansowa – nowa metoda pracy z rodzinami wykluczonymi ekonomicznie. Warszawa, 18 września 2015.

Tofighi, D., Enders, C.K. (2007), *Identifying the correct number of classes in a growth mixture model*. In G.R. Hancock (Ed.), "Mixture models in latent variable research". Greenwich.

Vermunt, J., Magidson, J. (2003), *Encyclopedia of Social Science Research Methods*, Thousand Oaks, Sage Publications.

Vermunt, J.K., Magidson, J. (2005), *Technical Guide for Latent GOLD 4.0: Basic and Advanced*, Statistical Innovations, Belmont.

Wizerunek Polskiego Sektora Bankowego (2017), ZBP, Warszawa.

Yang, C. (2006), *Evaluating latent class analyses in quality ative phenotype identification*. Computational Statistics & Data Analysis, 50.

Zarządzanie bankiem komercyjnym (2000) red. A. Gospodarowicz, Warszawa, Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku. Nauki Ekonomiczne, 20.

Zarządzanie zasobami ludzkimi w oparciu o kompetencje Perspektywa uczenia się przez całe życie (2013), red. Ł. Sienkiewicz, Instytut Badań Edukacyjnych, Warszawa.

Zoom Finanse (2017), KANTAR TNS, Warszawa.