STATISTICAL IDENTIFICATION OF INVESTOR PROFILE IN THE CROSSBORDER REGION ROMANIA - REPUBLIC OF MOLDAVIA

PhD Professor Elisabeta JABA
PhD. Candidate Luminiţa BURLACU (NAZARE)
Alexandru Ioan Cuza University, Iaşi

Abstract

The purpose of this study is to highlight the characteristics of the profile of the investor from Botoşani, Iaşi, Vaslui and Galaţi counties, Romania, as well as the profile of the investor from the counties from The Republic of Moldova. The data were obtained by applying **The Factorial Analysis of Multiple Correspondences** using a set of seven nonnumeric variables.

The objective is to reveal the characteristics that better define the profile of the investor from Botoşani, Iaşi, Vaslui and Galaţi counties, Romania, as well as the profile of the investor from the counties from The Republic of Moldova.

Keywords: profile, investor, crossborder region

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A set of nonnumeric variables was analysed. In order to identify the profile of the investor from Botoşani, Iaşi, Vaslui and Galaţi counties from Romania, and also in the regions of the Republic of Moldavia, we used data collected by applying a specific questionnaire on economic agents activating in: industry, agriculture, tourism, commerce and other services (telephone, television, advertising, restaurants, etc.). The database for the Romanian investor was built using the answers from 51 complete questionnaires. For the Republic of Moldova's counties, the database was built using the answers from 100 complete questionnaires.

The variables analyzed were:

I. The Field of Activity with the following categories: 1. Industry; 2. Agriculture; 3. Tourism; 4. Trade; 5. Services.

II. The company capital with the following categories: 1. Foreign; 2. Inland; 3. Mixed..

III. Type of enterprise with the following categories: 1. Micro (0-9 employees); 2. Small (10-49 employees); 3. Medium (50-249 employees); 4. Large (more than 250 employees).

IV. Number of dots with the following categories: 1. O; 2. More.

V. Sales figures: 1. Up to 100.000 Euros; 2. Between 100.001 – 200.000 Euro; 3. Between 200.001 – 300.000 Euro; 4. Between 300.001 and 500.000 Euros; 5. between 500.001 and 1000.000 Euros; 6. Over 1.000.000 Euros.

VI. The age of the manager: 1. Under 35 years old; 2. Between 36 and 50 y.o; 3. Over 50 y.o.

VII. Gender of the manager: 1. Male; 2. Female.

Factorial Analysis of Multiple Correspondences (AFCM) was used in this study, a method of multivariate analysis that apply in the study of associations between multiple categorical variables. The main objective of the factorial analysis of correspondences was to study simultaneously [Stafford, J., Bodson, P., 2006] the relation between two variables.

The analysis was done according to the opposing categories: centre/periphery, similarity/differences, attraction/rejection.

The tables and figures were noted consecutively, that is: 1a – Ro, 2a – Ro, 3a – Ro... for the variables analysed for the investor profile in Botosani, Iasi, Vaslui, Galati in Romania, respectively 1b - MD, 2b - MD, 3b - MD ... tables and figures for variables considered to reflect the investor's profile carrying out economic activities in the Republic of Moldova.

By applying AFCM using SPSS [Jaba, E., Grama, A., 2004] (version 13) the following results were obtained:

Eigenvalues for the first two factorial components

In Table. 1 - Ro the first factorial component explains 57% of cloud-point inertia and the second component explains 44.4% of cloud-point inertia.

In Table. 1b - Md the first factorial component explains 32% of cloud-point inertia and the second component factor explains 25, 8% of cloud-point inertia.

Eigenvalues for the first two factorial components

Table 1

Tabelul 1a - R

Model Summary

Dimension	Cronbach's Alpha	Variance Accounted For		
		Total (Eigenvalue)	Inertia	% of Variance
1	,969	14,385	,575	57,538
2	,948	11,107	,444	44,429
Total		25,492	1,020	
Mean	,960[a]	12,746	,510	50,984

a. Mean Cronbach's Alpha is based on the mean Eigenvalue.

Tabelul 1b - Md

Model Summary

Dimension	Cronbach's Alpha	Variance Accounted For		
		Total (Eigenvalue)	Inertia	% of Variance
1	,646	2,242	,320	32,024
2	,521	1,806	,258	25,806
Total		4,048	,578	
Mean	,590[a]	2,024	,289	28,915

a. Mean Cronbach's Alpha is based on the mean Eigenvalue.

The diagrams shown in pictures 1 - Ro and 1b - Md show associations between statistical variables.

The type of investor differs significantly by the age and the sex of the

manager, the field in which he operates, the type of enterprise, the number of work points, the form of capital and the turnover.

Pictures 1 – Ro and 1b - MD show that values belonging to certain categories of variables are located near the origin and others, with unique features, are projected at distance from the origin.
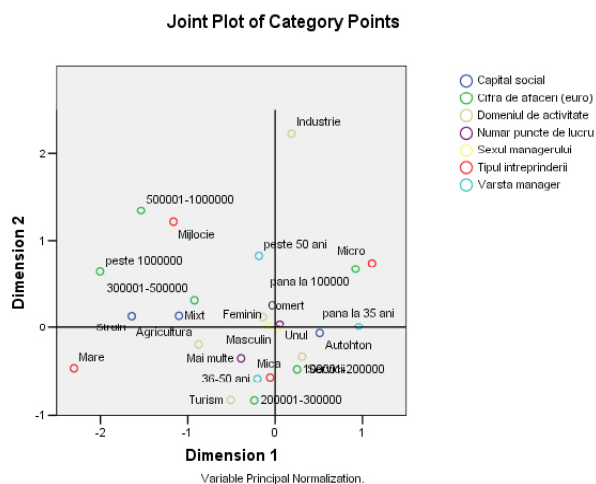
Graphical representation of variables into the first two factorial dimensions system

Picture 1 - Ro.
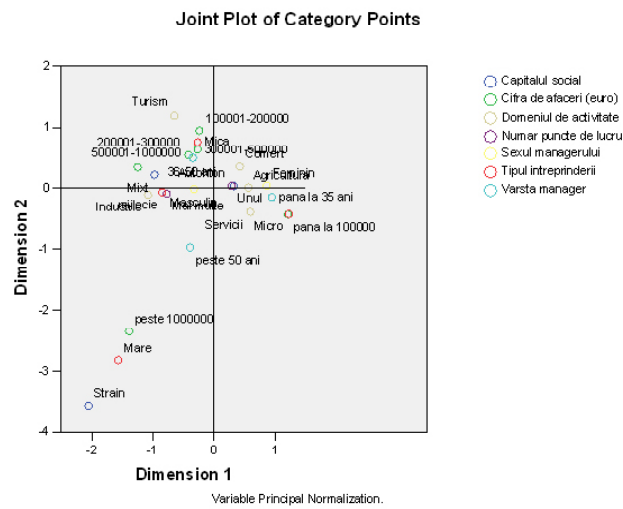
Joint Plot of Category Points

Graphical representation of variables
into the first two factorial dimensions system

Picture 1b - Md

Joint Plot of Category Points

Variable Principal Normalization.

Centroids coordinates on variables categories

Centroids coordinates on categories of the variable Field Of Activity

Table 2

Tabelul 2a – Ro	Tabelul 2b – Md

Domeniul de activitate

Points: Coordinates

Category	Frequency	Centroid Coordinates	
		Dimension	
		1	2
Industrie	14	-1,080	-,112
Agricultura	4	,567	,006
Turism	4	-,649	1,193
Comert	11	,426	,349
Servicii	18	,598	-,392

Variable Principal Normalization.

Domeniul de activitate

Points: Coordinates

Category	Frequency	Centroid Coordinates	
		Dimension	
		1	2
Industrie	6	,187	2,233
Agricultura	5	-,875	-,194
Turism	6	-,509	-,828
Comert	43	-,140	,135
Servicii	40	,309	-,331

Variable Principal Normalization.

Centroids coordinates on categories of the variable Corporate Funds

Table 3

Tabelul 3a – Ro					Tabelul 3b – Md			

Capitalul social / **Capital social**

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2		Category	Frequency	Centroid Coordinates Dimension 1	2
Strain	1	-2,055	-3,584		Strain	2	-1,642	,144
Autohton	39	,327	,031		Autohton	69	,510	-,066
Mixt	11	-,972	,215		Mixt	29	-1,101	,148

Variable Principal Normalization.

Centroids coordinates on categories of the variable Type of Enterprise

Table 4

Tabelul 4a – Ro					Tabelul 4b – Md			

Tipul intreprinderii / **Tipul intreprinderii**

Points: Coordinates

Category	Frequency	Centroid Coordinates Dimension 1	2		Category	Frequency	Centroid Coordinates Dimension 1	2
Micro	16	1,229	-,426		Micro	24	1,109	,744
Mica	21	-,267	,764		Mica	59	-,058	-,567
mijlocie	11	-,850	-,070		Mijlocie	14	-1,163	1,214
Mare	3	-1,567	-2,819		Mare	3	-2,303	-,463

Variable Principal Normalization.

Centroids coordinates on categories of the variable Number of Workstations

Table 5

Tabelul 5a – Ro	Tabelul 5b – Md

Numar puncte de lucru

Points: Coordinates

		Centroid Coordinates	
		Dimension	
Category	Frequency	1	2
Unul	37	,293	,035
Mai multe	14	-,774	-,091

Variable Principal Normalization.

Numar puncte de lucru

Points: Coordinates

		Centroid Coordinates	
		Dimension	
Category	Frequency	1	2
Unul	88	,053	,048
Mai multe	12	-,390	-,351

Variable Principal Normalization.

Centroids coordinates on categories of the variable Turnover (euro)

Table 6

Tabelul 6a – Ro	Tabelul 6b – Md

Cifra de afaceri (euro)

Points: Coordinates

		Centroid Coordinates	
		Dimension	
Category	Frequency	1	2
pana la 100000	17	1,216	-,433
100001-200000	10	-,239	,950
200001-300000	9	-,416	,534
300001-500000	5	-,266	,625
500001-1000000	5	-1,249	,337
peste 1000000	5	-1,391	-2,349

Variable Principal Normalization.

Cifra de afaceri (euro)

Points: Coordinates

		Centroid Coordinates	
		Dimension	
Category	Frequency	1	2
pana la 100000	28	,921	,677
100001-200000	30	,251	-,475
200001-300000	21	-,238	-,833
300001-500000	11	-,924	,322
500001-1000000	4	-1,536	1,344
peste 1000000	6	-2,004	,645

Variable Principal Normalization.

Centroids coordinates on categories of the variable Manager age

Table 7

Tabelul 7a – Ro	Tabelul 7b – Md

Varsta manager

Points: Coordinates

		Centroid Coordinates	
		Dimension	
Category	Frequency	1	2
pana la 35 ani	14	,950	-,148
36-50 ani	26	-,346	,489
peste 50 ani	11	-,391	-,968

Variable Principal Normalization.

Varsta manager

Points: Coordinates

		Centroid Coordinates	
		Dimension	
Category	Frequency	1	2
pana la 35 ani	17	,956	,017
36-50 ani	49	-,203	-,582
peste 50 ani	34	-,186	,830

Variable Principal Normalization.

Centroids coordinates on categories of the variable Manager Sex

Table nr. 8

Tabelul 8a – Ro				Tabelul 8b – Md			
Sexul managerului				Sexul managerului			
Points: Coordinates				Points: Coordinates			
		Centroid Coordinates				Centroid Coordinates	
		Dimension				Dimension	
Category	Frequency	1	2	Category	Frequency	1	2
Masculin	37	-,327	-,015	Masculin	73	,031	-,007
Feminin	14	,864	,039	Feminin	27	-,083	,019
Variable Principal Normalization.				Variable Principal Normalization.			

From the Picture 1a-RO and Tables 2a-Ro, 3a-Ro, 4a- Ro, 5a-Ro, 6a-Ro, 7a- Ro and 8a-Ro we can deduce that where economic agents operating in the counties of Botosani, Iasi, Vaslui and Galati, for the first scale factor, higher values of the coefficients are registered at firms engaged in Services (0.598) and Agriculture (.567), with domestic capital (0.327), type Micro (1229), single work point (.293), with a turnover up to 100,000 EUR (1216). People who run these companies are female (0.864) and aged up to 35 years (.950).

For the second dimension, in Picture 1a-RO and Tables 2a-Ro, 3a-Ro, 4a- Ro, 5a-Ro, 6a- Ro, 7a- Ro and 8a-Ro there are firms engaged in economic activities in Tourism (1193) and Trade (.349), with mixed capital (0.215), type Small (.764) with one workstation (0.035), with turnover of between 100001-200000 (0.950) between 300,001 to 500,000 Euro (0.625) and between 200,001 to 300,000 Euro (0.534) and those who lead such firms are generally aged between 36-50 years (.489) and male (0.39).

In Picture 1b-MD and Tables 2b-Md, 3b-Md, 4b-Md, 5b-Md, 6b-Md, 7b-Md şi 8b-Md we can deduce that in the business environment in Moldova, for the first factorial dimension, higher values of the coefficients are shown in firms engaged in Services (0.309) and Industry (0.187), with domestic capital (0.510), type Micro (1109), working with a single point (.053) with a turnover up to 100,000 euros (0.921) and between 100,001 to 200,000 Euro (0.251). People who run these companies are male (0.031) and aged up to 35 years (.950).

For the second dimension, we can see in the tables 1b-Md, 2b-Md, 3b-Md, 4b-Md, 5b-Md, 6b-Md, 7b-Md şi 8b-Md that there are firms engaged in economic activities in Industry (2233) and Trade (.135), with mixed capital (0.148) and foreign capital (0.144) Middle type (1, 214) and Micro type(.744) with one workstation (0.048), with turnover between -1000.000 500.001 Euro (1344) and up to 100,000 euros (0.677) and more than 1000.000 Euro (0.645) and those who lead such firms are generally more than 50 years (.830) and female (0.019).

2.3 Coefficients values of variables in two dimensions and positioning variables in two factorial axes system

Table 9 presents the values of variables in the two analyzed dimensions. Higher values of coefficients indicate better differentiation achieved by variables for

both dimensions.

. Coefficients values of variables in two dimensions

Table 9

Tabel 9 a – Ro	Tabel 9b – Md

Discrimination Measures

	Variable Weight	Dimension		Mean
		1	2	
Domeniul de activitate	5	,544	,196	,370
Capitalul social	3	,368	,263	,315
Tipul intreprinderii	4	,803	,766	,784
Numar puncte de lucru	2	,227	,003	,115
Cifra de afaceri (euro)	6	,884	,880	,882
Varsta manager	3	,342	,330	,336
Sexul managerului	2	,283	,001	,142
Active Total		14,385	11,107	12,746
% of Variance		57,538	44,429	50,984

a. Variable weights are incorporated in the Active Total statistics.

Discrimination Measures

	Dimension		Mean
	1	2	
Domeniul de activitate	,103	,394	,248
Capital social	,585	,010	,298
Tipul intreprinderii	,646	,535	,590
Numar puncte de lucru	,021	,017	,019
Cifra de afaceri (euro)	,698	,450	,574
Varsta manager	,107	,401	,294
Sexul managerului	,003	,000	,001
Active Total	2,242	1,806	2,024
% of Variance	32,024	25,806	28,915

Positioning variables in the system of the first two factorial axes

In the case of the business environment in Botosani, Iasi, Vaslui and Galati, the positioning of the variables Type of business and Turnover (Figure 2a - Ro) suggests a strong similarity between the two variables.

Positioning variables in the system of the first two factorial axes

Figure 2

Figura 2a-Ro

Figura 2b-Md
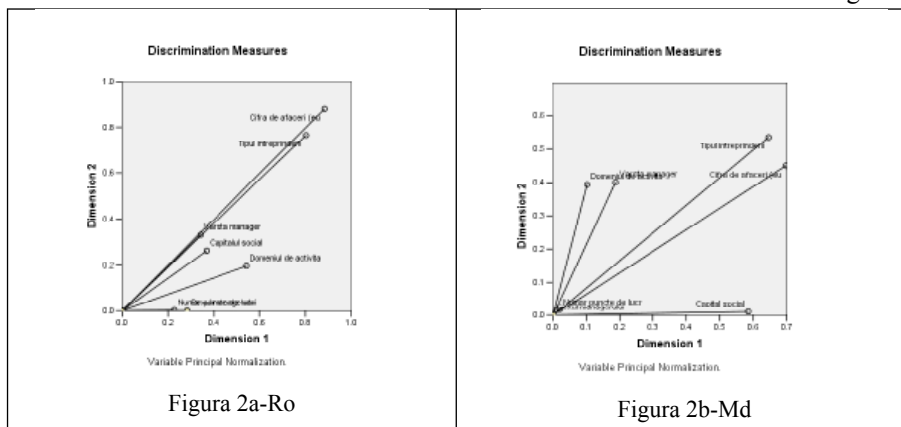
In the business environment of Moldova, the positioning of the variables Turnover and Business type (Figure 2b-MD) suggests that, as with counties in Romania, that between these two variables is a strong link.

Conclusions

The type of investor differs significantly by age and sex of the manager, the field in which he operates, the type of enterprise, number of work points, the form of capital and the turnover.

From the above, we see that there are different investor profiles for both business representatives in the counties of Botosani, Iasi, Vaslui and Galati in Romania and for business representatives in Moldova.

Thus, for the business representatives from the counties of Botosani, Iasi, Vaslui and Galati in Romania, the analysis performed by applying the AFCM method, we can define two profiles of investors, corresponding to the two dimensions studied:

- A first profile of the investor is represented by companies doing business in services and agriculture, with domestic capital, type Micro, with one workstation, with a turnover up to EUR 100,000. People who run these companies are female and aged up to 35 years;

- A second profile of the investor is represented by companies doing business in tourism and trade, with mixed capital, type Small, with single workstation, with turnover between 100,001 to 200,000, between 300001-500,000 Euro and between 200,001 to 300,000 Euro, and people who drive such firms are generally aged between 36-50 years old and male.

For business representatives in Moldova, there are two profiles of investors, which differ from those that differentiate companies from the counties analyzed in Romania:

- A first profile of investors is characterized by firms engaged in economic activities in services and industry, with domestic capital, type Micro, one workstation, with a turnover up to EUR 100,000 and that between 100 001 - 200,000 euros. People who run these companies are male and aged up to 35 years;

- A second profile of the investor is characterized by firms engaged in economic activities in the areas of Industry and Trade, with mixed and foreign capital, the Middle and Micro type, single workstation, with turnover of between 500.001 -1000.000 euro, or up to euro 100,000 Euro and more than 1000.000, and people who drive such firms are generally aged over 50 and female.

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