

ANALYSIS AND PERSPECTIVES OF PRIVATE POSTAL AND COURIER SERVICES IN ROMANIA DURING 2009-2015

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Abstract:

Services occupy an important role in a country's economic development. At present, services sector is under a continuous change and diversification, for this reason theoretical and practical approaches are both difficult and controversial. Services have complex forms of manifestation, being involved in all compartments of economic and social life; have a heterogeneous character (Criveanu, 2009, p.13). The evaluation and measurement of postal services sector through some indicators, such as: the population occupied in this sector and its change in time; internal and international traffic of mail; degree of employees' burden. The development of postal and courier sector during the period preceding 2009 was influenced by external factors such as the growth of the GDP, the development of niche segments, the ascending trend being a normal consequence of the evolution of the entire national economy. Although the field of postal services has felt the evolution of national economy and the effects of the economic crisis, the strategies adopted by private companies in this sector have demonstrated the necessity of knowing the market, its evolutions and perspectives. The present paper aims at analyzing the evolution of postal and courier services in Romania during 2009-2012, a period marked by the profound economic crisis which affected Romania and the European Union, as well as the perspectives regarding the number of employees in this sector within private companies in Romania during 2013-2015 using statistical methods to forecast the employed population in private companies in this sector.

Keywords: services, postal services market, mailings, average increase method, dynamics index method, linear trend method, the parabolic trend method, forecast

Introduction

In the European Union services represent around 70% of the economic activity, being extremely important for the Common European Market. TEU establishes the central principles which govern the Internal Market for services. It is estimated that within the European Union approximately 135 billion expeditions are manipulated annually through postal services, representing approximately 90 billion EUR, around

1% of Community's GDP. According to CAEN codes, postal and courier services (code 5320 – Other postal and courier activities) are grouped in the "Transportation and depositing" category, the development of postal and courier services, along the development of the other categories of transports "creates the possibility of attracting of a growing volume of freight to transport, facilitating the accomplishment of international economic exchanges"

(Budică I., Budică B, 2013, p.13). One of the most important issues confronting the services sector in general, and postal and courier services sector, in particular, is that of efficiently using the production capacities. The ideal situation is that in which the demand is at the optimum level of the company's capacity, case in which the personnel and its capacities are used at a corresponding level (Cetină I., 2009, p.46). One can discuss the efficiency if the field of services having in view aspects such as: the degree of satisfying consumers' needs, the measure in which these services correspond to the beneficiary's necessities etc (Criveanu, 2009, p.131).

The influence or constraints of external environment on the organization has as purpose its adaptation to the changes in the environment in which it functions (Burdus, Căprărescu et al 2000, pp.185-187). Human resources strategies, as functional strategies have the purpose of ensuring personnel with qualifications, technical competences in order to accomplish objectives on the short term (Nistorescu, 2011). Moreover we have to note the fact that "for any organizations, the employees are a determinant success factor" (Nistorescu, Barbu, Stanciu, p.37), they have an essential share in bringing to an end the supply of services. It is highly important that the managers of companies in the postal field be acquainted with the market evolution, dynamics of employees in the sector, evolution of main competitors, as well as the future perspectives of the main indicators in this domain.

Thus, in order to quantify the objective of our research in this material, we built a couple of hypotheses subject to validation:

Hypothesis 1: During the period 2009-2012 marked by economic crisis, the evolution of the postal and courier services sector was ascending.

Hypothesis 2: There is a potential of development of this field and of the labor force in private companies.

In order to validate the two hypotheses we will use data from the Statistical Yearbook, the ANCOM authority, building indicators such as the population employed in services, the population employed in the private sector of postal and courier services, the evolution of the average number of employees in the private and public sector, the traffic of mailings adherent to postal services.

For the analysis and perspectives of postal and courier services in Romania we will use chronological series of intervals and of moments, the characterization of these series will be made through absolute, relative and average indicators. When comparing with the first term of the series we have fixed base indicators, while the chain based indicators are those indicators obtained by comparing a term with that immediately preceding it (Voineagu, Țițan et al, 2007, p.153). We will use the following analysis indicators:

- The fixed base increase $\Delta_{i/1} = y_i - y_1$;
- The chain base increase $\Delta_{i/i-1} = y_i - y_{i-1}$;

The absolute indicators show how many units modified the compared element as against the comparison base element while the relative indicators (expressed through coefficients or percents) are calculated as a relation between two absolute indicators of the same phenomenon.

- The fixed base evolution index

$$I_{i/1} = \frac{y_i}{y_1} \text{ (or : *100)}$$

- The chain base evolution index

$$I_{i/i-1} = \frac{y_i}{y_{i-1}} \text{ (or : *100)}$$

The dynamics index shows the change of y phenomenon during the current period towards the level of the

phenomenon in the comparison period. It is expressed through coefficients or percents.

- The fixed base evolution rhythm $R_{i/1} = I_{i/1} - 1$ (or: -100)

- The chain base evolution rhythm $R_{i/i-1} = I_{i/i-1} - 1$ (or: -100)

The dynamics rhythm can be calculated in three manners (based on absolute levels, on absolute changes or on indexes) expresses (in relative measures) the percent with which the term compared changed towards the one used as base for comparison.

The average indicators used are:

- The series' average :

$$\bar{Y} = \frac{\sum_{i=1}^n y_i}{n} \quad \text{sau} \quad \frac{y_1 + y_2 + \dots + y_n}{n}$$

(for the chronological moments series);

- The average evolution

$$\text{increase : } \bar{\Delta} = \frac{y_n - y_1}{n-1};$$

It expresses the change registered in each period of the chronologic series. It is important for establishing the tendency of a phenomenon and for

realizing a forecast regarding the future evolution of the phenomenon (Radu, Ionaşcu et al, 2013,).

- The average dynamics index :

$$\bar{I} = \sqrt[n-1]{\frac{y_n}{y_1}} \quad (\text{or : } *100)$$

- The average rhythm of dynamics : $\bar{R} = \bar{I} - 1$ (or : -100).

Analysis of postal and courier services evolution in Romania during 2009-2012

The employed population indicator highlights the fact that a more developed a state is, a higher share of the total labor force is owned by the tertiary sector. In the developed countries over 2/3 of the employed population is employed in services sector, while in the countries with an average or low level of development this indicator highlights that 30-50% work in services. An analysis of the tertiary sector at international level highlights the fact that services have a growing tendency, the labor force moving towards the activities in this sector.

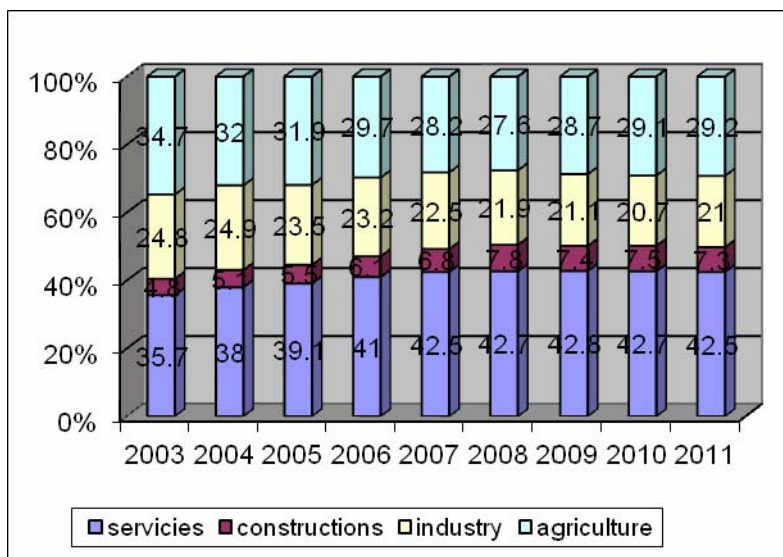


Figure 1. Civil employed population, on main activities of national economy

Source: Statistical Yearbook of Romania, 2010, p.117, 2012

In Romania, the population employed in the services sector increased during 2003-2011 reaching 42%. There is a tight connection between the level of economic development and the structure of national economy, between the level of the GDP per inhabitant and the quota of services to the employed population (Ionică, 2006, p.45).

One can notice an oscillation of the population employed in agriculture and industry, but, the trend of the latest years is decreasing, however, within services one can notice an increase in the population employed although the beginning of the economic crisis was strongly felt in the tertiary sector also.

In Romania the postal and courier services market is regulated through

European Union directives transposed into national legislation.

The market of postal and courier services in Romania knew for the last 5 years a sinuous evolution being marked by a significant decrease in the traffic of mailings during 2009 and 2010 followed by an increase and stabilization of the market for the next 2 years. However, the dynamics of domestic mailings as against international mailings is different, international traffic being characterized by moderate alternative increases and decreases. During this period the most significant decreases were registered by the supplier of universal services (CNPR) for the last two years, these diminishes being of under 10%.

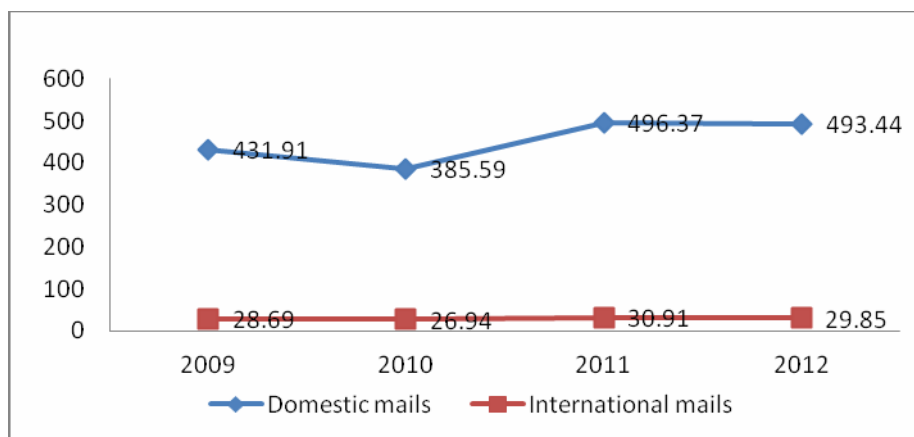


Figure 2. Evolution of domestic and international traffic during 2009-2012 (million mailings)

Source: National Authority for Administration and Regulation in Communications (ANCOM)

However, in the private sector the traffic has increased, 2012 representing a peak of the total traffic of private suppliers. These increases were due, on the one hand, to the development of new services and niche segments (i.e.

e-commerce), on the other hand, investments in performing technological equipments have increased the quality of services supplied to ever more demanding consumers.

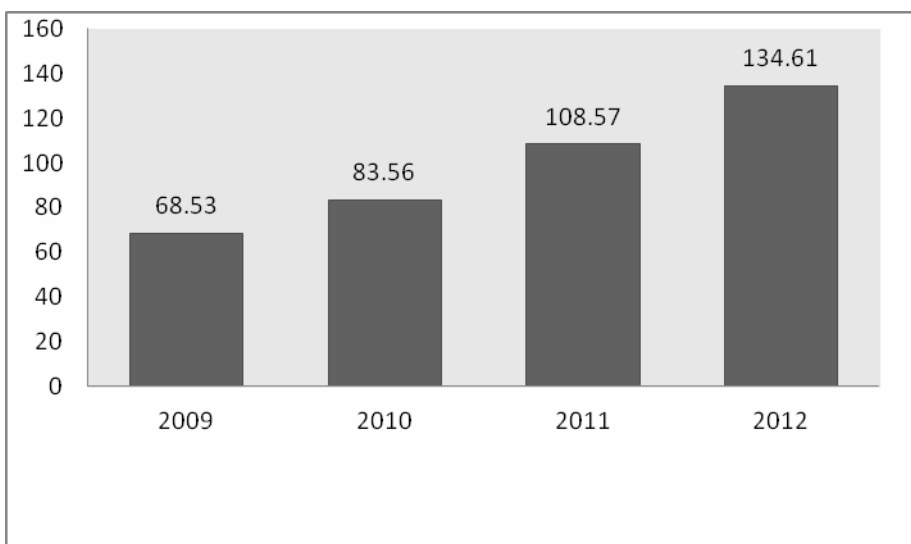


Figure 3. Evolution of postal mailings of private suppliers during 2009-2013 (million mails)

Source: National Authority for Administration and Regulation in Communications (ANCOM)

The evolution of postal mail traffic of private suppliers is characterized through the indicators present in the next table.

Table 1
Absolute, relative and average indicators for postal mail of private suppliers in Romania

Years	Absolute indicators (million mails)			Relative indicators (%)				Average Indicators			
	Of level	Absolute changes		Dynamics index		Growth rhythm		Calculated from absolute values		Calculated from relative values	
	Values Y_i	$\Delta_{i/1}$	$\Delta_{i/i-1}$	$I_{i/1}$	$I_{i/i-1}$	$R_{i/1}$	$R_{i/i-1}$	$\bar{Y}$	$\bar{\Delta}$	$\bar{I}$	$\bar{R}$
2009	68,53	0	-	100	-	0	-	98,82	22,03	125,24	25,24
2010	83,56	15,03	15,03	121,93	121,93	21,93	21,93				
2011	108,57	40,04	25,01	158,43	129,93	58,43	29,93				
2012	134,61	66,08	26,04	196,42	123,98	96,42	23,98				

One can notice that the traffic of postal services of private suppliers register a strong growth, especially during 2011 when an increase of 25,01 million mails occurred. During the entire period analyzed (2009-2012) it was registered an average value of private

postal mails of 98,82 million mails, an average positive change of 22.03 million postal mails, an average index of the dynamics above the figure 1 of 125.24%, which means a positive average rhythm of 25.24%.

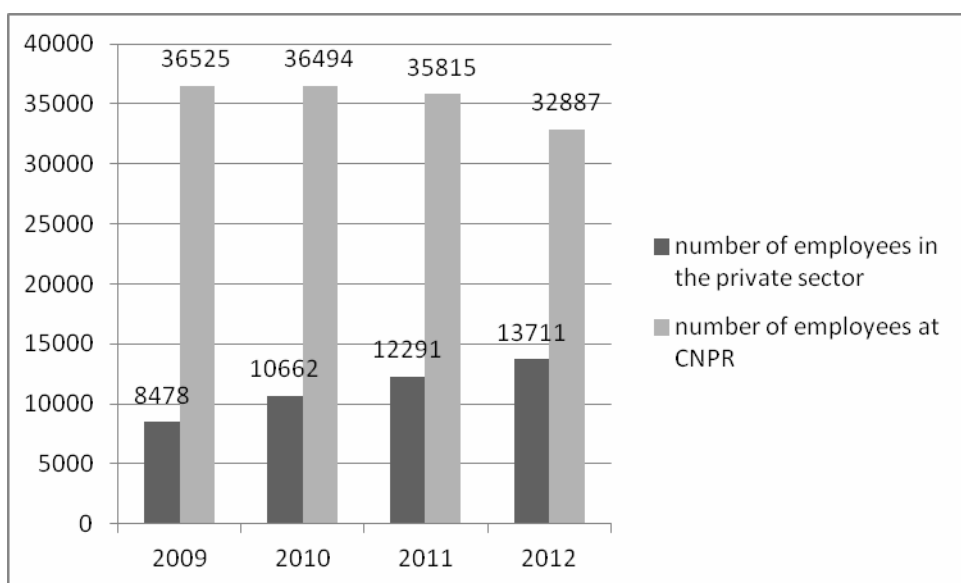


Figure 4. Dynamics of the number of employees in the private sector and CNPR during 2009-2012

Source: National Authority for Administration and Regulation in Communications (ANCOM)

The period 2009-2012 was marked by the economic crisis which was felt both in the private sector and within the universal service supplier (CNPR). Following 2008 when the private sector counted 11578 employees and the

decrease with 3100 employees in 2009 the human resource from the private sector followed an ascending evolution characterized through the subsequent indicators.

Table 2
Absolute, relative and average indicators for the number of employees in Romania (thousand employees)

Years	Absolute indicators (thousand persons)			Relative indicators (%)				Average indicators			
	Of level	Absolute changes		Dynamics of change		Rhythm of growth		Calculated from absolute values		Calculated from relative values	
	Values Y_i	$\Delta_{i/1}$	$\Delta_{i/i-1}$	$I_{i/1}$	$I_{i/i-1}$	$R_{i/1}$	$R_{i/i-1}$	$\bar{Y}$	$\bar{\Delta}$	$\bar{I}$	$\bar{R}$
2009	8,48	0	-	100	-	0	-	8,51	1,74	117,37	17,37
2010	10,66	2,18	2,18	125,71	125,71	25,71	25,71				
2011	12,29	3,81	1,63	144,93	115,29	44,93	15,29				
2012	13,71	5,23	1,42	161,67	111,55	61,67	11,55				

One can notice that the number of employees from the private sector registers a strong growth, especially

during 2010 when a growth of 2.18 thousand employees occurred. Averagely, in the private sector there

are 8.51 thousand employees per year, a positive average change of 1.74 employees, an average index of dynamics above the figure 1 of 117.37%, which means a positive average rhythm of 17,37%. From the analysis of tables 1 and 2 one can notice that the average index of postal mail dynamics is higher than that of the

average index of employees dynamics, while the average rhythm of postal is higher than that of employees. The degree of employees loading, calculated as a ratio between postal mails traffic of the private sector and the number of employees, has an ascending evolution.

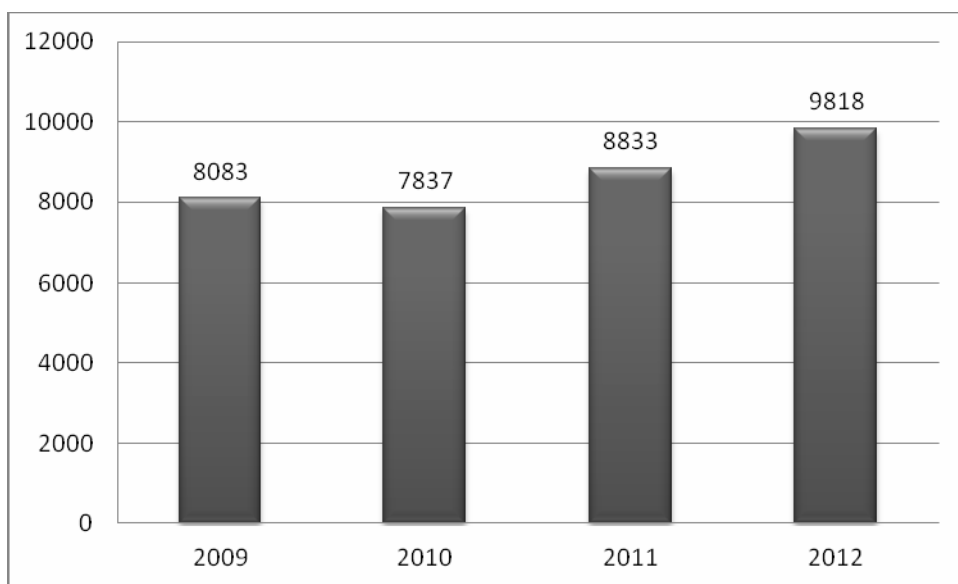


Figure 5. Degree of employees from the private sector loading during the period 2009-2012 (number of mails/employee/year)

Source: Authors analysis based on data from the ANCOM

Perspectives of private postal and courier services in Romania during the period 2013-2015

In order to analyze the perspectives for postal and courier services in Romania, we will establish the tendencies in the evolution of postal services through the use of several statistical-mathematical methods (average increase, average index, trend) the best method for forecasting being elected from among those,

calculating the average square deviation (σ) and the variation coefficient (v).

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (y_i - \tilde{y}_n)^2}{n}};$$

$$v = \frac{\sigma}{\bar{y}} * 100$$

Further we choose the population employed in the private sector. The subsequent methods will be used:

1) Average increase method ($\bar{\Delta}$)

Table 3

Years	y_i (thousand pers)	t_i	$\tilde{y}_i = y_1 + t_i \cdot \bar{\Delta}$	$(y_i - \tilde{y}_i)^2$
2009	8,48	0	8,48	0
2010	10,66	1	10,22	0,1936
2011	12,29	2	11,96	0,1089
2012	13,71	3	13,7	0,0001
Total				0,30

It is a method using a model of calculus which includes the absolute average change $\tilde{y}_i = y_1 + t_i \cdot \bar{\Delta}$

where: y_1 – first term of the series;
 $\tilde{y}_i$ – adjusted value of the series
 at t moment;

2) Dynamics index method

Table 4

Years	y_i (thousand pers)	t_i	$\tilde{y}_i = y_1 \cdot \bar{I}^{t_i}$	$(y_i - \tilde{y}_i)^2$
2009	8,48	0	8,48	0,00
2010	10,66	1	9,95	0,50
2011	12,29	2	11,68	0,37
2012	13,71	3	13,71	0,00
Total				0,87

It is also a mechanical method as the average increase method, however, it takes into account the average dynamics index, the adjustment being made through the relation: $\tilde{y}_i = y_1 \cdot \bar{I}^{t_i}$

The analithical methods used are: laniary trend method and parabolic trend method. They offer a more precise adjustment of the series taking into account all its terms.

3) Linear trend method

Table 5

Years	y_i (thousands pers)	t_i	t_i^2	$y_i \cdot t_i$	$\tilde{y}_i = a + b \cdot t_i$	$(y_i - \tilde{y}_i)^2$
2009	8,48	-3	9	-25,44	8,69	0,04
2010	10,66	-1	1	-10,66	10,42	0,06
2011	12,29	1	1	12,29	12,26	0,00
2012	13,71	3	9	41,13	13,89	0,03
Total		0	20	17,32		0,13

$a = \bar{Y} = 8,51$ thousands persons.

$$b = \frac{\sum y_i \cdot t_i}{\sum t_i^2}$$

4) *The parabolic trend method*

Table 6

years	y_i (thousand pers)	t_i	t_i^2	t_i^3	t_i^4	$y_i \cdot t_i$	$y_i \cdot t_i^2$	$\tilde{y}_i = a + b \cdot t_i + c \cdot t_i^2$	$(y_i - \tilde{y}_i)^2$
2009	8,48	-3	9	-27	81	-25,4	76,3	8,49	0,0001
2010	10,66	-1	1	-1	1	-10,7	10,7	10,61	0,0025
2011	12,29	1	1	1	1	12,29	12,3	12,35	0,0036
2012	13,71	3	9	27	81	41,13	123	13,71	0,0000
Total		0	20	0	164	17,32	223		0,0062

$$na + c \sum t_i^2 = \sum y_i$$

$$b \sum t_i^2 = \sum y_i \cdot t_i$$

$$a \sum t_i^2 + c \sum t_i^4 = \sum t_i^2 \cdot y_i$$

we obtain $a=11,53$, $b=0,87$ și $c = -0,048$.

One can notice that the method of the parabolic trend adjusts the database better, $v=0,65\%$.

The forecast of the employed population in the postal and courier services sector during 2013-2015 is determined using the appropriate trend functions through the parabolic trend method. The forecast of the number of employees is determined according to the following table:

Table 7

Forecast of employees evolution in the private sector of postal and courier services during 2013-2015 (thousands persons)

years	t_i	$\tilde{y}_i = a + b \cdot t_i + c \cdot t_i^2$
2013	5	14,68
2014	7	15,27
2015	9	15,47

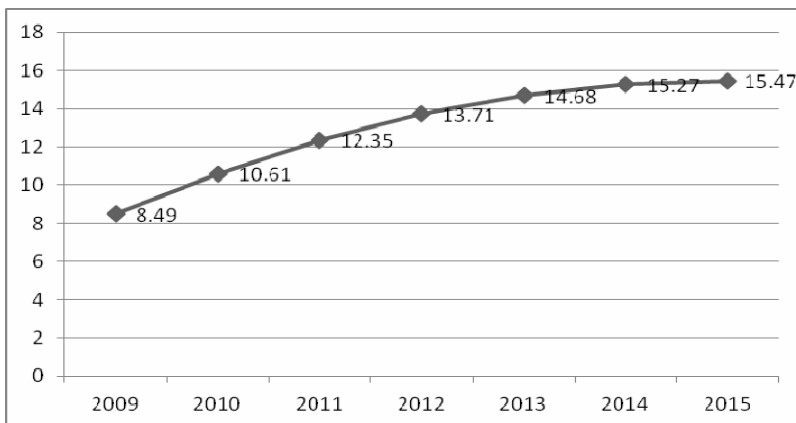


Figure 6. Forecast of the number of employees within the private sector during 2013-2015

Conclusions

Postal and courier services market is an important pillar in the efforts of the European Union to consolidate the Common Market. TEU lays the foundation of the central principles governing the common market for services. The transposition in the Romanian legislation of European Union directives, the economic situation in our country have determined, on the one hand, the stabilization of the market and postal services suppliers, and, on the other hand, private companies in this sector have adopted diverse strategies in order to maintain

themselves on the market and to increase the degree of customer satisfaction. Postal and courier services market has reached in 2012 to the value of approximately 250 billion EUR. Private companies in this domain represent an opportunity to employment, although the number of employees in the private sector in Romania during 2008-2010 has registered a descending evolution. We have to note at this point that we consider the two hypotheses being through validated through our empirical research.

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