

KNOWLEDGE BASED ECONOMY IN ROMANIA: COMPARATIVE APPROACH

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Abstract:

The knowledge-based economy places great importance on the diffusion and use of information and knowledge as well as its creation. The determinants of success of enterprises, and of national economies as a whole, is ever more reliant upon their effectiveness in gathering and utilising knowledge.

This paper is based on 2 different surveys, 4 years apart, on Romanian companies, addressing perception of knowledge based economy by local CEOs or entrepreneurs. It emphasize the changes in perception of this topic and the trends in this matter.

Key words: knowledge based economy; Romanian companies; awareness of KE; transition to KE

1. Introduction

In the contemporary economy, learning and knowledge have become key success factors for both companies and national economies. Competition between firms and countries moved in large part from tangible resources to intangible ones. In terms of the latter, elements such as knowledge and ability to use it (knowledge based economy and knowledge based management) are crucial.

Knowledge becomes the basic resource of companies, the way they get power, prestige and wealth in the economy and modern society. Generation, acquisition and use of knowledge - to name just a few of the transformation of knowledge - are extremely important for sustainable economic, social and cultural development. This trend applies equally to individuals, organizations, institutions, companies, regions or states.

2. Literature survey

The concept of knowledge-based economy and its variants - "knowledge economy", "new economy" or "intangible economy" (Coyle, 1999) - is widely used and increasingly in a variety of contexts and with several meanings. We therefore consider it useful to present some considerations on the use of the term in the literature (Huang & Soete, 2007):

Knowledge-based economy is linked to an extent rooted in what came to be seen as the key role of high-tech industry growth and competitive advantage. It is also due to the increasing application of information and communication technologies and the spread of

digital technologies in various different types of activity. So in other words, knowledge-based economy was initially addressed as the sum of high-tech and telecommunications industries. They remain an important component, but now knowledge-based economy is addressed more broadly and is seen as broader than simply overall high-tech and telecommunications industries.

Most of the literature points to the difference between "knowledge" and "information" or between explicit and tacit knowledge (Lundvall & Johnson, 1998). Without denying their importance, we believe that for knowledge based economy both types of knowledge are important, suffering various conversion processes.

In other works (Ordoñez & Serrat, 2009) is the difference between knowledge found in natural products and therefore can be used or applied by others to add value in the production and knowledge built form of human capital.

Process innovation, generation and in particular, application of knowledge to generate new products or services, also occupies a central place in the literature devoted to the knowledge economy. However, more recent work (Sissons, 2011) tends to address broader concept, addressing not only innovation.

Spatial geographic knowledge based economy is also important, authors considering that networks and clusters are vital in generating and sharing various types of knowledge and innovation. This was reflected in such concepts as "regional innovation systems" or "learning regions", found mainly in United Kingdom, as generators of wealth. Other recent works (REKENE, 2011) have emphasized the importance of a wider geographical approach than the regional knowledge based economy. This includes knowledge workers and / or knowledge based activities and the role they can play in driving innovation and economic development at national level. Florida (2002) emphasizes the key role of "social class creative" in generating competitive advantage.

A global knowledge-based economy creates simultaneously significant opportunities and threats for all countries, but especially for those who struggle to combat widespread poverty and create sustainable development, or those who are in transition from the centralized forms of economic organization to democratic forms.

To create these opportunities and face the risks, a country must simultaneously provide three premises (Jones, 2002):

- Set up a coherent, multi-dimensional national strategy, to build and support knowledge-based economy;
- Develop this strategy in a participatory manner, using a broad-based support to include all major sectors of society including the private sector, education, scientists, civil society, media and others;
- Implement a strategy to create knowledge-based economy in a sustained and persistent manner, carefully balancing priorities in the context of increasingly openness to the unpredictable and highly competitive global economy.

There are four essential and interrelated components of any strategy to create a knowledge based economy (Ásgeirsdóttir, 2005):

First: Creating a stimulating economic and institutional environment, to encourage widespread and efficient use of local and global knowledge in all sectors of the economy, fostering entrepreneurial spirit and enabling and supporting economic and social transformations generated by the knowledge revolution;

Two: Creating a society based on qualified, creative and flexible employees (Ceptureanu S., Ceptureanu E., 2010), offering opportunities for quality education and lifelong learning available to all, and a flexible and appropriate public and private funding;

Three: Building a dynamic ICT infrastructure and ICT sector has a competitive and innovative solutions and services to promote information and communication available to the economy and society (Verboncu et al., 2009). These services will include not only "high end" products such as internet and mobile telephony, but also a wide range of communications services and other elements of a developed information society, such as radio, television and other media, computers and other devices for storing, processing and use of information.

Four: Creating an efficient system of innovation including companies, research centers, universities, think tanks (Ceptureanu S., Ceptureanu E., 2010), facilitating access and use the growing stock of global knowledge, adapting it to local needs and using it to create new products and services.

3. Research

We followed two main topics during research: familiarity of the subject with KE and perception of KE.

I. Familiarity of the subjects with KE

According to the first survey, 45.37% of subjects responded that they are familiar with the concept, 35.39% said they were partly familiar and 19.24% have never heard of it. So, overall, the situation is favorable, more than 80% of investigated managers saying that they at least know the concept.

In the latter research, the figures improved even more, with more than 93% of interviewed managers being more or less familiarized with KE.

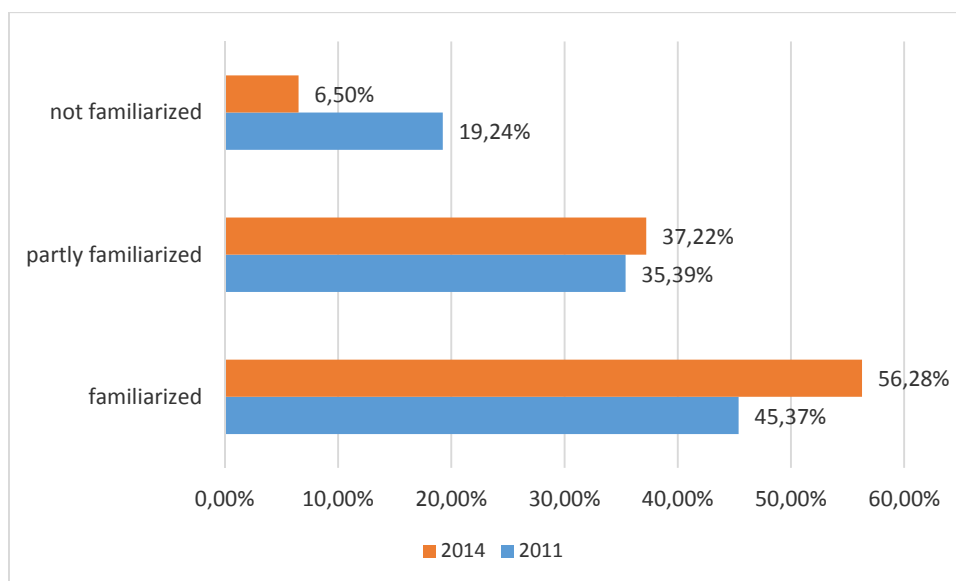


Figure 1. Familiarity with the concept of knowledge-based economy in Romanian companies

Source: own research

Considering **the age of companies**, in the first research we found out that managers of companies established in the last 10 years are more familiar with the concept of knowledge based economy than those of older firms. By category, the percentage is highest among young (62.5%) and very young companies (59.48%), while the proportion of managers who have not heard of the knowledge economy is highest among mature ones (57.63%). This finding is not surprising, in that it was expected that young firms to be more connected and more willing to use opportunities generated by the new economy. The trend was observed in the latter research. The most important change was for mature companies (10 to 15 years old), where the percentage of familiarity with KE increased by 11,63% and partly familiarized by 17,67%. So, older companies become more aware of KE.

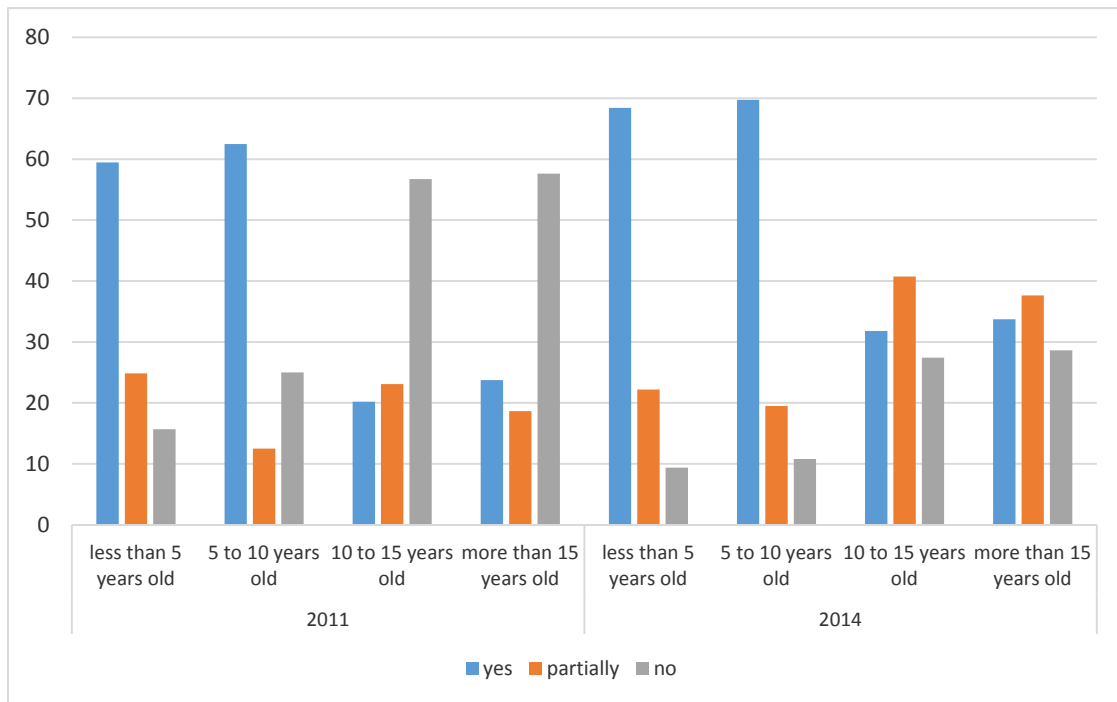


Figure 2. Familiarity with the concept of knowledge-based economy in Romanian companies, by age

Considering Romania's **development regions** we found out during first research that firms localized in Bucharest are more familiar with knowledge-based economy (30.8%), followed by companies form Central Region and the North West Region, and while at the opposite side were companies from North East (15.9%) and South East Regions. The heterogeneity based on geographical situation is still present during the second research. There were regions like Bucharest and South were the percentage of companies familiarized to KE increased, while the percentage decreased in North East and West Regions. However, considering respondents partly familiarized to KE, overall the situation improved, South and South East regions performing best.

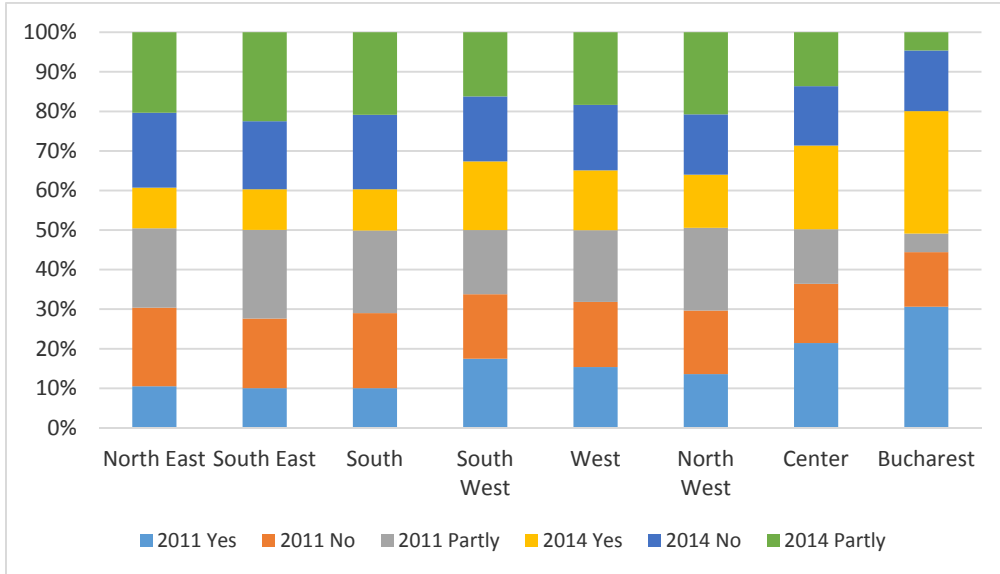


Figure 3. Familiarity with the concept of knowledge-based economy in Romanian companies, by Development Regions

Source: own research

By size of companies investigated, we concluded in the first research that knowledge based economy is known predominantly in small (53%) and medium companies (41.74%), while the most unfavorable situation is among micro companies (40.91% of surveyed managers stated that they did not know the concept). In large companies there is the highest percentage of respondents stating the notion of knowledge-based economy is known in part. These findings are validated by the fact that in knowledge based economy SMEs are advantaged by their organizational flexibility and adaptability, enabling them to cope better their customers' requirements, on the one hand, and the type of business pursued by managers (predominantly service or trade), on the other hand.

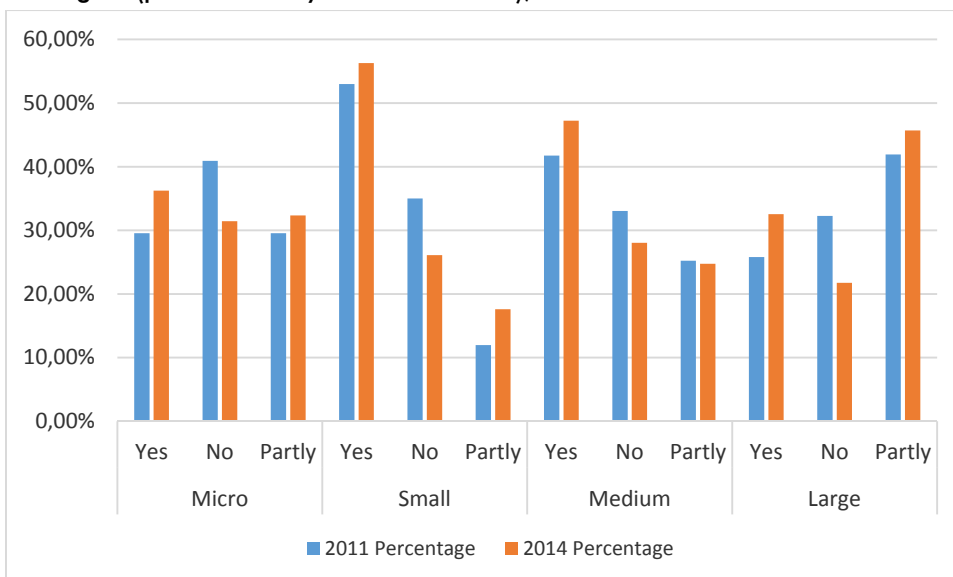


Figure 4. Familiarity with the concept of knowledge-based economy in Romanian companies, by size

Source: own research

In the second research the trend was present, overall the situation improved. The highest percentages in familiarity with KE were registered in large and micro companies, but the concept was still best known in small (56,28%) and medium (47,22%) sized companies.

Considering their **legal form**, in stock companies notion of knowledge-based economy is best known (67.39%), followed by other forms of organization with 43.33% and limited liability companies (40.6%). The situation is similar in the second research, with slightly different percentages among categories. Although it may seem a contradiction considering size criterion, where managers of small and micro firms were most aware of the concept, it is not the case because many small firms in sectors such as services and trade can be organized as stock companies. Weakest in terms of familiarity are limited liability companies with a share almost identical between those who know and have no idea (40.6% and 40.35%).

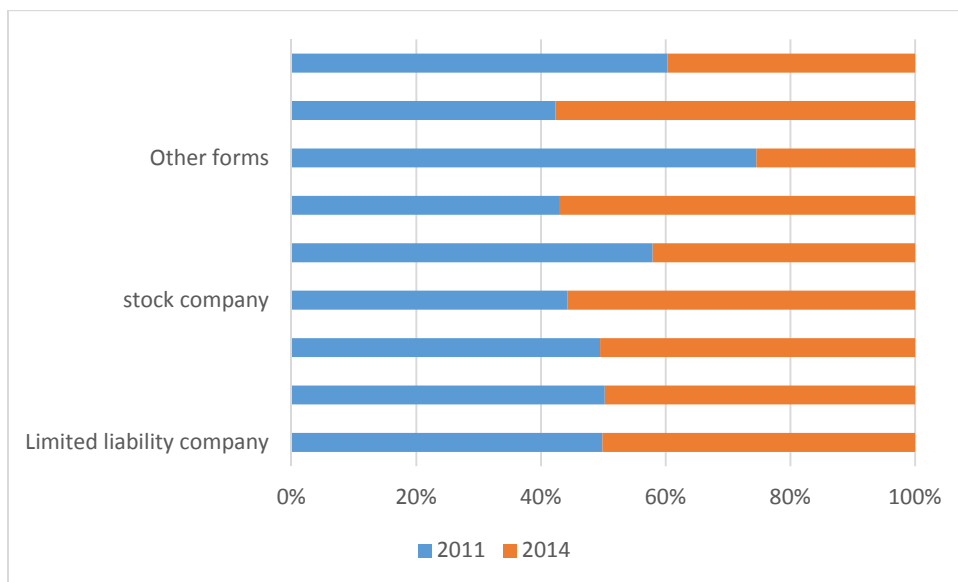


Figure 5. Awareness of knowledge based economy in the investigated companies, by legal status

Source: own research

By industry, knowledge based economy is well known in services and manufacturing, with percentages exceeding 50%, and trade, with almost 50%, while in tourism, construction and especially transport is worst in this respect. Biggest changes occur in manufacturing and transportation four years later (considering partially familiarization), but tourism recorded highest percentage in terms of managers familiarized to KE.

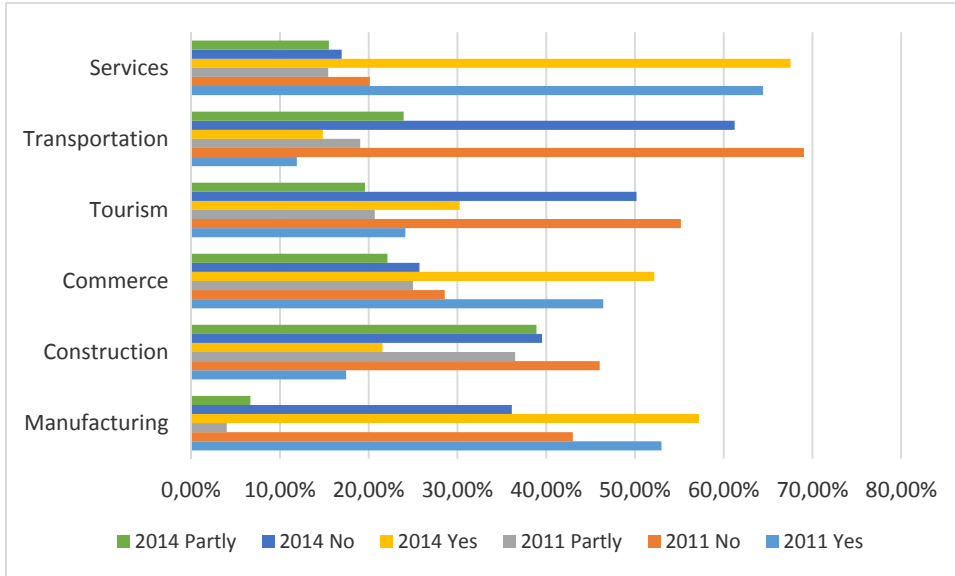


Figure 6. Percentage of knowledge based economy awareness in the investigated companies, by industry

Source: own research

Finally, **by ownership**, surprisingly, state owned companies are more familiar with the concept (50%), higher than private firms (45.27%), but the result is influenced by the share of small firms in the sample state (2.18% of total). Four years later, situation was better for state companies, were more than 60% of investigated managers are familiarized with KE, while in private companies more managers are aware of KE, even though to a lesser extent.

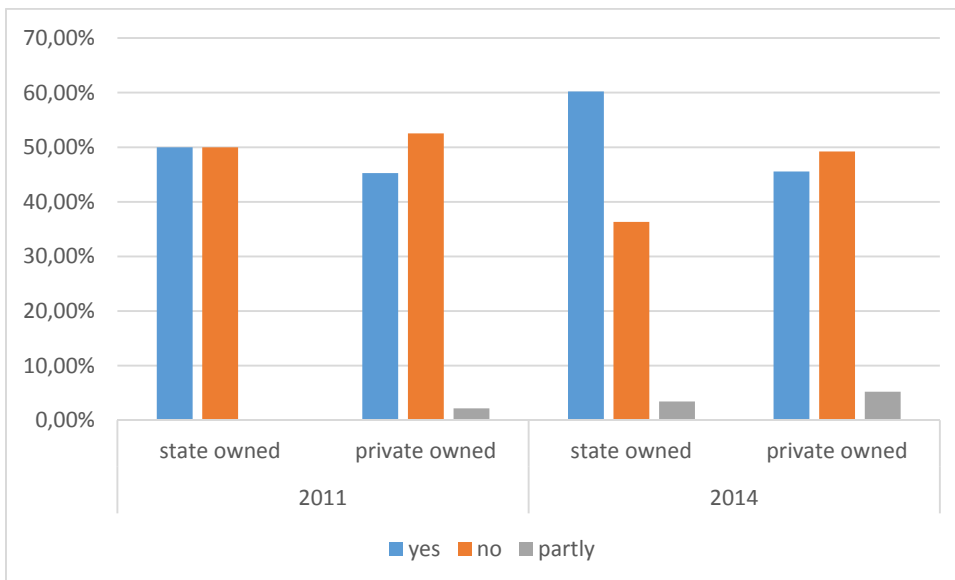


Figure 7. Awareness of the concept of knowledge-based economy in companies investigated, by ownership

Source: own research

II. Perception of Romania's transition to knowledge based economy among Romanian managers

Regarding Romanian companies' managers perception of country's transition to knowledge-based economy, managers of more than half of the companies analyzed (56.44%) believe that this is an opportunity, one third perceive as a threat (35.39%), while 8.17% have a neutral attitude. Four years later, more managers see KE as an opportunity, a clear evidence that the awareness level has increased and the advantages for companies are more evident.

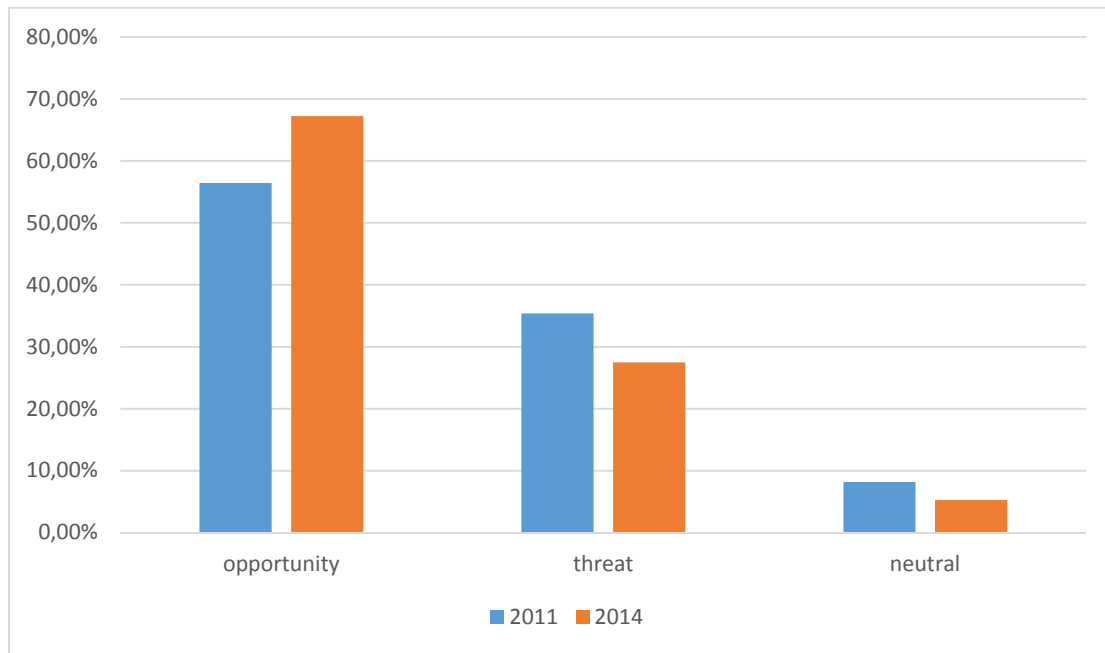


Figure 8. Perception of Romania's transition to knowledge economy
Source: own research

Considering **the age** of surveyed companies, the very young (79.74%) and young companies (65.91%) perceived the transition as an opportunity, while in mature and old firms is the other way around (56.73% for firms from 10 to 15 years old and 57.63% for firms older than 15 years). In the second research, the biggest change in this perception occurred for mature companies (10 to 15 years old), where percentage of those perceiving KE as an opportunity increased with more than 17%. Overall, for old companies KE is still perceived more as a threat, while in the others is seen as an opportunity.

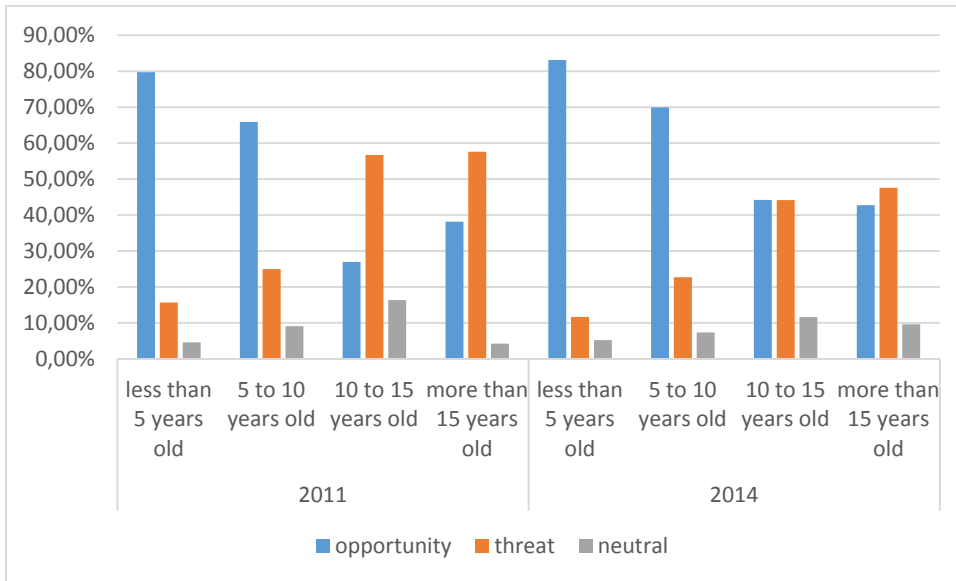


Figure 9. Perception of Romania's transition to knowledge economy, by companies age
Source: own research

Considering **development regions**, the transition of Romania to the knowledge economy is seen as an opportunity for companies in absolutely all developing regions, with higher percentages in the South (87.50%), Southeast (87.23%), West (86.79%) and South Western (86.15%) regions, while higher proportions of distrust were found in Bucharest (26.85%) and North East (20.83%) Regions. The situation remains the same 4 years later, with small scale changes among regions. For instance, in Bucharest and South more companies are willing to capitalize on opportunities of KE (+4,67% and +2,61%, respectively), while companies in West Region are slightly more reluctant (-1,31%).

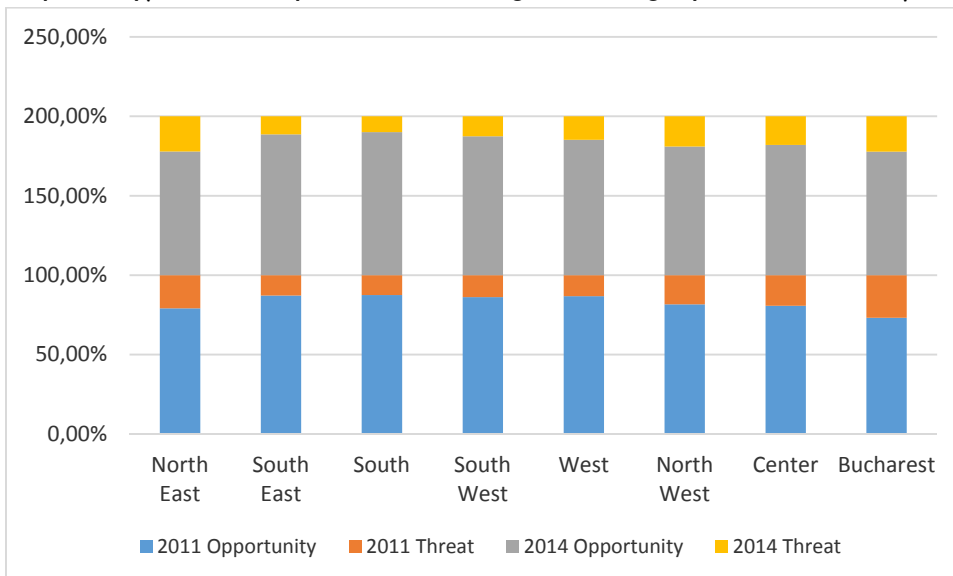


Figure 10. Perception of Romania's transition to knowledge-based economy, on development regions

Source: own research

By **size class**, managers of large companies see the transition as generating opportunities (80.65%), while medium-sized companies are facing the most striking negative attitude (22.61%). However, for the same medium sized firms our research reveals a strong segmentation between the two approaches - opportunity or threat, undecided percentage is below 1%, while for managers of small firms we find the highest percentage of neutral attitude (18.61%). The situation roughly remains the same four years later.

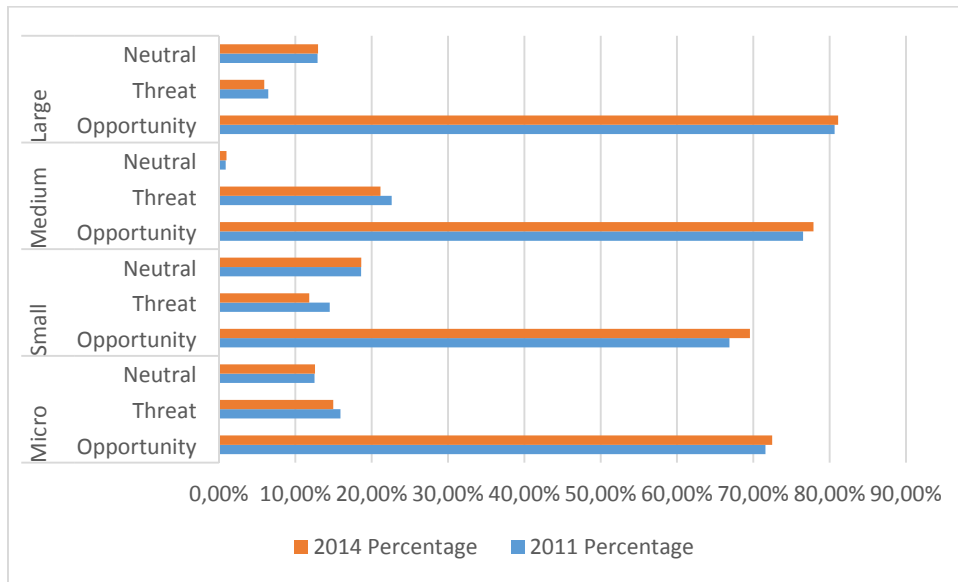


Figure 11. Perception of Romania's transition to knowledge economy, by size of surveyed companies

Source: own research

4. Conclusions

Knowledge based economy is a concept known for most of Romanian companies' managers or entrepreneurs, a trend intensified 4 years later. By the age of the surveyed companies we found that managers of companies established in the last 10 years are more familiar with the concept than those of older firms. In the Bucharest Development Region we found out that firms are most familiar with the concept of knowledge-based economy followed by the North Central Region and Western Region. In the last 4 years, South Region is increasingly catching up. By size, predominantly small (53%) and medium companies (41.74%) are familiar with the concept. By legal form, in joint stock companies' knowledge-based economy is best known, followed by other forms of legal form (GP, partnership, etc.) and limited liability companies.

Considering industry, the concept is best known in services and industry, but in the last years tourism and especially transport are improving their situation. By ownership, state owned companies are more familiar with the concept than private firms. In terms of perception of our country's transition to knowledge-based economy, managers of most of the investigated companies believe that this is an opportunity, and the trend is favorable in this respect. By age, in very young and young companies transition was perceived as an opportunity, but in the last four years mature companies are catching up at an increased pace. By Development regions, our country's transition to knowledge-based economy is seen

as an opportunity to absolutely all developing regions. By **size class**, managers of large companies see the transition as generating opportunities while medium-sized companies are facing the most striking negative.

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