

INNOVATIONS IN SMES IN THE SERVICE SECTOR IN ROMANIA  
BETWEEN 2000 AND 2008  
AND ENTREPRENEURSHIP AS APPLICATION WITH SOME OUTPUTS

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**Abstract:** *In the present paper we study how we can measure innovation in SMEs per total and in the sector of services .We present here a study done on the values of the share of turnover of innovative product business with innovations from the total turnover of innovative enterprises by size, class and economic activity expressed in percentage . The values used in the present study are for Romania in the period 2000 and 2008, when were the first registration for these types of data. We study the following cases: products unchanged or partially changed, new or significantly improved products, new business and new or significantly improved products, new market. Studies are made for total, small and medium SMEs and for the service sector.*

**Keywords:** *innovations, SME (small and medium enterprises), service, entrepreneurship.*

### 1. Introduction

According to the Statistical Yearbook 2009, 2010 published by National Statistics Institute from Bucharest [1,2] the scope of the active companies with over 9 employees, which does business and that the main economic activity in the following areas are :

-*Industry* (NACE Rev., 2 divisions: 05-09, 10 to 33.35, 36-39);

-*Services* (NACE Rev., 2 divisions: 46, 49-53, 58, 61, 62, 63, 64-66, 71),

*Innovation* is an activity that results in a product (good or service) new or significantly improved or new or significantly improved process, a new method of marketing or a new method organizational

Innovation is based on the results of new technology, of technological developments, new combinations of existing technology or knowledge obtained using other enterprise, innovation must be new for the company, but need not be new to the industry or market no matter if the innovation originally appeared respondent or other business enterprise,

*Product innovation* means the introduction of a good or service new or significantly improved with respect to its characteristics, such as an improved software, user-friendly introduction to elements, components or subsystems,

Corresponds to the implementation of a process innovation production process, a method of distribution or a new or significantly improved support activities [3,4],

*Innovative companies* are companies that have launched products (goods or services) new or significantly improved marketing or introduced new or significantly improved processes or new methods of organization and marketing, the term covers all types of innovators, product innovators, process, methods of organization and methods of marketing, as well as unfinished or abandoned innovation enterprises refer to enterprises and assets,

*Technological innovation enterprises* are those businesses that have products or new processes or significantly improved.

*Companies with non-technological innovation* are those companies that have introduced methods of organization or marketing new or significantly improved.

*Completed or abandoned innovation enterprises* are enterprises which have completed or abandoned innovation to develop or introduce new or significantly improved products (goods or services) or implement new processes, including research and development,

*Non-innovative enterprises* are enterprises which had innovative activities during the analysis, the company responded to a limited set of questions in a survey about the lack of innovative.

In the present paper we study how we can measure innovation in SMEs per total and in the sector of services .

We present here a study done on the values of the share of turnover of innovative product business with innovations from the total turnover of innovative enterprises by size class and economic activity expressed in percentage. The values used in the present study are for Romania in the period 2000 and 2008 , when were the first registration for these types of data. We study the following cases: products unchanged or partially changed, new or significantly improved products, new business and new or significantly improved products, new market. Studies are

made for total small and medium SMEs and for the sectors of services and a last particular case is an application of innovation in services : the entrepreneurship and his outputs for the GEM countries in 2010, including Romania too.

## 2. Literature review

Small and medium enterprises (SMEs )are considered to be the engine of economic growth and employment. One of the primary means through which SMEs are expected to accomplish this task is by developing and commercializing innovations. Innovation may be even more important for SMEs than for large firms [ 9].

Because of the importance of the SME sector in creating economic growth, developed and developing countries are very interested in finding ways to stimulate SMEs in realizing innovations [9].

Most published research studies, which deal with determining factors significant for SMEs innovation, come from developed economies. It was noted in in the study of Hadjimanolis from 1999: “The study of innovation, including the obstacles to its successful implementation, while relatively well re- searched in the industrialized countries is rather neglected in less-developed countries”. It is not known to which extent the findings from developed countries can be generalized to developing economies[10].

Stimulating innovation in SMEs is an important problem for an economy; a number of studies were conducted recently with the goal to discover which factors contribute to innovation efforts by SMEs [11].

*The factors that have effect on innovation can be divided into internal and external*, where internal variables refer to characteristics and policies of SMEs while external variables refer to opportunities that SME can seize from its environment [10,11].

*Internal factors* are the following:

- High incidence of qualified scientists and engineers, and strong leadership provided by a highly educated director or founder [12,13].
- Strategy have impact on innovation in SMEs [12,13].
- Investments in R&D [14,15 ].
- The nature of the commercialization and marketing effort, the degree of marketing involvement in product planning and firm competence in the area of technology strategy and technology management [16].

*External factors* were grouped by Keizer and his team into three sets:

- Collaboration with other firms, linkages with knowledge centers and utilizing financial resources or support regulations[11]. Collaboration with other firms as a very important part of their innovation efforts [17]. In particular, Kaminski show in 2008 that collaboration with suppliers can contribute to innovativeness of SMEs [18].
- Collaboration with suppliers may also have the goal to overcome size constraints [19], while collaboration with both suppliers and customers may be performed for the purpose of co design [20,21,22,23].
- Collaboration with customers can be a source of improved technology [13]. Strategic alliances are also shown to be important influencers of innovative efforts when they are integral part of firm’s development plan [9]. Linkages with knowledge centers include contributions by professional consultants, university researchers and technology centers [13,15,16] as well as contribution by innovation centers and Chambers of Commerce [15].

The hospitality industry which includes the restaurant, accommodation, entertainment and transportation businesses [24,25].

The vast majority of innovation studies focus on technological innovation within manufacturing, reflecting that innovation theory has its roots in a time where manufacturing was still the major economic activity. Thus decades after services outdistanced manufacturing from an employment perspective, manufacturing has continued to dominate innovation studies. Studies of service innovation are still in a relatively early development phase, where approaches applying a traditional manufacturing logic to service innovation exist alongside approaches that view services as distinctive activities [26]. The development of an approach that takes the blurring boundaries between manufacturing and services into account, and thus applies a perspective on innovation that is not restricted to the traditional manufacturing-services dichotomy, is a natural next step. Such a synthesis approach [28] can apply findings from service innovation studies in bringing to the fore aspects of innovation, which have hitherto been neglected in relation to manufacturing innovation, but are in fact widely distributed across the economy.

The studies of service innovation as distinctive activities have the potential of contributing to the development of such a synthesis approach to innovation by pointing to features of innovation that have been largely ignored in studies taking a traditional, technology-focused manufacturing approach to innovation. But it is argued in the following that the service specific studies tend to stress the peculiarities. It is increasingly recognized that models of innovation developed principally for manufacturing may not apply easily to services. For example, the traditional distinction between product and process innovation is less useful in services, which are often processes that cannot be easily disentangled from the outcomes they produce. And the way in which service firms innovate is often different from manufacturing firms. Tether in 2005 analyses data from the European Innobarometer, a telephone survey of managers in over 3000 firm, and found substantial differences in the way manufacturing and service firms

performed innovation [29]. Service firms were much more likely to regard organizational change as important and to develop innovations in collaboration with customers and suppliers, while manufacturers tended to stress the importance of their in-house R&D and research links with universities. In addition, manufacturers tended to emphasize ‘hard’ strengths such as R&D competence and flexibility of production methods while service providers more frequently stressed ‘soft’ skill such as workforce skills and collaborative interactions [27].

An important issue is therefore whether and how the different ways in which service firms perform the process of innovation affect the economic performance outcomes which result from innovation.

Services have been extensively studied by management scholars, especially those in operations management and marketing,<sup>3</sup> but despite constituting the bulk of economic activities in advanced economies, services have received relatively little attention from scholars of innovation [31]. In the past, innovation scholars have dismissed services as being ‘supplier-dominated’ users of technologies rather than true innovators. In recent years services have however received increasing attention from innovation scholars, first from those such as Evangelista in 2000 [32] who applied received understandings of (technological) innovation to services, then by those such as Faiz Gallouj and Jon Sundbo [33-36 ] who highlighted the distinctiveness of innovation in services (technological innovation in manufacturing), and advocated the need to extend understanding of innovation beyond technological advance and R&D. Innovation in services (and other non-‘high-tech’ activities) tends to be strategically determined and market driven, in contrast to the ‘technological model’ of R&D based innovation which is prevalent in high-technology manufacturing.

### 3. Research methodology

Research methodology in this paper is based on the simulation of the data from 2000 to 2008 for share of turnover of innovative product business, innovations with the total turnover innovative enterprises by size class and economic activity (percentage), (values in 2002, 2004, 2006 are taken from cap.13.27 of the Statistical Yearbook of Romania 2009 and values are taken from the 2008 statistical Yearbook of Romania 2010, cap.13.19) [1,2]

We study the following cases: Products unchanged or partially changed, New or significantly improved products, new business, New or significantly improved products, new market.

Studies are made on small and medium SMEs sectors of services

The central objective was to see what was happened in the period indicated (2000-2008) with SMEs where were indicated innovations as products unchanged or partially changed, new or significantly improved products, new business, new or significantly improved products, new to market for the sectors of services.

### 4. Descriptive statistics and results

We study here the Share of turnover of innovative product business with innovations from the total turnover of innovative enterprises by size class and economic activity (in percentage) (values in 2002, 2004, 2006 are taken from 13.27 of the Statistical Yearbook of Romania 2009 and values are taken from the 2008 statistical Yearbook of Romania 2010, 13.19)

It studies the following case: Service sector, for different types of SMEs: small and medium

*Table 1: Innovations in service sector*

	Partly unchanged or modified products				New products or significantly improved new business				New products or significantly improved new market			
	2002	2004	2006	2008	2002	2004	2006	2008	2002	2004	2006	2008
Services	17.6	36.4	22.9	34.8	1.3	8.1	10.1	12.8	5.4	7.1	5.4	6
Small SMEs in services	7	20.9	7.3	15	0.4	3	4.3	10	4.2	3.5	1.6	3.7
Medium SMEs in services	11	14.5	9.1	23.7	1.7	6.9	6.2	10.6	4.9	1.1	2.3	5.6

[Sources:

[http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20Stiinta,%20tehnologie%20si%20inovare\\_ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/13/13%20Stiinta,%20tehnologie%20si%20inovare_ro.pdf)][37]

We study in this paper 4 cases :

Case 1: Partly unchanged or modified products

Case 2: New products or significantly improved new business

Case 3: New products or significantly improved new market

Case 4: Entrepreneurship as an application to innovations in service sector

**Case 1: Partly unchanged or modified products**

We can see from figure 1 that for partly unchanged or modified products the values are increasing from 17.6% in 2002 to 34.8% in 2008 and in 2004 the corresponding value was a little bit higher. For the small SMEs in service sector these values are increasing from 7% in 2002 to 15% in 2008. For medium SMEs in service sector these values are increasing from 11% in 2002 to 23.7% in 2008.

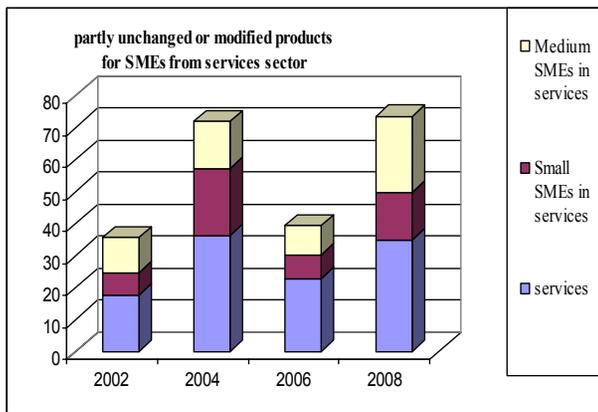


Figure 1: Partly unchanged or modified products for SMEs from service sector.  
Source: Authors calculus

**Case 2: New products or significantly improved new business**

We can see from figure 2 and table 1 that the new products or significantly improved new business in the service sector are increasing from 1.3% in 2002 to 12.8% in 2008. For the small SMEs these values are smaller and they are increasing from 0.4% in 2002 to 10% in 2008 and for medium SMEs in service sector we can say that these values are increasing from 1.7% in 2002 to 10.6% in 2008.

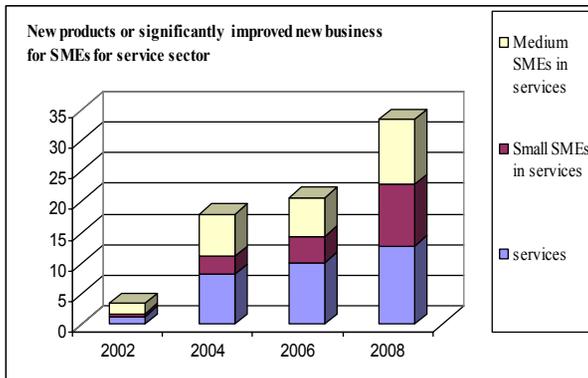


Figure 2: New products or significantly improved new business for SMEs for service sector

**Case 3: New products or significantly improved new market**

In this case the values for new products or significantly improved new market for the service sector are increasing slowly from 5.4% in 2002 to 7.1% in 2004 and decrease to 5.4% in 2006 to increase again in 2008 to 6%. For the small SMEs in service sector these values are 4.2% in 2002 which decrease to 3.7% in 2008, and for medium SMEs in service sector these values are decreasing from 4.9% in 2002 to 1.1% in 2004 and 2.3% in 2006 to be in 2008 at the value at 5.6%.

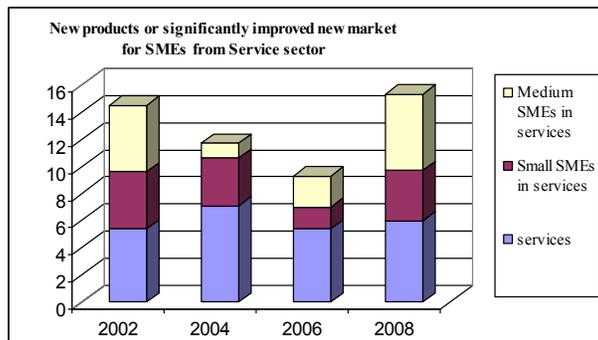


Figure 3: New products or significantly new market for SMEs from Service sector

**Case 4: Entrepreneurship as an application to innovations in service sector**

According to Pride et al. [39] the entrepreneur is the person risking their time, effort and money to launch and run a business. After Ninemeier and Hayes [40] the entrepreneur is the person who assumes the risk of owning and running a business in exchange for financial rewards that it can bring them.

According to Redlich an entrepreneur [41]:

- a) Uses the production factors, buys the raw materials and sets up the organization;
- b) Embarks upon managerial processes of innovation, surveillance and coordination of the productive activities;
- c) Embarks upon taking the entrepreneurial decision.

Table 2: Entrepreneurial skills and perceptions in GEM ( Global Entrepreneurship Monitor) countries in 2010 after the phase of economic development[38]

Country	Entrepreneurship as a successful career	Peak position for successful entrepreneurs	Media attention directed towards entrepreneurship	Entrepreneurial intentions
Brasil	78	79	81,1	26,5
Chile	87,4	71,2	45,7	38,3
China	70	76,9	77	26,9
Ecuador	83,1	74	62,6	46,3
Mexic	69,4	62,8	54	22,3
<b>Romania</b>	<b>66,5</b>	<b>65,5</b>	<b>46,9</b>	<b>8,6</b>
Rusia	65,4	63,7	46,6	2,6
Taiwan	68,4	57,5	78,2	25,1
Turkey	71,2	76,4	61,7	19,4
Hungary	55	73,7	47,4	13,8

We can see from table 2 and figure 4 an application as innovation in services: Entrepreneurial skills and perceptions in GEM countries ( Brasil, Chile, China, Ecuador, Mexic, Romania, Rusia, Taiwan, Turkey and Hungary ) , a study based on data from Global Entrepreneurship Monitor from 2010 in some countries , where is Romania too.

We can see here an output of innovations in service sector as particular example the following: entrepreneurship as a successful career, peak position for successful entrepreneurs, media attention directed towards entrepreneurship and entrepreneurial intentions.

We can see from table 2 and figure 4 that Romania is situated in very low position concerning all this outputs .

From figure 4 b we can see that Romania has the lowest value for the entrepreneurial intentions among these studied countries

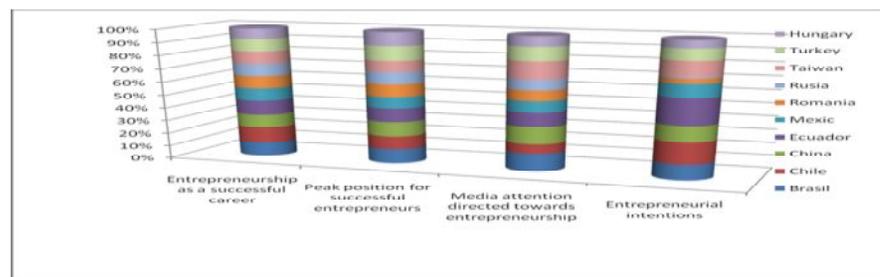
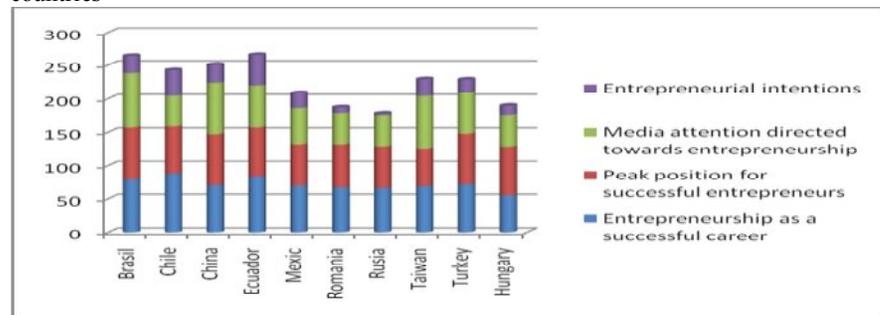


Figure 4 : Entrepreneurial skills and perceptions in GEM ( Global Entrepreneurship Monitor) countries, in 2010, after the phase of economic development. [38], a), b) are different representations.

Source: Author's calculus .

### 5. Conclusions

We study in this paper 3 cases for Share of turnover of innovative product business, innovations with the total turnover innovative enterprises by size class and economic activity (percentage) (values in 2002, 2004, 2006 are taken from 13.27 of the Statistical Yearbook of Romania 2009 and values are taken from the 2008 statistical Yearbook of Romania 2010, 13.19).

For those 3 cases the results are as follows:

In Case 1: Partly unchanged or modified products: for this situation the values are increasing from 2002 to 2008;

In Case 2: New products or significantly improved new business: for this situation the values are increasing from 2002 to 2008 and

In Case 3: New products or significantly improved new market : for this situation the value are decreasing slowly.

Because the values are not so many we can not make a prevision for the next 10 year for example and we can't make a fitting for the obtained results.

In Case 4: we can see that Romania has the lowest value for the entrepreneurial intentions among the GEM countries, Romania is situated in very low position concerning all this outputs.

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