

## **COMPOSITE SYNERGY OF SERVICES – A NEW CONCEPT CONCERNING SERVICES**

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### **Abstract**

*The current paper addresses the dynamics of the service sector in Romania, from the perspective of a new concept, namely the "composite synergy of services". The main points of the paper approach the fact that direct and indirect investments in the service sector create a synergic and composite effect on the development of the economy, as a whole, in Romania. The paper aims to be a prequel to a mathematical and economic demonstration of the existence of the composite synergy of services, laying the theoretical foundations of the concept and underlining the premises for its existence.*

**Keywords:** *synergy, composite, services, premises, service sector in Romania*

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### **1. Introduction**

The tertiary sector of an economy in general is considered, at this time, to be the most productive of the three major sectors within an economy. The three main sectors are: agriculture, industry and construction, and the tertiary sector, i.e. the service sector. Of the three, the service sector in Romania has developed with the utmost intensity in recent years.

There are several causes for this tempestuous development. The first one would be based on the fact that consumers are more and more refined. Or

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rather, that their needs are more and more elevated. This means that, as society develops, the tertiary sector occupies a more and more important role in our daily lives, because it offers more and more responses and solutions to daily issues that need solving. Because the main paradigm of economics states that "a need, once satisfied, creates other needs". We can clearly see the main difference, as well as issue, of this statement: a need generates needs, ergo, a superior satisfaction of one's needs is of the utmost importance.

The second cause for the extraordinary development of services is given by the globalization process, regarded as a whole set of elements which contributed to the development of the service sector. Globalization, understood, of course, as a general process of lowering trade barriers between countries and regions, a process which generally makes the world a much smaller place to be and to live in, and which creates almost indestructible links between nations and regions.

## **2. General traits of the service sector in Romania**

Almost non-existent before 1990, the service sector in Romania developed at a fast pace after the fall of the communist regime, in 1989. A regime in which the economy was completely state controlled and owned, in which economic reason had no reason other than political will. And unfortunately, as we already know, the political will was directed towards one thing and one thing alone, namely to strengthen the rule and the grip of a dictator-like figure, in our case Nicolae Ceaușescu.

However, not even the communist regime could oppose globalization, and thus, after a violent revolution, full of controversy, of lies and deceit, we began a long path towards globalization, towards a market economy.

The main issues in our country were based on a wrong dimensioning of the three main sectors of the economy, along with another array of elements which, put together, would make the entire transition process even more arduous and long. Ergo, the first sector, agriculture, was heavily subsidized by the state and reliant mostly on state governed help. Unfortunately, that meant that when the state, in its communist, authoritarian sense, would disappear, agriculture would now have to struggle to compete on an open market and thus abide by new market rules. An option for which, of course, it was not prepared and is not fully prepared to this day.

The second sector, i.e. industry and constructions, has developed intensively since the fall of the communist regime, in 1989. Both the private and industrial constructions sector has experienced considerable growth, but the sector has had a sinusoidal path which culminated in the 2007 – 2008 crash, from which it still reels. Thus, it has become increasingly clear that the construction sector cannot constitute a real engine for durable development. Also, concerning industry, this sector was abominably developed during the iron curtain years, which meant that giant state-owned enterprises have been created throughout the country. On a short and medium term basis, this ensured jobs for thousands of workers, but on a long term basis, these giants had proverbial "legs of clay" and, as a result, they crumbled, without a state and a party to control their output.

Thus, the service sector was the only has proven to be the only one which presented the ability of ensuring sustainable growth and development to societies in general, and the Romanian society in particular. So let us understand what the service sector covers first, in order to understand its capital influence on the economy. The term services are generally used to cover a heterogeneous range of intangible products and activities that are difficult to encapsulate within a simple definition. Services are also often very difficult to separate from the goods with which they may be associated in varying degrees (MSITS, 2010).

Services are, in general, the result of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets (MSITS, 2010). Such services can be described as change-effecting services and margin services, respectively.

This means that change-effecting services are outputs produced to order and typically consist of changes in the conditions of the consuming units realized by the activities of producers at the demand of the consumers. They are known to be named, in the specialized literature, as "transformation services".

Change-effecting services are not separate entities over which ownership rights can be established, and as a result they cannot be traded separately from their production. By the time their production is completed, they must have been provided to the consumers.

Transformation services are believed to include the following elements (SNA, 2008):

- The changes that consumers of services engage the producers to bring about can take a variety of different forms as follows:

(a) Changes in the condition of the consumer's goods: the producer works directly on goods owned by the consumer by transporting, cleaning, repairing or otherwise transforming them;

(b) Changes in the physical condition of persons: the producer transports the persons, provides them with accommodation, provides them with medical or surgical treatments, improves their appearance, etc.;

(c) Changes in the mental condition of persons: the producer provides education, information, advice, entertainment or similar services in a face-to-face manner.

Of course, such changes brought forth in the transformation process may be temporary or permanent. An example to illustrate a permanent change are either medical or education services, in which changes usually are permanent, considering the fact that consumers will have benefits which will extend over many years, and an example to reveal a short-term change is attending a play, which generates a short-term experience.

However, the consumer always engulfs the experience produced by the consumption of a service, being it good or bad. Ergo, one can measure the satisfaction of such an experience via different methods. However, that is not the point of the current paper and thus we will not analyze this point further.

Moving onward, we must not that we also have margin services. These are defined (SNA, 2008) as follows:

Margin services result when one institutional unit facilitates the change of ownership of goods, knowledge-capturing products, some services or financial assets between two other institutional units. Margin services are provided by wholesalers and retailers and by many types of financial institutions. Margin services resemble change-effecting services in that they are not separate entities over which ownership rights can be established.

This characterization means that they cannot be traded separately from their production, thus respecting one of the main traits of services, in general. By the time their production is completed, they must have been provided to the consumers.

In order to conclude the various types of services presented above, we apply the same recommendation in analyzing service classification as the SNA, which recommends the use of CPC, Version 2, for the classification of products or outputs. As we can see there, services products are classified

approximately in sects. 5 through 9 there, and of and of ISIC, Rev.4, for the classification of activity.

In Romania, according to the balance of payment, published by the National Romanian Bank each year (*Balanța de Plăți și Poziția Investițională a României, Raport BNR, 2011, pos. 1.1.2.*), the service sector is divided into three categories:

- Transportation, which is divided into goods transports, passengers transports and other transports, meaning transportation of gas, energy, and fibre optics (internet), and other unconventional transports
- Tourism – travels, which is divided into business tourism and private tourism,
- Other services, which include the following:
  - o Communication services,
  - o Construction services,
  - o IT services,
  - o Advertising, marketing and market studies,
  - o Judicial services, accounting consulting, managerial consulting
  - o Architecture, engineering and other technical services,
  - o Financial services,
  - o Licence tax and copyrights.

This classification has been made as such due to the large portion of the tertiary sector taken by transportation, in all of its aspects, as well as tourism and travels. All other categories have been grouped into a miscellaneous group, dubbed other services. Several additional arguments as to why this classification has been made as such will be revealed in the following paragraphs of the sector.

The services balance has revealed a gross surplus of 340 million Euros, in 2011, but this surplus has decreased with almost 16% compared to 2010. This has occurred namely due to an increase of expenditures in the other services category, ergo, the miscellaneous group within the tertiary sector. One must note, upon analyzing the data offered by the NBR report, that out of all the components of the balance of payments concerning services, only the transportation sub-sector revealed a surplus, while tourism-travels and other services have posted negative outputs.

An explanation for this event is given by the fact that our economy is still reeling from the extent of the global financial crisis, and while transportation services remain paramount to maintaining consumption levels at the current state, tourism services, travelling and other services have all decreased, as household budgets have diminished.

Incomings from services have tallied 7.523 million Euros, as a whole, in Romania, in 2011, increasing with 9,5 %, but expenses have tallied 6.913 million Euros, increasing by 11,2 % as compared to 2010. We also note the fact that all the components of the services sub-sectors, both payments and incomings, have recorded progress. None have regressed.

The transportation sector has registered a surplus of 883 million Euros, as compared to 772 million Euros the previous year, as both its major components have revealed increases. This means that both goods transportation and passenger transportation have recorded positive results. Goods transportation has registered an excess of 592 million Euros in 2011, increasing by 26,8 %, influenced in a decisive manner by road transportation. Curiously enough, although a crisis year, passenger transportation output has increased by 9,6 %, reaching 195 million Euros, influenced decisively by aerial transportation.

The tourism-travelling position has recorded a deficit of 389 million Euros, which was 2,9 % bigger than in 2010. Private tourism has plummeted, in terms of incomings, and the other key element of this sub-sector, business tourism, has also decreased severely, as many managers and businessmen and women have lowered their travelling standards, i.e. switching from first class to coach.

The other services sub-sector has registered a deficit of circa 154 million Euros in 2011, with 10 million Euros bigger than in the previous year. The main services which contributed to the deficit comprised of the licence and copyright taxes, financial services, architecture and engineering services and other technical services.

Further information on the subject may be accessed on-line, as the statistical analysis of these numbers is not the point of the current paper.

### **3. Dynamics of the service sector – the requirement for a multi-criterion analysis**

Considering the dynamics of the economy today, and of the Romanian economy in the last 20 years, we can safely say that in our country, the service sector has proven to be the most important in terms of development and economic progress.

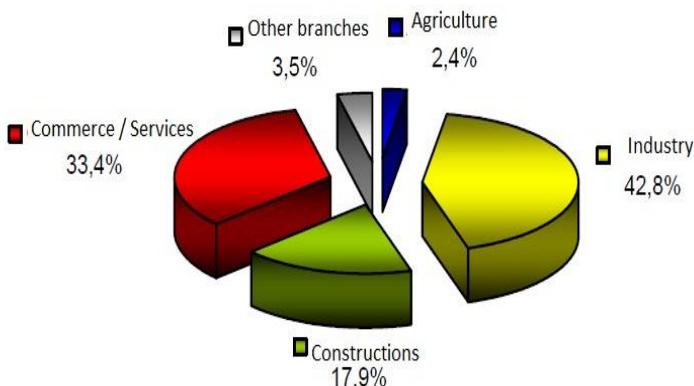
This statement becomes even truer when it is faced with the fact that direct and indirect investments have been clearly directed towards services. According to the National Statistics Institute (NSI, 2012) investments were made as follows:

- Agriculture 2,4 %,
- Industry 42,8 %,
- Constructions 17,9%,
- Commerce / Services 33,4%,
- Other branches 3, 5 %.

Thus, there is no doubt that the service sector, which, from the point of view of the balance of payment, mentioned above, includes construction services, channels the most part of investments, i.e.  $33,4 \% + 17,9 \% = 51,3 \%$ , ergo, more than half of total investments.

***Graph 1 – Investments structure in the national economy in 2011***

Investments structure, considering the branches of the national economy, in 2011



Considering the fact that in the agriculture sector of the economy, investments are almost nonexistent, and that industry follows its own path, driven mostly by exports, it is becoming clearer and clearer that services represent the new dynamics in this contemporary economy.

To go even further, services manifest a very fast speed of development and represent the spearhead for the development of our economy on a short, medium and long term.

The more needs consumers have satisfied, the more needs they will have, and thus, resources for the satisfaction of such needs must be provided. For example, once we had access to the internet via dial-up connections, broadband connections appeared and became more and more required. Today, broadband connections are a must have and resources are allocated for even faster connections. And the list may go on and on, from fixed telephones to the explosion of smart phones today, from bicycles to cars, and examples may continue.

The only economic permanence is change. This means that the economy continues to grow, to develop, with the tertiary sector as its main engine. Transportation, communications, make the world a much smaller place and set the ground for additional development. Globalization, as a process of lowering barriers across countries, regions, nations, is being upgraded by the development of services on one hand, and on the other it too influences the need for more and more services, such as financial services, communications, which can link any two points on the globe.

Considering all these facts, we can observe that a rather peculiar phenomenon occurs, i.e. a synergetic effect, which the development of services has on an economy, and on our economy, in particular. This sets the grounds, as well as the need for a new concept within our economy, in order to attempt to explain such dynamics, namely the composite synergy of services.

#### **4. Composite synergy of services – premises and a broad definition**

When trying to define synergy, things are not as facile as one would believe. The influence of services, their impact in our lives is visible, uncontested, yet difficult to assess or measure. Services are at the core of our economic evolution, but their relentless development also carries out several

risks. Synergy was a term first used in biology and medicine, but it became one of the most used in economics due to its broader sense, meaning that when certain elements work together, they generate a composite effect, meaning that they generate a result which is bigger than the sum of its parts. And it is precisely this fact which has been mentioned before, as noticeable, within the sector service, but it is precisely this fact that is, without rigorous analysis, difficult to prove.

A first premise when assuming that composite synergy exists is the one that there are no “closed” systems within the contemporary economy, meaning systems which do not communicate with their exterior world, i.e. other systems, or, to put it differently, there are no systems which are autarchic. This undoubtedly means that, regardless the system, be it economic or social or of another kind, it is open to “exchanges” with any external environment or system. So, we begin from the premise that there are no systems which deliberately refuse exchanges or trades with other systems. They can be countries, regions, even multinational corporations. Even if at a given point, a system refuses changes with another system, a substitute will be found and trade will resume, regardless of the costs. This statement is also valid when talking about various economic agents or regions.

As a result, there is an inherent openness of systems towards trade, in order to communicate with their external environment. This is even more valid in terms of the tertiary sector, a sector with prowess and openness to change, and communicating with all systems, as well as expansion.

A second premise for the existence of the composite synergy of services is that the geographical criterion becomes a non-issue, ergo irrelevant. Thus, the notions of proximity and / or distance, which is valid in goods trading and represents an important cost factor within trade, become irrelevant within services trading. So, the notion of “international trade with services” occurs, meaning the trading of services between two states / regions / corporations, which oversees the borders of a country. The specifics of the service sector is truly marked by the impossibility of separation between the provider and the consumer, but it does not imply its physical and geographical proximity.

Finally, the third required premise is given by the fact that services development in a certain region, geographical area within a state, produces visible effects on the development of that region as a whole and implies the development of other sectors within the region / state / area. This premise is

essential to mention because, of the three major sectors of the economy, studies have proven that services produce the highest added value. Ergo, services produce the highest well-being in real terms for the country, region which provides them, in a higher measure than industry or agriculture.

Summing up the premises mentioned above, one can foresee the need for both theory and practice, to define in a pertinent manner, this major contribution that the service sector may have on the well-being and living standards of a state / region. The proposed concept is that of “composite synergy”.

It is important to point out that observing the manifestation of synergy within services is just the first stage of a rigorous analysis. Observing the synergy of services leads to the requirement of being able to measure it. And here is where a strong correlation between mathematics, statistics and economics comes in. Synergy within services must not only be enunciated in a theoretical fashion, rather it must be proven, in a mathematical and economical matter.

In order to determine and fundament the synergic and composite effect of services on the economy, it is necessary to have a multiple perspective, a dynamic perspective. Such a requirement requires the use of a mathematical instrument called multi-criteria analysis, seemingly the only tool capable of analyzing a dynamic sector such as the services sector. Multi-criteria analysis involves the establishment of critical, predefined variables, which influence the service sector in a direct manner, as well as international trade with services, and which influence, indirectly, other branches of the economy, namely of our national economy.

If the observation of the synergy effect is relatively easy, its measuring is a somewhat difficult endeavour, and here is where problems become a bit more complex. As a result, the need to define synergy and choosing an adequate mathematical and statistical data, with a practical economic applicability, in order to reveal composite synergy, occurs.

As a partial conclusion of all the aspects presented above, we may attempt a first definition of synergy within services, which represents “*the ability of the service sector within a country to influence, via its own development, in a direct and indirect manner, the other sectors of the economy, actively contributing in a greater manner to their development than if investments within the service sector would not take place*”.

This definition attributes, since its beginning, a well-defined role for the services sector, and individualizes it as a factor of influence in the modern economic development of our country. Also, it is clearly stated that the influence of services, as well as the impact of international trading with services, on the national economy, can be manifested in a direct and indirect manner. One must not confuse the means to manifest the influence of services with the intensity with which it manifests. To put it simply, services do not contribute, via their high added value, only to the development of providers in this sector, a logical development, by the essence of economic activity, but also it contributes to the development of tangent sectors.

The term “composite” has not been added randomly, rather it aims to underline the composite effect which the development or regression of services has on other sectors of the economy. In the case of complementary sectors to the services sector, the influence is strong and direct, and in terms of other sectors it has an indirect influence, of variable intensity. Empirical analysis proves this, but it will make the object of another paper.

## **5. Brief conclusions**

The notion of composed synergy within services represents “the ability of the service sector within a country to influence, via its own development, in a direct and composite manner, the development of other sectors of the economy, as well as its own development, contributing to the direct development of sectors which interact with the tertiary sector and to the indirect development of other sectors”.

Still, the simple existence of composite synergy within the services sector cannot and must not be only stated; rather it must be sustained by valid arguments, based on a complete and concrete analysis, which can justify its existence. The mathematical instrument proposed is multi-criteria analysis, whose explanation and demonstration will constitute the object and purpose of a different paper.

Composite synergy within services is a new concept for a dynamic economy, meant to illustrate the direct and powerful influence of services development in Romania on our daily lives and our economy, whose quantification is rather difficult, in spite of its observable nature.

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