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Foreword

The global economic crisis is a dramatic step that generates endless debates. The confrontations of ideas, relevant or less objective converge, without doubt, towards the same conclusion: finding some “exit doors”. Do these coincide with formulating attenuator solutions of the crisis’s consequences? The subject, on the agenda, of scientific discussions has broad resonances in the economic and social policies plan. We benefit, lately, from countless materials dealing with the current crisis phenomenology and also different attempts to decipher its meaning according to the question: Who’s to blame?

Competition and/versus cooperation is a controversial subject and sufficiently attractive to keep itself within the scope of analysis and synthesis. The confrontation between the two defining trends, in today’s world, competition and cooperation raise many economic, legal, ideological problems but, above all, political problems. The picture of competition-cooperation becomes even more controversial within the European zone. Located in a zone of economic-political turmoil, the Schengen zone is, currently, the scene of some decisive confrontations regarding the future of the Euro currency but also of the tensioned perspective on maintaining some EU member states, currently under serious economic deficits.

The macroeconomic analysis shouldn’t be isolated by the microeconomic analysis because it involves finding some scientific arguments regarding the advantages and also the risks generated by competition. These in turn will affect the consumer, but also, due to the competition’s effects, in terms of satisfying the market. Competition as a game of opportunities but also as a stakes for risk generates the question: “At what cost are obtained the most favorable results for producer vs. consumer?”

The producer’s interest towards the consumer’s interest occurs as a ratio between the local producer and the European one. In fact, the producer’s European policy exists only thanks to the consumer’s European policy, respectively of its protection. In this context, the competition must be seen as an instrument subordinated to achieving economic and social
objectives, providing at the same time fair conditions to all market participants.

Operating as a comprehensive system of small, large enterprises and corporations, the market generates disturbances at the community policies level. The concentration of production and capital starts from the rationality criterion but deteriorates the competitive climate.

Theoretically, when there is cooperation we cannot speak about the Nash equilibrium but of a combination of strategies to check whether the equilibrium of each player to the market's game is optimal in comparison to the strategies of the other players. This means that not through cooperation and strategic actions the Pareto optimal can be reached. On the other hand, the Pareto optimal is reached through cooperation. The conclusion is quite obvious: in order to be declared optimum an economic policy shouldn’t affect or worsen the achievement of another goal.

The opportunity cost of the global trade liberalization enhances the risk of imbalances in the European zone. That is why, the need for cooperation at the European level as a priority goal, calls for the “refreshment” of the principle participation, accountability, effectiveness and coherence. Only together they define the good democratic governance and the rule of law in the Member States, but also at a local, regional, European and global governmental level.

Professor Mariana Iovițu, Ph.D.
The Exploitation of the Open Economic System’s Synergistic Relational Potential

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This paper proposes and depicts certain aspects that we consider to be essential in the matter of the economic systems’ relational potential utilization for their functional synergism’s turning up and synergic acting in the benefit of the concerned systems (with emphasis on the open ones) and in the purpose of avoiding undesirable results. It aims at highlighting, defining and outlining the main conceptual issues, including the formalizing and also showing of certain real examples.

After a short introduction and a very synthetic review of the evolution of economic entities (from the angle of the managerial approach) to the open system form, a conceptual presentation of those systems’ potential to generate synergism by multiple connections and relations is made. The paper’s conception is based on the hypothesis that the concern and action for quantifying and exploiting the synergic relational potential of the active economic entities (including the case of complex entities, of regional or national level) would represent support and impulse for their success in competition; this specific advantage of those economic entities is perceived as being obtained out from of the conventional means.

Further on, the factorial substantiation of the growth of an open economic system’s synergic potential is made and the benefits of its turning to good account are described, but also certain problems (and examples) concerning its accounting and finding in statistic records.
The essential aspects (argumentative and to be followed to achieve synergy effects) are synthesized into a suggestive formula concerning especially the number and intensity of the established and functional links, as a result of trying to measure the exploitation degree of the synergistic relational potential that belongs to the active economic networks or systems.

Objective arguments of empirical nature result, regarding the necessity of quantification and exploitation of relational synergistic potential of economic entities (including the complex entities at regional and national level).

Keywords: synergistic relational potential, relational economy, open economic system

JEL Classification: A12, A 13, D21, D01, L14, P47, P49

Introduction

The successful economic systems have in common at least three potentials that are exploited in order to point out their own competitive advantage: the field's evolution anticipating potential, the proper intellectual potential and the relational potential – and the later should be considered (i) within the analyzed system, as well as (ii) between that system and its surroundings. Despite its scale – or maybe because of the perception and methodological difficulties that it generates – the relational potential remains the least found counted datum in economic statistics. This insufficient count becomes even more inadequate as along as with the empirical experiences' diversification and the evolution of economic theories, more and more elements which are less tangible are connected to the profound understanding of systems' competitiveness at the different levels of economic life, and to its increasing. From these elements, the ability to generate synergies¹ through cooperation and optimal correlation between the integrated actors comes to the fore in a defining way.

¹ Or to exhibit synergism
The synergistic action represents an excellent way of reconsidering the interdependences of the competitive framework. More and more "downfalls" of some economic entities from the market showed that without an efficient cooperation and complementarily between the primary and essential competencies, the active economic systems lose the opportunity to increase the added value of their network.

Through the efficient exploitation of the global resources, the synergy effects represent the hint that the economic networks are alive, continuously processing values and adjusting to internal and external requirements. Thus, valuing synergy (benefiting from its results) represents a genuine unconventional weapon\(^2\) for those who explore in depth the relational potential of national economies, activity fields or enterprises.

What most specialized economic works on the theme of synergy are missing is the macroeconomic approach and, consequently, the whole social-human and planetary approach at a more complex level. The few existing works on this topic in Romanian – as can be seen from our bibliographical references – are, in fact, management works, which make some authors include the topic in the business area. And the fact that some economists insist upon this incited us to try a broadening of the horizon, keeping, however, the balance between the microeconomic and macroeconomic approach\(^3\).

Our approach motivation: we believe that such openings and broadenings have become urgently needed by economists in the knowledge society\(^4\), because the development of the economic science remains narrower, according as it is limiting itself to the horizon of strictly perceived


\(^3\) The work is part of a wider research in the context in which there is the exact preoccupation for the critical point which is overrun by the complexity of a series of systems which rejects the management’s possibility, the preoccupation for synergy being related to the general economic theory like an observation and theoretical analysis.

\(^4\) We propose such a broadening of horizon because we consider it as being required by the evolution itself (and the need for improved coverage) of the economic science; and we believe that our approach will incite it whether it will be contradicted, criticized or contested – maybe by such attitudes, rather than by some of those that would eventually continue in "neutral" way the ideas that follow.
economy (mainly monetary; and mostly often in a short run). We hope that the most capable people with the broadest views (and consequently more generous regarding all aspects) will favourably react to the following issues, as we count on their benevolence and desire to further expand the research and develop the economic science.

The explanation for the fact that there are very few works regarding the topic of synergy in the spirit of economic science (economics) is based on the complexity of the whole economic life – and this complexity is growing due to the development, the emphasis of rhythms, the economic growth and technological specifics of the last decades etc.; the economic crisis itself demonstrates the lack of both theoretical and practical mastering of the complex economic, political and social realities in which we live in. Although it is not simple, the deep understanding and analysis of the synergy issue at the level of economic entity (even though it is an enterprise or firm, an individual economic business, a large multi-polarized company or other more „assembled” forms) are much simpler than any such attempt at macro- or microeconomic level.

But, paradoxically, this increased complexity itself also incorporates the reason that requires the economic science perspective’s approach and analysis: more and more systems overrun the threshold towards they can be driven, the business analysis giving place to the economics by the multitude and magnitude of the elements, problems, interconnections (their functioning remains above any attempts to unique coordination).

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5 And implicitly less interested by the growing of classical approaches, just for reasons of broadening the perception and the deepen understanding in the economic thinking: these ones will not yield inquisitor "verdicts", but will "listen to another opinion", with open mind, permissiveness and superior "power of perception".

6 In the business optical or already in the economics approach

7 Here we include also the mergers – of which there are some studies in the field, of the type to which we refer in this paper.

8 The usual acceptation supposes self-regulation; we do not intend to discuss or counter-argue this approach in this paper.
Starting points. The evolution towards the open economic system

Beginning with the XXth century, the cross-network relationships (we can talk about an enterprise, an industrial centre or a national economy) have been fundamentally reconsidered.

According to the systems’ theory, in the first three decades of the XXth century, the organizations’ way to relate to the environment, as well as their economic system’s functioning were characterized, among others, by a strict target- and “rule-centred organizational behaviour and other formal regulations”9. That is exactly why these entities are called closed and rational systems. But towards the end of this period, the scalar chain is outlined (the representation of the internal communication flow) and the "esprit de corps"10 (a theory that states that an organization is more efficient if it acts as a team), which lead to the detachment of theory Y (orienting the employees’ aims towards the organizational ones) from theory X (guidance and control by exercising authority); therefore, in the 1930-1960 period, more and more systems are characterized by the integration of the employees’ personal needs within the organizational needs and by the relationship with the environment. Thereby, the closed and rational systems have evolved in closed but natural (social) systems.

9 Verboncu I., Zalman M., Management and Performances (in Romanian), Universitară Publishing House, Bucharest, 2005, p.46
10 Although in some bibliographic sources in Romanian the notion "espritul de corp" (the spirit of body) is used with the mention that "strength lies in unity" (see Idem p.48) in the management literature (such as the British or American one) is used the notion "esprit de corps"– taken from French –, which refers to the necessity of "encouraging harmony and overall wellbeing between employees" (Certo S.C., Certo T., Modern Management, Pretice Hall, 1992, p.36). "Esprit de corps implies teamwork" (Foote A, Dallas D., Really Bad Business Advice. A Management Handbook for the Ethically Challenged", iUniverse, Inc., Lincoln, U.S.A., 2003, p.23), that determines so many benefits for the organization, as the working team members believe more strongly in the organizational goals, have peer trust in the teammates capabilities, but also in the leadership capabilities, and the undertaken work brings individual satisfaction, including moral ones. The more the employees are happier in an organization, the more the organization is closer to success (Joseph French Johnson, Office Managements, 1919, quoted by Davis C., White-Collar Life –Corporate Cultures in Los Angeles, 1892-1941, The John Hopkins University Press, 2000, p.95 (see also the entire chapter 4, "Creating an Esprit de Corps", Idem, p.95-121).
In the next decade, however, together with the exponential growth of the technological competition at local and regional level, the economic systems became open and rational. These highlight the interfering of some economic entities' internal processes with what lies outside of these entities, taking into account the specific situation and the capabilities of the entity and the specific context in which it operates and interacts with. The consequences of these correlations are immediate: since the 70s, the active economic systems have become open and natural (social) systems – see figure 1; the resources dependency and the correlation with the institutional theory are obvious – these elements state that, in the conditions of outlining the rules and institutionalized norms, the employees can determine new and dynamic structures which take the shape of either opportunities or constraints through their own actions. At this stage, due to the external environment’s pressures, the economic systems survive depending on who knows how to interact with those who possess the resources, giving birth to a variety of specific partnerships.

![Figure 1: Evolution of the economic systems in the XXth century](image)


The resulted (open) economic systems abominate the communication vacuum, the (vertical and horizontal) cooperative relationships being developed as it highlights the lack of some essential
competencies within them; accordingly, the measures of interconnecting individuals and processes, of infrastructure and development policies etc., either will enhance the economic systems' internal and external value, or (these measures) will serve as an example of solutions which must be constantly improved and aligned to the synergistic nature performances of other successful economic entities.

The fact that all current economic systems are dependent on valuable relationships between the economic entity and what lies around it is a certainty. However, the finding that some systems stand out compared to others (gaining top hierarchical position), reaching to write the competition rules for the last ones too, shows us how easy is to fail (the case of the latter’s) to see that a lot of competencies are real elements of the system, capable to change the value and reputation. But where the real competencies are properly quantified and integrated in the economic activity (those outlined above), the relationship between the system’s elements often turns into synergies, the mathematical aim of any connection being to achieve superior results regarding not only the simple juxtaposition of the factors but also the addition of elements that occur by some means or others: that is, "2 + 2" reach to give more than "4".

This means that the additional benefits are obtained mainly due to exploiting the human factor relationships, but also due to the relationships with/between technological, financial and social factors that influence the firm’s decisions, success or failure. The structure in which such relationships are generated is called synergistic network type, or, simply, synergistic network. The more the number of elements within the synergistic network increases, the more the relational process is more complex, but also more favourable to shape synergies and implicitly, unconventional advantages.

The requirement is that “each hierarchical level and each department (...) understands the challenge as a whole, (...) knows the existent relationship of interdependency between the different roles and dimensions of self responsibility”\(^{11}\), the synergetic itself being the science of complex, dynamic and hierarchical organized systems' cooperation\(^{12}\).

\(^{11}\) Hamel G., Prahalad C. K., 2009, p. 131

That is to say, any existing connections should be used more productively, with the aim of amplifying the results that can be generated without increasing the resources' consumption; the only amplifying is related to the number of established and exploited relationships, as well as the quality of those connections (of collaboration). The efforts in this regard can be called "synergistic mobilization" of the entity’s (system) components. Any intercession in that direction begins with the identification of defining elements for synergy, which may be the estimation or the quantification itself of all useful links, following the highlight of the ways of using those "means" in the desired beneficial purposes. In terms of management, the coordination can be total, but in cases of certain interventions on some systems with a high degree of complexity, only certain components of these systems or certain ways of influencing are concerned (the rest of research on synergy being just exploratory, knowledgeable and thoroughgoing – upon certain operating mechanisms – and having not a coordinating or leading and controlling character). But irrespective of the nature of research (on management or economy), working for turning to good account the system's potential and synergy resources of the system represents its synergistic display, meaning the capitalization of its synergistic potential.

format, p.12, p. 31, p.34: http://www.complexsystems.org/publications/pdf/synselforg.pdf, accessed on 06.04.2011 – to all intents and purposes, the whole work and all studies mentioned in this work draw attention to this. We observe that a hierarchical organized system is needed, because synergy, without coordination and control efforts (clearly endured by team responsible, departments or sectors of domestic economies etc.), would only be a chaotic process, desultory, "difficult" to repeat and less valuable - with real chances to even become negative synergies.

13 See for this purpose the concept of relational economic growth (Jivan A., 2000, p. 45. and the following pages). But this lays emphasis on the most important part of the relationships between traders (irrespective of their dimensions. In this work we consider above all, besides these, the intra-firm relations (within the economic entities). The approach is highlighted a lot in the optics of new economic geography, the European Union's policies and other later researches, within the meaning of including clusters and economic regions (considered by us as development system/units) concepts, etc., in the analysis.; the openness toward interdisciplinary and inter-correlation of reality's domains (besides the strictly economics) is also heavily increased today.

14 Please see also the next chapter (the formalization).
About the synergistic relational potential of the open economic system and its degree of utilization

The necessity of developing synergy related research is determined by the development and the further sophistication of certain relational savings that make the difference between the competitive elites and the current and future losers. Hence, “how much interconnected” represents not only the basic question of globalization process\textsuperscript{15} but also its essential azimuth\textsuperscript{16} (in the sense of benchmark).

In 1998, Michael Porter draws attention to the fact that “the need to exploit the advantages offered by the cross-business relationships has never been higher”\textsuperscript{17}. For all that, the importance to interconnect the functional policies of the economic system “was taken off from the management specialists’ pipeline. Instead of seeing the company as a whole, the managers turned their attention to the «core» competencies, «critical» resources and the «basic» factors of the success”\textsuperscript{18}. The later empiricism had its say, as the companies which were in competitive failure were able to rediscover the “wonder” of interconnection and the global interaction of their own networks.

Synergy, regardless the size of the approached economic system, presents three primary mechanisms which generate the synergy effect\textsuperscript{19}:

- The cooperation mechanism;
- The complementarily mechanism;
- The externality mechanism\textsuperscript{20}.

\textsuperscript{15} See Friedman L.T., \textit{The Lexus and the Olive Tree} (in Romanian), Polirom Publishing House, Bucharest, 2008, p.31

\textsuperscript{16} The concept is inspired by the geographic practice – through the area of topography, remote surveillance, cartography, astronomy – meaning the angle included between the meridian of a place and the vertical plane passing through that or the place to which a distance measurement is reported.


\textsuperscript{18} See \textit{Idem}, p. 59

Unfortunately, in the economic literature there are very few references to the relational potential of the macroeconomic level\(^\text{21}\); needless to say the same thing about the references to the synergistic relational potential of the open economic systems.

From the managerial point of view, it is considered that within the companies, “the relational potential of the groups is incommensurable”\(^\text{22}\) (both in formal and informal structures), synergy being necessary to exploit it. Indvik and Fitzpatrick\(^\text{23}\) consider that including a person into teamwork requires the coexistence of five separate components: the accessibility, the resemblance, the assessment, the (inclusion) stimulation and the relational potential. Other authors consider that leading entrepreneurs pave the way to discover infinite relational potential within the firm\(^\text{24}\) through the assessment itself and the willingness to assess the team capabilities.

But such admissions and highlights of the relational potential (among the envisaged components as conditions for the integration in collaborative activities systems) should not be kept in a restrictive way at company level or at a lower lever (of working group, team level): the referred assessments are valid not only for natural persons but for legal ones.

\(^{20}\) The promoting of so-called "positive network externalities (...) are present when the costs of participating in the network are lower than the benefits of the cooperation" (\textit{idem}, p. 26-27)

\(^{21}\) Nevertheless there is a whole "arsenal" of publications about workplace relationships.


as well, being suitable, at their turn, with adequate collective (multiple) cooperation. The relational potential of an economic entity is even greater as the economic decision-makers have the capacity to appreciate the new opportunities and the facilities emphasized by the political, social and economic environment. For example, at the end of the ‘80s, while the Brazilian Congress has introduced on the fax market "a wide range of customs charges (...) trying to protect the Brazilian industry profile" minimizing the cooperation with foreign fax producers, Taiwan used this opportunity to exempt the investors (in the fax domain) from tax payments and provided at macroeconomic level an open competition, the best producers being encouraged to cooperate with the internal ones (in order to develop new technologies). As a result, in 1994, while no new technologies had been transferred to Brazil and the price of the manufactured products was higher than the world average price, Taiwan "was ranked among the top manufacturers of fax machines in the world," benefiting from the synergy between the internal and external producers and the fiscal policies. It was only next year when Brazil abolished the customs charges for fax products having to recover many lost opportunities and to develop a synergistic relational potential which had not been undertaken before. We remind in this context, that, in a broader view, corresponding to the economy based on knowledge and new economies, including postmodern approach as well, the relationality involves competition, competiveness and cooperation.

The empirical experience has demonstrated that (in terms of applied marketing) the Internet, telephony and the interactive TV represent “facilitators of the relational interaction potential” between organizations, customers and other interested groups as well (within the company and on the market with regard to other entities). Therefore, “the information synergy (...) determines new entrepreneurial models” that guide

25 The period over which Brazil and Taiwan had similar per capita incomes.
26 Friedman L.T., 2008, p.228
27 Idem
29 Idem., p. xii
entrepreneurs, managers, companies in general and other organizations; accordingly, before starting any economic action (company-wide business, collaboration between firms, etc.) preliminary assessments and a related organization to create favourable conditions for outlining “synergies between marketing, transactions, information technology and databases”\textsuperscript{30} are needed.

But speaking in general economic terms, the synergistic relational potential of the economic open system represents a more present concept, which is however little approached in economic literature.

In terms of processes utility, economic analyses have demonstrated that "more an activity combines multiple inputs, the more its utility is higher due to the exploitation of relationality growth, therefore of actually implementing a higher relationality (of several functions that – being all specialized and having superior servicity\textsuperscript{31} – will generate, by their synergistic combination, a greater functionality than the sum of the «input» functions), a greater utility will emerge (...). If an entrepreneur conceives and carries on the activity so that he combines more various inputs, he will produce superior utilities regarding the entering activities”\textsuperscript{32}. The emphasis is not on the amount of input into the process, but on the combination of many, different and more varied elements; therefore, the emphasis is on diversification, in order to stimulate the relationality, as a potential to amplify the possible effects and to increase the options' panel at different levels\textsuperscript{33}.

Therefore, the synergistic relational potential of an open economic system refers to those essential conditions of the economic system that facilitate synergies creation and synergy effects respectively, through the

\textsuperscript{30} Ibidem, p. 254
\textsuperscript{31} Servicity represents “the assembly of induced effects – after conducting an activity– on other current or future activities (...). It is the expression of comprehensive inter-correlation between human activities (...) [defining] the added value, utility” resulted in this way (Jivan A., Servicity. More than Productivity in Service Economy (in Romanian), Sedona Publishing House, Timisoara, 2000, p. 87-89).
\textsuperscript{32} Idem
\textsuperscript{33} In science, this added utility (bank of creation) is called interdisciplinarity. And today, the economic science has a lot to benefit especially from the horizon broadening (mandatory).
optimum relation of collaboration or correlating between the system’s elements in question. The synergistic relational potential of the open economic system represents in fact a "derivate" of the synergistic potential of the economic systems regarding the coordinating function of the processes which generate synergies.

Like any economic system which embodies synergistic potential, companies, industrial centres or national economies show a significant relational potential of synergistic nature as well, each economic entity having the ability to shape a relational value chain.

The synergistic network is an open and flexible one, which is oriented towards the internal possibilities and the external demands, respectively, towards the economic conditions in which the network is operating.

In order to quantify the degree of the usage of the synergistic relational potential of the economic network or of an open economic system, the accounting of mutual information flows\(^{34}\) is essential, these ones being basic elements that facilitate the shaping of multiple and valuable synergies\(^{35}\) within the economic entity. But, besides the number of activated connections (called by us, "number of mutual information flows"), we should also include in the formula\(^{36}\) their intensity and quality, that is to say the measure in which the "load" of transmitted issues (of "shared" information\(^{37}\)) through those flows is correct, appropriate to the needs and, therefore, useful\(^{38}\). The intensity, included in the formula as a coefficient, could be measured through the number of connections per unit time

\(^{34}\) Through the economic network or system of networks

\(^{35}\) When businesses act in a synergic manner we know that the system's potential, including the relational one, is turned to good account. The economic entities will be capable of reducing personnel turnover, customers' dissatisfactions (and implicitly the complaints), communication void, redundancies and of increasing the efficiency levels, the added values, the degree of transparency and the informational value within a financially and socially responsible system.

\(^{36}\) The formula of synergistic potential effectively exploited.

\(^{37}\) Through existing links, by information flows

\(^{38}\) Because wrong, few or too many (generating a jamming on the quality of exploitation) and strictly inappropriate information for the requirements could present negative, perverse synergy effects.
(hence, numerically too), but it cannot be reduced to that unless the risk of a curtailed simplification. This coefficient will be able to gain parametric values, depending on other estimations related to the system (at least in the form of value ranking). Regarding quality, in order to shape synergy, the degree of satisfaction of the network links' information needs matters primarily, due to the fact that although mutual information flows exist (for example, in all cases of network links), this situation does not prove that such flows are enough. Therefore, everything that may guarantee the network links' superiority in value but also the degree in which all the information flows (either mutual or one-way ones) are satisfying the information needs within these network links[^39] must be taken into account. The satisfaction degree of information needs must be deducted from 100% (hence, expressed as percentages[^40]), because it deals with real and not ideal economic networks; it can be identified (for a unique moment t) either through the existing information platforms or questioning those involved in the proper deployment of some valuable information flows.

The general formula (generally valid) will be[^41]:

[^39]: "The satisfaction degree of the network hubs' information needs" is more accurate to say, but, when somebody wants to study the synergistic potential (of any kind), she/he concentrates on that link (on its quality) that facilitates the synergy effect (2+2>4). For this, we calculate the arithmetical mean of satisfaction degrees of the two network hubs' information needs, strictly related to the network link between the two hubs, and not to others (some network hubs are the starting point of multiple links, therefore, it is better and more accurate to proceed like this, because the satisfaction degree of a hub's information needs does not mean that it relates to all the links that converge from it but to their arithmetical mean – and the role of the Network Coordinator is to know which are those links that have the biggest synergistic potential, that is to say which are those catalyst elements of the synergistic network and where the situation should be improved).

[^40]: See the below formula from the legend.

[^41]: We consider the exclusive interpretation by the optics of information flows and needs as a limit of the model: the collaborations (in the manner of a "team", irrespective of the synergizing level) suppose other aspects, too, that are overlooked by the model in this form. The good cooperation, coordination and mutual balancing of the efforts and other many facets of the synergizing are comprehensively linked by the communication issue and mutual informing, but they do not go like this. In the quality context there are, of course, a number of issues that are related to the accuracy of the transmitted information, their level, the selection (exclusion of those redundant or inadequate etc.) degree, the processing-finishing degree, the moment of transmitting and the measure to which is relevant to the real needs etc. – which are
\[ \text{SYNPA} = \sum \frac{L_A}{L} \times qs \]

which may be written, for the moment \( t \), in the next form:

\[ \text{SYNP}^t = \sum \frac{L_A}{L^t} \times qs^t \]

If we take into account all links, meaning also the current existent and not-yet-existent ones\(^{42}\) – but which are necessary and should be established (and also activated), then we will deal with the unit, with the whole. The ideal case, when the number of links with mutual flows coincides with the number of network links, will therefore be:

\[ \text{SYNP}_T = \sum (1 \times qs) \]

and for the moment \( t \), it is written in the form:

\[ \text{SYNP}^t_T = \sum qs^t \]

Where:

\[ \text{SYNP}_A^{43} = \text{the actual synergistic potential effectively exploited, used, which can be taken into account;} \]

practically impossible to quantify in simple enough but relevant forms. For reasons of shaping, we nevertheless consider that this simplification is satisfactory (the one undertaken in this work, at least up to now) for the present study of the research in this field. However, the quality coefficient can be introduced in the calculations using an ad-hoc appreciated value.

\(^{42}\) Or the latent links.

\(^{43}\) The \textit{SYN} abbreviation for synergy is assumed according to Stan L-M., \textit{The Necessity to Exploit the Economic Networks’ Synergistic Potential. The Synergistic Gravity Equation Model}, Lambert Academic Publishing, Saarbrücken, Germany, 2011 – where, for example, SYNGEqM represents the synergistic gravity equation model. We avoid the symbolizations with \( S \), even if some researchers use the last variant: we consider that \textit{SYN} is more appropriate because the \( S \) symbol is used in economy for other various notions, being quite common; furthermore \textit{SYN} derived from the first researches related to synergy, being an abbreviation used to represent the ”Syn addition” process from the organic chemistry (chemical process that generates the
SYNP\(_T\) = the total, theoretical, nominal (of reference) synergistic potential, valid for the synergistic potential of the economic network in moment \(t\);

\(L^t_A\) = the number of activated network links (that have/sustain mutual information flows) (in moment \(t\));

\(L^t\) = the number of network links (in moment \(t\));

\(q\) = quality parameter (parameter concerning the quality of information and other qualitative aspects intended by the Network Coordinators);

\(s^t\) = the satisfaction ratio of information needs (in the moment \(t\)) of the total information needs belonging to the network links.

The formula suggests logical support for considering the synergistic potential usage (including its quantifying and analyse) as a favourable factor (it may even be a condition) for the competitive advantage of the concerned systems.

Having an eye on the relational nature of synergy and on the fact that each economic entity is the result of certain increased combined effects, a series of issues rise to be questioned, namely:

- Which are those factors that increase the relational potential of an open economic system?
- How valuable are the concerned actors’ benefits from their synergistic relational potential’s exploitation?
- How often and how precisely the determinants of the relational synergy effects can be found in the economic statistics?

In order to approach these issues, we propose the following subheadings.

increasing of the number of the organic substitute) and we should not forget that synergy was firstly used in *bio-chemistry* and only subsequently in *economy*, or the "synchronise packet in transmission control protocol" from the domain of *information systems*. 

16
The increase of an open economic system's relational potential

The synergistic relational potential's size and complexity is strongly influenced by the existence and coexistence of internal and external factors, which are independent and/or dependent on the activity field, on the organization culture and on the competitive framework within the economic system operates. But the common element of these influencing factors upon the synergistic relational potential is the functional interdependence of the open economic system.

The more the functionality of a capacity of the system is more strongly determined by the functionality of other capacity, the more the functional interdependence of the economic system is more pronounced. Furthermore, the efficiency of certain economic entities' components can be transferred to other components belonging to them. In the situation in which these yields are not continuously controlled over the effects, the functional interdependence risks negative synergy effects (meaning that the combined work or the factorial combination determines worse results, than in the case in which each business unit would work independently one another, through separate efforts).

This is the reason why within the systems responsible with increasing the added value, the process control systems and the internal effects are being developed. In this case, functional interdependence is promoted not for the sake of creating a „collectivist" framework, but with the imperative of obtaining mutual benefits, the increasing of gained values during and at the end of production processes, the compression of reaction times and increasing information and customer value.

The economic environments that facilitate such conditions are heterogeneous, where significant intellectual resources predominate, as

44 Unwanted
45 This term should not be perceived so simplistic or having inappropriate connotations.
46 “The economic growth is a function of I and takes place in conditions of relational growth, through more and more I agents, with more and more specializations (deepening work division), increasingly required by more and more economic agents” (see Jivan A., 2000, p.136). I factor is a concept introduced by the opposition to the M
well as technical and information capacities. The increase of their amount is given by the imperative of "dominating" as many key resources as possible, but the inter-functionality and growth of the synergistic relational potential stand out as each business unit will discover that it cannot manage the resources alone. The offered products and services must be integrated, verified and improved from all the points of view and this fact can be fulfilled only by a close inter-functionality. For example, within the Apple Company, the so-called „deep collaboration” or „cross-pollination” or „concurrent engineering” are promoted. „Basically, this term means that the products do not simply move from one team to another. There are no secretive phases of development. The process is simultaneous and organic instead. On products there is a parallel work, with the simultaneous engagement of all departments in endless rounds of interdisciplinary revisions of design”.

An observation is required: the increasing of same resources' effects through the better "dominance" and the resources enhancement must be analyzed by the economic science not as an indifferent potentiality (individual, local, private, conquered due to the environment), but the factor (to „material factors” – the material-quantitative aspects usually considered in the classical L and K factors). It should designate all superior aspects (intellectual, qualitative, by immaterial nature) that are involved in the economic process (of "production") beside the material ones, being „held” by people or found in qualitative modifications of the equipment, materials, technologies, methods, principles and politics in action and response: idea, innovation, renewal, intellect, information, knowledge etc., and, unlike the usual acceptance (that either ignores them or gives them a marginal place), they are in the midst of any economic action, being the defining element of the work. They are within (and emanate from) „deposits of human knowledge” (libraries, databases, research centres, universities, intellectual service office supplies, etc.), as well as within/from humans themselves (cultured, intelligent, well-read, experts, scientific researchers and professionals) and they are used in the economic process (too), beside the material efforts (those commonly quantified and evolved). The prominence of these "resources" is still far from adequate in relationship with their share capital, even in the most general representations (in Economics textbooks it is learned that the technical progress is "pumped" into the economic process as from a well, from somewhere outside...). The prominence of the role of these immaterial factors became closer to the truth once with the approach of knowledge society and the knowledge-based economy.

48 Idem
organization should be considered in the same optics as its components: in the logic of the whole. In other words, also the organization is part of a wider economic and social system in which we must judge its functionality and test it if it is proper to a favourable positive potentiality for the environment (overall economy, society, Mother Nature) or if the relationality within is rather a generator of negative synergies. The economic system (as well as the societal and planetary one) should not be perceived only in terms of space (expanded, comprehensive), but also in terms of temporal dimension, that is to say the long-term analysis and anticipation of effects (not just those commonly referred, in business or "short-sighted" logic of the market): the economics scientific analysis is much more demanding regarding the complexity of the analysis, than the managerial one. In this perspective – extended also to the whole system (macroeconomic, of human society, etc.) – the below must also be perceived, which are presented in the context of an organization as an economic entity level (company, economic agent) regardless its complexity.

The synergistic relational potential of the open system therefore increases as it outlines new opportunities of inter-correlation of secretive business activities. The mobilizing factors may be innovation (new techniques for the interconnection of activities, processes, individuals, entities in general) and the cultural aspects, the usages regarding cooperation and interaction between entities

This synergistic potential is diminished or it may even be cancelled when the economic system does not use all the available resources/capacities/valences to the maximum and when the commitment of the human factor (as individuals, teams, collectives) – especially at the decision-making level – is a limited one. Here we notice that lack of development and the neglect of certain components of the system (for example, the infrastructure, inter-sectors flow, collaboration between the

49 At enterprise level: the adequate nature of organizational culture rewarding, not discouraging the teamwork and the strategy of stimulating the global cooperation (both horizontally and vertically).
50 The national competitiveness of Sweden in the 2006-2010 period (E.U. member country that occupied in 2010 the best position in the "World Competitiveness Yearbook" compared with other member countries of E.U. - position 20) was based on infrastructure (primary, technological, scientific, health and educational one),
economic activity fields and the educational institutions\textsuperscript{52} or the integrity of the economic entity\textsuperscript{53} and the low commitment of the (national or regional) authorities which directly influence the economic activity, the competition, the fiscal policies etc. in supporting, encouraging and even the rewarding the entities which are eager to access and use a larger number of essential resources (for example, technological and intellectual resources) in business efficiency, government efficiency and the economic performance being the components of the national competitiveness that were actually supported on this. However, in the same period, Romania neglected its global infrastructure development's potential; thereby (and because of it), its competitiveness presented downwards evolutions (dropping from the the 49th position in 2006 to the 54th one in 2010), the domestic economy, the trade and international investments being directly affected by this "phenomenon" (see http://www.imd.ch/research/publications/wcy/upload/Overall_ranking_5_years.pdf and http://www.imd.org/research/publications/wcy/World-Competitiveness-Yearbook-Results/#/, accessed on 05.10.2010).

\textsuperscript{51} Through the synergy of common inter-sectors strategies, the competitiveness of a nation can be re-launched (see http://www.zf.ro/opinii/punct-de-vedere-restructurarea-administratiei-intre-41-de-judete-si-10-regiuni-de-dezvoltare-4745858, accessed on 05.10.2010). If this fact is not accomplished (because of the lack of the economic decision-makers' initiatives) the macroeconomic level's synergistic relational potential will be low.

\textsuperscript{52} For example, at the end of 2008, 80% of the Romanian university graduates worked in Romania in other fields than those in which they were specialized in university – exactly because of the lack of cooperation between the educational system and the economic system, the former one not being able to adapt to requests of the latter, despite the increasingly importance of the private sector in the Romanian education after 1990 (see http://www.money.ro/oamenii-de-aferici-cher-pentru-educatie-studii-pe-piata-muncii-si-finantarea-scolilor-dupa-performante_97673.html, accessed on 05.10.2010). This fact has determined investors to additionally expend resources on both the employees' training or to "overlook" the lack of professionalism of some economic network's components; in both cases, a series of economic processes which had to be deployed have been delayed and the human nature synergistic jams became evident - for example, the front-line employees' lack of professionalism cancelled the cooperation between customers and company, even if the traded products were quality ones; or the lack of professional technocrats or clerks within the authorities that regulate the economic activity determines an excessive bureaucracy, a discouragement regarding the collaboration between companies and state and "taking responsibility" in a high degree, of payments "delay" to the state, but, much worse, delays of important investments.

\textsuperscript{53} On the ethical point of view, corruption causes the destructive exploitation of the synergistic relational potential of the economic systems.
order to increase the entity's synergistic relational potential and the gaining of future profits.

Hereby, we observe that as cooperative attitudes\(^5\) make their way into the economy running on market principles (of competitiveness), they increase the chances of occurrence and exploitation of synergy effects and the growth of systemic potentiality. Furthermore, the fact was also observed at enterprise level through the diminishing of the synergistic potential when, for example, only the individual performances are rewarded and not the organizational, collaborative, group (or team) performances, or if there is an internal competition, immorality (for example nepotism), wrong allocation of competencies (even if these issues do not appear in reports). At the enterprise level too, dysfunctions may occur in the work of staff if the experience of serving clients is promoted only for the ones in the front line (sales representatives, transporters, cashiers, clerks and so on) and if the high staff turnover is growing; or if the power relationships transpose into power distance, if standardization is imposed, although there are cultural discontinuities within the synergistic network, if the position is remunerated (the function which is being held) and not the fulfilling of the function’s task, that is the behaviour etc.

The synergistic relational potential will increase as the entrepreneurs will realize also through math calculations that “the workers represent more than the sum of their parts”\(^5\). In order to obtain competitive advantage, it is required to exploit “the full potential of every individual”\(^6\); to this end, teams can be “much more than a group”\(^7\). The synthesized argument is that a business unit, acting alone, may gain a lot – this is called performance; but a system, acting in an integrated way, may generate even more- and here we talk about the synergistic/multiplicative performance.

\(^5\) Of course, without the elimination of useful valences (incentives) of the competition, but avoiding the destructive valences.


\(^7\) American Society of Mechanical Engineers: http://professionalpractice.asme.org/MgmtLeadership/Principles/Synergy_Teamwork.cfm, accessed on 12.11.2010
The economic science – that we need to claim over the business vision (of business) of businessmen- has the obligation to address these principles (discussed above at level of economic entity) into an inclusive and generalized optics adequate to the complexity of the national or international economic systems, without forgetting the implications which are spoken about today in the knowledge society (social, natural environment implications), everything from human, intellectual, knowledge factor (and perceiving it in that terms, as central and capital for perception and for action in economy and society).

The benefits of exploitation the open economic system's synergistic relational potential

The basic principle of the exploitation of an open economic system’s synergistic relational potential is the superior efficiency of resources’ exploitation and the internal and external capacities of the firm or of other economic entity that acts as a system of relationships – with a synergistic beneficial impact similar to higher and global levels. „The synergy effect of the interrelated functionality (each subsystem being completed in its functionality by practically all other elements of the assembly) will help balancing the whole (enterprise, national economy), everything being found in higher efficiencies (...); when the provider-client relationship is very effective, then all goes well and the related and surrounding activities will be involved in smooth operation, the possible amputations or short-circuit of some parts will be covered in terms of servicity, of overall utility, through the others' contributions; the economic and social system will be functional at high parameters”\(^{58}\).

„These increased growth of the potential (and of total yield - in the sense of functionality, of the offered services) – suggests an increasing «productivity» of the system in its synergistic entirety (mostly), but also of each «performer» (including the last-comer) – thanks to its inter-correlation with others, which can overcome its weakness and may increase the

\(^{58}\) Jivan A., 2000, p.125
personal potential; the growth is relational, not quantitative, but functional (services type)\textsuperscript{59}.

In the economic literature, hubs and flows of the economic networks divide those networks in two distinct categories\textsuperscript{60}:

- “club” networks: participants have a common goal\textsuperscript{61}, activity or service, while they are showing intertwined interests and operations, linked in parallel\textsuperscript{62};
- “web” networks: participants present different activities and goals which are rather complementary than similar and are linked in series (for example a network of companies or of business units that assume certain stages of production).

Within these types of economic networks synergy is obtained “in different ways”\textsuperscript{63}:

- within the "club" networks there are achieved „horizontal synergies“: here the synergy derives from cooperation that leads to economies of scale and to so-called positive network externalities; the achieved economies of scale are valuable only for the network’s actors: the externalities occur when the cost of participation within the network is lower than the benefits of cooperation;
- within the “web” networks „vertical synergies“ are achieved: the obtained synergies are added values resulted from the agglomeration and/or specialization effects; the key mechanism is the complementarily, synergy resulting from a specialisation process, redistributing of resources and activities related to the implied participants’ skills (see Figure 2):

\textsuperscript{59} Idem., p.63-64
\textsuperscript{61} This common goal is more prominent as the network’s members possess certain share of stocks.
\textsuperscript{62} For instance, in the case of a car rental company, the employees follow the same goal: the development of rental services. But some focus on serving partner customers, others on signing new contracts and others on taking the cars from the ”served" offices’ headquarters.
\textsuperscript{63} Meijers E., 2007, p.26-27
The basic benefit of the exploitation of the open economic system's synergistic relational potential is the horizontal synergy, namely the multiplier effect of cooperation within a team, a company or an economic activity sector that shows a majority of common objectives. Such horizontal synergies take the form of relationships with mutual benefits, of win-win type. These synergies add value to both parties\(^6\), the relationship making its way to a new level of the open system's performance\(^5\).

The most obvious horizontal synergies are represented by strategic partnerships, bilateral agreements, but even within the negotiations teams.

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\(^6\) *Idem.*, p.26  
\(^5\) *Ibidem*, p.231
The Exploitation of the Open Economic System’s Synergistic Relational Potential

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Figure 3: The possibility of increasing the profit of a buyer that shows team synergies (synergy game). Context: price negotiation of economic goods
Data source: adapted from Ito T., Zhang M., Robu V. et al - edit., Innovations in Agent-based Complex Automated Negotiations (Studies in Computational Intelligence), Springer, Heidelberg, 2010, p.15

In negotiations, the synergy game generally shows relational valences. According to studies and empirical experiences, it is necessary that "the setting up of strategy and negotiations tactics depending on the partner’s position and requests takes into account the synergy effect of team members' abilities". This is why experts say that "the simultaneous participation of several people that form a team (...) is not only advisable but compulsory", emphasizing the "agglomeration's" benefits of heterogeneous capabilities, elastically coordinated during the event itself. According to Ito T., Zhang M., Robu V. et all-edit. (2010), in a sale and purchase (of goods) negotiation, a buyer that shows synergy within the negotiation team (therefore, synergy game) can increase its negotiation profit by up to 100%, whereas a buyer that does not show team synergy can increase the expected

67 Idem, p. 33
profit by up to maximum 5%\(^{68}\). This is valid for an exercise price on a scale of 0 to 7 units (see Figure 3).

Therefore, the harmonization of internal capacities determines value addition in the context of internal-external interfering.

Other implications of the exploitation of the open economic system’s synergistic relational potential are:

- intellectual precedence: due to frequent exchanges of information and experiences within the synergistic network, the ability to select and use technology and information will determine higher yields within the active system;
- the favouring of unconventional advantages and performances: the advantages and performances of those networks that show synergies are "enriched" by second and third order compatibilities\(^{69}\) that, the more they involve more elements, the more difficult to imitate they are;
- shortening the correlation, communication and reaction times: the execution time of activities is optimizing, allowing its shortening in cases when saving time is beneficially (from tim, the maximal execution time, to tim, to minimal time); and in the case when quality requires de-intensification, it allows the elimination of some elements' overload and the use of others adequate with substitute role; the correlated increasing of the system’s productivity\(^{70}\);
- the exploitation of relational advantages of agglomeration through the development of clusters, conglomerations, flows and interurban relations\(^{71}\);


\(^{69}\) While the first order compatibility implies "the simple matching between each activity (function) and the overall strategy", the second order compatibility "occurs when activities reinforce each other" and the third order compatibility implies "the efforts’ optimization" (Porter M., 2008, p.59-60).

\(^{70}\) For example, at the company level, the productivity can increase in the condition of promoting the operational efficiency, after applying the total quality management (see the increasing of work productivity per hour in the Japanese industry in the 1986-1991 period).

\(^{71}\) For example, the development of a series of polycentric networks in the capitalist countries as the Randstad urban network, from The Netherlands, the BosWash megalopolis from United States of America and so on.
cost reductions: due to the merge of activities and due to the administration of all network’s costs (aiming at not only the most important) a series of effective losses are reduced.

Aspects of retrieving the synergistic relational potential in accountancies and statistics

Even if the open economic systems “have the potential for high degrees of synergy”, the manner in which the synergistic potential (and its essential dimensions) is estimated, quantified and represented in economic reports or business plans still remains a poorly contemporary practice.

Strictly at macroeconomic level, synergy and the exploitation of synergistic relational potential of the economic systems are completely ignored elements in the national and international economic statistics. For example, in the hundreds of pages of “The Global Competitiveness Report”, published by The World Economic Forum for the 2007-2011 periods, there is no report, concept or reference related to synergy, synergistic potential or synergistic implications of the studied systems. This fact is true also for other reports or international or national indexes regarding the economic domain, such as “The World Competitiveness Yearbook” (published by the IMD Swiss organization), the national statistical reports and so on. Nevertheless, those who benefit from competitive advantages appreciated by the international yearbooks (in the competitiveness domain) said that their success lies right in the advantage of the synergistic potential’s exploitation at national level, the advantageous cooperative relations

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72 For example, at company level, see the costs synergies of Petrom S.A. (part of OMV Group) in 2010 from eliminating the Petrom V brand.


76 In the 1996-2011 period, The National Institutes of Statistics of 40% of the E.U. member states show no report or reference to synergy or synergistic networks at national macroeconomic level.

77 For example:

- U.S.A.: The American clusters „benefit from interdependencies and produce synergy” (***, Exports, Competitiveness and Synergy in Appalachian Industry Clusters. A Report to
between the hives of industrial, government authorities and the assembly of the activity sectors having an important role.

But the most references to the synergistic relational potential’s value coincide with the situations of analysing the capitalization and feasibility of signing some mergers or multidimensional agreements.

According to McKinsey & Co. studies “potential synergies are generally overestimated before a merger”\(^78\). For all that, “synergy remains a worthwhile objective, with potentially enormous benefits for both the individual and the organization”\(^79\).

In 2009, D. Erik, K. Palani and K. Srinivashan conducted a study on 264 large corporate mergers from the 1980-2004 period of the capitalist world. The research concluded from the studies that the result, or, better said, the post-merger synergy gains\(^80\) are “quoted” by the mergers' promoters at the 10.02% percentage of the "combined equity value of the merging firms”\(^81\) – that is to say, the average total synergy gains of the 264 studied mergers (see Figure 4). The resulted financial synergies from tax savings were estimated to 1.64% that is “less than 17% of the total synergies.

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79 Idem, p.26

80 Valid for a simple fusion; these gains result „by comparing the present value of Value Line cash flow forecasts for the target and acquiring firms before the merger with the forecast for the combined firm” (Devos E., Kadapakkam P.-R. and Krishnamurthy S., “How Do Mergers Create Value? A Comparison of Taxes, Market Power, and Efficiency Improvements as Explanations for Synergies”, published by Leeds School of Business at the University of Colorado at Boulder, 2009: http://leeds-faculty.colorado.edu/bhagat/HowDoMergersCreateValue.pdf, accessed on 27.06.2011).

81 Idem, p.2
This result suggests that tax considerations are not a major source of merger gains\textsuperscript{82} but the represented amounts may be of tens or hundreds of dollars.

More important however were the benefits from operating sources, the operating synergies representing 8.38\%\textsuperscript{83} of the total forecasted future values. All these synergy gains categories resulted due to "the elimination of duplicate investments"\textsuperscript{84}.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{synergies.png}
\caption{The evaluation of synergistic potential resulted from 264 large corporative mergers from the period 1980-2004}
\end{figure}

\textbf{Figure 4:} The evaluation of synergistic potential resulted from 264 large mergers from the 1980-2004 period

http://leeds-faculty.colorado.edu/bhagat/HowDoMergersCreateValue.pdf, accessed on 27.06.2011

In contradiction with financial tax synergies, the operating synergies relate to combining efforts that lead to added efficiency, having operating resources as reference elements (of administrative, commercial or

\textsuperscript{82} Ibidem, p.5
\textsuperscript{83} See ibidem
\textsuperscript{84} Ibidem
logistical order). The operating synergies are focused mainly on “horizontal relationships among business units to capture corporate performance.”

It can be concluded from the cited analysis that after a merger, it is possible that over 80% of the post-merger synergistic potential represents in fact, synergistic relational potential.

But other empirical studies suggest that the relational aspects of post-merger type synergistic actions are listed in the background, prevailing the evaluation of the top synergistic financial nature within the aimed mergers. For example, before the merger of “Chrysler Corporation” and “Daimler-Benz A.G.” (spring of 1998), the executives of Chrysler wanted to find out the potential synergies and their post-merger value and the following report of evaluating the possible synergistic potential came out (see Table 1):

Table 1: Identification of potential synergies of the Chrysler Corporation-Daimler-Benz A.G. merger

<table>
<thead>
<tr>
<th>IDENTIFIED POTENTIAL SYNERGIES</th>
<th>HYPOTHESES SYNERGIES</th>
<th>COMMENTS UPON SCRUTINY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost saving synergies</td>
<td>- Savings in purchasing and in new product design and development; - The savings are expected to reach up to $1.4 billion in 1999 and $3.0 billion by 2001.</td>
<td>Because the product lines of the two firms did not materially overlap, it seemed unlikely that savings would be significant through consolidated plants or distribution</td>
</tr>
</tbody>
</table>

Therefore, in this example, out of the four identified categories of synergistic potentials, a single category implies dominance of relational synergies: the real option synergies.

The fact that, in some partnerships, the relational aspects of the synergistic potential are more prevalent and in others prevail strictly the financial aspects related to assets reduction etc. is caused by the "morphology" of ratified agreements and by the activity field of the systems under "kinship".

The minimal synergy effects are resulted within the unilaterally agreements that "usually involve minimal interdependence of the partners"86 (see Figure 5). But the highest degree of interdependence and thus also the highest level of relational synergy effects prevails within the bilaterally agreements, which are strategic alliances like cooperation agreements of joint ventures or consortiums; these bilaterally agreements involve "the linking of individual destinies to a larger extent than the

86 Faulkner D., Bowman C., The essence of competitive strategy (in Romanian), Teora Publishing House, Bucharest, 2000, p.87
unilaterally agreements” and, accordingly, also, a more obvious relationship within the resulted system.

![Diagram showing minimal and maximal synergy effects]

**Figure 5:** The “dimension” of synergy effects depending on the signed agreement type


It is important to specify that within the domain of mergers, acquisitions or other forms of economic activity’s expansion, a significant part of an economic entity’s potential is found outside of it, and sometimes, even outside the domain, borders or the specific sector of activity. Furthermore, we approached the subject regardless the system's level (company, domestic economy, global economy etc.), because a proper knowledge cannot be confined to the level of business, and in economics, raising expanded horizon issues (including interdisciplinary) is a requirement in the knowledge society. The manner in which each economic entity relates with the environment represents an essential determinant of the strategic and financial success or failure of the open economic system. And the synthetic evaluation of synergistic relational potential, both at basic level, of an economic entity (within the internal relationships between processes and/or individuals), and higher levels, for any economic system (involving therefore the whole of external relations) require comprehensive, fine, detailed and color analysis, in a constructive capitalization of knowledge of business at higher magnitude complexity levels and business levels with more broadened and diversified analysis angles.

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87 *Idem*, p.88
88 See Porter M., 2008, p. 234
Such as at enterprise level, if the primary needs of the economic system remain unsatisfied for a longer time, the risk that the synergistic relational potential of the system is not fully exploited increases, exactly like the domestic economy where malfunctions may critically worsen, through declines of potentiality. Furthermore, at a worldwide level, in social and environmental dimension, today’s economy faces a major lack of needs, with all (visible) effects in the chances of benefiting from positive synergism and facing the risks of deep global systemic crisis.

Conclusions

The current economic system represents “a construction of interdependent resources constituting a whole” in which the interaction needs with the environment (physical environment, social partners, economic partners etc.), the imperative of including, collaborating and integration become more and more pronounced. Hereby, the synergistic action assumes both the costs and benefits of transition “from a vertical world (command and control) to a more horizontal (connection and collaboration) one”.

Synergy represents an entrepreneurial and real social experience; it does not mean the living networks' stability, but the condition, and, at the same time, the hint of their mobility and strength, reflecting a number of commitments and managerial options at different levels (of enterprise, corporation, governments, economic unions, global initiatives etc.).

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89 See also Buckingham M., Coffman C., First, Break All the Rules: What the World’s Great Managers Do Differently (in Romanian), ALFA, Publishing House Bucharest, 2007, p.24-25. The companies that do not present obvious premises for an increased relational potential, do not become synergistic entities; and, if synergy does not occur, the entity will be outmatched in the contemporary competitive “ocean”.

90 The persistence and widening of disparities between countries

91 Unresolved issues of exclusion, the persistence of acute poverty issue.

92 With all ecological requirements – whose solution is a known necessity, but it is temporizing, remaining at insignificant levels, while the damages come to a head.


94 Friedman T. L., 2007, p.203

95 Such as "The Black Sea Synergy" – regional cooperation initiative (in the domain of government efficiency, commerce, energy and transport, environment and fishing,
The exploitation of the synergistic relational potential of the open economic system enables the intellectual intensification (the amplification of technologies and information valorization)\(^{96}\), with all the effects that may arise, appropriate to knowledge-based economy; it enables the stimulating of the economic action’s originality, within the preoccupations for optimization; regarding productivity increasing, it is likely to achieve, at its turn, in the most proper form for each type of performance, involving qualitative aspects respectively (without limitation to the strictly quantitative ones); it enables savings and added congestion, relationality, etc.

The positive synergy effects constitute special tools (different from the usual ones and superior) for obtaining advantage in the competition, but, at superior levels, cooperative ones, the positive synergy effects constitute solutions for significant problems and opportunities for the future which should not be failed. The effects of synergism are, by themselves, arguments for taking into account and exploiting the relational potential, at different analysis levels, as well as for scientific concern in order to properly understand the positive synergies’ quantifying and stimulation.

In order to achieve advantageous economic results, any economic system must be able to connect the business programs with the internal relational potential and non-destructively framed in the external relational frame; through the simultaneous action of the combined efforts, the benefits will not only be of network synergy effects type, but also a relational economy with strong cultural connotations having an advanced knowledge and a complex constructive approach in centre, aiming at sustainably protecting the environment and the next generations.

\(^{96}\) In order to a thoroughgoing and developed study it is recommended to use, for example, Alexandru Jivan, *Intellectual Tertiary Economics* (in Romanian), Mirton Publishing House, Timișoara, 1995 and Jean Gadrey, Faïz Gallouj (Edited by), *Productivity, Innovation and Knowledge in Services. New Economic & Socio-Economic Approaches*, Edward Elgar, Cheltenham, UK; Northampton, MA, USA, 2002.
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The informal economy is present in all countries, but its consequences reflect in different countries with different intensity. Types and scale of informal economic activities reflect the specificities of socio-economic context and the integration of the countries into the wider local-regional economy.

The informal economy represents an important potential of labor and incomes, therefore there is a need for better understanding, since on this will depend the direction of the path for safer addressing of this issue. The first part of the paper defines the concept, causes, consequences and ways of measuring the informal economy, so as to gain a clear understanding of the subject matter.

Under the existing data limitations, some characteristics and estimates are presented regarding the size of the informal economy in Kosovo, with focus on addressing the problems of transition from informal to formal economy. It is challenging exercise, and further research is needed.

**Keywords:** informal economy, concept, causes, consequences, measurement, current trends, transition
Introduction

There are different definitions by different authors regarding the concept of informal economy that have evolved over time, and which have also been controversial, so as to identify the main causes and consequences of the informal economy.

In this paper was used the definition of informal economy adopted by the International Labor Organization - ILO (1993), by implying the informal economy as an ensemble of unregistered economic activities that are driven by tax and social security evasion or by attempts to avoid compliance with certain legal standards and administrative procedures. This definition excludes criminal activities and marginal non taxed activities.

The development of the informal economy is not attributed to a single factor, but it is a result of interaction of numerous economical, political, social, institutional, and even psychological factors. Moreover, the consequences of existence and development of informal economy are multiple, whether negative or positive, as are treated in most cases. In order to determine the causes and consequences of informal activity, it is necessary to estimate the size and composition of the informal economy. Measurement is a key element in furthering this understanding.

Different methods are used in different countries for measuring the size of informal economy, but if we look in more details, each method has its own advantages and disadvantages; hence the difficulty arises when comparing these data.

There are only estimates and no objective data regarding the size of informal economy as an important component of Kosovo’s economy. There is still no deep and comprehensive study in Kosovo regarding the level of informal economy, the consequences of informal economy and policies which should address this problem; however several attempts have been made in this regard.

The experience of countries in transition and of other countries shows that the degree of economic formalization is positively related to the degree to which the economy is reformed and democratic and regulatory institutions are stabilized.
The transition from informal to formal economy is gradual and should be accompanied by supportive interventions that could assist enterprises to reach a more formal existence.

**Origin and Evolution of the concept of informality**

Concepts of “informality” within the economy evolved as a historical process. This concept started to be applied in the Third World, in a number of studies on urban labor markets in Africa. Different thoughts and approaches have changed throughout the time and resulted in academic and institutional controversies to identify the main causes and consequences of informal economy. The concerns were what strategies to apply in order to improve labor and living standards for millions of workers who act on the edge of outside public regulations in their territory [1].

In order to present the evolution of the concept of “informality” it is important to start with the concept of Informal income opportunities (Hart) and Ends-means Concept (De Soto) [2].

*The concept “Informal Income Opportunities” begins with the study of the economic anthropologist Keith Hart titled: “Informal income opportunities and urban employment in Africa”. Hart, when presenting this study in the seminar ”Urban Unemployment in Africa” has defined two ways of income generation: formal-by salaried employment, and informal-by self-employment. Hart made a distinction between wage employment and self-employment and formulated a dualist model of income opportunities of the urban labor force (1973).

By the term ‘informal sector’ he has implied the informal income opportunities to satisfy the basic human needs through self-employment mechanisms. He has considered informal activities as a signal of entrepreneurial dynamism as “people taking back in their own hands some of the economic power that centralized agents sought to deny them”. In his conceptualization, informal sector is not treated as a separate sector.

Hart’s views represent the initial point of further theoretical and empirical analysis of informal economy in the academic world.

*Ends-Means Concept* relates to the views of Peruvian economist Hernando de Soto who has reformulated the Hart’s original definition. In The Other Path (1989), de Soto defines informality as the response to the...
rigid states dominant in Peru and other Latin American countries that survive by granting the privilege of legal participation in the economy to a small elite.

He developed the ends-means criterion, according to which the informality implies economic activities whose ends are legitimate, but whose means are illegitimate in the sense that they contravene official regulations. De Soto supports the deregulation of the market and less state intervention.

**Informality as a Sector Concept** - The term “informal sector” was used by International Labor Organization (ILO) in the report prepared under the World Employment Program at the beginning of 1970s which implies activities where informal working conditions exist. The economy was seen in terms of two sectors: formal and informal, according to dualistic model of modern-traditional sectors developed by the nobelist and development economist Arthur Lewis. [2]

ILO reports emphasize that the main social problem is not unemployment but existence of a large population of “poor employees”, who are struggling to produce goods and services, but whose activities are not registered or protected by public authorities. Since then, the term “informal sector” was used to explain urban “non-modern sector” of developing and transition economies. The concept of “informal sector” covers activities of income generation outside regulatory framework in which the low level of capital, technology and skills are used, and which brings low incomes and unstable employment [3].

In 1993, ILO has defined the informal sector as: “Very small-scale units producing and distributing goods and services, consisting largely of independent self-employed producers in urban and rural areas of developing countries, some of whom also employ family labor and/or a few hired workers or apprentices, which operate with very little capital or none at all; which utilize a low level of productivity; and which generally provide very low and irregular incomes and highly unstable employment to those who work in it. They are informal in the sense that they are for the most part unregistered and unrecorded in official statistics; they tend to have little or no access to organized markets, to credit institutions, or to many public services and amenities; they are not recognized, supported or regulated by the government; they are often
compelled by circumstances to operate outside of the framework of the law and, even where they are registered and respect certain aspects of the law, they are almost invariably beyond the scale of social protection, labor legislation and protective measures at the workplace” [2:29].

Since 2002, at the International Labor Conference “Resolutions concerning decent work and informal economy”, ILO substitutes the concept of informal sector with the wider concept of informal economy.

The term “informal economy” is preferred more than the term “informal sector” because workers and enterprises in question do not belong to a single sector of economic activity, but to many sectors. This term tends to minimize connections, gray zones and interdependence between formal and informal activities and refers to all economic activities by workers and economical units that are – in law or in practice – not covered or insufficiently covered by formal arrangements [1].

![Figure 1. Distinguishing the Formal and Informal Economy](image_url)


By the new institutional economics, the informal economy implies those economic activities that circumvent the costs and are excluded from the benefits and rights incorporated in the laws and administrative rules covering property relationships, labor contracts, financial credit, social security systems, etc. [4].
The informal economy is also defined through a range of sub-categories, which are tackled in different ways through various policies and programs. There are elaborated definitions by employment category, definitions based on the location of informal economy; definition by income and employment potential, etc.

Generally looking, the existing literature on informal economy includes the views of authors belonging to three main schools of thoughts regarding the relationship between the formal and informal economies.

The dualists: the informal economy is a separate marginal economy not directly linked to the formal economy, providing income or a safety net for the poor (ILO 1972). They argue that the informal economy exists because economic growth has failed to absorb those who work in the informal economy.

The structuralists: the informal economy is subordinated to the formal economy (Castells and Portes 1989). They argue that privileged capitalists seek to erode employment relations and subordinate those who work in the informal economy in order to reduce their labor costs and increase their competitiveness.

The legalists: informal work arrangements are a rational response by micro-entrepreneurs to over-regulation by government bureaucracies (de Soto). They argue that those who run informal businesses do so to reduce their own costs and increase their own wealth. [5] - [6].

Other observers would argue for a comprehensive framework that recognizes that the linkages and power relationships between the informal economy, formal sector, and the public sector differs by which segment of the informal economy one is talking about. For example, street vendors often have to vend informally because they are not incorporated in existing regulatory frameworks or because existing regulatory frameworks are too constraining. Industrial outworkers typically have little bargaining power with those who put out work to them. And self-employed often have relatively little market knowledge, market access, or bargaining power compared to large manufacturers [6].

Nevertheless, this vast array of definitions should not be seen as an obstacle, but a possibility to identify relevant entry points and to select target groups for various interventions. The informal economy is just as the heterogeneous as the formal economy.
Importantly, the issue of being “formal” or “informal” is not always a black and white issue – there are grey areas. Some larger companies can be technically “formal” but display elements of “informality” such as avoidance of certain fiscal or social responsibilities – this is often facilitated by inadequate means of legal enforcement [7].

**The causes and consequences of informality**

The causes of informality are diverse, therefore this impacted to have a more extended literature focused on explaining the causes of the existence of the informal economy. There are two main views on the subject [20].

The first view suggests that the most important factors that enable existence of informal economy are large start up costs, rigid labor registration, inefficient tax system, corruption and high registration fees (Loayza, 1996; Johnson et.al., 1997; Johnson et.al., 1998).

The second view argues that entrepreneurs have less of an incentive to formalize their businesses if they are not constrained in the informal economy from the public goods and services available to the formal sectors. (Johnson et.al.,1998; Loayza, 1996; Montiel et.al.,1993)

It is impossible to attribute development of this phenomenon to a single cause. Based on ILO researches, informal economy results as interaction of economical, social, political and institutional factors. And these factors of course constitute a strong relationship between formal and informal economy.

Development of informal economy is actually the result of combination of several factors:

Lack of healthy economic development, which resulted in a low economic growth in many countries thus being unable to generate new jobs. Many countries trying to attract foreign capital have neglected their small and medium scale enterprises as well as agricultural sector.

Structural Adjustment Programs (SAP) over last decades resulted in massive dismissals of public-sector employees due to privatization and reorganization of these sectors.

Rapid transition towards market economy resulted in expansion of informal economy. Especially in developing countries, reorganization and
privatization of public sector has caused a significant increase in unemployment and many people did not have a choice but engagement in the informal economy.

_The low level of salaries in the formal economy_ in many developing countries and Eastern Europe countries forced the workers to commit themselves to an additional source of income from the informal sector.

_Demographic factors_ also influenced the development and expansion of informal economy manifested with surplus workforce and migration from rural areas. Since informal economy has not able to absorb the incoming workforce, many immigrants became part of informal economy [8].

Moreover, there are different views pertaining to globalization as determining factor of informal economy.

According to some views, informality origins of the informal economy pre-date the current phase of globalization. Informal economy is not the result of globalization, but globalization continues to contribute to informality. On the other hand, the prevalent contemporary view considers that informality is a consequence of globalization (Sassen, 1994; 1997; Castells and Portes, 1991). This view stresses how processes of economic globalization have changed the boundaries of markets, increased global integration and competitive pressures (International Labor Office, 2002). Such changes produced responses in the private and public sector economy of downsizing, rationalization, subcontracting, increased flexibilisation, short term and part time contract employment which, when coupled with public spending and welfare cuts, led to the prevalence of economic informalisation. The types and scale of informal economic activities reflect the specificities of socio-economic context and the integration of the countries into the wider local-regional economy [7]-[9].

_The consequences of informal economy_ may be of a different nature. Many informal economic activities are characterized by fundamental contradictions that ensure they can contribute in both a positive and negative manner to processes of local economic development.

_Negative consequences_ are reflected in a comprehensive manner. It can trap individuals and enterprises in a spiral of low productivity and poverty. It constrains the ability of individuals to access capital, credit,
technology, markets and institutions. For governments and local authorities it entails the loss of revenue from taxes and licensing fees. For workers it can mean inferior working conditions, job insecurity, lack of access to state benefits and social security. Above all it can inhibit growth.

Economies with a large informal sector tend to be stuck in a vicious circle (Fig. 2), where the large degree of informality complicates the government’s task of collecting revenues for the budget.

With low tax revenues, expenditures for important public goods will be low as well, which, in turn, will be reflected in their substandard quality thereby constraining private-sector investments. With an inefficient public sector, taxpayer discipline will remain low, leaving the economy being stuck in a fiscal trap [10].

![Figure 2. The Vicious Circle](image)


An activity in formal sector damage the formalized activities, but also offers important complementarities and flexibility and can encourage entrepreneurial activity and skills development. However, the negative consequences of informal activities outweigh any positive benefits.

The positive consequences of informal economic activities are most apparent and at their least contentious in the realm of self-provisioning and mutual aid.

These activities contribute to help meet basic needs, to survival strategies, to keep local populations active and engaged, and develop stocks
of social capital. Majority of those who conduct activities in the informal economy do so because they have no other choice, as opportunities in the mainstream economy are not available to them.

Therefore, the informal economy not only presents the way to find a means of survival, but it also offers broad entrepreneurial potential. This potential may be used if effective strategies were developed to remove the obstacles to their integration into the formal economy. The informal economy can be regarded as an incubator for business potential and an opportunity for on-the-job skills acquisition.

Positive effects may be summarized as follows:

- Flourishing field of entrepreneurship – an initial pre-formal phase – where the entrepreneurs learn about the market and explore opportunities to survive.
- An indicator of the ability to develop appropriate regulatory forms to release resources in economy.
- As a mechanism to overcome social disadvantage or exclusion, thus compensating the lack of serious social security systems in transition economies.
- As an important part of the transition process that enables individuals and their families to have a sustainable standard of living amid disorders caused by privatization, restructuring and contraction of companies [7].

In evaluating the balance between negative and positive consequences, an important distinction can be made between dependent and independent informal economic activities.

Negative consequences are considered as “dependent” informal economic activity where either formal (firms) or informal institutions operate informally in order to exploit workers and evade the processes of law. In contrast, “independent” informal economic activity (positive consequences) is often closely aligned to the pursuit of survival strategies in a manner which often displays what are considered positive virtues of self-reliance, initiative taking, engagement and entrepreneurialism. However, there are many relationships between dependent and independent activities which means that at times the clarity of this distinction is difficult to maintain [9].
In order to determine the causes and consequences of informal activity, it is necessary to estimate the size and composition of the informal economy. Measurement is a key element in furthering this understanding. If policy makers are to monitor the development process they require accurate indicators of overall economic activity. Therefore one essential contribution of efforts to measure presently unrecorded activity is to improve the information system on which policy makers must rely.

**Measurement of the Informal Economy**

Measuring the size of informal sector is a very difficult process, since there are different methods to measure the size of the informal sector which have been applied in different countries and by different authors.

In general there are three broad methods for measuring the informal economy: direct approaches, indirect approaches and modeling. Each of them has advantages and disadvantages and each of them provides different measurements of the size of informal economy.

*Direct method is based on the* sample survey and is recommended after adoptions of the 1993 definition of informal economy. The main principle of these surveys lies in selecting a representative sample of households and, in these selected households, to identify those own-account workers and employers who, according to the criteria of the new definition, belong to the informal sector.

The advantage of this method is that it can provide detailed information about informal economy activities and the structure and composition of those who work in it, but its disadvantage is that it cannot provide estimates of the development and growth of the informal economy over a long period of time. There are also other obstacles to be properly implemented, e.g. respondents may be unwilling to admit to what they do, then the result will depend on formulation of the questionnaire, etc. Another fact should be pointed out that it is difficult to grasp the complexity of informal activities with one questionnaire [5]-[11].

For the direct method, the collection of data can take different approaches such as *special surveys* on the informal sector: labor force or other *household surveys*, the *establishment/enterprise surveys* and the *mixed household-enterprise surveys*.
The Unified Data Collection Strategy is considered as the most cost-effective approach for directly measuring the informal economy and informal employment.

This strategy is proposed by The Interregional Cooperation on the Measurement of Informal Sector and Informal Employment (ICMISIE) project of the United Nations.

ICMISIE is a multiyear and multilateral development account project, with the Economic and Social Commission for the Asia and Pacific as the lead agency, with the main objectives to increase the availability of data on the informal sector and informal employment and to improve the calculation of the contribution of informal sector to employment and to GDP. Thus, data that are based on internationally comparable as well as country-specific definition are collected in this way.

This unified data collection strategy is comprised of the scope of data collection, survey design and organization of data collection and list of variables to be collected and published and survey questionnaire. It aims to capture all relevant enterprise characteristics for identifying an informal sector enterprise based on at least two sets of criteria -- the country’s, as well as that of the ICLS and Delhi Group [16].

This approach offers more flexibility from the usual survey approach that selects informal sector enterprises based on a set of predetermined criteria.

Indirect method is based on utilization of other data sources and statistical models. Indirect estimation methods are usually based on the residual balance technique which entails choosing a specific definition of the informal sector (registration, or employment size) from which the size of the sector can be inferred. These would include the difference between income and expenditure statistics, studies of the labor force, studies of the volume of transactions and studies of currency demand, studies of electricity demand, etc. [11].

The degree of approximation will depend on the quality of the source used.

With the exception of Latin American countries and of a few Asian countries, most countries still rely on indirect estimates for measuring the size and even more the contribution of the informal sector to the national economy [5].
By this method, only the size of the informal sector may be estimated but not other information and indicators relevant for program development like the extent or lack thereof of social protection; extent of access to credit, training, and markets; differentials in wages and working conditions, and prevalence of poverty.

Modeling as a third approach develop models using multiple causes and indicators as well as changes over time, for example estimations of the burden to taxation, the burden of regulation and the tax morality of citizens are used to make estimates.

This method relies on building in many assumptions and guesses rather than real measurements of actual activity [11].

**Informal economy in Kosovo**

Kosovo has an unemployment rate estimated at 48 percent and an extremely low employment rate (26 percent). A significant number is employed in the informal economy which means that employment rate is higher than in the official statistics [2].

The labor market in Kosovo has some special characteristics comparing to other countries in transition. Almost all data available show that one-third of population is estimated to be under the age of 16 and over 50% of population is estimated to be under the age of 24. Because of this, there is a considerable individual’s entry into the labor market [13]. The labor market in Kosovo can hardly absorb 35,000 new jobseekers, who enter the labor market each year, which resulted in a high unemployment rate, which from year to year has slowly increased or declined, however still remaining high (Fig.3).
The unemployment data differ more or less depending on the sources used; therefore, it should be emphasized that these labor market data should be carefully treated due to their limited availability and quality. This also applies to the availability of data on informal economy.

There are only estimates and no objective data regarding the size of informal economy as an important component of Kosovo’s economy.

The estimates of the ILO and the World Bank indicate that over half of total employment in Kosovo is in the informal economy. Informality among young and adult workers is even more pronounced if measured according to compliance with statutory provisions on social security. In addition, 67 per cent of adult workers and 73 per cent of young workers are estimated not to be covered by social security [14].

An assessment carried out by the European Agency for Reconstruction (EAR) in 2007, which adopted the definitions of the OECD and the household macroeconomic budget model, estimates the size of the informal economy in Kosovo at between 27 and 35 per cent of GDP in 2004–2006. Nearly 85 per cent of this is attributed to workers who do not pay personal income tax [17].

Informal economy is most wide spread in the construction, forestry, trade, services, tourism, transport and agricultural sectors [13].
The table below shows the data by percentage (2008) regarding the number of informal workers in total, by gender (panel A), by age group (panel B) and by education level (panel C) (Tab.1).

The majority of employees hold temporary jobs, many without a labor contract (13%), and the proportion of unpaid family workers is not insignificant, altogether making for a sizable share of informal workers (Employees not covered by labor protections or social insurance are defined as those working without a labor contract).

<table>
<thead>
<tr>
<th>Panel A (total, by gender and area)</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>67</td>
<td>63</td>
<td>85</td>
<td>73</td>
<td>62</td>
</tr>
<tr>
<td>Temporary</td>
<td>65</td>
<td>65</td>
<td>67</td>
<td>71</td>
<td>59</td>
</tr>
<tr>
<td>Without a contract</td>
<td>13</td>
<td>14</td>
<td>7</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Self-employed with employees</td>
<td>9</td>
<td>10</td>
<td>3</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Self-employed with no employees</td>
<td>15</td>
<td>18</td>
<td>6</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>Unpaid family workers</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Informal</td>
<td>31</td>
<td>35</td>
<td>18</td>
<td>24</td>
<td>38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B (by age group)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>65</td>
<td>67</td>
<td>67</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Temporary</td>
<td>70</td>
<td>67</td>
<td>64</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Without a contract</td>
<td>31</td>
<td>16</td>
<td>9</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Self-employed with employees</td>
<td>3</td>
<td>8</td>
<td>10</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Self-employed with no employees</td>
<td>12</td>
<td>15</td>
<td>17</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Unpaid family workers</td>
<td>19</td>
<td>10</td>
<td>7</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Informal</td>
<td>50</td>
<td>35</td>
<td>28</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C (by education level)</th>
<th>Usec</th>
<th>Usec vōc</th>
<th>Usec gen</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>45</td>
<td>66</td>
<td>70</td>
<td>89</td>
</tr>
<tr>
<td>Temporary</td>
<td>71</td>
<td>62</td>
<td>60</td>
<td>74</td>
</tr>
<tr>
<td>Without a contract</td>
<td>26</td>
<td>16</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Self-employed with employees</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Self-employed with no employees</td>
<td>25</td>
<td>17</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Unpaid family workers</td>
<td>21</td>
<td>7</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Informal</td>
<td>57</td>
<td>33</td>
<td>27</td>
<td>4</td>
</tr>
</tbody>
</table>


Employees account for most workers (67 percent), particularly among women (85 percent), although a sizable 9 percent of workers are
unpaid family workers (12 percent in rural areas). Most employees hold temporary jobs (65 percent), and the shares are similar across groups, including university graduates, who even display a greater share of temporary jobs. Most employees do work with a contract, but the proportion of those who don't is not insignificant (13 percent). Also, a large number of workers are informal (31 percent). Informality is actually lower among the few women that get to work and significantly higher for youth (50 percent) and workers with lower secondary education or less (57 percent). University graduates have the lowest incidence of informality (4 percent).

The increase in the number of informal workers is in inverse proportion with the level of education which presents the need for investment in trainings and education and increase of investments in human capital in general. Investing in human capital creates possibilities for improvement of informal sector of economy.

In addition, previous survey conducted by RIINVEST Institute with 1252 families shows the level of informal employment in kosovar economy, according to several criteria such as: taxes unpaid, contractual relationship and occupation (Tab. 3).

From the answers of respondents it is concluded that 34.3% of entrepreneurs do not pay taxes for their employees. On the other hand, a significant proportion of employees do not have a formal agreement (contract) with their employer but a contractual relationship based on an oral agreement, or no agreement at all (13.4%).
This percentage would be even higher if we add the proportion of those who do not know the nature of their contractual relationship with their employer (2.5%).

Another category of responses shows that 8.9% of respondents undertake unregistered minor business or handicrafts (including several minor businesses: seller in the street, seller in the green market, construction worker, master for electric equipment and auto mechanic). According to this assessment, informal employment over this period in Kosovo ranged from 15-22% which comparing to data from subsequent years had a tendency to increase [18].

Employing workers informally allows the employer to adapt the workforce to market changes without administrative burdens. For the worker, on the other hand, being informally employed is often the only possibility of securing a job in an economy with widespread unemployment. In the short run, informal employment pays off for both employers and workers, since they do not have to pay taxes and social security contributions. It increases labor market flexibility and reduces the tax-burden.

On the other hand, it deprives workers of employment protection and thus exerts a downward pressure on labor standards in general, fosters unfair competition among enterprises and exerts pressure on the public budget because of lower revenues due to tax evasion.

In general, the main effects of informal economy in Kosovo are on:

Monetary indicators: Informal activities tend to be carried out in cash thus increasing the need of money circulation.

Participation in the labor market and duration of working hours: If the number of employees and working hours in the informal economy increase, the rate of employees and working hours in formal economy will decrease.

Official statistics of production: Growth of informal economy is associated with less credible statistics and lower figures compared to the official rate of the economic growth.

Economic growth: There are two opposite streamlines concerning the effect of informal economy on economic growth: The first is the decrease of informal economy influences on the economic growth, which means an increase of income from taxes by leading to an increase of the
public expenditures, and the second is that formal economy is more competing and efficient than the formal economy; in this way it stimulates the economic growth.

*Public expenditures:* On the conditions of high-rate informal economy lead to an increase of the informal economy itself, and in a vicious circle, to an increase of taxes to meet the public expenditure needs [13]-[14].

**Transition from informal to formal economy**

Enterprises in the informal economy have an entrepreneurial potential that could flourish if some major obstacles to growth were to be removed. Furthermore, even if only a fraction of informal enterprises would have the possibility to upgrade themselves, it would probably contribute substantially to increased economic growth.

However, the formalization of enterprises in many developing countries is cumbersome, but many reforms that are undertaken in developed countries could also be implemented in countries facing this problem [13].

Transition from informal to formal economy is a challenge for Kosovo that requires commitment of all relevant social and economic actors.

The figure below (Fig.4) illustrates the transition from an informal to a formal economy. Transition from informal to formal status is a gradual process and it is important to initiate the relevant processes that could assist enterprises to reach a more formal existence.
The relevance of addressing the problems of the informal economy is also stressed in “Perspectives on Poverty”, Sida’s analytical approach to poverty issues. Ensuring property rights and removing barriers to graduation from the informal to the formal economies of the economy are indicated as means of achieving poverty reduction through economic development. The World Bank defined some main reform areas that could be addressed to generally facilitate the transition from informality to formality [5]:

- Reducing the number of business licenses, permits, and approvals.
- Streamlining administrative processes.
- Adopting uniform taxes.
- Enhancing access to capital.

These actually present the main measures that should be taken. Almost all recommendations for transition from informal to formal sector of different local and international institutions (some of which will be presented below) in one way or another are attributable to these recommendations.
Some 656 articles published in peer-reviewed academic journals, and about 2,060 working papers available through Google Scholar emphasize that:

- Lower barriers to start-up are associated with a smaller informal sector.
- Lower costs of entry encourage entrepreneurship, enhance firm productivity and reduce corruption.
- Simpler start-up translates into greater employment opportunities.

Research shows that well-designed business regulations can reduce informality and boost productivity. Simply put, when business entry is faster and less costly, more firms enter the formal market [12].

The data on current trends of employment in the informal economy in Kosovo, which will be presented based on assessments carried out by different institutions, show how challenging is this process for Kosovo.

There is a set of nine indicators of Doing Business used by the World Bank (WB) to measure some fields of the business environment of a country, where Kosovo is ranked in 113 out of 183 countries, therefore one of the results of implementation of the SME Development Strategy will be improvement of Kosovo's ranking in the Doing Business Indicators of the World Bank [15].

### Table 3. “Doing Business Ranking” (2010 vs. 2011)

<table>
<thead>
<tr>
<th>#</th>
<th>Area</th>
<th>2010 Rank</th>
<th>Percentile out of total</th>
<th>2011 Rank</th>
<th>Percentile out of total</th>
<th>Change in rank from 2010 to 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Overall Doing Business</td>
<td>113</td>
<td>38%</td>
<td>119</td>
<td>35%</td>
<td>-6</td>
</tr>
<tr>
<td>1</td>
<td>Starting a business</td>
<td>164</td>
<td>10%</td>
<td>163</td>
<td>11%</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Dealing with construction permits</td>
<td>176</td>
<td>4%</td>
<td>173</td>
<td>5%</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Registering Property</td>
<td>69</td>
<td>63%</td>
<td>65</td>
<td>64%</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Getting credit</td>
<td>43</td>
<td>77%</td>
<td>32</td>
<td>83%</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Protecting Investors</td>
<td>172</td>
<td>6%</td>
<td>173</td>
<td>5%</td>
<td>-1</td>
</tr>
<tr>
<td>6</td>
<td>Paying taxes</td>
<td>50</td>
<td>73%</td>
<td>41</td>
<td>78%</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Trading across borders</td>
<td>132</td>
<td>26%</td>
<td>130</td>
<td>29%</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Enforcing Contracts</td>
<td>157</td>
<td>14%</td>
<td>155</td>
<td>15%</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Closing a business</td>
<td>28</td>
<td>85%</td>
<td>31</td>
<td>83%</td>
<td>-3</td>
</tr>
</tbody>
</table>


Registering and starting a business is the first and probably most important hurdle that entrepreneurs face when deciding to invest in a business. The registration cost and the minimum capital required are
several times higher in Kosovo than in the rest of the region (Tab. 3). In addition to usual registration in the business registration office which is fairly quick, obtaining permits and inspections results in major time delays with starting a business.

Complicated and costly procedures to register a business deter entrepreneurs from investing, or push them into the informal economy. Several countries in the region have made good progress in this area and the positive results are already visible. Albania and Macedonia reduced the time to register a firm to five and four days, respectively. Many countries have eliminated the minimum capital requirement and significantly reduced the administrative cost for firm registration [12]. It will be relatively easy for the Kosovo government to replicate some of these reforms.

Some efforts have been made recently in this regard. Some improvements have been made with regards to legal and administrative issues and now SMEs may register through pilot Business Centers (BC) established with the support from the World Bank. These BC should be further strengthened in order to achieve great progress in these fields, as they are on their initial phase of functioning.

Kosovo Business Registration Agency (KBRA) should be committed to online registration and to a single number of registrations of firms which submit their applications to all state institutions.

Improving contract enforcement and strengthening property rights would give also more confidence to banks to lend to the private sector. However, kosovar firms may benefit from simple and low tax regimes. In the last three years there was made a tax regime with the aim to reduce the degree of informality in the SME sector and improve the relationship between business community and state [15].

However, low taxes do not by default imply a small informal sector, as there are many other factors that help determine whether firms choose to operate informally. In this regard, strengthening of the tax administration is necessary to broaden the tax base and ensure consistent tax collection. [12]. Simplifying procedures respectively shortening of the time and cost to start a business, especially at the municipal level; Outlining of procedures and strengthening of administrative capacity that relates to the regulatory regime of doing business, especially with regard to business licensing and construction permits as well as a range of measures are issues that require a
quick government response, although they are foreseen in the SME Development Strategy for Kosovo 2012-2016 compiled by the Ministry of Trade and Industry (MTI).

According to this Strategy, the strategic goals which are intended to be implemented are: Strengthening of Legislative and Regulatory Framework for Establishment and Development of SMEs (Simplifying of existing legislative and regulatory framework; Significant increase of the number of SMEs to enter the formal sector; Improvement of facilitation of opening of businesses), Improvement of the SMEs Access to Finance and Promotion and Development of Entrepreneurial Culture (Strengthening of entrepreneurial culture through expansion of entrepreneurship curricula in primary schools; Vocational Education Centers; Secondary schools and higher education institutions; Encouraging and increase of the business network; Promotion and enhancement of cooperation between schools and businesses) [15].

Accomplishment of strategic goals of SME Development Strategy in Kosovo will certainly contribute to SME promotion, development and prosperity, thus enabling and facilitating the transition from informal to formal economy.

According to Alliance of Kosovar Business (AKS), policies which should be followed by the Government of Kosovo are numerous, but four of them [13], which have a direct and indirect impact on the informal economy, are:

- Macroeconomic policies (macroeconomic stability, inflation control, economic growth, employment policies, business environment);
- Financial regulatory policies (system of taxes, fees, social insurances, pensions, fines, etc.);
- Labor norms and law and
- Social protection policies

Development of national economies is a result of group of actions associated to each other. The development process usually involves a large formalization of economic activities and expansive role of the size of small and medium scale enterprises, which represent more than 50% of employment and economic output in developed countries.
As economy becomes wealthier (per cent of GDP) small scale enterprises become more important and informality less important (Fig. 5).

**Figure 5. Small-scale enterprises become more important and informality less important as countries become wealthier (per cent of GDP)**

![Graph showing the relationship between economy wealth and informal sector activity](image)

*Source: ILO, “Promoting decent employment through entrepreneurship”, 1994, p. 3.*

The aim should be to create new jobs in enterprises, especially in small enterprises – which are protected and devoted and which would affect the overall flow of informal units in the formal economy.

The process of transition from informal to formal economy should be seen as a common challenge from which all would benefit, therefore the commitment and responsibility of all economic agents is required: starting from government, firms up to the individual.

**Conclusion**

Given that the informal economy in many countries is an important tool to fight unemployment, it is very important to measure the size and composition of informal economy in Kosovo, in order to get an overview of the data, its category and status of citizens working in the informal economy. This would assist local government authorities to understand the needs of those engaged in this sector, especially to understand the role of
government authorities in regulatory and development for prevention and elimination of unfavorable practices in the formal economy.

Conducting a survey regarding measurement of the size and the structure of informal economy is essential to have a comprehensive and deeper analysis, so as to undertake measures for promotion of economic development and employment generation.

The aim is to contribute to socio-economic situation by finding ways and means of integrating the informal economy into the formal economy. As emphasized above, SME activities become more important and informality less important as the economy becomes wealthier.

Development of new businesses, expansion of existing ones, promoting self-employment should be essential in attempts of the government and policy makers in Kosovo to reduce unemployment and achieve long-term benefits. This would also contribute to creation of the conditions to integrate the informal economy into the formal economy as an issue that was often emphasized but still not adequately addressed.

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Competitiveness of Romanian Small and Medium-Sized Enterprises in European Union

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It becomes a common place to speak of SMEs as an engine of economic growth for any European Union country. The SMEs accounted the higher turnover and provides jobs for most of employed population. Romania is no exception, in 2009, the turnover of SMEs represents over 60% (but for hotels and restaurants SMEs turnover was around 85%). The article analyses the vulnerabilities of the sector, the main possibilities for financing, as well the framework created in Romania to stimulate business by development of SME’s.

Keywords: SME’s, entrepreneurship, competitiveness, funds, marking

Introduction

Without productivity, innovation and entrepreneurial spirit we can not look for a present that ensure a good future. Innovative force of SMEs is not limited to the development of innovations for manufacture of products, but it is manifested in very different ways. Thus a small company, but with a high degree of flexibility, can exploit greater the Romanian culture, by example an ancient buildings that can be restored and introduced into the cultural circuit. [1]

Beyond what the authorities can do to encourage SMEs, entrepreneurs effort remains critical to keep up with their business. Therefore initiative and courage are essential ingredients to start up a
business and for development becomes important the management skills to ongoing technical expertise. [3] In these circumstances the Romanian entrepreneur must be well connected to the economic environment and develop skills that allow a better assessment of opportunity and future risks.

**SMEs evolution**

By 2010, the turnover of European SMEs recovered with a growth of 2.6 percent in the aggregate. The effects of the financial and economic crisis of 2009 were still felt by European SMEs in 2010. The number of SMEs stabilized in 2010, albeit with declines in the small and medium size classes, while the micro enterprises by and large stood up well to the adverse economic conditions. [5]

The beginning recovery of EU SMEs in 2010 has, been mainly featured growth in numbers of turnover and value added. The picture of SME performance in 2010 in terms of value added and employment in the EU include Romania in the first group of Member States whose SMEs had both positive growth in value added and employment (P-P countries): Austria, Germany, Luxembourg, Malta, Romania, Sweden and United Kingdom. [5]

In Romania during 2006-2008, the proportion of SMEs with 1-9 employees in total active companies increased from 88.4% to 89.2% and the proportion of SMEs with 10-49 employees and 50-249 employees registered a relative decrease. [4]

**Table 1:** Number of SMEs operating, size class in absolute numbers and share in the national economy

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>1-9</td>
<td>408,160</td>
<td>88.4</td>
<td>441,791</td>
</tr>
<tr>
<td>10-49</td>
<td>42,510</td>
<td>9.2</td>
<td>46,536</td>
</tr>
<tr>
<td>50-249</td>
<td>9,302</td>
<td>2.0</td>
<td>9,687</td>
</tr>
<tr>
<td>Total</td>
<td>459,972</td>
<td>99.6</td>
<td>498,014</td>
</tr>
</tbody>
</table>

*Source: EIRO CAR on ’SMEs in the crisis: Employment, Industrial Relations and Local Partnership*
By economic sector, in industry the number of SMEs increased with 9,384, in construction with 14,568, in commerce with 10,344 and in market services with 37,612.

Despite a negative real GDP growth of Romania in 2010 (-1.3 percent forecasted by Eurostat in the European Economic Forecast - Spring 2011), the country shows favorable development of GVA and employment in the SME sector. The GVA of Romanian SMEs grew by 5.8 percent in 2010, while that of micro enterprises recorded an even higher growth of 6.5 percent in the same period. [5]

Undoubtedly, SMEs face a number of vulnerabilities, many of which are inherent to their status, among which: addiction by one person, namely the entrepreneur, limited resources and low technical level. In certain circumstances, for SMEs these vulnerabilities can be fatal if are ignored and are not finding ways to treat the exposure to risk.

It is obvious that SMEs are most affected by the decrease of funding during the economic crisis, moreover are perceived by Romanian bank that have a higher credit risk compared with larger companies. Starting from the fact that business is not charity, and business failure of SMEs is a reality the bank policy becomes clear.

Relevant is that, on June 2009 the SMEs financial health indicators were below compared with those of corporations: the earnings before interest was low (77 percent vs. 173 percent), Debt/Equity Ratio was more pronounced (3.1 to 1.4), new cash flow recorded a double deficit (6 billion vs. 3 billion).

**SMEs financing**

Related the access to finance for SMEs, there are a positive evolution. Thus, the National Loan Guarantee Fund for Small and Medium-Sized Enterprises, in 2010 granted 490 million Euros, 26 percent more than in 2009. The fund provides guarantees to commercial banks or financial institutions, up to a maximum of 80%, for those seeking loans in lei or foreign currency for: short, medium and long-term loans to finance investment projects or the production cycle; leasing contracts (maximum of three consecutive installments); lines of credit.
The procedure for granting a financial guarantee involves the following steps: all documentation must be submitted to the financing bank; if the project is deemed viable but lacking in sufficient guarantees to justify a loan, applicants may seek a risk-sharing arrangement through a financial guarantee from the Fund; the fund notifies the bank of its decision on the financing guarantee within seven days after the bank has received the complete dossier; the bank then signs the loan contract with the SMEs on the basis of the Fund’s guarantee, the Fund charges a fee for all guarantees issued. For short-term loans this is calculated as a percentage of the amount guaranteed, and for medium and long-term loans it is a percentage of the annual balance of the loan which has been approved. The fee is paid in a single installment and its amount depends on the duration of the loan. [1]

Moreover, the Government allocated EUR 200 million for the creation of new jobs, which improved the terms for the applicants, by lowering the investment threshold from EUR 30 to 10 million, and the minimum number of newly created jobs from 300 to 100.

Similarly, SMEs with a workforce of 10 or more employees may benefit from non-refundable funding of up to EUR 1.5 million for the purchase of land, erection of manufacturing facilities, or procurement of machinery, equipment, software. [4]

Under the National Plan for Rural Development 2007-2013, micro enterprises operating in the rural areas may receive a maximum of EUR 200,000 as non-refundable finance for investment in the processing of agricultural produce, production of traditional consumer goods, rural tourism, etc.

SMEs may also receive support for investment in upgrading slaughter houses, building grinding mills, procuring equipment for wine and dairy production, in an amount of maximum EUR 2 million per project (50% of the eligible expenses).

Financing SMEs is an area that has a high potential and bank must realize this growth potential and to understand that supporting SMEs ensures the future development of their business. Furthermore is vital for banks to work with SMEs to meet a real partnership framework or to reform the specialists so that they correctly interpret the small entrepreneur balance, to understand its business plan and even to offer advices.
Banks can support SMEs in at least the following directions:

- understanding the operation principles of commercial banks, including that the banks role is to promote business and not blessings;
- development of entrepreneurial capacity, take in consideration that to the limited access to financing sources, an contribution have the lack of training and experience in business management;
- access to information, given that large companies are located in major cities, where banks are well represented, and SMEs are more dispersed in the territory, which limit the opportunities for information on funding offers.

At the EU and national level to support small and medium enterprises sector is a priority because this category of businesses, more dynamic and more flexible, in many cases, than large companies, can be the backbone of any modern economy.

The European Union proposed to strength entrepreneurship in Europe and creates the necessary conditions for development of innovative practices that lead to the development of SMEs. Achieving these objectives is vital to ensure the economical sustainability and the social progress and not least environmental protection. To achieve their growth potential, the EU is working towards to create a friendly business environment for small businesses.

Experience shows that SME’s sector can make a substantial contribution to the achievement of gross domestic product, to create new jobs and stimulates exports. In Romania is appreciated the importance of SME sector as a basis for development of a competitive economy. Such a sector of small and medium enterprises well developed can support stability and growth. [1]

**Framework to stimulate SME’s development**

In order to create a favorable framework to stimulate business by development of SME’s the Government adopted and approved laws that view increasing the young entrepreneurship. [6] The elaboration of specific normative framework, took into consideration, the following:

- the negative effects of the crisis manifested by decreasing the number of operators on the market,
• tight credit conditions;
• the need to stimulate entrepreneurship, in particular of young people by development of new policies need for economic recovery that will lead to less unemployment and an better participation on economic and social life of young.

In this respect it should be encouraged the increasing of SMEs share in public procurement contracts for goods, works and services. SMEs benefit of discounts of 50 percent for the turnover criteria, the participation guarantee and performance bond, required in public procurement of products and services.

SMEs benefit from access to information through the Euro Info Centers, regarding the relevant legislation and electronic information services on to applications submitted by bidders. It is important that in order to progress and develop their activities, SMEs benefit of information services from technical, technological development consultancy.

Government approves annual programs to encourage and stimulate the creation and development of SMEs based on programs developed by the National Agency for Small and Medium Enterprises and Cooperation. Annually by state budget is allocated funds, around 0.4 percent of GDP for financing development programs and measures to support business start-ups and SMEs development. Also, National Agency for Small and Medium-Sized Enterprises drawn-up the Guide to Sources of Financing for SMEs that covers funds from: the state budget; the PHARE Programme structural funds; bank guarantees; loans.

In order to improve activity and strengthening the system, the amounts allocated to for supporting SMEs development is highlighted separately in the state and local budgets. Small and medium development programs financed from the state budget through the National Agency for Small and Medium Enterprises and cooperatives run programs through private organizations or institutions.

Starting a business is based on several important elements whose combination creates an supports mechanism well defined.

Any business is a combination of a product or service technology, product or service features, customer satisfaction that creates a potential or affective relationship among a buyer and a seller. This relationship is based on entrepreneurship, which involves motivation and ability to identify and
use an opportunities adding value or obtaining a benefit and not least experience sharing.

Experience sharing and work in associations and networks can help entrepreneurs to find ideas and guidance, to have access to technology and information and identify new partners. By SMEs the responsible entrepreneurship "is the structure and the strength of many communities" and such approach can complement public resources and can expand the range of services offered to consumers not only by quantity but also by quality.

In these respect domestic and international markets has imposed marking. European Commission marking is a declaration by the manufacturer that the product meets all the appropriate provisions of the relevant legislation implementing certain European Directives. European Commission marking gives companies easier access into the European market to sell their products without adaptation or rechecking. The initials "EC" do not stand for any specific words but are a declaration by the manufacturer that his product meets the requirements of the applicable European Directive(s).

Depending on the risks, is determined by product group if the issued specification must be certified by testing by an independent or accredited.

If the product complies with all applicable criteria set forth in the European product standard there is a "legal presumption of conformity with the Directive requirements" applicable to this product. An independent third party based on European standards certifies and confirm the presumption of conformity of the product. [1]

If the product is also subject of other Directives, covering other aspects which also provide EC marking, this indicates that the product is considered comply with those directives. When one or more of these Directives allow the manufacturer, in the transition period, to choose options, the EC marking indicates compliance with the Directives applied by the manufacturer. In this case, the particulars of the Directives applied must be presented in the documents, notices or instructions required by the Directives. One of the conditions for access of Romanian on single market was implementation of the European Union standardization. Procedure
requires that before the launch of products on market that are covered by directives standards to undergo conformity assessment procedures. [2]

Conclusions

Support for SMEs is widespread but at the same time is necessary a continuous awareness process of local actors to have a mobilizing effect. To survive on the EU market, Romanian companies need to understand and apply harmonized standards, which is an essential requirement for certification and a quality system.

After accession, Romania is not only a full member of the single market but also a fully integrated member. It is important that Romanian companies to acknowledge the role of European standardization and efficient use of standards.

Romania is a country that has the capacity and the need to develop SMEs not as survivors of the crisis but as promoters of development, innovation, labor productivity, which in fact is a catalyst for economic growth.

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Security in VoIP

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VoIP relies on packet switching, similar to the way that e-mails are sent over the Internet. The technology breaks down a voice call into bite-size information packets. Instead of keeping the switch open all the time, the information is sent and received as needed, allowing excess line capacity to be used to carry other data. When the voice data arrives at its destination, it's reassembled into a voice call. As voice over IP services grow in popularity, the potential for viruses, worms and other security threats aimed at the technology also will grow. The current paper's purpose is presenting several security solutions and applying them to integrated systems at an economical and social level.

Keywords: VoIP, DoS, SIP, ARP

Introduction

This chapter focuses on studying existing security problems that can affect communication systems and also on presenting solutions that can improve VOIP communication technologies by extending this article's conclusions. I will be taking into consideration management strategies and the necessary resources for a better costumer orientation and risk management, all with the purpose of implementing SLA.

In VoIP technology, the employees can easily access, falsify and divulge the data. Sometime such behaviour is a disaster for a big and famous
company. Some service providers develop some technical method aimed to avoid the security threats from the interior. For instance, some providers limit the authority to access and manage the hardware, monitor the procedures, and minimize the number of staff who has privilege to access the vital parts of the infrastructure. However, at the provider backend, the administrator can also access the customer’s VM-machine. The users have no control nor any knowledge of what could happen to their data. This, however, is becoming increasingly challenging because as security developments are made, there always seems to be someone to figure out a way to disable the security and take advantage of user information. I propose to fix the security problem on the present, but I also prepare for the future.

The levels that can attack a VoIP infrastructure

Denial-of-Service or VoIP Service Disruption

Denial-of-service (DoS) attacks can affect any IP-based network service. The impact of a DoS attack can range from mild service degradation to complete loss of service. There are several classes of DoS attacks. One type of attack in which packets can simply be flooded into or at the target network from multiple external sources is called a distributed denial-of-service (DDoS) attack. [3] DoS attacks are difficult to defend against, and because VoIP is just another IP network service, it is just as susceptible to DoS attack as any other IP network services. Additionally, DoS attacks are particularly effective against services such as VoIP and other real-time services, because these services are most sensitive to adverse network status. Viruses and worms are included in this category as they often cause DoS or DDoS due to the increased network traffic that they generate as part of their efforts to replicate and propagate. [9]

ARP Spoofing

ARP is a fundamental Ethernet protocol. Perhaps for this reason, manipulation of ARP packets is a potent and frequent attack mechanism on VoIP networks. Most network administrators assume that deploying a fully switched network to the desktop prevents the ability of network users to
sniff network traffic and potentially capture sensitive information traversing the network. Unfortunately, several techniques and tools exist that allow any user to sniff traffic on a switched network because ARP has no provision for authenticating queries or query replies [4].

Additionally, because ARP is a stateless protocol, most operating systems (Solaris is an exception) update their cache when receiving ARP reply, regardless of whether they have sent out an actual request.

**H.323-Specific Attacks**

The only existing vulnerabilities that we are aware of at this time take advantage of ASN.1 parsing defects in the first phase of H.225 data exchange. More vulnerability can be expected for several reasons: the large number of differing vendor implementations, the complex nature of this collection of protocols, problems with the various implementations of ASN.1/PER encoding/decoding, and the fact that these protocols — alone and in concert — have not endured the same level of scrutiny that other, more common protocols have been subjected to. For example, we have unpublished data that shows that flooding a gateway or media server with GRQ request packets (RAS registration request packets) results in a DoS against certain vendor gateway implementations—basically the phones deregister [9].

**SIP-Specific Attacks**

Multiple vendors have confirmed vulnerabilities in their respective SIP (Session Initiation Protocol) implementations. The vulnerabilities have been identified in the INVITE message used by two SIP endpoints during the initial call setup. The impact of successful exploitation of the vulnerabilities has not been disclosed but potentially could result in a compromise of a vulnerable device. In addition, many recent examples of SIP Denial of Service attacks have been reported.

Recent issues that affect Cisco SIP Proxy Server (SPS) demonstrate the problems SIP implementers may experience due to the highly modular architecture or this protocol. The SSL implementation in SPS (used to secure SIP sessions) is vulnerable to an ASN.1 BER decoding error similar to
the one described for H.323 and other protocols. This example illustrates a
general concern with SIP: As the SIP protocol links existing protocols and
services together, all the classic vulnerabilities in services such as SSL,
HTTP, and SMTP may resurface in the VOIP environment.

Policies and Processes Encryption

All VoIP systems should use a form of Media (RTP channel)
Encryption in order to avoid the sniffing of VoIP data. All communications
between network elements should be encrypted. Complete end-to-end IP
voice encryption is recommended to mitigate the threat of eavesdropping
attempts. Additionally, all administrative access to critical server and
network components must use encrypted protocols such as SSL and/or SSH.
All access to remote administrative functions should be restricted to
connections to the switch itself or to a designated management PC.

Physical Security

Physical security is an essential part of any security plan. Physical
security refers to the protection of building sites and equipment (and all
other information and software contained therein) from theft, intrusion,
vandalism, natural disaster, man-made catastrophes, and accidental damage
(e.g., from electrical surges, extreme temperatures, and spilled coffee). It
requires suitable emergency preparedness, reliable power supplies, adequate
climate control, and appropriate protection from intruders.

Safeguards can be broken down into two categories: human and
environmental.

Human safeguard recommendations are:

- Console access should be restricted or eliminated.
- Logon, boot loader, and other passwords must be a minimum of
eight characters including at least one each of alpha, numeric, and
ctl characters.
- VoIP components must be located in a secure location that is
locked and restricted to authorized personnel only.
- Access to these components, wiring, displays, and networks must be
controlled by rules of least privilege.
• System configurations (i.e., hardware, wiring, displays, networks) must be documented. Installations and changes to those physical configurations must be governed by a formal change management process.

• A system of monitoring and auditing physical access to VoIP components, wiring, displays, and networks must be implemented (e.g., badges, cameras, access logs). From the point at which an employee enters the building, it is recommended that there be a digital record of their presence.

• The server room should be arranged in a way that people outside the room cannot see the keyboard (thus seeing users/admin passwords).

• Any unused modems must be disabled/removed.

• No password evidence (notes, sticky notes, etc.) is allowed around the system.

• The CPU case should be locked and the key must be accounted for and protected. A backup key should be made and kept securely offsite (e.g., in a safety deposit box).

• USB, CD-ROM, monitor port, and floppy disks drives should be removed, disabled, or glued shut.

• Adequate temperature and humidity controls must be implemented to avoid equipment damage.

• Adequate surge protectors and UPS must be implemented, maintained, and tested.

• Cleaning and maintenance people should be prohibited from the area surrounding

• Any electronics.

• Food, drink, or smoking is prohibited in the same areas.

• IP-PBX equipment must be located in a locked room with limited access. This type of access must be provided as a user authentication system with either a key-card or biometric device. The use of a keypad alone to gain access is not permitted. All methods of gaining entry into the room must provide for a list of users that have accessed the room along with a date/time-stamp.
Security for the VoIP Infrastructure

One example of how to configure a secure system cloud for VoIP is the creation of a network demilitarized zone (DMZ) on a single host.

In this example, three virtual machines are configured to create a virtual DMZ on Standard Switch 1: Virtual Machine 1, 2, 3, and 4 run Web server and are connected to virtual adapters through standard switches. These virtual machines are multi homed. The Machine 5 and 6 runs an Asterisk server. The conduit between these elements is Standard Switch 2, which connects the firewalls with the servers. This switch has no direct connection with any elements outside. From an operational viewpoint, external traffic from the Internet enters Virtual Machine 1 through Hardware Network Adapter 1 (routed by Standard Switch 1) and is verified by the firewall installed on this machine. If the firewall authorizes the traffic, it is routed to the standard switch in the DMZ, Standard Switch 2. Because the Web server and application server are also connected to this switch, they can serve external requests. Standard Switch 2 is also connected to Virtual Machine 4 and Virtual Machine 5. This virtual machine provides a firewall between the DMZ and the internal corporate network. This firewall filters packets from the Web server and application server. If a packet is verified, it is routed to Hardware Network Adapter 2 through Standard Switch 3. Hardware Network Adapter 2 is connected to the internal corporate network. This network could be used for virus propagation or targeted for other types of attacks. The security of the virtual machines in the DMZ is equivalent to separate physical machines connected to the same network.

VoIP is a highly critical data application and as such, is subject to all the policies detailed in other data security policy sections (this assumes that
the VoIP Security Policy module is part of a larger set of security policy modules).
In the traditional VoIP technology because the information is on a single server several problems can appear regarding data availability and integrity, security and in order to resolve these, money is spend on hosting software, applications and people with the requisite expertise. On the other hand Cloud Computing is less expensive because of its financial benefits. Assuming that the hardware equipments can encounter several malfunctions, in a time when the services’ quality is extremely important, the information needs to be available in real time. The traditional approach is to invest in a large number of equipments in order to avoid the loss of call and provide a correct functionality of the telephony service. However, these long term investments may be justified but at a closer analysis we can find that those equipments are not using all their resources. There has been statistically proven that most of the servers’ hardware will never be fully used and as time passes they will be replaced due to moral and physical degrading. Cloud computing can solve all these aspects. Organizations can avoid large investments in equipments and software by using a much smaller number of resources for one solution. In this way investments can be made in fewer equipments with larger resources that are wiser employed, by creating a large number of virtual nods on one physical machine. By monitoring and controlling performance, organizations can easily decide which resources can be allocated on different services.

The reduction of operational costs

The major advantage of this facility is the low cost. The reducing of costs is due to utilization of the same environment both for voice transport and for data. If a company has a connexion to Internet (not totally explored), then this connexion can be utilized also for the voice transmission with no additional costs. Another cost reducing is represented by the fact that conversation between VoIP users is free. Generally, only the calls between VoIP and PSTN involve costs, while the calls between VoIP users don’t involve any costs except for the connection to Internet. And because the connection to Internet already exists or is used in other purposes, VoIP telephony between its users is considered free. We also must
mention the personnel costs that in the traditional method implies, because it requires a large number of people to manage resources, allocated in different geographical areas. Also, every new installation needs to be fully made, and this translates in large installation time for every new server. In cloud computing these aspects can be solved in a reduced amount of time, the installation of services taking very little. It is done by cloning other virtual nodes, so all the software and application installation is done only once and then all the new software is installed by cloning. In this way a large number of identical servers can be created within minutes, without the need to separately install each necessary application. Cloud computing reduces human error to a minimum, due to the fact that there is no need to process the same information every time. It is enough to have only one correct virtual machine, that has been tested, all the other being replicas of the first.

**Improved functionality:** another important advantage is that of a improved functionality as compared to classic telephony. Some of the functionalities offered by VoIP are difficult or even impossible to accomplish in the classic telephony. Among these, there is the possibility to use an IP telephone wherever there is a connexion to Internet. This creates the possibility that the "fix" telephone be taken in traveling, having the call number everywhere. The most important beneficiaries of this facility are the Call Center agencies that use VoIP telephony in foreign countries due to the reduced costs with cheaper work force.

The classical method required for each modification to restart all the installation procedures, which involved time spent and large costs. Cloud computing has the extraordinary benefit of easily moving information from one machine to another and between servers, without taking into account the geographical distance. It is possible for a virtual machine to have a node in Bucharest and to move that service within minutes on another server in Brasov, without damages or problems. Within minutes servers can be moved from one location to another, from one country to another, while keeping the service functional even while migrating. This option did not exist in the traditional method. Using this method implied that the service would not be functional for at least several days, and that the physical movement of the server from one location to another was needed as well as a list of modifications that are necessary for any physical
movement. In order for a cloud application to be valid, it is essential to provide guarantees regarding the system’s functionality. In the real telecommunication world, any bit loss means the interruption of the call, this leading in time to the loss of customers and losses for the business. Thus it is essential for all the information to be complete, available and secure. Because the users’ demands for cloud services are varied, suppliers need to make sure that these can be flexible.

Conclusions

As a conclusion, the VoIP industry consolidates in this period its position in the market through its innovation and the high level of security and adaptability, threatening to eliminate the traditional solutions (that are expensive, unsecured and inflexible).

By innovation and a perfectible degree of security, VoIP industry is consolidating is market place, frightening to be able soon to take the place of conventional solutions (expensive, insecure and inflexible).

VoIP allows to create inexpensive systems, with little upfront costs and to be scaled to massive sizes, when needed. The advantages can be defined both by the providers, which are motivated by the future profits that can arise due to the lower costs that the classical technology, as well as the users who have the possibility of reducing or eliminating the telephony service costs.

References


The modeling international tourism demand for length of stay in India: social development, economics development¹

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The research aims to develop and certify a demand model of analyst length of stay performance that supports the spending behaviour of international tourists’ arrivals in India based on Count Model estimation both poison regression analysis and negative binomial regression analysis. 242 questionnaires were collected from international tourists’ arrivals in India during the 2010-2011. The India’s international tourists from many countries such as USA, UK, France, Australia, Italy, Japan, Malaysia, Singapore, Nepal, Sri Lanka, Netherlands, China and South Korea. The Count Model estimation obtained from respondents. The Poisson Regression result was shown that 4 of the 24 repressors are statistically significant at the conventional significant levels. However, this estimation did not allowed specification of the regression model generating over-dispersed. Consequently, the estimation cannot be used to describe Indian international tourism demand. Moreover, the negative binomial regression was tested for Indian international tourism demand.

Keywords: Indian international tourism demand, International tourists, Count Model, Length of stay

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Introduction

Tourism is a major engine of economic growth in most parts of the world. Several countries have transformed their economies using the tourism potential to the fullest. Tourism has great capacity to create large scale employment to diverse kind—from the most specialized to the unskilled (India tourism, Annual Report, 2001-02, p34). The international tourism business entered an interesting period for many countries in Asia between 1997-1998, Lim 2003). Also recently in India international tourism industry is very interesting because the number of international tourists arrivals to India increasing every year since 2000-2005. In 2000 the number of international tourists’ arrivals to India was 26 lakhs (Government of India, 2001a) and in 2002 the number of international tourists increased to 2.38 million contributing an income of 2,923 million US Dollars to the India economy. In 2004, the number of international tourists increased to 3.46 million and the income increased to 4,769 million US Dollars. The following year there were 3.92 million tourists and the income was 5,731 million US. $(India tourism statistics, 2005). As soon as from above information presented that international tourism industry of India will be importance impact on India economy. The results of why international tourism industry attractive foreign tourists come to India. Because India, with its cultural, spiritual and natural richness, offers an experience unparalleled in any other country: traditions, lifestyles, cultural heritage and colourful fairs and festivals all serve to make India a unique tourist destination. Moreover, the country offers a wide choice of tourism activities—for example, eco-tourism, adventure tourism, science tourism, spiritual tourism, heritage tourism and health tourism (Richa, 2005). For a long time now, economists have tried to understand the international tourist consumer behaviour through demand models. For example, Barry and O’Hagan (1972): studied the demand of British tourists going to Ireland; Jud, G.D. and Joseph, H., (1974): studied the demand of international tourist going to Latin American; Uysal and Crompton (1984): studied the demand of international tourists going to Turkey. Summary (1987): studied the demand of international tourists going to Kenya, Kulendran, N. (1996): studied the demand of international tourists going to Australia; Lim C. and M. McAleer (2000): studied the demand of international tourist going to Australia; Durberry (2002): studied the

Based on many articles have already proposed in previous paragraph did not conduct to study in India. Therefore, this research was raised to study more. The aim of this research is to find out the international tourist consumer behaviour in coming to India during the period 2010-2011 through India’s international tourism demand for Length of Stay in India. The consumer behaviour information gathered from this research will help developing in Social Development, Economics Development and Environmental Development of tourism industry in India.

**Research Objective**

To estimate count model with length of stay of Indian international tourism demand influencing social, economic and environment development satisfaction.

**Scope of Research**

The scope of this study was undertaken to provide information of selected international tourist arrivals to India consisting of England, America, Canada, France, German, Japan, Malaysia, Australia, Singapore and Korea during the time period of 2010-2011. Primary data were collected from foreign tourist arrivals to India by surveying method. Survey of 242 international tourist arrivals is proposed. The questionnaire is a prepared technique for collecting primary data in Indian tourism site survey. A tourist arrival by region of origin has become a significant source of foreign exchange revenues contributed of the country’s revenues. India’s travel and tourism industry makes a greater contribution to government revenues. The research work investigated in the area of tourism preservation mainly for
Taj Mahal. Taj Mahal as the World Heritage site and Karnataka site at Bangalore were selected as Indian study sites.

The Research Framework of International Tourism demand for length of stay

The international tourism demand model for length of stay

Menezes, Moniz and Vieira (2010) have already proposed Count Model to estimate tourism demand for Length of Stay on the Azores in Portugal (see function 1a).

\[ LT_1 = f \text{(Socio-demographic profiles, Trip Attributes, Sustainability Practices, Destination Images)} \quad \text{(1a)} \]

**Dependent variable of model**

- \(LT_1\) = Tourism demand for Length of Stay (days)
- Independent variables of model
  - The Socio-demographic profiles
  - The Trip Attribute
  - The Sustainability Practices
  - The Destination Images

Moreover, the ideas of sustainable tourism development model need to add some variables into the tourism demand especially international tourism demand for Length of Stay (days).

Frederico Neto (2003) has already proposed in a his paper namely A New Approach to Sustainable Tourism Development: Moving Beyond Environmental Protection need to maintain economic development, social development and aesthetic development (refer from UN, 2001a). In addition, Borges, Carbone, Bushel and Jaeger (2011), also have already proposed that stakeholder, private sector, local communities and the site management authority around the tourism places need to cooperate and planning for sustainable tourism development in their area. Based on this concepts are conducted to modify from function (1a) to be function (1b) for exploration of
India’s international tourism demand of length of stay in India based on sustainable tourism development concepts (see detail in function 1b).

$$LT_2 = f \text{ (Socio-demographic Profiles, Trip Attributes, Social Development, Economic Development, Environment Development) } ----- \text{ (1b)}$$

Dependent variable of model
- $$LT_2 = \text{Tourism demand for Length of Stay in India (days)}$$

Independent variables of model
- The Socio-demographic profiles
- The Trip Attributes
- The group’s variables impact to Social Development in areas around tourist destinations
- The group’s variables impact to Economic Development in areas around tourist destinations
- The group’s variables impact to Environmental Development in areas around tourist destinations

The Count Model Regression

The Count Model Regression or the Poisson Model can be written start from (2a) and also it can be shown below that:

$$f(y_i \mid x_i, \beta) = e^{-m(x_i, \beta)} m(x_i, \beta)^{y_i} / y_i! \quad \text{--- (2a)}$$

The conditional density of $$y_i$$ can be given in $$x_i$$ and it also has already explained by equation (2a) for Poisson Model. The $$y_i$$ is a positive integer valued random variable. And $$x_i$$ is an exogenous variable of Poisson model. Moreover, the $$y_i$$ is an endogenous variable of the Poisson Model was used to estimate. Based on equation (2a) can be estimated by the maximum likelihood estimator (MLE). The log likelihood function was used to estimate for the parameter $$\beta$$ of Poisson Model can be written in equation (2b).
The parameter $\beta$ is received by maximizing the log likelihood function (2b) for Poisson Model and the $N$ is number of observations in Poisson Model. The assumption behind Poisson Model is the equality of (conditional) mean and variance should be imposed restrictions. Whenever, the mean-variance does not equality, the Poisson Model is misspecified. The Negative Binomial is a one general alternative to estimate the Poisson Model and the log likelihood for the negative binomial distribution was given by (2c):

$$l(\beta, \eta) = \sum_{i=1}^{N} y_i \log(\eta^2 m(x_i, \beta)) - (y_i + 1/\eta^2) \log(1 + \eta^2 m(x_i, \beta))$$

$$+ \log \Gamma(y_i + 1/\eta^2) - \log(y_i!) - \log \Gamma(1/\eta^2)$$

--- (2c)

And $\eta^2$ is a variance parameter to be estimated and $\beta$ is the conditional mean parameters of Poisson Model. Moreover, the negative binomial distribution is usually used when the Poisson Model is over dispersion in the data.

**Data Description**

**Important data of India’s tourism industry since 2001-2007**

In table (1a) presents the number of international tourist arrival in India since 2001-2007 by monthly data. In 2001 the number of international tourist came to India is equate to 2.4 million of people. Moreover, in 2007 the number of international tourist came to India more. And also they came to India are equate to 4.9 million of people. Based on table (1a) has already confirmed that the period of high season of India’s international tourism demand should start from October until March of every years.
Table 1a: To present the number of international tourists’ arrival to India during period of 2001-2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>283,750</td>
<td>228,150</td>
<td>274,215</td>
<td>337,345</td>
<td>385,977</td>
<td>459,489</td>
<td>532,088</td>
</tr>
<tr>
<td>February</td>
<td>262,306</td>
<td>227,529</td>
<td>262,692</td>
<td>331,697</td>
<td>369,844</td>
<td>439,090</td>
<td>498,806</td>
</tr>
<tr>
<td>March</td>
<td>248,965</td>
<td>225,558</td>
<td>218,473</td>
<td>293,185</td>
<td>352,094</td>
<td>391,009</td>
<td>444,186</td>
</tr>
<tr>
<td>April</td>
<td>185,338</td>
<td>155,378</td>
<td>160,941</td>
<td>223,884</td>
<td>248,416</td>
<td>309,208</td>
<td>333,945</td>
</tr>
<tr>
<td>May</td>
<td>151,098</td>
<td>132,998</td>
<td>141,508</td>
<td>185,502</td>
<td>225,394</td>
<td>255,008</td>
<td>267,758</td>
</tr>
<tr>
<td>June</td>
<td>176,716</td>
<td>143,100</td>
<td>176,324</td>
<td>223,122</td>
<td>246,970</td>
<td>278,370</td>
<td>310,104</td>
</tr>
<tr>
<td>July</td>
<td>224,432</td>
<td>186,432</td>
<td>225,359</td>
<td>272,456</td>
<td>307,870</td>
<td>337,332</td>
<td>377,474</td>
</tr>
<tr>
<td>August</td>
<td>196,517</td>
<td>161,477</td>
<td>204,940</td>
<td>253,301</td>
<td>273,856</td>
<td>304,387</td>
<td>360,089</td>
</tr>
<tr>
<td>September</td>
<td>162,326</td>
<td>151,721</td>
<td>191,339</td>
<td>226,773</td>
<td>257,184</td>
<td>297,891</td>
<td>325,893</td>
</tr>
<tr>
<td>October</td>
<td>181,605</td>
<td>212,191</td>
<td>260,569</td>
<td>307,447</td>
<td>347,757</td>
<td>391,399</td>
<td>440,715</td>
</tr>
<tr>
<td>November</td>
<td>209,685</td>
<td>243,566</td>
<td>290,583</td>
<td>385,238</td>
<td>423,837</td>
<td>442,413</td>
<td>510,987</td>
</tr>
<tr>
<td>December</td>
<td>195,645</td>
<td>227,878.50</td>
<td>319,271</td>
<td>417,527</td>
<td>479,411</td>
<td>541,571</td>
<td>575,148</td>
</tr>
<tr>
<td>Total</td>
<td>2,478,383</td>
<td>2,295,978.5</td>
<td>2,726,214</td>
<td>3,457,477</td>
<td>3,918,610</td>
<td>4,447,167</td>
<td>4,977,193</td>
</tr>
</tbody>
</table>

_Source: Ministry of Tourism, Govt. of India_
Table 1b: To present the number of international tourist arrival in India during period of 2001-2006 (country classifications)

<table>
<thead>
<tr>
<th>Arrivals from Region (Country)</th>
<th>2001 (Numbers)</th>
<th>2002 (Numbers)</th>
<th>2003 (Numbers)</th>
<th>2004 (Numbers)</th>
<th>2005 (Numbers)</th>
<th>2006 (Numbers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>329,147.00</td>
<td>348,182.00</td>
<td>410,803.00</td>
<td>526,120.00</td>
<td>611,165.00</td>
<td>696,739.00</td>
</tr>
<tr>
<td>UK</td>
<td>405,472.00</td>
<td>387,846.00</td>
<td>430,917.00</td>
<td>555,907.00</td>
<td>651,803.00</td>
<td>734,240.00</td>
</tr>
<tr>
<td>Canada</td>
<td>88,600.00</td>
<td>93,598.00</td>
<td>107,671.00</td>
<td>135,884.00</td>
<td>157,643.00</td>
<td>176,567.00</td>
</tr>
<tr>
<td>Germany</td>
<td>80,011.00</td>
<td>64,891.00</td>
<td>76,868.00</td>
<td>116,679.00</td>
<td>120,243.00</td>
<td>156,808.00</td>
</tr>
<tr>
<td>France</td>
<td>102,434.00</td>
<td>78,194.00</td>
<td>97,654.00</td>
<td>131,824.00</td>
<td>152,258.00</td>
<td>175,345.00</td>
</tr>
<tr>
<td>Australia</td>
<td>52,691.00</td>
<td>50,743.00</td>
<td>58,730.00</td>
<td>81,608.00</td>
<td>96,258.00</td>
<td>109,867.00</td>
</tr>
<tr>
<td>Italy</td>
<td>41,351.00</td>
<td>37,136.00</td>
<td>46,908.00</td>
<td>65,561.00</td>
<td>67,642.00</td>
<td>79,978.00</td>
</tr>
<tr>
<td>Japan</td>
<td>80,634.00</td>
<td>59,709.00</td>
<td>77,996.00</td>
<td>96,851.00</td>
<td>103,082.00</td>
<td>119,292.00</td>
</tr>
<tr>
<td>Malaysia</td>
<td>57,869.00</td>
<td>63,748.00</td>
<td>70,750.00</td>
<td>84,390.00</td>
<td>96,276.00</td>
<td>107,286.00</td>
</tr>
<tr>
<td>Singapore</td>
<td>42,824.00</td>
<td>44,306.00</td>
<td>48,368.00</td>
<td>60,710.00</td>
<td>68,666.00</td>
<td>82,574.00</td>
</tr>
<tr>
<td>Nepal</td>
<td>41,135.00</td>
<td>37,136.00</td>
<td>42,771.00</td>
<td>51,534.00</td>
<td>77,024.00</td>
<td>91,552.00</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>112,813.00</td>
<td>108,008.00</td>
<td>109,098.00</td>
<td>128,711.00</td>
<td>136,400.00</td>
<td>154,813.00</td>
</tr>
<tr>
<td>Netherlands</td>
<td>42,368.00</td>
<td>31,669.00</td>
<td>40,565.00</td>
<td>51,211.00</td>
<td>52,755.00</td>
<td>58,611.00</td>
</tr>
<tr>
<td>China</td>
<td>13,901.00</td>
<td>15,422.00</td>
<td>21,152.00</td>
<td>34,100.00</td>
<td>44,897.00</td>
<td>62,330.00</td>
</tr>
<tr>
<td>South Korea</td>
<td>27,150.00</td>
<td>29,374.00</td>
<td>35,584.00</td>
<td>47,835.00</td>
<td>49,895.00</td>
<td>705,407.00</td>
</tr>
</tbody>
</table>

Source: Ministry of Tourism, Govt. of India

In addition, the table (1b) presents the number of international tourist arrival to India during period of 2001-2006 (country classifications).
Based on this table has already confirmed that the major international tourist demand of India is foreigner people from developed countries such as USA, UK and France respectively.

Table 1c: To present the importance data of international tourist arrival in India during period of 2001-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>The number of international tourist arrival to India (Million)</th>
<th>Contributing income to India (in Million US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2.54</td>
<td>3,042</td>
</tr>
<tr>
<td>2002</td>
<td>2.38</td>
<td>2,923</td>
</tr>
<tr>
<td>2003</td>
<td>2.73</td>
<td>3,533</td>
</tr>
<tr>
<td>2004</td>
<td>3.46</td>
<td>4,769</td>
</tr>
<tr>
<td>2005</td>
<td>3.92</td>
<td>5,731</td>
</tr>
<tr>
<td>2006</td>
<td>4.43</td>
<td>6,560</td>
</tr>
<tr>
<td>2007</td>
<td>4.97</td>
<td>7,359</td>
</tr>
</tbody>
</table>

Source: Ministry of Tourism, Govt. of India

Table (1c) presents the statistics of India’s international tourism industry in during period of 2001-2007. In terms of contributing income to India from this industry since 2001 until 2007 was found that it is interesting because the earning of this industry contribute to India’s economy increase every year. In 2001 the India’s international tourism earning equates to 3,042 million US$. In 2004 the India’s international tourism earning equates to 4,769 million US$. Moreover, in 2007 the India’s international tourism earning growth of 54.30% which it compare with 2004.

The Stratification of the international tourist arrivals in India sample by Socio-Demographic dimension (2010-2011)

The indicators for the some sample of this research to be used in the modelling international tourism demand of India and our sample of 242 arrivals in India since 2010-2011 are shown in table 2a.
Table 2a: Stratification of the international tourist arrivals in India sample by socio-demographic dimension

<table>
<thead>
<tr>
<th>Socio-demographic Dimension</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>125</td>
<td>51.7</td>
</tr>
<tr>
<td>Female</td>
<td>117</td>
<td>48.3</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>176</td>
<td>72.7</td>
</tr>
<tr>
<td>Married</td>
<td>66</td>
<td>27.3</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than grade 12</td>
<td>18</td>
<td>7.4</td>
</tr>
<tr>
<td>Diploma</td>
<td>39</td>
<td>16.1</td>
</tr>
<tr>
<td>Bachelor</td>
<td>99</td>
<td>40.9</td>
</tr>
<tr>
<td>Higher than Bachelor’s degree</td>
<td>86</td>
<td>35.5</td>
</tr>
<tr>
<td>Career</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>108</td>
<td>44.6</td>
</tr>
<tr>
<td>Company officer</td>
<td>21</td>
<td>8.7</td>
</tr>
<tr>
<td>Government service/State enterprise</td>
<td>23</td>
<td>9.5</td>
</tr>
<tr>
<td>House Husband/House wife</td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>General employee</td>
<td>30</td>
<td>12.4</td>
</tr>
<tr>
<td>Commerce/Personal business</td>
<td>19</td>
<td>7.9</td>
</tr>
<tr>
<td>Unemployed</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td>Farmer</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Others</td>
<td>33</td>
<td>13.6</td>
</tr>
<tr>
<td>Income(US dollar)/Monthly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1,000</td>
<td>87</td>
<td>36.0</td>
</tr>
<tr>
<td>1,001-2000</td>
<td>44</td>
<td>18.2</td>
</tr>
<tr>
<td>2,001-3,000</td>
<td>49</td>
<td>20.2</td>
</tr>
<tr>
<td>3,001-4,000</td>
<td>22</td>
<td>9.1</td>
</tr>
<tr>
<td>Over 4,000</td>
<td>40</td>
<td>16.5</td>
</tr>
<tr>
<td>Tourism spending(US dollar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 500</td>
<td>42</td>
<td>18.7</td>
</tr>
<tr>
<td>501-1,000</td>
<td>75</td>
<td>33.3</td>
</tr>
<tr>
<td>1,001-1,500</td>
<td>50</td>
<td>22.2</td>
</tr>
<tr>
<td>1,501-2,000</td>
<td>20</td>
<td>8.9</td>
</tr>
<tr>
<td>Over 2,000</td>
<td>38</td>
<td>16.9</td>
</tr>
<tr>
<td>Missing</td>
<td>17</td>
<td>-</td>
</tr>
<tr>
<td>Length of stay in India(day)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3 days</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>4-6 days</td>
<td>25</td>
<td>10.3</td>
</tr>
</tbody>
</table>
The Modeling International Tourism Demand for Length of Stay in India: Social Development, Economics Development

<table>
<thead>
<tr>
<th></th>
<th>7-10 days</th>
<th>Over 10 days</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From: computed

Results of India’s international tourism demand based on Count Model estimation

The results of estimation based on Poisson Regression model

Table 1 presents the results from estimation based on Poisson regression approach and also this table is not present the regression coefficients, $\beta_i$ but, instead, $\exp(\beta_i)$. Therefore, the interpretation from this regression cannot be explained by simple way.

**Table 1**: Estimated coefficients for the Poisson regression model (dependent variable is the length of stay in India (day))

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient (\exp(\beta_i))</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.618193</td>
<td>0.221415</td>
<td>11.82482</td>
<td>0.0000</td>
</tr>
<tr>
<td>Sex</td>
<td>0.007355</td>
<td>0.046272</td>
<td>0.158953</td>
<td>0.8737</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-0.021953</td>
<td>0.055468</td>
<td>-0.395776</td>
<td>0.6923</td>
</tr>
<tr>
<td>Education</td>
<td>-0.038666</td>
<td>0.024709</td>
<td>-1.564868</td>
<td>0.1176</td>
</tr>
<tr>
<td>Income</td>
<td>-0.016224</td>
<td>0.016941</td>
<td>-0.957695</td>
<td>0.3382</td>
</tr>
<tr>
<td>Frequency of visiting</td>
<td>-0.011168</td>
<td>0.018425</td>
<td>-0.606126</td>
<td>0.5444</td>
</tr>
<tr>
<td>Planning</td>
<td>0.065896</td>
<td>0.019478</td>
<td>3.383130</td>
<td>0.0007</td>
</tr>
<tr>
<td>Spending</td>
<td>0.053031</td>
<td>0.020159</td>
<td>2.630591</td>
<td>0.0085</td>
</tr>
<tr>
<td>Domestic Airline costs</td>
<td>-0.012161</td>
<td>0.026230</td>
<td>-0.463622</td>
<td>0.6429</td>
</tr>
<tr>
<td>Costs of Food and Service Purchased</td>
<td>-0.044699</td>
<td>0.028389</td>
<td>-1.574523</td>
<td>0.1154</td>
</tr>
<tr>
<td>Hotel costs</td>
<td>-0.051979</td>
<td>0.025210</td>
<td>-2.061874</td>
<td>0.0392</td>
</tr>
<tr>
<td>Total costs</td>
<td>0.021002</td>
<td>0.024624</td>
<td>0.852887</td>
<td>0.3937</td>
</tr>
<tr>
<td>Travels costs</td>
<td>0.050008</td>
<td>0.031076</td>
<td>1.609198</td>
<td>0.1076</td>
</tr>
<tr>
<td>Social development in city</td>
<td>-0.023931</td>
<td>0.025349</td>
<td>-0.944036</td>
<td>0.3452</td>
</tr>
<tr>
<td>Social development in rural</td>
<td>0.044762</td>
<td>0.030205</td>
<td>1.481971</td>
<td>0.1383</td>
</tr>
<tr>
<td>Social development in tourism places</td>
<td>0.001404</td>
<td>0.025324</td>
<td>0.055452</td>
<td>0.9558</td>
</tr>
<tr>
<td>Social development in Indian’s life style</td>
<td>-0.020365</td>
<td>0.025391</td>
<td>-0.802054</td>
<td>0.4225</td>
</tr>
<tr>
<td>Tourism industry impact to India’s economic development</td>
<td>-0.035077</td>
<td>0.026869</td>
<td>-1.305477</td>
<td>0.1917</td>
</tr>
<tr>
<td>Private sectors of tourism</td>
<td>-0.018576</td>
<td>0.031038</td>
<td>-0.598512</td>
<td>0.5495</td>
</tr>
</tbody>
</table>
The Modeling International Tourism Demand for Length of Stay in India: Social Development, Economics Development

Vol. II, Issue 2
April 2012

<table>
<thead>
<tr>
<th>Industry impact to India’s economic development</th>
<th>0.028985</th>
<th>0.029417</th>
<th>0.985311</th>
<th>0.3245</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public sectors of tourism industry impact to economic development</td>
<td>0.028985</td>
<td>0.029417</td>
<td>0.985311</td>
<td>0.3245</td>
</tr>
<tr>
<td>Environmental development in mountains areas</td>
<td>-0.018415</td>
<td>0.026250</td>
<td>-0.701521</td>
<td>0.4830</td>
</tr>
<tr>
<td>Environmental development in city areas</td>
<td>-0.030386</td>
<td>0.028056</td>
<td>-1.083047</td>
<td>0.2788</td>
</tr>
<tr>
<td>Environmental development in rural areas</td>
<td>0.043314</td>
<td>0.033229</td>
<td>1.303491</td>
<td>0.1924</td>
</tr>
<tr>
<td>Environmental development in beaches areas</td>
<td>-0.016169</td>
<td>0.026485</td>
<td>-0.610520</td>
<td>0.5415</td>
</tr>
<tr>
<td>Environmental development in heritage building areas</td>
<td>-0.000826</td>
<td>0.024162</td>
<td>-0.034180</td>
<td>0.9727</td>
</tr>
</tbody>
</table>

| N         | 242 |
| Log-Likelihood | -501.6373 |
| LR statistics | 53.18396 (0.000547) |

* significant at 10% level, ** significant at 5% level, *** significant at 1% level. (Form: computed).

The exp(βi) was called that the incidence-rate ration gives the increase in the expected length of stay for a unit increase in a given covariate exogenous variables of model. Consequently, an incidence-rate ratio greater than one it means that exogenous variables of model promote longer expected length of stay in India’s tourism destinations. Otherwise, an incidence-rate ratio smaller than one it means that exogenous variables of model promote shorter expected length of stay in India’s tourism destinations. The result was estimated by Poisson Regression Approach has already shown that 4 of the 24 repressors are statistically significant at the conventional significant levels. However, this estimation cannot be passed by the specification test for over dispersion. Consequently, this estimation was not preferred to explain the international tourism demand of India. Therefore, the Negative Binomial Regression Model was conducted to estimate the model of India’s international tourism demand.

The results of estimation based on Negative Binomial Regression model

Table 2 presents the results from estimation based on Negative Binomial Regression Model and also this table is not present the regression
coefficients, $\beta_i$ but, instead, $\exp(\beta_i)$. Therefore, the interpretation from this regression cannot be explained by simple way. The results were estimated by Negative Binomial Regression Model has already shown that 13 of the 24 exogenous variable of model are statistically significant at the conventional significant levels. In table 3 presents the elasticity after negative binomial regression. The exogenous variable are statistically significant at the conventional significant levels were conducted to consider the Elasticity measurement. These exogenous variables impact to the international tourism demand for length of stay in India’s tourism places such as Education, Income, the frequency of visiting, Pre-trip planning, Spending, Costs of good and service purchased, Hotels cost, Travels cost, Social development in rural areas, Social development in Indian’s life style, Environmental development in mountains areas, Environmental development in city areas and Environmental development in rural areas were conducted to consider respectively. The elasticity of International tourists’ education is $-44\%$, indicating that if international tourists have higher education then they will be stay in India around $44\%$ less. The elasticity of International tourists’ income is $-12\%$, indicating that if international tourists have higher income then they will be stay in India around $12\%$ less. The elasticity of International tourists’ Plan to travel in India is $64\%$, indicating that if international tourists have a better plan to travel in India then they will be stay in India around $64\%$ more too.

The elasticity of International tourists’ spending is $41\%$, indicating that if international tourists spend more money in India then they will be stay in India around $41\%$ more. The elasticity of costs of good and service in India is $-36\%$, indicating that if costs of good and service in India more increase then international tourists will be stay in India around $36\%$ less. The elasticity of hotel cost in India is $-50\%$, indicating that if hotel cost in India more increase then the international tourists will be stay in India around $50\%$ less. The elasticity of travel cost in India is $45\%$, indicating that if travel cost in India more increase then international tourists will be stay in India around $45\%$ more. The elasticity of social development in rural areas of India is $37\%$, indicating that if the social in rural areas of India to more
develop then international tourists will be stay in India around 37% more. The elasticity of social development in Indian’s life style is -24%, indicating that if the Indian’s life style be able to more understand about the culture of international tourists then the international tourists will be stay in India around 24% more. The elasticity of environmental development in India’s mountains areas is -30%, indicating that if the environmental to more development in India’s mountains areas then the international tourists will be stay in India around 30% less. The elasticity of environmental development in India’s city areas is -28%, indicating that if the environmental to more development in India’s city areas then the international tourists will be stay in India around 28% less. The elasticity of environmental development in India’s rural areas is 43%, indicating that if the environment to more development in India’s rural areas then the international tourists will be stay in India around 43% more.

Table 2: Estimated coefficients for the Negative Binomial Regression Model (dependent variable is the length stay in India (day))

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients (\exp(\beta))</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>P&gt;z. (90%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.699085</td>
<td>0.0925318</td>
<td>29.17</td>
<td>0.000</td>
</tr>
<tr>
<td>Sex</td>
<td>0.0089096</td>
<td>0.0171569</td>
<td>0.52</td>
<td>0.604</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-0.0128745</td>
<td>0.0237422</td>
<td>-0.54</td>
<td>0.588</td>
</tr>
<tr>
<td>Education</td>
<td>-0.0337612</td>
<td>0.0092833</td>
<td>-3.64</td>
<td>0.000</td>
</tr>
<tr>
<td>Income</td>
<td>-0.009788</td>
<td>0.0060939</td>
<td>-1.61</td>
<td>0.108</td>
</tr>
<tr>
<td>Frequency of visiting</td>
<td>-0.0184877</td>
<td>0.0071718</td>
<td>2.58</td>
<td>0.010</td>
</tr>
<tr>
<td>Planning</td>
<td>0.0490989</td>
<td>0.007432</td>
<td>6.61</td>
<td>0.000</td>
</tr>
<tr>
<td>Spending</td>
<td>0.0319146</td>
<td>0.0071256</td>
<td>4.48</td>
<td>0.000</td>
</tr>
<tr>
<td>Domestic Airline costs</td>
<td>-0.0018111</td>
<td>0.0011277</td>
<td>-0.16</td>
<td>0.871</td>
</tr>
<tr>
<td>Costs of food and service purchased</td>
<td>-0.0280042</td>
<td>0.0128903</td>
<td>-2.17</td>
<td>0.030</td>
</tr>
<tr>
<td>Hotel costs</td>
<td>-0.0388224</td>
<td>0.0116279</td>
<td>-3.34</td>
<td>0.001</td>
</tr>
<tr>
<td>Total costs</td>
<td>0.01377</td>
<td>0.0096899</td>
<td>1.42</td>
<td>0.155</td>
</tr>
<tr>
<td>Travels costs</td>
<td>0.0351134</td>
<td>0.0113105</td>
<td>3.15</td>
<td>0.002</td>
</tr>
<tr>
<td>Social development in city community</td>
<td>-0.0120449</td>
<td>0.0099723</td>
<td>-1.21</td>
<td>0.227</td>
</tr>
<tr>
<td>Social development in rural community</td>
<td>0.0285294</td>
<td>0.0120879</td>
<td>2.36</td>
<td>0.018</td>
</tr>
<tr>
<td>Social development in tourism places</td>
<td>0.0064046</td>
<td>0.0077701</td>
<td>0.82</td>
<td>0.410</td>
</tr>
<tr>
<td>Social development in Indian’s life style</td>
<td>-0.0188315</td>
<td>0.0103597</td>
<td>-1.82</td>
<td>0.069</td>
</tr>
<tr>
<td>Tourism industry impact to India’s economic development</td>
<td>-0.0185557</td>
<td>0.0126007</td>
<td>-1.47</td>
<td>0.141</td>
</tr>
<tr>
<td>Private sectors of tourism industry impact to India’s economic development</td>
<td>-0.0215686</td>
<td>0.0145762</td>
<td>-1.48</td>
<td>0.139</td>
</tr>
<tr>
<td>Public sectors of tourism industry impact</td>
<td>0.0186938</td>
<td>0.0131404</td>
<td>1.42</td>
<td>0.155</td>
</tr>
</tbody>
</table>
Table 3: The elasticity after the Negative Binomial Regression Model (Dependent Variable is the length stay in India (day))

<table>
<thead>
<tr>
<th>Variables</th>
<th>dy/dx</th>
<th>Std. Error</th>
<th>z-Statistic</th>
<th>P&gt;Z (90%)</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex*</td>
<td>0.1162452</td>
<td>0.2238</td>
<td>0.52</td>
<td>0.603</td>
<td>0.535</td>
</tr>
<tr>
<td>Marital Status*</td>
<td>-0.1685193</td>
<td>0.31177</td>
<td>-0.54</td>
<td>0.589</td>
<td>0.726</td>
</tr>
<tr>
<td>Education</td>
<td>-0.4406253</td>
<td>0.12092</td>
<td>-3.64</td>
<td>0.000</td>
<td>3.039</td>
</tr>
<tr>
<td>Income</td>
<td>-0.1277451</td>
<td>0.07948</td>
<td>-1.61</td>
<td>0.108</td>
<td>2.537</td>
</tr>
<tr>
<td>Frequency of visiting</td>
<td>-0.2412872</td>
<td>0.09369</td>
<td>-2.58</td>
<td>0.010</td>
<td>2.807</td>
</tr>
<tr>
<td>Planning</td>
<td>0.6408019</td>
<td>0.0956</td>
<td>6.70</td>
<td>0.000</td>
<td>2.909</td>
</tr>
<tr>
<td>Spending</td>
<td>0.4165247</td>
<td>0.0918</td>
<td>4.54</td>
<td>0.000</td>
<td>2.721</td>
</tr>
<tr>
<td>Domestic Airline costs</td>
<td>-0.0236367</td>
<td>0.14521</td>
<td>-0.16</td>
<td>0.871</td>
<td>2.331</td>
</tr>
<tr>
<td>Costs of food and service purchased</td>
<td>-0.3654896</td>
<td>0.168</td>
<td>-2.18</td>
<td>0.030</td>
<td>2.025</td>
</tr>
<tr>
<td>Hotel costs</td>
<td>-0.5066808</td>
<td>0.15075</td>
<td>-3.36</td>
<td>0.001</td>
<td>2.111</td>
</tr>
<tr>
<td>Total costs</td>
<td>0.1797157</td>
<td>0.12629</td>
<td>1.42</td>
<td>0.155</td>
<td>2.263</td>
</tr>
<tr>
<td>Travels costs</td>
<td>0.4582738</td>
<td>0.14457</td>
<td>3.17</td>
<td>0.002</td>
<td>1.835</td>
</tr>
<tr>
<td>Social development in city community</td>
<td>-0.1572016</td>
<td>0.13002</td>
<td>-1.21</td>
<td>0.227</td>
<td>3.290</td>
</tr>
<tr>
<td>Social development in rural community</td>
<td>0.3723438</td>
<td>0.15729</td>
<td>2.37</td>
<td>0.018</td>
<td>3.375</td>
</tr>
<tr>
<td>Social development in tourism places</td>
<td>0.0835881</td>
<td>0.10144</td>
<td>0.82</td>
<td>0.410</td>
<td>3.580</td>
</tr>
<tr>
<td>Social development in Indian’s life style</td>
<td>-0.2457743</td>
<td>0.13509</td>
<td>-1.82</td>
<td>0.069</td>
<td>3.641</td>
</tr>
<tr>
<td>Tourism industry impact to India’s economic development</td>
<td>-0.242175</td>
<td>.16427</td>
<td>-1.47</td>
<td>0.140</td>
<td>3.202</td>
</tr>
<tr>
<td>Private sectors of tourism industry impact to India’s economic development</td>
<td>-0.2814973</td>
<td>0.19022</td>
<td>-1.48</td>
<td>0.139</td>
<td>3.267</td>
</tr>
</tbody>
</table>

*significant at 10% level, **significant at 5% level, ***significant at 1% level (Form: computed)
Conclusions

The scope of this study was undertaken to provide information of selected international tourist arrivals to India consisting of England, America, Canada, France, German, Japan, Malaysia, Australia, Singapore and Korea during the time period of 2010-2011. Primary data were collected from foreign tourist arrivals to India by surveying method. Survey of 242 international tourist arrivals is proposed. The research aims to develop and certify a demand model of analyst length of stay performance that supports the spending behavior of international tourists’ arrivals in India based on Count model estimation both poison regression analysis and negative binomial Regression analysis. 242 questionnaires were collected from international tourists’ arrivals in India during the 2010-2011 time periods. Majority of tourist arrivals by region of origin from developed countries such as USA, UK, France, Australia, Italy, Japan Malaysia, Singapore, Nepal, Sri Lanka, Netherlands, China and South Korea, respectively were selected. The questionnaire is a prepared technique for collecting primary data in Indian tourism site survey. Tourist arrivals by region of origin have become a significant source of foreign exchange revenues contributed of the country’s revenues. India’s travel and tourism industry makes a greater contribution to government revenues. The research work investigated in the area of tourism preservation mainly for Taj Mahal. Taj Mahal as the World Heritage site and Karnataka site at Bangalore were selected as Indian study sites. The Count Model estimation obtained from respondents. The Poisson Regression result was shown that 4 of the 24 repressors are statistically significant at the conventional significant levels. However, this estimation did not allowed specification of the regression model generating over-
dispersed. Consequently, the estimation cannot be used to describe Indian international tourism demand. Moreover, the negative binomial regression was tested for Indian international tourism demand.

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Identifying Regional Economic Disparities and Convergence in Romania

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Regional convergence is a key objective of cohesion and balanced development at regional level. The existences of regional imbalances do nothing only delay the achievement this objective, requiring the emergence of viable and appropriate measures of the new European context.

This article aims to use the appropriate models based on dispersion method (variance) to identify the dynamics and amplitude differences in the level of regional development in European Union and Romania.

The results of this research indicate first that the disparities between development regions in Romania have growth more rapidly in recent years, but the EU integration may have enhanced per-capita income convergence processes. These findings may be able to find new tools to reduce income inequalities in next programming period.

Keywords: Regional disparities, Convergence, Concentration, Distribution analysis

JEL Classification: R11, R12, F02

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Introduction

Effect of concentration tendencies (clustering), disparities between regions and within them are determined by a number of external phenomena (globalization, integration) or internal (clustering, the emergence of growth poles / development, local institutions involved in different aspects of the economic life, etc.). Regional disparities take the form of differences in per capita income level and determine, at a time, a chain reaction of companies, authorities, residents, etc., trying to counteract their escalation.

Most regional science theories analyzed and explained the causes of regional disparities and tried to provide answers to the question why some regions are growing faster than others. The explanations are numerous and relate to the values of the reference period (the existence of favourable natural conditions, the presence of important and valuable resources, location, innovation, institutions and regional policies, global context, national, regional, etc.)

Recently, analysis of regional disparities entails addressing the convergence between countries that decide to eliminate the barriers of any kind. It manifests more than obvious interest for spatial analysis models of inequality, regional differences in the size reduction of income, infrastructure, etc.


Issues related to regional inequalities, convergence and space dynamics have an important place in current economic literature, although addressing these issues is still insufficiently explored. Thus, there can be identified three specific areas of convergence applications: real convergence, nominal and institutional. For Romania, the current context of integration,
all three types of convergence is of particular interest given the wide discrepancies from other EU Member States.

In this article we limit our scope to address two important aspects: highlighting regional economic disparities and identify the main trends of convergence in Romania.

The first part presents some general considerations on theoretical approaches on regional disparities and convergence and reviews the most used methods to assess the dynamics of regional series. In the second part there will be made applications on Romania, to the eight development regions.

Article entitled "Identifying disparities and regional economic convergence in Romania" analyzes the evolution and convergence of regional disparities in Romania.

**Disparities, space and convergence**

In general, the concept of disparity (disparity, inequality, imbalance, etc.) is used both by analysts, academics and practitioners to express differences identified using appropriate mathematical techniques, using specific indicators or indices.

Depending on the context examined, the concept has several facets, being accompanied by other elements that support it: convergence, polarization, clustering, concentration, dispersion, etc. Usually, how to assess the level or degree of disparity is determined by:

1. The territorial dimension to the reporting (regional, sub-regional, national, supranational, etc.);
2. The period considered in regional analysis.

While theoretical approaches on regional disparities tend to focus on detailed analysis of the nature of income differences within a territory, in a period of time, the convergence literature envisages the catch (catch-up) countries poor to the rich.

The role of space (territory) is recognized recently in the literature on regional convergence, while the older approaches to regional imbalances have been characterized by relative silence on the complications that can have regional level.
Analysis of regional disparities has become really important, especially in the last two decades; this is visible, especially in increasing the number of empirical studies on convergence (Rey S., Janikas M, 2005).

Empirical studies on convergence and growth can be divided into two distinct categories:

1. Confirmation studies of growth theories, leading to build econometric equations estimated based on the observation of the economy at different levels, including at regional level;
2. Exploratory studies applying innovative techniques to generate hypotheses about the dynamics of the economic system.

The presented synthetic main theoretical approaches that were aimed mainly imbalances and regional convergence dynamics analysis.

Theoretical approaches of regional convergence
Generally, the term convergence is commonly used in comparative economic analysis regarding economic integration in order to identify trends entities (national, sectorial, regional) to a landmark considered the most performant or of medium level.

Convergence studies take into consideration how the involved factors in a process or another (integration, globalization, etc.) acts to reduce disparities between the analyzed entities². Reducing disparities requires close values established performance indicators and ensuring reduce disparities in development of these entities.

In literature, there can be identified three specific convergences of application domains:
1. Real convergence - to eliminate disparities between countries or regions in the development level given by income per capita and labour productivity;
2. Nominal convergence – is applied in monetary policy and refers to achieving economic stability and the transition to the euro;
3. Institutional convergence - requires compatibility in terms of structure and functioning of institutions.

In Romania, all three types of convergence above is a particular concern given the important difference from other EU Member States. In this study we limit our scope to address a few key aspects of real convergence in the developing regions (statistical or planning).

Generally, theoretical approaches on regional convergence have focused attention on the process of catching-up (catch up): the less developed regions make significant efforts to catch up the rich regions.

The main trends of the current process of convergence - crowding and dispersion - are analyzed and interpreted on recent approaches of regional theory:

1. Endogenous growth theory (Lucas, P. Romer, P. Nijkamp)
2. New economic geography (P. Krugman)

Endogenous growth theory focuses on the concentration of economic activities due to the effect of increasing the profit level of investment in human capital and research and development. According to this theory, the concentration of the factors mentioned above in the central area and not in the peripheral area is the result of the economic integration process. Economic growth at regional level, including those based on innovation (Schumpeter's growth theory) are effective at change, adaptation, and less than optimal allocation adjustment of certain locations, and focused on integration and trade. Regional economic growth is taking place on the basis of the gaining process of innovation – learning - knowledge - assimilation associated to labour.


New economic geography theory takes into account the following hypothesis: regional clusters are the effect of clustering phenomena of work forces in certain areas and which have important relationships. According to this theory, high transport costs protect companies from small markets. With lower cost of transport is increasing competition among firms and ultimately, lower dispersion forces. Theory emphasizes, in particular, market integration, economies of scale, transport and local markets, promoting the combined effects of economic concentration in the centre
According to the institutional theory, the key element for development of a region is the institutions that determine the technological frontiers of the economic hierarchy. The reason is the fact that these institutions can control the economy's ability to use and develop their own resources in a particular way. When institutional capacity is unevenly distributed in space, institutional factors contribute to agglomeration of economic activity, strengthening the more advanced activities in most developed areas. An important feature of these institutions is that it facilitates innovation, research and development, business support, all known as "innovative systems" (Lundvall, 1992; Nelson, 1993).

In the theoretical approaches mentioned above, the polarization of economic activities is a slow, inevitable and convergent process in terms of GDP per capita. At regional level is recognized the importance of political measures and actions necessary to ensure balance between the work forces and tendencies of agglomeration (concentration).

Myrdal is the first to propose and promote regional concept in the theory of circular and cumulative economic processes (1957), which explains the increase in international differences in development from similar initial conditions. The movement of capital, migration and trade in goods and services are continued and even increased international and regional inequalities. The liberalization of trade, less developed regions, lack of human capital and innovative technologies are required to specialize in production of goods, especially primary goods with inelastic demand (low elasticity) in relation to price and income. Developed regions become poles of attraction and absorb increasing amounts of capital and labour force from less developed regions.

Neoclassical theories even if they anticipated long-term unconditional convergence (club convergence), failed to clarify the basic conditions that may affect regional disparities (including in times of crisis, recession, etc.). Despite all the efforts made on the proposed reforms in the integration process, there is still a natural tendency, universally valid, that the polarization process is leading ultimately to greater regional differences. Since 1956, Williamson believes that the convergence process, inter-regional relations and public policy factors interact for the main clusters. Thus, a
faster increase in growth poles (e.g., capital regions) causes an increase in regional disparities. In a later stage of development, regional disparities can be reduced to a level of aggregation higher than revenues. The distribution is the emergence of agglomeration diseconomies (high cost of labour work or the effect of congestion), and continue with the growth poles. Thus, regions lagging behind in some countries can benefit from technology diffusion. There are many economists who believe that the new Member States can be assigned to the process called "catch-up" (to catch).

Relations between national economic growth and regional imbalances can be graphically presented with a form of an inverted U curve (Williamson curve). The new European Union member states find their place on the upward curve, while the old members are placed on the flat. The curve drawn by Williamson, this category of countries recorded increases in regional disparities, which makes them to be represented on the left side of income Y in Figure 1.

![Williamson curve](image)

**Figure 1: Williamson curve**


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5 Prof. ing. František Turnovec CSc, "Regional Disparities in the EU", www.ies.fsv.cuni.cz
Compared with the old theories, new approaches to regional convergence have in the spotlight the following:

- Increasing importance of intangible factors (including economic policies) in the widening of regional disparities also the investment associated with innovation, research and development capabilities and human capital skills are sources of growth of the disparities between regions;
- New approaches are complementary and update old methods proposed by neoclassical theory, by extending the object of research, methods and techniques used, especially by modern methods of calculation and processing with computer and programming;
- You may also notice a much more anchored in reality interpretation of regional economies, which are part of the convergence process (both in terms of speed and in terms of growth rates).
- Summarizing, one can see that, in terms of theoretical approaches, regional convergence has attracted comments and critics alike, who helped develop the field of wide interest. However, with all the developments made, we cannot yet speak of a magic formula, specifying the exact solution or solutions that ensure convergence of regional structures, characterized by high diversity, both in terms of different conditions development (natural, human, infrastructure, innovative structures, etc.), traditions, mentalities and different growth rates.

**Indicators and analysis techniques**

At the basis of the analysis of regional disparities are a number of methods and indicators, based in a scientific manner, assumptions and conclusions
presented in space research. These methods of spatial analysis focuses on territorial series, which consist of a range of values of features ordered in administrative-territorial units (ATU) to which it belongs. Territorial series operate with complex units, such as villages, towns, cities, counties, regions, countries etc.

Territorial series features are:

- independence of terms - specific levels of different ATU not mutually conditioned, this feature allows the separate characterization of each unit by comparing with another unit or its inclusion in the overall level of the series;
- homogeneity of the series - all terms must have the same economic and social content, the same statistical definition of scope;
- similarity of terms - there is an identical time of observation or recording period;
- variability in terms - the combination of the main factors is determined by the specificity of the whole territorial series, with the casual crowd factors that cause differentiation from one unit to another;
- graphical representation - is performed using a cartogram or cartodiagram amid ATU maps. Each unit is shaded according to distinct qualitative types.

Currently, the comparative analyses at the local level and degrees of ATU is particularly important for the national and international community in terms of measuring the differences in development between regions and achieving appropriate strategies.

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Indicators

Regional disparities analysis using statistical techniques of territorial analysis based on a system of specific indicators, corresponding with the nature of the terms and purpose.

The regional analysis can be found the following groups of indicators:

A. absolute indicators ($(y_i)$ level indicators and absolute indicators $(\Delta_i / j = y_i - y_j)$);

B. relative indicators: Ex.: Territorial indicators $(I / j = y_i / y_i)$, relative gap: $\Delta\% i / j = (y_i - y_j) / y_j \times 100 = 100 (ii / j - 1)$, territorial concentration coefficient (Gini coefficient Struck, energy information, etc..) and relative sizes of structure $g_i = y_i / y_i \Sigma$;

C. medium indicators: average is the arithmetic or geometric averages (median, module).

In the European Union of the 27 Member States, issues of convergence has been set a common set of indicators and criteria that can help achieve a shared vision on the impact of certain action in order to reduce disparities. The indicators selected for evaluation of cohesion policy and regional development are: GDP per capita, unemployment, life expectancy at birth and educational level. Their use is affected by the availability of data at sub-national (regional) level in the EU.

In order to obtain a satisfactory picture of regional performance, the use of methods can be achieved by combining structural indicators, as follows:

1. indicators of physical disparities - climate, center-periphery distance, accessibility and population density;
2. economic disparities indicators - income, the structure of industrial activity, economic prospects, etc.;

3. social disparities indicators - unemployment, labor force structure, labor force, skills and living standards.

Analysis and interpretation of the above groups of indicators provides an overview of the situation at local level and, by comparison, evidence of regional disparities.

**Analysis techniques**

Generally, one can say that regional science has "borrowed" from statistics those techniques that may contribute to making scientific results. In regional studies, dispersion parameters (variance) are most commonly used because they can synthesize, in a scalar, information on inequalities in distribution. This means that each assessment of the aggregate inequalities contain information related to distribution, which sometimes leads to different results (for this reason it is important for empirical analyzes to check robustness of the conclusions).

In the analysis of regional convergence, there are some restrictions on the use of statistical techniques, which are determined by using a series of non-heterogeneous computing and can lead to unrealistic results in impaired perception and convergence trends (Petrakos G. 2005). The alternative is to attach different values to each observation in part reflecting their relative contribution. For example, as regional income variable (GDP), the indicator can be weighted by the population of the territory. In some cases, data and statistical information may be asymmetric, which leads to difficulties in calculating the respective indices.
The trends presented in the regional analysis are based on the use of techniques to estimate the non-parametric, allowing the presentation of functional features. In this case, there are some specific advantages determined by generalities or flexibility associated to the approached parameters.

Assessment of regional imbalances is achieved through the appropriate statistical formulas for calculating values. From this point of view, taking into account differences in size between territorial levels can lead to conclusions about trends.

In conclusion, we can say that there is a constant concern of economics to estimate and assess the dynamics of territorial entities, taking into account existing conditions and reported time periods. Regional analysis models designed in particular to explain the causes of economic and social disparities between appearance and within regions in order to identify the best measures to counter the effects of their appearance or deepening.

**Applications on study of regional disparities and convergence in Romania**

In Romania, development regions are "areas which correspond to county groups, established by their voluntary association based on agreement signed by the representatives of county councils, as well as by those of the General Council of Bucharest; regions represent the framework of design, implementation and evaluation of regional development policies, as well as collection of specific statistical data, in accordance with European
regulations issued by Eurostat for the second territorial classification level, NUTS II, existing within the EU”\(^7\).

**Analysis regional context**

For Romania, the economic disparities and convergence analysis context is given by the presence of the eight development regions (statistical regions), created after integration of the European Union (2007). These regions were created taking into account the potential functional integration criterion, around some polarizing centers (Iasi, Timisoara, Craiova, etc.), having correspondence with NUTS 2 system of the European Union. When creating regions, it was also considered other criteria such as: criterion of complimentarily of resources, of economic and social activity, functional connection, etc.

The 8 development regions created according to Regional Development Law no. 151/1998 (amended by Law 315/2004) are the following (Table 1):

<table>
<thead>
<tr>
<th>Table 1: Development regions in Romania Eurostat Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NUTS 2 Region</strong></td>
</tr>
<tr>
<td>RO11 North-West</td>
</tr>
<tr>
<td>RO12 Center</td>
</tr>
<tr>
<td>RO21 North-East</td>
</tr>
<tr>
<td>RO22 South-East</td>
</tr>
<tr>
<td>RO31 South Muntenia</td>
</tr>
</tbody>
</table>

\(^7\) Eurostat – Official Bureau of European Statistics
Analysis of regional disparities will be further made upon development regions listed above, during 2000-2009, using direct and derived indicators specific for some areas of economic activity.

**Analysis and interpretation**

A. Economic performances

Identification of regional disparities in terms of economic performance was achieved by applying dispersion (variation) method upon GDP / capita. (PPC) during 1997-2008. Knowing that the Bucharest-Ilfov region is placed among the most developed regions in the EU compared to the other regions and, in particular, with North-East and South regions, two situations were made: "with and without Bucharest-Ilfov region".

From the analysis of dispersion values, the following aspects resulted:

- In the situation "with Bucharest-Ilfov region", the evolution of GDP dispersion value / capita at regional level recorded differences from a minimum of 4875 Euros / capita (1997) to a maximum of 12,300 Euros / capita. Determination of maximum / minimum level of GDP /capita. (PPC) shows an increase of regional disparities, from 2/1 (2000) at 4/1 (2008). Evolution of variation coefficient value was an increase one, from 21.3% to 54.1%;

- In the situation "without region Bucharest-Ilfov", it can be ascertain a relatively small variance between regions, only 2% (from 42.5% to 44.3%). Also, the average regional GDP / capita shows an increase from a minimum of 3087.5 Euros / capita (1997) to 8702.5 Euros / capita (2008);

- Regarding the evolution of other terms of the variance - the minimum / maximum value, variability and amplitude, they follow a rising trend, confirming the emphasis of regional disparities in
Romania regarding the economic performance expressed as GDP / capita (PPC). Thus, the minimum value increased by 6.5% (3600 Euros / capita to 7200 Euros / capita), while the maximum value increased by 13.39% (from 7100 Euros / capita to 21,100 Euros / capita and the variation coefficient value records an increase of 8.84%. Annual growth rate of the maximum value is superior to the minimum value, which make us state that there is a tendency of increasing divergences in the regional economic performance (Figure 2).

![Figure 2](image)

**Figure 2:** Variance indicators- GDP/capita at regional level, 1997-2008 (with and without Bucharest-IIfov region)

Reported the average value of EU-27, there is a growing of importance of national GDP / capita due to the increase of its weight from 8.43% (1999) to about 25.9% in 2008 (increase of about three times). This did not also influence the position occupied by Romania at EU-27 level, which holds the penultimate place as regards GDP / capita, being slightly ahead of Bulgaria (Figure 3).
In the regional structure, it may be identified certain tendencies in the evolution of regional GDP weight into national GDP, as follows:

- during 2000-2008, it is found an increase of Bucharest-Ilfov region contribution at the formation of national GDP (from 22% to 25.3%);
- the other regions recorded similar weights in the achievement of total GDP, ranging from a minimum of 8.15% (South-West region) and a maximum of 12.7% (South-Muntenia);
- also, there were regions that increased their contribution to the formation of national GDP: South Muntenia, West and Bucharest-Ilfov, while the other regions recorded decreases in the above-mentioned indicator value weight (Figure 4).

**Figure 1**: Evolution of GDP/capita weight of Romania into GDP/capita of EU-27, between 1999-2008 (% altogether)

*Source: Own calculations*
Increasing GDP / capita in 2008 compared to 2000 was different from one region to another, the greatest increase being recorded in Bucharest-IIfov (by 3.98 times), followed by West (2.39 times) and North West (2.36 times), the lowest growth being recorded in the South-East (1.98 times) and North-East (2 times).

In terms of trends of GDP / capita at regional level, in 2000 it is observed a high concentration of values in a relatively narrow range. Subsequently, (in 2001), concentration tend is emphasized and occurred a dispersion trend which is continued until 2008, the regions entering a competition process and the detachment of those developed from the poor ones. There is also a compact group of regions, which recorded similar values of the GDP / capita, but with obvious trend of dispersion between them (Figure 5).

**Figure 2**: Evolution of regional GDP weight in national total, 2000-2008 (%)
Figure 3: Evolution of regional/capita GDP concentration between 2000-2008 (lei/capita)

Source: Own calculations

This trend of increasing regional disparities is also confirmed by the use of a concentration method by means of Lorenz-Gini curve: it can be noticed the movement of curve for 2008 towards the first bisector and curve related to the year 2000, which comes to support the allegations outlined above (Figure 6).

Figure 4: Lorenz-Gini concentration curve calculated for the evolution of regional GDP, 2000-2008 period

Source: Own calculations
Thus, we may observe a significant concentration of regional GDP, with growth trend: the Gini coefficient value increased from 35.8% in 2000 to 38.83% in 2008 (increase of 3%).

Along with the trend of increasing regional dispersion of economic performance expressed by the GDP / capita, there is also relative trend of convergence of this indicator to the EU-27 average, caused by the growth rate which is higher to the value recorded by 2008 (Figure 7).

**Figure 5:** Regional convergence expressed by the evolution of GDP/capita (PPC) – Romania and EU-27, 1999-2008 (euro/capita)

In conclusion, following the analysis of regional economic performance in Romania, two major trends may be found: a first relatively slight trend of convergence with the EU-27 and the second trend is that of increasing disparities between the eight NUTS 2 regions, as a result of emphasizing economic concentrations in attractive areas, which may ensure a high standard of living and activities with high profitability.

**Demography**

Population of a region is one of the most important matters when discussing on economic development and identifying disparities in the territory. This indicator is the basis for incorporation of a region into a NUTS (1, 2 or 3) category and, at the same time, the weighting criterion of some performance indicators (GDP, VAB, SMEs, etc.). Often, the existence of a large population in a region may be an advantage, provided that this
population has skills that may be characterized by a high level of specialization, etc.

Population variability at the level of those eight development regions, during 2000-2009, showed a downward trend (-0.49%), which means the gaps on this indicator are diminishing. In 2009, the West region recorded a minimum population of 1,912 million inhabitants, while the maximum population of 3.714 million in the North-East region (Figure 8).

![Variability indicators – total population at regional level, 2000-2009](image)

**Figure 6:** Variability indicators – total population at regional level, 2000-2009

Variation coefficient of 2009 was 21.8%, decreasing by 0.18% as compared to its value in 2000, of about 26.1%. Both regional population values (minimum and maximum) are decreasing as compared to 2000, the indicator variation being relatively small during the analyzed period.

Along with the decreasing of population number, its density also decreased both at national and at regional level. Thus, during 2000-2009, population density decreased from 94.1 inhabitants/km² to 90.1 inhabitants/km². The most significant decreases in density values were recorded by the South-West Oltenia (-6.33%), West (-5.81%), South Muntenia (-5.67%), Center (-4.45 %) and North-West (-4.44%). The smallest decrease was reported in Bucharest-Ilfov region, namely -0.51%.

When comparing regional indicator, very large differences are found between Bucharest-Ilfov region and the other seven regions:
populated density in Bucharest-IIlfov region was, in 2009, of 1.239.2 inhabitants/km², while in the Western region was 60 inhabitants/km², in the central region, it was 74 inhabitants/km², in the South-West region, it was 77 inhabitants/km² (ratio is 20:1). Average population density in the EU-27 is 116 inhabitants/km².

Regarding the incorporation of a region in a NUTS 2 category, the limits are given by the population number: between 800,000 and 3 million inhabitants. These limits are not met (there have not been met since their founding in 1998) by all development regions in Romania, which have values above the maximum one set by the EU.

Regions with a population of over three million inhabitants the North-East (3.7 million inhabitants) and South-Muntenia (3.2 million inhabitants). Moreover, the two regions (especially the North-East region), are on the last places in the EU-27 as regards GDP / capita and performance, but are ranked in the top 20 NUTS 2 regions in terms of population size. From this point of view, we may reassert, in the next programming periods, the need for a territorial reorganization on better functional bases, by increasing the number of regions, which could lead to reduction of served population and to a better management of development process as a whole.

Labor

Another important indicator, commonly used in the analysis of regional disparities is employed population. This indicator provides information on trends on the labor market and its reactions to different internal or external stimuli.

Being in close correlation with demographic indicators, which recorded drastic decreases in the last decade, employment in general and employed population, in particular, followed the same trend of quantitative decrease (effective numerical reduction), but mostly a qualitative one (through migration of well trained labor to more developed EU regions). Average annual employment rate was negative (-2.44%), with a higher negative value, as compared to the total population.

As regards the variance of the analyzed indicator, the trend was of decrease in most development regions, which implies a certain territorial convergence on the labor market. Also, the variation coefficient value
variation recorded a downward trend during the reviewed period- from 26.1% (2000) to 15.3% (2009) (Figure 9).

The downward trend of variance value for the employed population shows us that there is an internal phenomenon of labor migration from one region to another and even within the same region, which causes the reduction of regional disparities. This is also supported by similar weights of regions in terms of employment, they varying on a relatively narrow scale: from a minimum of 9.7% owned by Western region to a maximum of 14.5% in Bucharest- Ilfov region. The other regions have similar weights: North West region- 13.75% of total, South Muntenia Region - 13.79%, North-East region - 14.37% (2009).

**Research-innovation**

Following the analysis and interpretation of indicators specific to the research and innovation field, information can be obtained on the development of a region, the competitive advantages it has, as compared to other regions and how it may be acted for supporting this field, considered to be a key factor for the evolution of current knowledge society.

For analysis of regional disparities in the R-D (Research-Development) field, two indicators were selected and analyzed: employees...
in the research and development activity (number of persons) and the number of innovative companies.

Thus, the average annual growth rate of employees in the R-D field, during 2000-2009, was about 1.46%, the variation coefficient following a similar increase: from 107.9% in 2000 to 109.9% in 2009. The variation coefficient is a relatively high value compared to the other coefficients analyzed so far.

The ratio between the maximum number of researchers (in Bucharest-Ilfov region - 19,577 researchers) and the minimum number (in the South-East region - 1865 employees) is 10 to 1.

Degree of regional innovation characterized by the number of innovative enterprises is still in favor of Bucharest-Ilfov region, which accounts for 23.91% of total, the last place being owned by South-West Oltenia, with only 4.83% of total. The weights shown known changes over time: thus, during 2006-2008, as compared to 2000-2002, the number of innovative enterprises increased in some regions (e.g. in Bucharest-Ilfov - from 21.23% to 23.91%, in the South-East region- from 9.91% to 14.11%), while in other regions, this weight has experienced a decline (in the Central region - from 19.22% to 13.18%, in Western region - from 7.32% to 6.17%).

It may be noted that most research centers are located in Bucharest-Ilfov region, many of which are state owned (Figure 10).

Figure 8: Variability indicators – Employees in R-D field

Source: Own calculations
According to a project prepared by a group of researchers and focused on evaluating the innovation degree at regional level based on specific indicators (potential of innovation management, potential for knowledge creation, innovation and system integration, innovation performance and property rights), the following conclusions were obtained:

- Bucharest-Ilfov region has a degree of innovation (2010) of 72.96%, in an increasing process as compared to 2008, by about 2.85%, this is followed, from far from, by the North-East region, with a degree of innovation of 37.19%, in a decreasing process as compared to 2008; the region with the lowest degree of innovation is the Western region (25.11%), decreasing as compared to 2008;
- Difference between the maximum and minimum value of innovation degree is 2.9 to 1 (Figure 11).

**Figure 9:** Evolution of innovation degree at regional level, 2008-2010

*Source: Data processing - The "INNOREG" project - Model and computer program for determining the degree of innovation in the development regions"

An important part of modern regional theories on regional disparities identifies activities related to innovation as being the main sources of competitive advantage, but also a triggering factor of territorial economic disparities. Innovative regions have advantages, but are dependent on knowledge dissemination. There is an important mechanism by which this sector evolves and becomes effective. Regional policy, by its

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8 The "INNOREG" project - Model and computer program for determining the degree of innovation in the development regions" (ref. no. 92079/2008) runs within the program "Partnerships in priority areas", promoted by the Ministry of Education, Youth and Sports.
measures and actions must take into account all these issues, when it proposes to aim at reducing disparities in research-innovation field.

**Health**

Regionally, the health domain is a factor that may characterize the overall level of development, the related indicators entering the composition of human development index (HDI), calculated by the international institutions and bodies to reveal the living conditions and welfare.

In this regard, we have also included in the analysis of regional disparities the health specific indicators to show its trends during 2000-2009. “Number of doctors” indicator was selected and its variation was calculated at the level of those eight development regions. Thus, one may find the increase in the value of the variation coefficient, from 26.5% in 2000 to 36% in 2009. This implies a reduction of convergence in health sector and an increase in territorial disparities.

Annual growth in the number of doctors is 1.07%, amplitude of variation reaching the value of 109.51% (year 2009). The minimum number of doctors (4515) is found in the South region, while the maximum number is found in Bucharest-Ilfov region. Analysis of this indicator variability during the reference period 2000-2009 shows an inflection point in 2005, when the variation coefficient reached 40.6%. After that, the variation coefficient decreased in 2009, to a value of about 36%. (Figure 12)

![Figure 10: Variability indicators – number of doctors at regional level](image)

*Source: Own calculations*
At the same time, it is reported a growth in the number of doctors compared to 1000 inhabitants in most regions and at national level (2.28%). The largest increases were recorded in the West (8.7%), Bucharest-Ilfov (5.71%), South Muntenia (4.6%) and North West regions (3.36%) (Figure 13).

Regions that recorded decreases of this indicator are: North-East (-3.11%), South-West (-1.16%) and South-East (-0.92%). In case of this indicator, there are also found large discrepancies in the development regions, the ratio between the maximum and the minimum value being 3 to 1.

**Infrastructure**

Infrastructure, in general, is an important indicator characterizing the regional accessibility, being taken into account when talking about the attractiveness of an area.

When analyzing regional disparities in infrastructure, it was selected the indicator named “density of public roads per 100 km²”, during the reference period 2000-2009.

Thus, the region having the largest network of public roads is Bucharest-Ilfov (48.9 km per 100 km²), followed from far by the South-West region (36 km per 100 km²) and South-Muntenia region (36.5 km per 100 km²).
km²). In contrast, the region with the worst public roads infrastructure is South-East (30 km per 100 km²). The average annual growth rate of indicator for public road density per 100 km² is 0.51% for the period reviewed.

The variation coefficient was, in 2009, 16.2%, up from 2000 when it recorded a value of 14.6% (increase of about 1.13%) (Figure 14).

Figure 12: Variability indicators – Density of public roads per 100 km² at regional level

Source: Own calculations

A transport infrastructure is a pre-requisite, but not sufficient condition for regional development and competitiveness, an important factor that can determine the location of economic activities and some sectors. Investments in infrastructure are essential for the reduction of distances between regions, especially between peripheral and central regions. Transport infrastructure plays an important role in reducing regional disparities, facilitating trade and labour migration. Improvement of infrastructure reduces the time and cost of goods transport and increase productivity and comparative advantages of different regions.

Most of transport infrastructure remains in the responsibility of central and local authorities (government) and is an important component of structural and regional policy. Given that each region has specific and
particular needs in this field, both in terms of infrastructure and transport means, it is necessary to ensure a close level of development at territorial level and reduction of inequalities between them, because the system transport should be regarded unitary, as a network of EU and national roads.

**Conclusions**

This article reviews, both in theoretical and practical terms, the evolution of regional disparities and convergence process in Romania.

Used both by analysts, ideologists and practitioners, the concept of disparity expresses the differences identified using appropriate mathematical techniques, using specific indicators or indices. This concept has several sides, being accompanied by other elements that support it: convergence, polarization, clustering, concentration, dispersion, etc.

In general, theoretical approaches on regional convergence have focused their attention on the catch-up process (catch up): the less developed regions make significant efforts to catch up the rich ones. The main trends identified within this process - agglomeration and dispersion - are analyzed and interpreted in a recent regional approach: endogenous growth theory, new economic geography and institution theory (Scott W.R., Dimaggio P., Powell W.).

Theories on regional disparities and convergence indicate a limited variety of techniques and analyses to reflect this. Integration of economic methods into spatial analyses highlights the effects of spatial dependence and heterogeneity upon convergence. We can say that regional science has "borrowed" from statistics those techniques that may contribute to scientific substantiation of some results and, in particular, to identify trends recorded in the convergence process within some state communities.

In most regional studies, analyzes reflect territorial imbalances assessed using traditional methods, the most commonly used being the dispersion parameters (variance), because they can synthesize, in a scalar way, information on inequalities in distribution.

For Romania, during 2000-2009, there was an increase of regional disparities, both in terms of economic performance and from other points of view (population, infrastructure, innovation), some fields recording higher
variation coefficients compared with others. In this respect, one can identify two types of disparities:

- Low to medium disparities (identified at the following indicators: population number, density of public roads, number of doctors, number of unemployed);
- Large disparities (indicators such as: number of employees in the Research-Development field, number of doctors, GDP/capita);

There is a reduction of regional disparities, in particular, on the indicators that characterize the labor market: active population and employed population, which recorded decreases in the variation coefficient.

In conclusion, for Romania, there is an emphasize of disparities between the eight development regions, especially in terms of economic performance. These disparities are emphasized when taking into account Bucharest-IIfov region, on the one hand, and the other regions, on the other hand.

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Progress through Technology Evaluation and Utilization of Business Results Research and Development-Innovation

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Intellectual property consists of a firm of property values is included in intangible assets. These property values can be any of the items under the protection of industrial property in Romania (patents, trademarks, products or commercial, industrial designs, topographies of integrated circuits, know-how, etc.), Provided any copyright by Law 8/ 1996, including software, licensing or similar rights arising from commercial contracts.

Keywords: research, development, innovation, valuation, intangible assets

The purpose of this approach is that the dual purpose of addressing issues related to valuation of intellectual property assets: methodological and practical. The need for this approach stems from the fact that intellectual property assets cannot be evaluated with the same measure, presenting features, both because of how they were generated and implemented, but also economic and financial results, as well as the impact office. For an accurate assessment is needed in which the research framework programs of development and exploitation of research results.

Implementing Regulations of the Accounting Law (Art. 47-51) No. 82/1991, specify the nature of intangibles and explains how their
amortization. Intangible assets include all assets that have no physical form, but which contribute, directly and sometimes decisively, to obtain a business profit. Number and name of intangible assets that can be evaluated separately, and the balance-sheet subject to amortization, are very different, depending on the size and nature of economic units.

Industrial property and copyrights are the values that serve in trade and production of an undertaking, as a means of competition and loyal contribution to the profit. This form of property title is not consumed by operation of protection, by manufacturing, use or marketing of the product or technology, or exploitation of the work under protection. Intellectual property of a company is made up of property values is included in intangible assets as required by art. 50 para. 2 of the Implementing Regulations of the Accounting Law 82/1991. The property values can be any of the objects of industrial property subject to protection in Romania (patents, trademarks, products or commercial, industrial designs, topographies of integrated circuits know-how, etc.), any copyright provided for by law 8 / 1996, including software, licensing or similar rights arising from commercial contracts.

These assets are entered in the heritage that the separate evaluation of each piece of industrial property, each license or copyright, registration and submission of depreciation in the balance sheet.

Intellectual property estate values may come from three sources:

a) the contribution of members, realized by sending the right of property firm, through an assignment contract, in exchange for social rights (contribution in kind - patents, industrial designs, trademarks etc. or contribution to the industry - know-how, as the author of: scientific, technical drawings, software, etc.) intake may be only a fraction of the subscribed capital if it can be intellectual property security value for money;

b) the acquisition from third parties, by agreement of intellectual property rights, price negotiable;

c) investments acquired intangible results of intellectual activity that is the company’s employees during their employment contract, the company acquires ownership if such a clause expressly stated in the individual employment contract or national legislation provides for special conditions on the right creation of property for certain
employees (eg art. 5 letter. a and para. 2 of Law 64/1991, art. 5 letter. of the Law 129/1992 and art. 6 of Act 8 / 1996), intellectual property firm may be acquired through an assignment contract with its employee if the unit has a right of preference for concluding such an agreement, under the law (art. 5 para. 6 of Law 64/1991).

Intellectual Property Rights established the trader on one of the three paths is highlighted in assets and intangible assets accounting firm as account 205 (active account).

Debit Account 205 reflects the input (input or company acquisitions), and credit, output (sales made by the company to others), expressing the debit balance remaining assets (existing). Therefore, this account serves to highlight the patents, designs industrial (industrial design), licenses, know-how, computer software, etc., as a contribution to, purchased or acquired fixed asset unit during the period due to their legal validity or the contractual period and recorded in the balance sheet. Account 205 is an asset account is debited with the value of purchases of industrial property rights or copyrights, the amounts spent from the exploitation of industrial property objects made in-house, with proceeds from the valuation of the contribution to the establishment society, the amounts of fees set by licensing contracts where the company is the licensee, and other expenses incurred in such purchases. Account 205 is credited with the value of the same rights over, fully amortized and depreciated the value remaining on the drive transmitted through asset transfer patent rights, trade mark, design, copyright etc. Account 205 is a debit balance remaining value.

Assets representing intellectual property rights will gradually pay off their legal validity period, the unit that holds the asset (the right holder or licensee) in accordance with art. 50 alin. 50 para. 3 of the Implementing Regulations of Law 82/1991.

Impairment of property, account 205 and 2805 are attached and / or account 290, which reflects the depreciation, that provision.

Account 2805 is a liability account is credited with depreciation recovered, including its own operating expenses and debited to the removal of operating rights. Account credit balance in 2805 has been in operation rights of redemption.
Prepayments for intangible assets consist of intellectual property rights relate to expenditure of sums due to uncertainty or risk their existence or whose cases may be set but without knowing the timing and amount. Provisions for liabilities and other expenses in these cases are designed to cover business risks related to the operation of intellectual property rights, such as expenses necessary to carry out their prototypes and experimentation. Provisions may also be intended for any disputes or security.

An important aspect of accounting is the accounting for the exploitation of industrial property rights, namely the accounting related to this operation. In this case, the operations do not differ from those used for other assets or economic activities of the unit.

If the unit manufactures, sells and / or uses products or technologies under protection (ie, exploitation or exploitation of industrial property rights of copyright) and the resulting income from these activities, the costs of acquisition of rights (including license) or pay the costs of entitlements for authors, including additional salary remuneration provided by law, will recover.

Recovery of expenses made by the Company may be made and fees collected from licensed third party company (in this case the unit asset is the licensor). The granting of operating licenses for patents, trademarks, designs, copyrights, etc. the asset unit, it will be to collect and an annual interest rate established by the license agreement.

Evaluation of intellectual property titles can be made a contribution value, acquisition cost, production cost, licenses cost, transfer cost etc.

The balance sheet asset is intellectual property in these values.

For the evaluation of intangible assets that contain intellectual property rights from business activities, take out their nominal value, ie, the amount spent by the firm for their creation (protection costs, expenses development research, design costs, testing costs, etc.).

Property value when setting up their contribution to society is the value accepted during the association or merger partners.

Upon entry into heritage protection titles shall be valued at their acquisition cost, the value being determined by contract with third parties or company employees. Remaining debt from the acquisition of intellectual protection rights outlined in the 164 account, "Due on concessions and
other similar debts" which serves to track assets in property taken by the firm, according to contracts. This account is a liability, credit that the purchase price (the price of the license purchase price or part of a commercial contract status refers to the value of industrial property rights in this agreement acquisition etc.) or other similar values. 164 accounts debited with the amounts paid for the license, assignment or other similar debt is a credit balance remaining debt.

Regarding the assessment of intangibles in the field of intellectual property can use several methods such as:

- Evaluating the costs, consisting of determining the value of patent, trademark, etc. design from both asset investments unit for obtaining titles of protection, and for taking the necessary measures for the exploitation rights;
- Evaluating the profit that might obtain in the future (as a method of assessment), taking into account the benefits of copyright exploitation would bring economic unit;
- Assessing the market price;
- Assessing the cost of replacement (in line with inflation).
- Entry into the heritage buildings in the area of intellectual property values is recorded as follows:
  - when entering the company's foundation as a contribution by credit Account 456: "Settlements capital associations";
  - when caught by third-party purchase by credit account 404, "Providers of property";
  - when self-made by credit account 721, "Revenue from the production of intangibles";
  - received free of charge by credit account 131, "Investment grants".

For intangible assets are recorded above and value added tax debit account 4426.

Depreciation of assets including intellectual property rights, called "intangible assets" shall be made during the period prescribed for their use on account of operating expenses, debit account 6811: "Operating expenses for depreciation of property" and the loan account in 2805: "Depreciation concessions, patents and other similar rights and values". Once these assets were fully depreciated will run the estate decreasing of their contractual value (2805 = 205).
If the trader in assets over the acquisition of intellectual property rights for the operation, they will be treated as operating capital, following operations: the acquisition itself and the liabilities assumed by contract (205 = 164), record monthly expenditure represented royalty and interest (401 and 401 = 612 = 512; 666 = 1684 and 1684 = 512), discharge from the management rights acquired at the conclusion of the contract and payment of the liabilities assumed (164 205).

If the trader is the unit for operating an asset that gives part of its rights as owner of another legal entity, the transfer of rights will be reflected in their own accounts as follows: assets highlighting claims to be the right to recover the full value that is transmitted, that the license and annual fixed interest rate (461 = 267), registration fee and receipt of interest established by contract (512 = 461) and claims settlement assets according to their receipt (267 = 2805).

After a period of operation right in property or a contract of assignment of patent, trade mark or design rights and other similar conditions or recovery of full depreciation of the entire amount, under the contract of assignment of intangible assets relating to rights out of intellectual property assets (2805 = 205).

Finally some special considerations must be observed in the field of intangible intellectual property, namely:

- This type of active accumulation of knowledge and information is closely linked to the unit employees, regardless of their functions and they become very important for the reputation and technical merit of the company, because they are born or are purchased from the company to gain market need and earn profits;
- Intellectual property rights are guaranteed and protected by the Romanian State by special laws and from this point of view is the most loyal means of competition, ensuring business competitiveness;
- Technical solutions and design subject to protection, suffering a lapse because of ongoing renewal process and renewal of technology products;
- Use of marks, provided that the product quality, contributing to the firm gaining market reputation and attracting customers identified by a trademark.
Clear conclusion of the relationship between intellectual property and profits of a firm is sure to be granted entry into the property rights granted by law in this area, an accurate assessment of such intangible assets as well as keeping an account of the movement these days’ values.

At the level of research and development units recorded a special interest in establishing evaluation procedures as a result of requests from two main directions:

- creating intellectual property assets from business;
- pressure their employees in developing procedures in research incentives, namely remuneration of innovative creative work submitted.

In practice, they found difficulty and futility of developing a generally accepted methodology, it involves a high risk of error generated by the diversity of economic and organizational structures at macroeconomic level.

Evaluation of intellectual property assets can be achieved through several processes, by analogy with material. In this sense, value can be determined by one of the following forms:

a) Evaluation based on the amount of costs incurred in generating intellectual property asset, which may add, on a case by case, a "profit" to offset the innovative effort expended. Of course, the costs incurred in generating intellectual property asset can be added to a certain extent, and cost "social", and those costs related to attracting, selecting, training and research training of person- meant.

b) Assessment based on use value of the property, that the amount negotiated and established during a transaction. These so-called market value based on supply and demand at a level that would be satisfactory to both parties involved (executor and acceptor).

The difference between the two approaches is absolute in the sense that they characterize diametrically opposed economic systems.

As an interim solution, the paper proposes to use when entering the procedure A and procedure B heritage for trading.

Relevant factors in evaluating intellectual property assets can be identified in successive levels of economic activity, such as: macroeconomic factors, short term economic factors, and the internal state of the economic, scientific and professional level research staff.
Therefore, determining the factors that affect intellectual property assets assessment includes two groups:

- general factors - global trends that characterize the sphere of economics and, as a specific feature of the social.
- specific factors that characterize the internal environment and external relational operator.

In this context and on behalf of the entity's private relationships influences, you can claim that the procedure for evaluation of intellectual property assets depends on the economic sector in which the collected information, being in a specific proportion of its range. Download in other areas can be done with caution and adjustments required.

Following existing research and experience field have achieved the following important elements in assessing property assets:

I. The trends of economic integration in the European Union structures, the value of intellectual property assets can be reported to:

- Structure and organization of the EU's economic sector;
- Levels of labor productivity and financial profitability;
- Evolutionary trends in the structure and quality of products and technologies, including regulations and restrictions relating to environmental protection;
- Developing policies and specific investments.

II. The term knowledge of the economic environment are concerned, mainly the following aspects:

- The national average yield / industry / economic sector's industrial fixed assets and turnover;
- Financial interest, economically and socially for a specific investment;
- Approximate average cost of acquisition and implementation of intellectual property assets;
- Development trends in the field, structural developments in the field of products and technologies;
- Various limiting restrictions (by law, socio-economic, environmental, etc.);
- Labor productivity, efficiency and rate of implementation of scientific research results.

III. Evaluation of the entity's internal
• Key financial indicators to evaluate trends;
• Labor productivity sectors of production and design staff return Scientific;
• Remuneration of staff, to creativity and innovation (as distinct, if possible);
• Average cost for generating intellectual property assets, the individual contribution of research staff;
• The policy of attracting and training of research personnel, investments in the stimulation of creativity and innovation;
• Trader scientific prestige, brand products, quality brand;
• Research potential and long-term prospects.

IV. The scientific and professional research staff
• Recognizing the potential of scientific knowledge and research staff, individually and collectively;
• Commitment to scientific research and business culture, to the work currently performed;
• Integration in collective and ensembles trader activity, orientation on the support assembly;
• Participation in national and international scientific life, the exchange of information;
• Ability in relation to existing equipment design applications, the ability in handling equipment.

It is noted that information needed to assess, as outlined above, make the data relevant intellectual property asset of which we can mention: the degree of novelty, the science and technology, ease of application, physical and moral life, the level of acceptability, economic efficiency and so expected that data will be addressed later.

In the relevant elements, how the transfer of property, contract intellectual property is essential. In this respect, considering the following aspects:
• Licensing mode (exclusive, non-exclusive, limited, etc.);
• Pay the transfer mode (lump sum payment, fee, shareholding, etc.);
• Providing technical assistance mode (full documentation in the initial phase, the documentation provided along the way, right to use and support, without assistance, etc.).
To ensure fast and efficient calculation procedure is necessary to select the correct evaluation criteria and easy quantification of value. The use of these parameters is performed with precautions to reduce possible error of overrating or appreciation that the proposed transaction values.

Method for evaluating a complex asset companies enter the total value, in addition to items such as body size and value of intangible assets.

The accounting records of an enterprise, the intellectual property is included in intangible group assets, along with rights, relationships and other intangible grouped in Class 2 cost of fixed assets.

In industrial or commercial environment, can be identified over 100 intangible assets:

- technical competence (documentation, studies, licenses, patents, know-how and other objects of industrial property, copyright, computer programs, libraries, databases, quality assurance systems, qualification of personnel, etc.);
- commercial power (promotion through advertising, ford commercial, distribution, etc.);
- managerial competence (quality, key managers, performance management, etc.);
- reputation (the reputation of the company);
- Site;
- customers;
- creditworthiness and solvency to customers and banks;
- position to administrative and public bodies.

Practical assessment of intellectual property is a complex and difficult issue because there are many factors that influence it, and apply the methodologies differ from one country to another, from one continent to another. Therefore, the responsibility of carrying out transactions these intangible assets is maximum, because they have social implications and / or political.

In essence, the valuation of intangible assets can be made by:

- evaluating a set of intangible elements as part of the company (Good Will);
- intangible assessment of a single element (or set) separately and independently.
Classical methods of assessment of intellectual property are the same as those used for measuring intangible assets or intangible, i.e. methods based on market comparisons, methods based on income, profits or turnover (cash flow method of the net; rate method fee) cost-based methods (legal analysis, technical analysis, business analysis, social analysis), methods based on the recovery period.

After completing an assessment for intellectual property objects are advised to undertake a review of the correctness or susceptible of this operation.

Intangible asset valuation approaches is made with the following groups of evaluation methods:

- future net income capitalization method;
- cost method;
- comparison method of market value;
- other methods.

Evaluation is a complex process that is not confined to groups use evaluation methods. Evaluation should know the basic principles of each method of evaluation and experience of firms specializing in this type of evaluation.

Valuation of intangible assets can be done by considering a set of intangible elements as part of the company or by a single item assessing intangible asset separate from the company.

Intangible elements are numerous and can be identified in the industrial and / or commercial after different characteristics.

Once identified, intangible elements can be classified in various ways.

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The Ecological and Economical Performances in the Forested Area – a Need for the Future

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The forests are indispensable for the natural balance on Earth. Without the existence of the forest the life is not possible because this ecosystem provides many goods and services. The many clear cut forest surfaces have led to the lack of balance of ecosystems causing risks for the environment. The globalization promotes multinational companies, which have an important role in the exploitation of the forest. Because of the many advantages, the forest must be protected from the bad influence of the globalization, a thing possible due to the fact that the world is heading to a new economic order. The paper presents the situation of the forests in Romania for the 2005-2007.

Keywords: forest, globalization, human pressure, forested area

Introduction

The forest is the most important natural ecosystem. In the forest there can be found many animal and plant species that can bring a lot of benefits materialized in products and services of the forest. For many centuries the forests have been reduced considerably in order to create harvested fields
and areas for animal breeding, changing the natural landscapes and producing risks that can generate ecological lacks of balance.

The globalization is a phenomenon that influenced many sectors of the economic activity along with the forestry. The globalization of the economies and the appearance of a powerful sector of multinational companies induce major changes in the geographical localization, the type and the intensity in the forest’s use, a small number of multinational companies being in control of the exploitation, processing and commercialization operations for the forest’s goods. Thus is necessary to appear a new economic order that can solve the problems of the forest’s over-exploitation.

The forest’s economy and the demands of the third millennium

The forest has a great importance for the human life, being in the same time a natural regenerating resource of wood and other vegetal and animal products, and also an irreplaceable part for the living surroundings. At first, the forest was seen only as a source of the production of material goods, but in the first decades of the XX-th century takes place a rediscovery of the forest [1].

The benefits of the forest

Reevaluating the forest sector based on the variety of the forest’s products and ecological services at a local and regional-global scale, there can be obtained many kinds of contribution, which appear under the form of forest’s benefits:

- the extraction and sale, that generate decorative materials, food (mushrooms, fruits, meat, fish, medicinal herbs) and recreational sports;
- the extraction and sale of wood, from which are being obtained timber, firewood and wood for other uses;
- other uses, that are the recreation, research and education;
- the benefits for the community, which are the landscape value and the historical value;
- the environmental services that include maintaining the hydrological systems, the control of the erosion, maintaining the
biodiversity, the climate adjustment and the reduction of the air pollution.

The ecosystem services provided by the forest
The ecological forest’s services are rare resources for accomplishing the desiderates of the sustainable development in the forest economy:

- the water protection function consists in the forest’s characteristic of diminishing the leakage of surface waters, enhancing the retail of the subsoil water and ensuring the water flows a constant retail and a high clearness;
- the terrains and soils protection function consists in the forest’s feature of attenuation or elimination of the soils erosion process;
- the climatic factors protection and the amelioration of the atmosphere’s quality function consists in the forest’s characteristic of having a positive influence over the local climate;
- the recreation function represents the forest’s feature of protecting and providing the health, ensuring a high level of human physical state, recovering the strengths and the human work capacity [2];
- the conservation of the biodiversity which ensures the ecosystems continuity;
- the forests and the food security: maintaining the forest ecosystem ensures the food necessary through products, incomes, wood, supply of products especially in the crisis periods, the long drought periods and the rare natural resources for agriculture.

The human pressure on the forested area

Causes and effects of forest loss
The main factors that contribute to the diminishing of the forested area are [3]:

- the forest’s clearing for the needs of the agricultural surfaces, fuel and constructions materials;
- the atmospheric pollution and especially the acid rains;
- the capitalization of the hydro-energy’s potential for obtaining the electric energy, considered “clean” transforms large forest surfaces into aquatic ecosystems through the accumulations behind the hydro-electric station’s barrages;
The main consequences of the forest's clearing are:

- the annulment of the forest's protection functions;
- changing the landscapes, by cuttings, leads to the diminution of its esthetic value and thus of the area's tourist's potential;
- the change in the local climatic conditions;
- through its diversity, the forest is a huge reservoir of genetic information;
- setting the forest on fire;
- high economic losses.

**State of forest area**

At the beginning of the XX-th century, the forest surface of the Earth was of 5 billion hectares [5], and the remained forested area was in 2011 of 4 billion hectares [4]. After UNEP, about 32,9 million square kilometres of forest are affected in the world, most of them being in the stage of degraded vegetation due to the excessive grazing. From the total Earth's surface only 10% represent lands under crop, while 21% is destined to grazing, 28,5% represents forests and forested areas, and 24% refers to “other types of land”.

The public forested area in Romania consists in the total state's forested surfaces, administrated by the National Forests Administration. This was in 2011 a total surface of 6,200 million hectares, which is about 27,3% from the total surface of the country [5], producing a commercial volume of 13 million cubic meters per year [6].

**Forestry policy and strategy**

The forest's conservation involves activities for insuring the long term protection of its services for the environment. In Europe and North America most of the forests are administrated more efficiently than they are in the countries in course of development, where the formal administration it is bad represented.

The desertification was the first environmental problem that affected the entire surface of the Earth, being admitted at the Desertification Problems Conference of the United Nations at Nairobi, in
1977. The Environmental Protection Program launched by ONU (UNEP) coordinates the efforts of solving this problem.

Romania has a large experience with the control of the desertification, being in great need of interventions in the south, south-east, east and center of the country and of financial resources. The participation at the Convention for Fighting the Desertification is a big step for the progress of the Romanian economy, the conservation of the resources of the environment and the integration in the international community. According to the PHARE project for Rural Development for Romania – The Green Card has been created a model of strategy for sustainable development.

In Romania’s case, stopping the desertification is made with the collaboration of the specialists in forestry, agriculture and the environmental protection, giving much attention to co-interested the local population. The international or local funds show the authority’s interest for solving the forest’s clearing lacks of balance. The environmental protection is established in Romania through a series of normative acts that creates the judicial frame necessary for the protection of the environmental factors, of the consumers and for following the principals of the sustainable development.

In the context of the globalization a limited number of multinational companies have an increasing control over the forest’s exploitation. The multinational companies have a big role in the forest’s destruction and, in consequence, in leading to local population’s poverty, acting in the following way:

- operating on a larger scale than the local companies, having the technologic capacity and the capital for opening exploitations on isolated forest surfaces;
- the multinational’s impact is being enhanced by the globalization, which allows the wooden products demand on the global market to prevail over the locals needs and the necessity for the forest’s conservation, this causing the fate of the local people;
- the foreign companies “extract” the profits from the forest’s exploitation in that country, and the locals or the local economy can’t beneficite from them;
- most of the multinational companies don’t show any interest for the forest’s future, and the equipment used for the exploitation
(including the roads, the factories, etc.) is being let to deteriorate when its wood or its mineral resources have been exhausted [7].

The forest is one of the main reservoirs of the atmosphere’s oxygen, also having a big influence over the climate the destruction of many surfaces of arboriculture could cause changes in some region’s climate by increasing the meteorological limits. The forest’s clearing have led to the lowering of the precipitations quantity, to the affectation of hydrological rivers regimes and the apparition of the semidry areas. Also, the continuous expansion of the agricultural areas, especially through the forest’s clearing and the soil destruction has very badly reduced the forest’s life forms [8].

**Economy-Environment – premises of harmonization in the third millennium**

The economy-ecology interaction is manifested on many sides, determined by the complexity of these two systems which have developed big differences between their principals once the economical growing was accelerated. In general, there was a conflict relationship along the history of the human civilization, although, in time, the powers’ order went from the subordination of the economical processes to the natural laws towards the increased control over the nature until the destruction of some essential systems for maintaining the ecological balance and the bases of any human activity.

**Case Study: the forest area and the forested area in Romania within 1990-2010**

The case study is based on the quantitative research method, using statistical values. Along with other works about the situation of the surfaces with forests, this study has as purpose the presentation of the situation of the surfaces with forests in Romania within 1990-2010. The forest’s area (thousands hectares) and the forested area (hectares) in Romania in the 1990-2010 period is presented in figures 1-2.
Figure 1: Forest area dynamic in Romania within 1990-2010 (thousands hectares)

Figure 2: Afforested area in Romania within 1990-2010 (hectares)
The study establishes a growing of the forest’s area and of the forested area in the 1990-2010 period in Romania. The increased level of the two indicators shows a favorable evolution for our country’s population.

Conclusions

Among the terrestrial ecosystems, the forest has a very important place for ensuring the resources and the conditions for human life. The phenomenon of globalization has imposed in all the activity domains, including the forest one, favoring the appearance of strong multinational companies, which attract investments and assure new jobs, but also produce big destructions of the forest’s surfaces, its wood being transformed into economic value products.

The recognition of the forests’ role and understanding of the danger of destabilization of this environment has created an opinion current for conserving and protecting the forest. In the case of the eco-economy, it will impose the agro-forest industry, which will have as purpose the regeneration of the forest, the afforest programs being the most efficient solutions for protecting the environment. There must be elaborated legal foresights to accomplish a real reform which must be placed in the center of the forest’s protection, taking in mind the rights and habits of the natives, action that must be supported by the ONG-s and local population.

References


Employee Turnover Impact in Organizational Knowledge Management: The Portuguese Real Estate Case

Authors: Filipe FIDALGO, School of Technology – Polytechnic Institute of Castelo Branco, Portugal, ffidalgo@ipcb.pt; Luis BORGES GOUVEIA, Faculty of Science and Technology – University Fernando Pessoa Oporto, Portugal, lmbg@ufp.edu.pt

Organizations make large investment on their employees concerning the training, developing, maintaining and the efforts to retaining them. Employee turnover is one of the most important issues to organizations, and one that needs special attention. This problem is even more relevant when business processes are less depending from machinery and heavily rely on human relationships, being real estate business one such good example. With the globalization phenomena, greater competition and economic crises, real estate organizations must provide and constantly innovate services which are based on strategies created by employees. Knowledge must be retained, in a way that it can be stored and disseminated through the organization. This paper examines the impact of employee turnover, and proposes a conceptual model based on a knowledge management approach supported by information and communication technologies on how to minimize the impact of employee turnover in organizations. The research used Grounded Theory to inform the model.

Keywords: Knowledge Management, Tacit Knowledge, ICT, Employee Turnover, Real Estate
Introduction

The employee knowledge is critical to the organization since their value to the organization is essentially intangible and not easily replicated. Knowledge management is a key concept in today’s business world. Drucker [1] already pointed this in 1988, based it on the following three points: the basis of employment changes from the office and manual workers to knowledge workers, who resist the model inherited command of military organizations; an economy that requires organizations to be innovative and entrepreneurial; and, finally (and according to the author the most important), an heavy use of information technology that provides a digital dimension, needed to be considered.

Employee turnover has some significant effects on organizations; new employees must be hired and trained, it is also needed to consider the time required for a new employee to be effectively productive.

To analyze the workers flows in the Portuguese economy we use an administrative statistical source – Quadro Pessoal (QP) collected by the Ministry of Employment (MTSS) [2] [3] [4]. As seen in Table 1, more than half the working population is linked to an organization, for less than 4 years.

Table 1: Workers seniority (in years) in portuguese organizations

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Workers</th>
<th>Less than 1 year</th>
<th>1 to 4 years</th>
<th>4 to 9 years</th>
<th>10 to 14 years</th>
<th>15 to 19 years</th>
<th>More than 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2967559</td>
<td>713897</td>
<td>883286</td>
<td>633051</td>
<td>272900</td>
<td>221758</td>
<td>242667</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24%</td>
<td>30%</td>
<td>21%</td>
<td>9%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>2008</td>
<td>3016571</td>
<td>696045</td>
<td>954170</td>
<td>606046</td>
<td>294669</td>
<td>213196</td>
<td>252445</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23%</td>
<td>32%</td>
<td>20%</td>
<td>10%</td>
<td>7%</td>
<td>8%</td>
</tr>
<tr>
<td>2009</td>
<td>2877582</td>
<td>598191</td>
<td>936391</td>
<td>568187</td>
<td>315035</td>
<td>198026</td>
<td>261175</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20%</td>
<td>31%</td>
<td>19%</td>
<td>10%</td>
<td>7%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: [2] [3] [4]
If in the hiring process organization has few to innovate, in the loss of intellectual capital organizations must create mechanisms to minimize it. These issues are critically in organizations where the business processes are less depending from machines, and mostly from direct human contact. Real Estate is a good example of this kind of organizations, where the relationship between real estate agent (broker) and the client (buyer or seller), depends most directly from the quality of the relationship between them. If we focus our attention analyzing seniority organizations data, considering the special case of real estate, we see that the values are even more significant (Table 2).

**Table 1:** Real estate workers seniority (in years) in portuguese organizations

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Workers</th>
<th>Less than 1 year</th>
<th>1 to 4 years</th>
<th>4 to 9 years</th>
<th>10 to 14 years</th>
<th>15 to 19 years</th>
<th>More than 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>21905</td>
<td>6135</td>
<td>8675</td>
<td>4223</td>
<td>1286</td>
<td>772</td>
<td>814</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>40%</td>
<td>19%</td>
<td>6%</td>
<td>4%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>22539</td>
<td>5646</td>
<td>9496</td>
<td>4366</td>
<td>1485</td>
<td>704</td>
<td>842</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>25%</td>
<td>42%</td>
<td>19%</td>
<td>7%</td>
<td>3%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>20474</td>
<td>4356</td>
<td>8895</td>
<td>4148</td>
<td>1606</td>
<td>621</td>
<td>848</td>
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<td>19%</td>
<td>39%</td>
<td>18%</td>
<td>7%</td>
<td>3%</td>
<td>4%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: [2] [3] [4]*

While the overall picture, up to 4 years of seniority in the company, had general values of around 50-55%, considering real estate in Portugal case these values are in the range of 60-70%. The question is what organizations should (and can...) do to minimize the loss of organizational memory caused by this level of turnover. As a result, the paper presents the problem and proposes a knowledge management approach to retain tacit knowledge in order to cope with employee turnover.
Set the Context: A Brief Literature Review

A. Knowledge Management

Knowledge management generally refers to how organizations create, retain, and share knowledge. As defended by several authors, the value of knowledge is from all the organizational assets, the most decisive in the production [1], [5], [6], [7]. Organizational changes a lot in recent years. On one hand, transactions change from local scale to regional scale and from regional to international and global scale, becoming increasingly intense and less predictable, promoting additional levels of competition [8]. On the other hand, the emergence of a knowledge-based society turns knowledge into more central organizational assets and ones that needed to be further understand and preserved.

Organizations are made of people and many are feeling that the knowledge of its human resources is its most valuable asset [9]. To succeed, a knowledge management initiative must have a robust theoretical foundation [10]. According to Dalkir, these models providing the widest possible perspective on KM: Choo (1998), Weick (2001), Nonaka and Takeuchi (1995), Wiig (1993), Von Krogh and Roos (1995), Boisot (1998), Beer (1984), and Bennet and Bennet (2004) are among the most popular proposals [10].

The Nonaka and Takeuchi Knowledge Creation Model have the major contribution to this project, so it will be present in more detail. They discovered that organizational innovation results from highly subjective insights that can best be described in the form of metaphors, slogans, or symbols (Figure 1 illustrates the four modes of knowledge conversion that are the core of the overall knowledge-creation process) and argues that knowledge creation is an ongoing process of socialization, explicit, combination and internalization [11]:

- Socialization: sharing knowledge in face-to-face, natural, and typically social interactions;
- Externalization: gives a visible form to tacit knowledge and converts it to explicit knowledge. It can be defined as “a knowledge creation process in that tacit knowledge becomes explicit, taking the shapes of metaphors, analogies, concepts, hypotheses, or models”;
• Combination: the process of recombining discrete pieces of explicit knowledge into a new form in which the prototypes of new concepts are developed and incorporated into the organization;
• Internalization: this knowledge through learning by doing and experimenting, new knowledge is then used by employees and making tacit knowledge to be generated again.

![SECI Model Diagram]

**Figure 1: SECI Model**

*Source: [11]*

The SECI or spiral model provides a good reference on how an organization deal with knowledge management issues and how a group of people are involved in the knowledge creation process. Knowledge creation always begins with the individual [10]. This type of knowledge creation process takes place continuously and occurs at all levels of the organization (Figure 2).

Central to the SECI model proposal is the sharing of Tacit Knowledge that Davenport and Prusak define as complex knowledge developed and internalized by the professionals, over a long period of time which incorporates so much accrued and embedded learning that its rules may be impossible to separate from how an individual acts [5].
B. Employee Turnover

Employee turnover is the rotation of workers around the labor market; between firms, jobs and occupations; and between the states of employment and unemployment [12]. Retaining employees remains a primary concern for many organizations during days of intellectual property. A discussion about employment and its social role is presented by Giddens [13]. Employee turnover can be expensive from organization perspective. Chiavenato [8] enumerates a cost list that is divided into primary, secondary and tertiary groups. The first group is quantitative, the second and third are qualitative estimates. Table 3 lists the Chiavenato costs for staff turnover [8].

Figure 2: Spiral Model

Source: [11]
Table 2: Costs of staff turnover

<table>
<thead>
<tr>
<th>Primary</th>
<th>Recruitment and selection costs; Registration and documentation costs; Integration costs; Separation costs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>Production effects; Staff attitude effects; Extra labor cost; Extra operating cost.</td>
</tr>
<tr>
<td>Tertiary</td>
<td>Extra investment costs; Losses in business.</td>
</tr>
</tbody>
</table>

Source: [8]

As new team members arrived and others leave, it is critical to prevent the loss of information, even during such periods of major structural change [14]. Some of costs involved to the organization or business could have easily been prevented in the first place if we experienced a way to retain employees’ knowledge. It is important to develop a strategy for retaining knowledge.

The knowledge lost from a departing employee is not a short-term problem; it is a long-term problem that breeds other problems and reduces an organization’s effectiveness [15]. The employee can take with him relevant knowledge, needed to even operational and ongoing organization activity.

Methodology

The qualitative methodological approach used in this research is the Grounded Theory. According to Fortin, this “aims to generate a theory from data collected in the field and among those who have relevant experience” [16]. Interviews were used to collect data. It was defined a non-probabilistic sample selection rational, determined by the purpose of the study and theoretical relevance, and its potential for the development of the theory. The theoretical sampling aims not the representativeness of the sample, but the “representation of the concepts” [17].
Individuals are selected according to their level (expected), for generate new ideas for the elaboration of the theory [18]. Real estate agencies were contacted by email and when needed later by phone. Most of the interviews were conducted at the broker’s agencies. In the interviews the researcher presents his study and the interviewed signed the informed consent – a document to authorize the data usage, as previously approved by the university ethics committee. This process took about 30 minutes per interview. A voice recorder device was used in the interviews so that they later could be transcribed for analysis.

In short, the researcher makes connections between all of the facts obtained, to construct a theory. To implement this methodology, first we select the “initial case”, one significant case, associating with direct observation, in the environment or following the professional on the job and some relevant literature and we are in conditions make first analyses and to achieve the theoretical base (Figure 3).

![Grounded theory method – theoretical base](Source: Author)

After this first theoretical base formulation, followed an iterative phase where new cases are added (eg. other interviews) more observations and readings to make a new analyses (Figure 4).
If new findings appear, the theoretical base is reformulated and a new iteration begins; otherwise the theoretical saturation is achieved (when nothing new is found and the theory no longer suffers changes). Now the researcher formulates the theory. In order to validate the theory an alignment must be made with the theoretical reference.

**Results analysis**

Although the main focus of this paper was to build a conceptual model linking Information and Communications Technologies, Employee Turnover to Knowledge Management, our results also provide an opportunity for some substantial comments on the Portugal Real Estate Business. Many efforts are made regard the use ICT, however, there appears to be a lag with respect to the advanced use of technologies such as video conferencing, intranets, among many others offerings available. An indicator of such is that, for specialist positions responsible for KM, not a single position (i.e.: department, section) was found.

Results also suggest that many decision-makers still think that KM begins and ends with building sophisticated information technology systems and that no further organizational change is required.

In order to represent and show relations among these findings, a conceptual map was created. The theory about the concept map was developed in the 70s by Joseph Novak, he defines it as an administrative tool for organizing and representing knowledge [19].
There was made some relations between the phases from ground theory and the concepts representation in the concept map. Tree rings (representing three different levels) and a central concept are the considered elements, as illustrated in Figure 5.

**Figure 5:** Conceptual map

*Source: Author*

The external ring, is divided in two parts, both represent concepts that we consider as atomic ones. The lighter area (more exterior) is composing by elements from tacit dimension (eg. experiences, talk ...) and the darker area by elements from explicit dimension (eg. photography’s, email ...). We can establish a relationship between this ring and the open code gathered from Grounded Theory. The second ring represents more aggregated concepts, generated by the first ones and their relationships, and in a similar way a relation with Grounded Theory axial code. In the last ring we found the principal categories and the central ones. As in Grounded Theory selective code, these main categories will become central concepts.
and integrators to formulate the theory. Real estate business has three major activities:

- House recruiting: real estate agent establishes a contact with the seller of a real estate property in order to represent him to the potential buyers;
- Visit: real estate agent shows the real estate property to the potential buyers;
- Sale: help the buyer and the seller of the real estate property making the transaction.

All this activities generate information that must be stored and disseminated through organization. The information dissemination must be done using some communications channels. In fact, what we are doing by performing these activities; stored the generate information and use communications channels to disseminated it, is achieve the main objective – knowledge transfer.

**Proposed model**

In the former part, we have analyzed the results. In this section we propose a conceptual model (Figure 6) in order to transfer tacit knowledge based in the concepts mentioned before.

Figure 6: TATEK – Tacit to Explicit Knowledge

*Source: Author*
A geometric figure was used – triangular prism to represent the model. It is expected that the model will have inputs and outputs representing the model interaction with environment, what to receive and to provide.

Each lateral face of the prism represents the main categories mentioned in the conceptual map – Activities, Information and Communication. In all cases nearby the inferior base color is darker and in the opposite side, nearby the top base is lighter. This difference represents the fact that either in Activities, Information and Communications we can found elements from two different dimensions of knowledge – explicit (darker ones) and tacit (lighter ones). Nearby the inferior base, the dark stands for the elements from explicit dimension. The inferior base represents the operational dimension, which give operational support to real estate business. In this dimension we can already found systems to support the explicit components from activities, information and communication. For example, when we schedule a meeting with a potential seller in order to recruit a new real estate property we use ICT that give support to schedule the meeting, to store the result information and to communicate it to the organization.

But what if we think about the competences we needed? In all three dimensions Activities, Information and Communications, we use intangible elements. How can ICT give support in these cases? That’s what the top base of the prism represent, an existing reality without support from any systems ICT based. We need to focus not only in creating systems that support operational tasks, but also systems to support competencies. Also, we need to create channels to disseminate them to the organization and make them available to operational systems. We can also make an alignment from the proposed model: TATEK, with the Knowledge Model from Nonaka & Takeuchi (Figure 7).
In the top base, previously identified as competencies dimension, we can find a correspondence with two elements of the knowledge conversion model from Nonaka & Takeuchi – Socialization and Externalization. In the TATEK model we assume that both them can be supported by ICT. Nowadays, more people use ICT to socialize the Facebook platform is a good example. Emerging virtual worlds enable new ways to support knowledge and knowing processes because these virtual environments consider social aspects that are necessary for knowledge creating and knowledge sharing processes [20].

With the appropriate ICT tools, workers can do the same in professional environment, creating reports of their success in the job tasks, additionally associating their reports with images, sounds, and video; and made it available to others.

Organizations play important roles creating conditions to make possible (and desirable) what we define as digital socialization and externalization. In such context, creating retribution programs to the knowledge providers can be critical.
These roles are also important to promote the combination of new knowledge with the one that has been already acquired before. A successful KM implementation depends on a harmonious amalgamation of infrastructure and process capabilities, including technology, culture and organizational structure [21]. And, finally, evaluate the knowledge internalization, identified new activities, new information to provide and to receive to clients or to organizations and also new ways to communicate, otherwise in all three cases new approaches to the existing ones. This new knowledge represents the start point to a new cycle in the knowledge spiral.

Final Remarks

This paper research the impact of employee turnover in organizational knowledge and influences of information and communication technology (ICT) in knowledge management in the context of the Portuguese real estate organizations.

We used grounded theory methodology to collect data, associating direct observation, literature review and interviews to real estate agents in order to formulate a theory. Then, it was developed a conceptual model linking ICT to Knowledge Management.

Our findings about the relationships between ICT, Knowledge Management and Real Estate Business are relatively general. However, they prove to be particularly relevant for the Real Estate situation. On one hand Real Estate is a business that relies on close relationships between people, and consequently from the knowledge created by those contacts. On the other hand, the employee turnover has always been a phenomenon with which organizations have to confront.

The success and the competitive advantages of organizations came from the individual knowledge, so the ability to capture and disseminate it within the organization is a key factor for sustainable success.

The association of knowledge management with information and communication technology can leverage provide better systems that can support organizational success and cope with employee turnover. As, in many other situations, the digital will provide new opportunities and challenges for reframing the way we work and learn.
References


European Financial Aid Use for Environmental Protection in Romania

Authors: Carmen Valentina RADULESCU, Faculty of Agro-Food and Environmental Economics Bucharest Academy of Economic Studies, Romania, cv_radulescu@yahoo.com; Ildiko IOAN, Faculty of Agro-Food and Environmental Economics Bucharest Academy of Economic Studies, Romania, ioanildiko@yahoo.com; Cristina PARTAL, Bucharest Academy of Economic Studies, Romania, cristina.partal@gmail.com

The paper deals with the basic theoretical aspects and the policy of the European Union, which is financed by a number of budgetary instruments. Under this policy, Romania is qualified for financial aid to support economic and social development of the country. This aid is considerably higher than that the aid received by the pre-accession PHARE, ISPA and SAPARD programs. The EU serves for the financing of policies, the largest amounts being allocated to the common agricultural policy. The paper bring in details on several aspects such as: what are the structural funds, which are institutions that manage them, and the ways of accessing these funds.

Keywords: structural funds, cohesion funds, European financial support, access and implementation, POS = Sectorial Operational Program

Introduction

EU structural funds are managed by the European Commission and they are financing structural aid measures in place, in order to promote the regions
with delays in development, the conversion of areas affected by industrial decline, mitigating long-term unemployment, improving employment opportunities for young people or promoting rural development. Criteria for funds allocation across regions which operate for the Structural Funds are based on the economic development of the area. Thus, more developed a region is, less amount of money is allocated to support it. By accessing funds and implementing projects, a community will enable an equitable development in all regions by modernizing the infrastructure in various fields (transportation, environment etc.), ensuring sustainable rural development, creating new opportunities for employment, especially in rural areas, promoting social policies which result in higher standards of living. This challenge has been accepted by agreeing on the National Development Program for 2007 – 2013 that summarized the strategic planning and financial perspectives.


The National Development Plan (NDP) is a specific concept of the European Economic and Social Cohesion policy, designed to provide a coherent conception and stable development of Member States of the European Union, in priority development programs, projects, in accordance with the programming of Structural Funds. The NDP 2007 - 2013 document represents the strategic planning and programming framework, approved by the Government and developed into a broader partnership, which will guide socio-economic development of Romania in accordance with the policy of the European Union [1].

**Development Strategy 2007-2013**

The strategy on which the NDP 2007-2013 is based is a reflection of Romania’s development needs in order to reduce more rapidly the gaps existing among EU Member States. The strategy of NDP 2007-2013 focuses on both strategic guidelines on cohesion and the Lisbon Agenda priorities and objectives, the Goteborg Strategy, and pursues to increase competitiveness, improve employment and secure sustainable environmental protection. The goal is to support three specific objectives [2]:

- Increase long-term competitiveness of the Romanian economy;
- Development of basic infrastructure to reach European standards;
- Improve efficiency and greater use of local human capital.

The National Reform Program (NRP) has a monitoring system that started to provide information since September 2007.

**Development priorities**

The NDP 2007-2013 is organized in priorities and sub-priorities, and is based on principles such as efficiency, financial transparency and fairness, wide access of public authorities and other types of beneficiaries. These milestones are presented in table 1.

**Table 1: NDP 2007-2013 priorities**

<table>
<thead>
<tr>
<th>Priorities</th>
<th>Sub-priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased competitiveness and economic development of the knowledge-based economy</td>
<td>• Increased competitiveness by improving market access of enterprises, especially SMEs</td>
</tr>
<tr>
<td></td>
<td>• Develop the knowledge-based economy by promoting research and innovation and accelerate the development of information society</td>
</tr>
<tr>
<td></td>
<td>• Improving energy efficiency and exploit renewable energy resources</td>
</tr>
<tr>
<td>Development and modernization of transport infrastructure</td>
<td>• Modernization and development of the trans-European transport networks and connecting</td>
</tr>
<tr>
<td></td>
<td>• Modernization and development of transport infrastructure of national interest and improve services</td>
</tr>
<tr>
<td></td>
<td>• Sustainable development of transport sector</td>
</tr>
<tr>
<td>Protection and enhancement of environmental quality</td>
<td>• Improving standards of living by providing services to public utilities standards of quality and quantity required in the sectors of water and waste</td>
</tr>
<tr>
<td></td>
<td>• Improving the systems sector environmental management</td>
</tr>
<tr>
<td>Human resources development, promoting employment and social inclusion and strengthening the capacity administrative</td>
<td>• Development of human capital</td>
</tr>
<tr>
<td></td>
<td>• Promoting full employment</td>
</tr>
<tr>
<td></td>
<td>• Promoting social inclusion</td>
</tr>
<tr>
<td></td>
<td>• Administrative capacity development and good governance</td>
</tr>
<tr>
<td>The development of rural economy and increase</td>
<td>• Increased competitiveness economy agro-forestry and food supply by adapting to</td>
</tr>
</tbody>
</table>
### Priorities and Sub-priorities

<table>
<thead>
<tr>
<th>Priorities</th>
<th>Sub-priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>productivity in the agricultural sector</td>
<td>market requirements</td>
</tr>
<tr>
<td></td>
<td>- Increased standards of living in rural areas through diversification of activities</td>
</tr>
<tr>
<td></td>
<td>- Sustainable economic development of farming and forestry holdings</td>
</tr>
<tr>
<td></td>
<td>- Promote &quot;LEADER&quot; initiatives</td>
</tr>
<tr>
<td></td>
<td>- Ensuring sustainable fisheries and aquaculture development</td>
</tr>
<tr>
<td>Minimize development disparities between regions of the country's public infrastructure</td>
<td>- Improving and strengthening regional and local the business environment</td>
</tr>
<tr>
<td></td>
<td>- Develop sustainable urban and rural tourism urban</td>
</tr>
<tr>
<td></td>
<td>- European territorial cooperation</td>
</tr>
</tbody>
</table>

### Structural funds

In the terminology specify the period 2007 -2013, structural tools include:

- the European Regional Development Fund (ERDF)
- European Social Fund (ESF) also known as the Structural Funds and Cohesion Fund (FC), each covering an area subject well specified:
  - The European Regional Development Fund (ERDF) supports the creation of infrastructure investment for employment, development projects and assistance to local small enterprises.
  - European Social Fund (ESF) is designed to promote the reintegration of the labour market of the unemployed and disadvantaged groups, in particular through the systems and training systems to support employment.
  - Cohesion Fund (FC) contributes to the realization of large infrastructure projects and major investments in environmental infrastructure (water, sewerage, waste).

In Romania, investments from Structural Funds will be supplemented by funds Common Agricultural Policy of the European Union and the Common Fisheries Policy. During 2007-2013, Romania benefit from structural funds of about 28-30 billion euros from the EU. These funds must be managed effectively and need to get where it’s needed for development, so there is danger of losing them. The 14 areas that can attract EU funding are: research and technological development; improving ITS application in society; transport; energy; environmental protection and risk prevention;
tourism; culture; urban and rural regeneration; support for companies and entrepreneurs; access to jobs stable; social inclusion for disadvantaged people; development of human capital; investment in social infrastructure, including health and education; promoting the development partnership [3].

**Sectorial Operational Programs (POS)**

Romania is a good European policy, with wider competent, but also a component oriented competitiveness, without losing sight of the purpose of our country is to support the need to strengthen the objective of "convergence". In Romania there are implemented the following POS: POS Competitiveness; POS transport infrastructure; POS Environment; POS Human Resource Development; Regional Operational Program; PO for the development of administrative capacity; PO Technical Assistance. Further we will present in more detail the Environment POS (EPOS).

The overall objective of the EPOS aims to improve the living standards of the population and the environmental standards and at the same time contributes substantially to the achievement of accession commitments and to respect environmental legislation. To achieve this goal, EPOS funded investments pursue six priorities:

- the water / sewage sector - benefit from a total of 3.27 billion euros, of which EU grants 2.78 billion euro;
- the waste management and historical pollution elimination benefit a total of 1.17 billion euro, of which the EU grants 0.93 billion euro;
- the heating sector will receive a total of 458 million euro, out of which the EU grants 229 million euro;
- the nature conservation will receive in total 215 million euro, out of which the EU grants 17 million euros;
- flood protection and reduction of coastal erosion, benefit a total of 329 million euro, out of which the EU grants 270 million euro;
- technical assistance, with a total of 174 million euros, out of which the EU grants 130 million euro.

EPOS is the programming document of the Structural and Cohesion Funds which set out the strategy for the allocation of these European funds, the development of environmental industry in Romania, during 2007-2013.
EPOS was developed by the Ministry of Environment and Sustainable Development (currently Environment and Forests), as the Management Authority for this program. It is also coordinated by the Ministry of Economy and Finance, in his capacity as coordinator of Romania's preparation for accessing the Structural and Cohesion Funds for the period 2007-2013 [4].

EPOS is one of the most important operational programs in terms of financial allocation and is the most important source of funding for the environment. The program is funded from two funds: the European Regional Development Fund (ERDF) and Cohesion Fund (FC), with a value of approximately 4.5 billion euro, plus national source of approximately 1 billion euro.

![Figure 1: Total value of and EU contribution for EPOS projects by priority area (thousands euro)](image)

Potential applicants of environment projects are central and local authorities, regional water operators and administrations, management structures of protected natural areas, the National Administration "Romanian Waters" and environmental non-governmental organizations, and universities. To ensure an efficient and rapid absorption of funds allocated through EPOS, the preparation of projects portfolio started in
2004 with PHARE and ISPA support programs for pre-accession and financed foreign loans. For projects in related sectors of EPOS, starting with August 2007, were released requests for proposals, after the selection criteria by the Monitoring Committee of EPOS, according to Community regulations.

![Fig. 2 The structure of EPOS projects value by priority areas](image)

By priority areas, the water/sewage sector was the most advanced and the size of financial support is much higher than in any other environmental priority area (fig. 1). Thus, in this sector the total value of projects reach to almost 2.6 billion euro, out of which almost 1.7 billion euro is EU contribution. This represents almost three quarter of the total value of EPOS projects (fig.2). The main shortcoming of European financial aid in Romania, the low level of absorption is true for EPOS too, especially if the close end of the current financial period is taken in account.

**Conclusions**

Accessing and implementation of community structural funds will enable a balanced development in all regions and the modernization of transport
infrastructure and environment, ensure a sustainable rural development, will create new opportunities for employment, especially in rural areas, promoting social policies which will lead to standards of life quality. EPOS aims to improve standards of living and quality of the environment by: ensuring access to basic public utilities and improvement of environmental quality. Romania and Romanians intend to fully exploit the opportunities offered by accessing these funds. This leads to improvement in quality of life, promote research, technology development and innovation, and encouraging the use of large-scale business means of communication and information technology.

References


Trends and Perspectives Regarding the Evolution of the Concept of Economic Intelligence within the Context of the Economic Crisis

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The practical interest of this paper is to identify and present the situation of EI issue in the current economic crisis and to identify future directions and prospects for its development. This paper assumes that the correct positioning of managers to these trends may represent a way of offsetting the effects of economic crisis. Understanding the importance of EI in the economy of the enterprise and how it can generate organizational performance, can lead to an increased efficiency and effectiveness of the strategic management. Also, this paper will trigger a warning on the importance of knowing and judicious use of the EI tools. Adapted to the social and economic realities of this century, it aims to raise the awareness of the guiding forces at the organizational level, resulting in a modern management system, comparable with those used worldwide. From this perspective, the paper aims to contribute to the theoretical framework regarding EI and therefore bring extra knowledge which shall be the result of a serious approach, which is based on current economic reality.
Trends and Perspectives Regarding the Evolution of the Concept of Economic Intelligence within the Context of the Economic Crisis

Keywords: economic intelligence, espionage, organizational performance

Introduction

The fierce competition on the markets worldwide generated an anxious state of tension which defines the current organizational context. The reiteration of an economic crisis that directly threatens all countries within the European Union generated a reassessment of the organizational culture regarding the role of "intelligent" information in the economy of strategic decisions. Economic Intelligence (EI) with all its forms proves to be a strategic competence worthy of producing organizational performance. Given the financial problems faced by the organizations in the countries affected by the crisis, the Latin saying "scientia est potentia" seems to acquire completely different meanings. Recent events, such as the alleged espionage case at the Renault-Nissan group as many other similar cases that have appeared in all industries considered being sensitive in most developed countries, have highlighted the increasing importance given to the Economic Intelligence at different socio-economic levels and also the need to reconsider its position towards it.

Throughout history, many figures, like Sun Tzu, Thucydides, Marco Polo, Francis Bacon or Niccolo Machiavelli have approached the issue of intelligence in their work. Starting from ancient times until today, intelligence took different forms but with the same objectives in essence. Initially used in the military field, subsequent to the growth of information sources and their speed of access, EI has found its utility within the economic area as a strategic process designed to generate added value and organizational performance.

During the last few years, according to certain cultural influences, a series of concepts have emerged, focused on information and on its source in relation to the organization. Intelligence Economique (IE), Business Intelligence (BI), Veille Strategique, Strategic Intelligence or Competitive Intelligence (CI) is few of the concepts operated within the scientific and organizational environment worldwide. As for this paper, we will consider the EI concept as the most comprehensive and useful concept from the
organization's strategic perspective, given that it represents an overlap of the aforementioned.

The concept of EI actually appeared starting with the 1990's, when the first French definitions regarding the monitoring (cf. Baumard (1991), Jakobiak & Two (1992) and Ribault (1992)) emerged. In 1992 C. Harbulot proposes the expression "intelligence économique" to encompass "all surveillance operations of the competitive environment: monitoring, protection, handling of information (bait, counter-intelligence, etc.), influence" (Harbulot, 1992). As of this date, monitoring will be included in the EI concept, and two years later it will be promoted by the MARTRE report (1994).

All the scientific papers that have been published starting with the Carayon report (2003) did nothing but reinforce the lack of consensus in defining this concept. A feature of these is the lack of impact of the scientific research over the field experts that is finding a generally accepted sense or at least a sense that represents a historic milestone in the evolution of the concept and thus deepening in the multitude of views regarding the concept of EI.

Starting from the main existing approaches, this paper will consider EI as a strategic competency for the organization, which consists in applying all the concepts, methods and tools that unify all the coordinated actions of research, acquisition, analysis, storage and dissemination of information obtained from the organization’s internal and external environment with the purpose of their exploitation, as well as the manipulation and protection of existing information, in order to achieve the organization’s strategic objectives.

A representation of the constituent elements of Economic Intelligence as in the proposed definition above can be seen in the pyramid presented in the figure below. Contrary to the impression of many experts in this field, Economic Intelligence means not only strategic monitoring but represents a complex and comprehensive concept with implications to many levels of the organization.
Economic Intelligence within any organization can be found through three groups of defining functions, as can be seen in Figure 1 above. In essence, most authors agree in terms of these constituent fundamental elements:

- **data protection or informational security** – means protecting the information and existing knowledge in the organization's internal environment (research results, tactical and strategic management decisions, information about technological capabilities of the organization, information on human resources issues, etc.) from reaching in the possession of other persons or organizations, other than those concerned;

- **strategic monitoring** – involves the research, collection, storage, analysis and communication of "intelligent" information obtained in most cases from the organization's external environment, to the decision-making mechanisms within that organizations in order for it to be used in the decision process;

- **manipulation of information or influence** – involves using specific techniques and instruments that, in accordance with strategic and tactical management decisions, to be disseminated a series of information within or outside the organization, in order to induce a response from the targeted audience (consumers, competitors, suppliers, etc.).

Based on this brief classification, we can consider that Economic Intelligence is a communicative interface between organization and environment with which it interacts directly or indirectly. Thus, Economic Intelligence
Intelligence is a strategic competency for the organization, which consists of: strategic monitoring of the environment in which the organizations is working, data protection and information handling, aiming to achieve the strategic objectives of the organization.

The practical interest of this paper is to identify and present the situation of EI issue in the current economic crisis and to identify future directions and prospects for its development. This paper assumes that the correct positioning of managers to these trends may represent a way of offsetting the effects of economic crisis. Understanding the importance of EI in the economy of the enterprise and how it can generate organizational performance, can lead to an increased efficiency and effectiveness of the strategic management.

From a practical perspective, this paper will trigger a warning on the importance of knowing and judicious use of the EI tools. Adapted to the social and economic realities of this century, it aims to raise the awareness of the guiding forces at the organizational level, resulting in a modern management system, comparable with those used worldwide.

Nowadays, form a theoretical point of view, at a global level it does not exist, much less compared to the business environment in Romania, a literature that deals with the issues proposed by this paper. Moreover, there are no relevant scientific papers on organizational culture in Romania in relation to EI. From this perspective, the paper aims to contribute to the theoretical framework regarding EI and therefore bring extra knowledge which shall be the result of a serious approach, which is based on current economic reality.

Also, this paper aims to provide to strategic management specialists, certain essential elements for effectively and efficiently apply EI in order to obtain organizational performance in conditions of economic crisis. Furthermore, it wants to seek to become a solid starting point in future theoretical scientific research dedicated to this subject and therefore represent a natural continuation of the doctoral thesis wrote by the author.

Questions that the present paper will answer to:

The research undertaken sought to identify the prevalence of Economic Intelligence on the target markets and also answer to a series of questions like:
• What is the business environment perception in terms of EI?
• Is there a connection between EI and the economic crisis?
• How has the economic crisis influenced the organizational perception regarding the concept of EI?
• In economic crisis conditions, can we talk about an increase in the importance of EI as a means of achieving efficient and effective organizational performance?
• Which are the implications of the European economic crisis over the EI in the context of globalization?
• Which are the trends and prospects of EI in the current socio-economic environment?

The focus during the performed research was on two different markets both culturally and economically: Romania, a developing country with a feeble economy, especially in the current economic context, and France, one of the most powerful countries from an economic point of view, in the EU. There were contacted a number of 40 organizations of different sizes and types, starting with public research laboratories and going up to multinational companies. We had also done an extensive research on public sources (the so-called "white paper") available both electronically and physically, to help us shape the existing economic environment but also to identify some elements that support or contradict the information received from the studied organizations. After the qualitative research conducted there was obtained a set of data designed to provide a sufficiently clear picture, at least in appearance, about the organizational culture regarding Economic Intelligence in the two countries where the research was held.

Methodology

Due to both the complexity of issues investigated and the degree of novelty imposed by the subject, the research proposes an approach centred on two main directions: exploratory interviews and documentation (bibliographical, direct documentation and consultation of specialists). The motivation for this choice was justified on the one hand, by the impossibility of establishing a nationally representative sample but also by the degree of novelty of the subject investigated. From this point of view,
exploratory interviews allowed a better understanding of the subject in its depth, which lead to identifying new directions for further investigation and the identification of research issues that a quantitative research wouldn’t have been able to discover. Although from an ideal perspective the interviews should be non-directive, they were semi-directive, based on a predefined structure and having questions common to all interviews. This way, this paper tried to keep a common evaluation basis among all respondents, hoping for an increase in relevance from a statistical point of view and thus allowing the implementation of some cumulative and comparative analysis strategies between them.

The main hypothesis of the research assumes that the economic crisis has influenced the organizational culture regarding EI or, were this was not present, an awareness of the benefits and menaces resulting from its implementation. Depending on the industry and the socio-economical climate, this awareness can become more or less necessary. Also, it is not imperative to put in practice all the EI pillars but only the ones relevant to each business. So, the current paper tries to identify which are the implications of the global economic crisis over the EI.

The research was conducted during 2011 and took two clear directions, namely an exploratory research in relevant companies in terms of the subject proposed and a research of the existing public sources especially on the companies surveyed. Regarding the first and main research direction, selecting the studied population was based on two clear paths of action: the analysis of an equal number of organizations in the two target countries and the selection of organizations that have an equivalent in both countries so that they can permit a comparative study as real as possible. In this respect we targeted companies working in sensitive areas of the industry in terms of high technology (Fr. haute technologies) and innovation in general. We have selected based on these criteria organizations from telecommunications industry, production of military equipment, private research laboratories, university canters recognized for exceptional results in innovation, organizations in the pharmaceutical industry and consultancy. The subjects covered by the research were representatives of organizations in key positions such as General Managers, R & D Directors, Project Managers and / or persons responsible for activities related to Economic Intelligence.
In terms of measurement, we chose to use different indices. These, for each theme and sub-themes analyzed involved the creation of a report regarding the relation between the number of mentions of the theme or sub-themes and the total number of evocations.

**Results and Conclusions**

The analysis started with creating an overview regarding the current status of the economy in the countries where the research took place. This white paper research had as primary objectives to identify the potential industrial sectors where the interviews should take place and also the potential issues related to EI mentioned in this type of informational sources. The main open sources used were the online articles, the news sources of all types, expert consultations with university professors and industry professionals. They permitted the construction of an image close to reality regarding the existing socio-economic environment.

The industries selected for the research represent areas of the economy where innovation through research and development is necessary for obtaining organizational performance. During six months of study, there were interviewed 40 representatives of different organizations, from various industries and with different roles inside their organizations like: Project Managers, EI specialists, General Managers and others.

One of the main findings of the research was that the economic crisis influenced the way EI was regarded. If before the crisis EI was just an abstract term among the stakeholders of the organization, now it started to make sense. However, almost all the persons interviewed did not know exactly the meaning of the concept of EI even though the subject of the research was announced before the meeting.

From a positive perspective it should be noted that the economic crisis determined awareness among organizations regarding the benefits of using EI functions even though based on a decentralized approach. As basic, security measures are usually similar to all organizations, the differences appear at organizational and at country level for monitoring and influence. The legislation in force and the culture of the country can also have a huge impact on how EI is approached. For example in France the state supports all the organizations by training them on EI issues. Another example is that
most of the companies base their security on the expertise and security provided by the institutions of the state. This way they cut the costs with information security agents and also benefit of the entire expertise of the state’s specialized institutions.

From the negative point of view the organizations tend not to create a dedicated structure to EI as this implies costs that the company can’t or won’t support. Also, in the case of small and medium companies, the tasks assimilated to EI are conducted by multiple department heads who fulfil them based on their agenda. The time of response is definitely longer even though they usually have the possibility to use all the resources available.

Although the threats against strategic information at organizational level increased, confirmed by the interlocutors of the exploratory interviews and also by representatives of the business communities, the research has shown that there isn’t a combined response from organizations to counteract these tendencies. The existing reluctance regarding EI issues, coupled with an appropriate ignorance regarding the concepts operated in terms of specific elements and techniques used, lead to an altered perception of its use. Most times, due to a gray area vaguely demarcated in terms of law and ethics, organizations through its representatives refuse to address this issue because of the implications that result from such a development. Due to a general perception both in France and Romania that associates gathering intelligence to economic espionage; organizations avoid addressing this issue even if it is both ethical and legal because they don’t want to risk bringing harm to the image of the organization. Obviously, regarding France, there are a series of approaches initiated by the state and its agencies to raise business awareness of the hazards present and of the applicable methods regarding information protection issues but it is still a lot of work to be done. Lobbying, although a concept with a respectable history, it is still not used naturally and to its full value, with some exceptions maybe in certain circles of interest where they master very well the tools and techniques associated with it.

Regarding the trends perceived, the research showed that even if at informal level, the organization tends to use the employees as a big structure of collecting information. Because of the fast growth of internet based technology, networking possibilities practically multiplied
exponentially. Normal people started to have “lists of friends” with hundreds of potential active contacts. The organizations started to understand that and, at an informal level, they are starting to use these resources which are practically available with minimum costs. This way, the universe of potential useful contacts grows exponentially based on the number of employees. Even though this has its negative sides like the huge amount of information received and the lack of control, the results may worth the effort.

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Social Innovation: Determinants of the Demand for High-Quality Institutional Care by the Elderly

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One of the great challenges of contemporary society is the unceasing search for ways of generating, incorporating and diffusing innovation – and this is true of the most widely varying sectors of human activity, ranging from finance, through the arts to social welfare. Looking at society today we can readily confirm that social innovation predominantly takes place in what is called the Third Sector. It is important to recognise that our understanding of innovation processes cannot be reduced to a study of the passive reactions of organisations to changes in their external environment: we must also take into account the emergence of innovation within the organisations themselves. The main aim of the study whose results are presented here was to analyse the determinants of demand on the part of the elderly for high-quality institutional care, seen in terms of both the physical, psychological and social dimensions of the ageing process, and the physical, material, human, operational and relational dimensions of the intra-institutional innovation process.
Keywords: social innovation; third sector; ageing, society

Introduction

One of the great challenges of contemporary society is the unceasing search for ways of generating, incorporating and diffusing innovation – and this is true of the most widely varying sectors of human activity, ranging from finance, through the arts to social welfare. Looking at society today we can readily confirm that social innovation predominantly takes place in what is called the Third Sector. It has often been suggested that social innovation does not occur within institutions, but as a result of the evolution and the pressures exerted by something more abstract – civil society. However, it is important to recognise that our understanding of innovation processes cannot be reduced to a study of the passive reactions of organisations to changes in their external environment: we must also take into account the emergence of innovation within the organisations themselves.

The notion of social innovation, when specifically applied to the social sector, consists of the genesis of new and original products and services or the creative reapplication of existing ones in different forms or for different purposes, as a means of satisfying new market needs – in the case under scrutiny here, those of the “senior” or “grey” segments of the market – generating quantitatively and qualitatively greater levels of welfare and quality-of-life, and providing a more specific place and role for all those involved.

While institutional providers of assistance to the elderly come in the most varied of forms, relatively few offer residential services at the higher end of the quality spectrum. The very specific and exclusive characteristics of the types of services in question require physical installations, social infrastructures and human resources capable of matching the special needs and limitations of each client and providing the personalised/customised manner expected.

The main aim of the study whose results are presented here was to analyse the determinants of demand on the part of the elderly for high-quality institutional care, seen in terms of both the physical, psychological
and social dimensions of the ageing process, and the physical, material, human, operational and relational dimensions of the intra-institutional innovation process.

The paper is structured as follows. Following an introductory section, there is a theoretical discussion of physical, psychological and social dimensions of the ageing process and relational dimensions of the intra-institutional innovation process; the paper then proceeds in the conventional fashion: method, results, discussion and conclusions. The research’s main limitations and some avenues for future research, as well as implications for management practice, are also explored.

**Theoretical background and hypotheses**

Ageing is a process that can be understood at various levels. Above all, perhaps, the process is a biological one, because over time the most visible and palpable signs of old age manifests themselves in shifts in our physical appearance, the ease with which we move, and in the frequency and seriousness of diseases. Yet it is also a social process, for with the passage from full time activity to retirement, the change in our status is not merely an administrative or economic one; furthermore, it is a psychological process that is accompanied by changes in our intellectual activities and capacities, and in our motivations (e.g. Fontaine 2000).

From this standpoint, though the prevention of disease and incapacity are essential prerequisites of “ageing well”, the maintenance of good cognitive and physical functions, the continuation of a fulfilling social life and the productive occupation of our time also constitute key determinants of the quality of life of the older generation (e.g. Justo 2005). In many respects, what today we call “social innovation” has emerged in order to creatively identify and collectively provide appropriate responses to these needs.

The following paragraphs discuss in more detail the biological, psychological, social and social-innovation factors that may incline clients to opt for a high quality residential environment in which to spend the rest of their lives.

With advancing age, the body undergoes alterations due to changes in the cells and internal organs. In turn, the deteriorating performance of
one organ may affect the proper functioning of others, possibly undermining the whole body’s ability to function effectively. Due to this ‘normal’ process of deterioration, the elderly are the age group in which disease and disability are most prevalent. The corresponding problems may be incapacitating to the point of inhibiting both the instrumental (i.e. technical tasks such as preparing meals, performing housework, managing one’s pension and other assets) and non-instrumental activities (such as personal hygiene, mobility and the capacity to dress and feed oneself unaided) that are involved in everyday life. Since these activities consist of tasks whose performance requires specific skills and behaviours, the effects of ageing may not only disrupt people’s ability to perform what hitherto has been their daily routine, but may also be manifested in changes in their attitudes to the various components of independent life (e.g. Justo 2005, Beers 2004 e Rossel, Herrera and Rico 2004).

The deterioration an ageing person experiences in their physical state usually brings about a degree of adjustment to their identity (e.g. Justo 2005). Various studies (e.g. Martínez 1994 e Guedea et al. 2006) have concluded that different people adapt to ageing in different ways. For example, health is no longer perceived as the total absence of illness, resulting from a comparison between one’s current state and some ideal, but rather the product of an assessment of what one may expect from old age. Based on the studies conducted on physiological ageing, we can conclude that the main factors related to physiological wellbeing that are likely to inform a decision concerning the residential institution in which an elderly person will spend the remaining years of their life would include the following: the opportunity to continue with one’s daily activities, the maintenance of an active life, the existence of facilities related to functional capacity and mobility, the monitoring of existing/future health conditions, ease of access to medication, and readily available medical care. This being the case, it seems appropriate to test the following hypothesis:

**H1:** Is there a relationship between the biological/physiological factors typically associated with ageing and the demand for (selection of) high quality permanent residential facilities for the elderly?

Those entering retirement often lose their social roles. According to Maia (2009), social roles consist of the set of interlocking duties, rights and
functions that depend both on the individual’s personality and on the position held in the group or groups and in the society to which he/she belongs. The ageing process tends to be accompanied both by closer social relations and the construction of new safe havens: “old friendships become more important, and through shared tasks, contribute to the sustaining of personal identity and one’s interpretation of both past and present (Justo 2005: 30). Some studies (e.g. Vaz 1998, Pimentel 2005, Sousa, Figueiredo and Cerqueira 2006 e Guerreiro, Lourenço and Pereira 2006) have pointed to a clear and substantial connection between a healthy old age, levels of social participation, and the development of productive activities. A healthy old age is premised upon the coexistence of three elements: (1) delaying the onset of dependency-enhancing diseases; (2) continuing physical and cognitive wellbeing; and, most importantly, (3) commitment to the maintenance of a rich social life.

With the development of science and improvements in the life-conditions of those of more than 60 years of age (commonly referred to as the older generation, or the elderly) comes the possibility of experiencing a period of unprecedented fulfilment and self-realisation: freed from parental and domestic responsibilities (on the one hand) and the labour market (on the other), there is time to enjoy one’s leisure, travel, devote more time to new or established hobbies, return to education – in short, maintain an active social life.

On the basis of the literature on ageing from a social perspective, for the purposes of the research reported on here, we can conclude that the main factors related to social wellbeing that are likely to inform a decision concerning the residential institution in which an elderly person will spend the remaining years of their life, would include the following: the quality of intra-family relations, the presence/absence of an informal care, the maintenance of an active life in terms of leisure-time interaction with others, the opportunity to develop cultural and recreational activities, and the existence of social relations through a network of friends and neighbours. If this dimension were a priority for someone seeking a quality lifestyle in their old age, the following hypothesis would be legitimate:
H2: Is there a relationship between the social/sociological factors typically associated with ageing and the demand for (selection of) high quality permanent residential facilities for the elderly?

The process of psychological ageing affects perception, intelligence, memory and personality and, since ageing involves a general deterioration of the human organism as a whole, the brain and its functions are not exempt. The ageing of the brain does not have a uniform effect, and the seriousness of its implications varies from one individual to another. Many writers (e.g. Fontaine 2000, Queroz and Neri 2005, Rodrigues 2006 and Antunes 2001) have recommended that in providing for a quality old age, particular attention should be paid to the fact that social habits and the level/intensity of social interactions specifically influence the ageing to which the brain succumbs, needs to be taken into account. Taking into consideration key psychological factors (such as levels of self-esteem and personal confidence, decision-making capacity and capacity for independent for thought and expression), the study formulated a third hypothesis:

H3: Is there a relationship between the psychological factors typically associated with ageing and the demand for (selection of) high quality permanent residential facilities for the elderly?

As indicated above, everyone is subject to biological, social and psychological aspects of ageing. Nevertheless, subjective acceptance of the onset and development of ageing differs from person to person. The way in which an individual cares for him/herself has a clear influence on the ageing process: good physical and psychic healths are essential if the elderly are to remain independent and carry on with their lives within the family and community in which they live. Even if an active, integrated and participatory old-age is promoted, eventual loss of autonomy and dependence on others for many day-to-day tasks is a reality that a significant proportion of old people are obliged to face. Institutional care is a positive alternative to the loneliness and/or incapacity that the elderly would otherwise suffer (e.g. Sousa, Figueiredo and Cerqueira 2006 and Guerreiro, Lourenço and Pereira 2006) and a range of both “classical” and more innovative facilities exist to meet people’s different needs and purchasing power.
One of the great challenges of 21st century society is how best to maintain the impulse for creativity and how best to integrate and disseminate innovation into our daily lives (e.g. André and Abreu 2006 e Dowbor 2009). In the continuing discussion of the role of innovation in maintaining the competitiveness of firms, regions and countries, in recent years the theme of social innovation has been identified as being of particular importance (e.g. Madelino 2006, Leadbeater 2007, Pol and Ville 2008 e Henley 2008). In a society subject to constant change, organisations that try to control change will do so in vain, and the results of those that simply react to it will be disappointing; organisations should aim to anticipate change, using creativity and innovativeness as their principal means of remaining permanently competitive. Since, in contrast to invention, innovation concerns the creation and/or improvement of a product/service, organisational method or form of marketing, social innovation can be thought of as any improvement of this sort that specifically and directly impacts on the quality of life.

Thus in the study reported on here, we identified the innovation-related factors most closely associated with the type of organisations under scrutiny, as being the following: innovations in physical layout and infrastructural facilities, innovations in the organisation’s type and combination of human resources and forms of organisational functioning, and innovations with regard to client relations. The question underpinning a hypothesis relating to social innovation would be:

**H4:** Is there a relationship between the innovative capacity of different high quality permanent residential facilities for the elderly and the demand for (selection of) such facilities?

On the basis of all the literature reviewed above, and given the specific aims of the research, the research model depicted in Figure 1 was adopted.
Research methodology and statistical procedures

In order to test the hypotheses presented above, a purposive sample of all the residents of both the Lar Hotel da Santa Casa da Misericórdia de Vila Real¹ (SCMVR)² and the Queen Leonora Residential Centre situated in Vila Real, situated in the predominantly rural Interior Northeast of Portugal, is the administrative centre of the eponymous concelho (county) and distrito (district) of Vila Real. Both in terms of area and population, this distrito corresponds to approximately half of the NUT III of Alto Trás-os-Montes e Douro.

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¹ Vila Real, situated in the predominantly rural Interior Northeast of Portugal, is the administrative centre of the eponymous concelho (county) and distrito (district) of Vila Real. Both in terms of area and population, this distrito corresponds to approximately half of the NUT III of Alto Trás-os-Montes e Douro.

² The Santa Casa da Misericórdia is a nation-wide Catholic charitable organization whose interests range from the national lottery, through residential homes for orphans and the aged, to hospitals.
da Conde (SCMVC). These two facilities were chosen because both had the same legally established IPSS (Private Social Solidarity Institutions) status, and both provided similar, high quality innovative services for their residents, ranging from infrastructural specificities through specialized levels of care, to particular forms of client relations.

The residents of the two institutions were contacted personally. The questionnaire was tested in the first months of 2009 and data on the full sample was collected in the second half of 2009. Eighty questionnaires were distributed (45 in the Lar Hotel and 35 in the Queen Leonora Centre), with a total of 60 valid questionnaires being returned (41 from the Lar Hotel and 19 from the Queen Leonora Centre). Respondents’ anonymity and ethical propriety guaranteed at all times. If it was found that the resident was physically (or in other respects) incapable of answering all the questions, missing answers were provided by the family member or carer responsible for the resident’s welfare. The design of the questionnaire drew both on other research instruments that had previously been used for different purposes in old people’s homes and similar institutions, and on the bibliography on this area of service provision that had been consulted. The questionnaire was divided into three distinct parts: (1) a demographic characterisation (i.e. minimal personal details) of the respondent; (2) data relating to biological, social and psychological aspects of the client’s life prior to the provision of residential care; (3) information regarding the priorities that figured most prominently in the client’s (or in the client’s relatives’) demand and informed their search for residential facilities, in particular those relating to the “innovative” features to which most importance was attributed. Table 1 provides a summary profile of the sample.

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3 Vila da Conde is a small city on the Atlantic coast of Portugal, approximately 35 kms from Oporto, Portugal’s second city. It is both a dormitory area for Oporto and a tourist area that attracts local, national and international visitors.

First, the highly inter-correlated variables are eliminated and then the stepwise method employed to generate a model containing the combination of independent variables that best fits the data collected. The importance of each variable to the model is expressed by the statistical significance of its coefficient. Likelihood and R2 values are then calculated in order to adjust the model. The likelihood value indicates the general quality of the model; the higher its value, the better-fitting is the model. The Cox-Snell R2 is based on the likelihood value and has a minimum value of 0 but a maximum of <1. The Nagelkerke R2 provides a version of the Cox-Snell R2 on a scale of 0-1.
Table 1: Characterisation of the sample

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<th>Respondent</th>
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</thead>
<tbody>
<tr>
<td>Client</td>
<td>63,3</td>
<td>Feminine</td>
<td>61,7</td>
</tr>
<tr>
<td>Client’s carer</td>
<td>31,7</td>
<td>Masculine</td>
<td>38,3</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>Schooling</td>
<td></td>
</tr>
<tr>
<td>65 – 74 years of age</td>
<td>23,0</td>
<td>4 years</td>
<td>49,0</td>
</tr>
<tr>
<td>74 – 84 years of age</td>
<td>48,0</td>
<td>9 years</td>
<td>9,0</td>
</tr>
<tr>
<td>84 – 95 years of age</td>
<td>27,0</td>
<td>12 years</td>
<td>7,0</td>
</tr>
<tr>
<td>&gt;95 years of age</td>
<td>2,0</td>
<td>Secondary education</td>
<td>2,0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Higher education</td>
<td>33,0</td>
</tr>
<tr>
<td>Profession</td>
<td></td>
<td>Who chose the institution?</td>
<td></td>
</tr>
<tr>
<td>Small business owner/sales staff</td>
<td>38,2</td>
<td>Client</td>
<td>62,0</td>
</tr>
<tr>
<td>Teacher/civil servant</td>
<td>32,7</td>
<td>Spouse</td>
<td>13,0</td>
</tr>
<tr>
<td>Farm worker</td>
<td>9,1</td>
<td>Children/friend(s)</td>
<td>25,0</td>
</tr>
<tr>
<td>Other</td>
<td>20,0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In order to test hypotheses 1-4 and compare the influence of the various variables, a battery of tests typically employed in univariate and multivariate analysis were used. The following section first presents a brief summary of the multivariate analytical techniques employed, before focusing on the results obtained by applying the respective statistical procedures.

Application and adjustment of the binary logistic regression model

Logistic regression is one of a number of multivariate statistical methods commonly used today. The technique relates a set of independent variables with a categorical dependent variable (e.g. Hair et al. 2006) and allows the analyst to identify the factors that are associated with the occurrence (or not) of a given phenomenon. In the present study, the aim was to identify the biological, social and psychological factors, along with those associated with innovation, that determine the demand for, inform the search for and influence the choice of high-quality permanent residential facilities for the elderly.

In the present study binary logistic regression is employed to estimate 3 regressions with 3 binary dependent variables: the residential institution is chosen (1) by the client, (2) by the client’s spouse, and (3) by
the client’s children or others (usually, close friends). Table 2 summarises the variables on which data was collected via the questionnaire and which conformed to the main aims of the research.

**Table 2:** Presentation/characterisation of the variables used in the logistic regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description of variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esc_proprio</td>
<td>Client chose institution (0 = No; 1 = Yes)</td>
</tr>
<tr>
<td>Esc-conjuge</td>
<td>Client’s spouse chose institution (0 = No; 1 = Yes)</td>
</tr>
<tr>
<td>Esc_filhos</td>
<td>Client’s children (or others) chose institution (0 = No; 1 = Yes)</td>
</tr>
<tr>
<td>Vida_activa</td>
<td>Client’s level of active life prior to institutional care</td>
</tr>
<tr>
<td>Rel_social</td>
<td>Client’s level of social relations prior to institutional care</td>
</tr>
<tr>
<td>Aval_cognitiva</td>
<td>Client’s cognitive level prior to institutional care</td>
</tr>
<tr>
<td>Act_lazer</td>
<td>Client’s level of leisure activities prior to institutional care</td>
</tr>
<tr>
<td>Resumo2_fisic</td>
<td>Facility’s innovative characteristics (physical/structural)</td>
</tr>
<tr>
<td>Resumo2_rh</td>
<td>Facility’s innovative characteristics (human resources)</td>
</tr>
<tr>
<td>Resumo2_func</td>
<td>Facility’s innovative characteristics (organizational/functioning)</td>
</tr>
<tr>
<td>Resumo2_ute</td>
<td>Facility’s innovative characteristics (client relations)</td>
</tr>
<tr>
<td>Sexo</td>
<td>Client’s gender</td>
</tr>
<tr>
<td>Idadecat</td>
<td>Client’s age (interval)</td>
</tr>
<tr>
<td>Escolarid</td>
<td>Client’s schooling</td>
</tr>
</tbody>
</table>

The data were processed using the binary logistic methods available in SPSS™, the results of which are presented in Table 3.

**Table 3:** Results of the binary logistic regression

<table>
<thead>
<tr>
<th>Variables influencing choice (independent variables)</th>
<th>Who chose the institution? (Dependent variable/result)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client ageing factors prior to institutionalisation</td>
<td>Client</td>
</tr>
<tr>
<td>Maintenance of an active life</td>
<td>---</td>
</tr>
<tr>
<td>Social and residential relations</td>
<td>0,703***</td>
</tr>
<tr>
<td>Cognitive and security assessment</td>
<td>---</td>
</tr>
<tr>
<td>Leisure activities</td>
<td>---</td>
</tr>
<tr>
<td>Innovation-related characteristics of</td>
<td>Physical/structural characteristics</td>
</tr>
<tr>
<td>Human resource related</td>
<td>---</td>
</tr>
</tbody>
</table>
On the basis of the results presented in Table 3, the following conclusions can be drawn. The model in which the spouse chooses the residential institution has the lowest Log Likelihood value and a Nagelkerke $R^2$ that is closest to unity, and provides a 93% level of explanation. The other two models are similar to each other in terms of adjustment and statistical significance.

When it is the client (i.e. the potential long-term resident) that makes the decision, the variables influencing the choice are:

1. The negative value (-0.703) attributed to the quality of the client’s social and residential experience prior to institutionalization indicates that this is one of the characteristics that has often been absent from the client’s life prior to institutionalization but to which great value is nevertheless attributed. Thus the client aspires towards an improvement in this respect after moving to the chosen long-term residential institution, particularly with regard to the satisfaction derived from his/her new residence in terms of the extent to which it meets his/her needs and provides time for socializing with and undertaking activities with friends and relatives. These conclusions support the finding of previous studies (e.g. Vaz et al. 2007) in which being elderly does not mean being inactive but rather being stimulated by active involvement in one’s chosen daily activities. As Justo (2005) argues, there is a tendency
for the elderly both to attempt to secure their existing social networks and to deploy new “havens” in which to do so; residential units for the elderly can be seen as fulfilling this objective – hence the importance of the client actively finding his/her new residence attractive and able to satisfy his/her needs.

2. The way in which the residential institution functions exerts an important influence over final choice (2,519) for even if the client has not felt deprived of dignity, privacy, freedom and autonomy before moving away from home, there exists an aspiration to retain and even enhance these aspects of his/her life. The preservation of independence is frequently a priority for the elderly and having the freedom to make one’s own decisions is synonymous with autonomy. According to Sousa, Figueiredo and Cerqueira (2006), respect for the dignity, autonomy and privacy of its elderly clients provides a virtual guarantee of success for a long-term residential institution. Given that relations between the client’s family and the institution are also crucial to its successful functioning, visiting hours need to be extensive and take into account the schedules and availability of friends and relatives.

3. Clients’ level of schooling also influences their choice of long-term residential institution. As shown by Table 1, in terms of schooling there are two predominant sub-groups in the sample: one consists of clients whose schooling has been minimal, closely followed by those with higher education. The conclusion may be drawn that both clients who, despite having little formal education, have been nonetheless materially successful, as well as those with a level of education that practically guaranteed relative material success, are keen to maintain the quality of life they have struggled to achieve, or to which they have become accustomed as a result of their professional status, respectively.

When the institutionalization decision is made by the spouse, two main variables come into play:

1. Opportunities for leisure activities (-1,558) made available by the institution, that perhaps it was not possible or not easy to enjoy prior to institutionalization, are determinant in the choice. According to Drucker and Senge (2002), the elderly are increasingly
drawn towards new horizons: they can open up a small business, travel freely, and enjoy cultural activities. In their own homes, an elderly couple develops social, cultural, recreational and sporting interests that enhance their welfare and cause them to see their social relations in a different light. The group with whom an elderly couple spends time becomes a key reference point in their lives. The search for and use of information and the exchange of views and opinions within the group help to promote and consolidate an active social and intellectual life for all its members.

2. The institution’s physical and structural characteristics (2,326) have an important influence on the final choice, for when the spouse takes the lead, preferences and needs common to the couple prior to institutionalization will be given priority, such as: good location, security and pleasant surroundings. With reference to the innovative aspects of the couple's chosen institution, the spouse who decides tends to place emphasis on the physical and structural aspects of the institution, in particular those that combine high standards of housing, a welcoming milieu and a comfortable environment with access to services that ensure physical and psychological wellbeing, as Ferreira (2006) has noted.

Finally, when it is the client’s children (or other members of the family) that make the institutionalization decision, a larger number of variables influence the decision:

1. Maintenance of an active life (0,685) has a clear influence, since when it is someone else making the decision, there is concern that the elderly person will be able to maintain their personal capabilities, keep healthy, retain an image of themselves as useful individuals, remain active socially and as a citizen, travel if they wish, in summary maintain a dynamic and vital lifestyle in site of the change of residence.

2. Social relationships (0,641) are also considered important by the decision-maker, who wants the elderly person to like and enjoy the new place of residence (despite not having made the choice themselves) and to feel that it matches his/her needs and preferences, in terms of providing facilities to spend time with friends and relatives.
3. The decision made by the client’s children or other relatives is also influenced by innovative aspects of the physical and structural characteristics of the institution (2,113), for a good location, security and pleasant surroundings will generate welfare and help the client to adapt well to the change.

4. Finally, the way in which the institution functions (1,883) has an influence on this type of decision, inasmuch as the decision-maker wants the client to retain his/her dignity, privacy, freedom of movement and personal autonomy, in spite of the institutionalization decision.

**Final comments**

From the study we can conclude that, in fact, with regard to the choice of an institution for long-term residence, there exists a relationship between factors associated with the ageing process (on the one hand) and certain innovative characteristics of the institution (on the other). However, the relationship is clearly mediated by the identity of the decision-maker. As Table 3 indicated, whoever takes the decision (be it the client him/herself, the client’s spouse, or the client’s child (ren) or some other close relative), is influenced by and prioritizes certain institutional features. When it is a child or close relative that decides, more variables are taken into account in the decision where the elderly person will reside. As Sousa, Figueiredo and Cerqueira (2006) have argued, the family occupies a fundamental place in the decision on whether an ageing parent will or will not be institutionalised. When an adult child or children opt to institutionalise, the decision is frequently underpinned by a recognition of the parent’s declining autonomy and increasing dependency (Perlini, Leite and Furini 2007), and this places greater emphasis on an institution’s provision of special types of structure/facilities and ways of functioning. Following the same authors, it was also possible analyse this decision in the light of the social pressure felt by the children: finding themselves to provide the necessary care at home, they tend to look for an environment that is even more attractive than where their parent(s) lived before. In addition to physical functionality, they look for professionally-administered care and the certainty that the needs of
their parent(s) will be satisfied. Family decision-makers also stress that a is an important aid to their settling in to an institutionalised lifestyle.

As is the case with all studies, a number of limitations were identified either at the outset or while the research was being conducted. First, though the size of the group to which the questionnaire was administered (residents of the Lar Hotel and the Queen Leonor Centre) was thought to be reasonable for the type of initial study the authors hand in mind, it may be insufficient to accurately reflect the opinions of residents (or of their spouses/family) in all such institutions at national level. A second limitation is associated with the difficulty of researcher access to high-quality residential facilities for the elderly, which is partly a result of the ethical stand they adopt with regard to their residents’ privacy, and partly due to an organisational resistance to outside scrutiny that is a feature both of the Santa Casa da Misericórdia, and of new privately-financed ventures in this market.

The fact that relatively little research has been undertaken on innovation in social sectors, and even less on the demand for and functioning of residential institutions for the aged, constitutes a third limitation of this study. As such, the theme of social innovation is itself innovative, and suffers from both the positive and negative consequences of this status. A fourth limitation has to do with the unprecedented nature of the research either in the Portuguese or other European contexts, which rules out comparisons between the results presented here and those of other studies.

However, the limitations sketched out above furnish new opportunities for future research, and it is to be hoped that the methods described here and the results produced will constitute an acceptable starting point for other studies. Firstly, due to the relative uninvolved nature of the concept of social innovation, future studies on this theme should focus on identifying and testing more variables related to innovation. Since clients and their carers appeared to have very different conceptions of what constituted innovation and what did not, the concept As deployed in this research needs to be further developed, including a more rigorous disaggregation into its component parts than has been attempted here. Improvements in conceptual specification will have implications for the research methodologies used in the future: the collection of more detailed
data on the variables associated with innovative services for the elderly may demand, for example, the use of triangulation methods (i.e. approaching the same issues from several perspectives via additional questions), or the collection of more qualitative data via a second round of interviews, or by using focus groups of clients, decision-makers and/or institutional managers. Secondly, because of the limited sample size, future studies should attempt to survey larger populations of the elderly in more institutions of this type, thereby improving the representativeness of the sample, the robustness of the results, as well as the possibilities of making well-founded inter-regional or even international comparisons.

The results of this study have various implications for the management of institutions providing long-term residential to the elderly already established in this market, among which possibly the most important relates to the need for managers to focus on the innovative aspects of the facilities and services the institutions offer. Those making institutionalisation decisions particularly stressed the value they attach to the provision of an institutional environment conducive to (a) maintaining contact with the client’s social networks of friends and family; and (b) providing an innovative range of recreational and “wellness” services. In conclusion, it is worth noting that this wider range of services, constantly monitored, assessed and updated, could not be provided by the institution itself, but rather through a network of local specialist firms. In turn, the expanded provision of such services would build a substantial and more solid market for local enterprises of many types, thereby contributing to local employment and value-added retention, and to local human resource development.

References


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