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Econ Lit – J 530

THE LEADERSHIP OF THE HUMAN FACTOR – A STRATEGIC TASK FACING INDUSTRIAL ORGANIZATIONS

Prof. Dr. Ec. Sc. Yosif Iliev

Argumentation

Scientific literature in the field of leadership issues is an important part of the richness of human resources management today. Studying it shows that there are plenty of issues for discussion, as well as too abstract theoretical concepts and constructions. Another extremity of a broad scope of articles are “the ready-made recipes and slogans” about leadership and leaders in organizations. Yet, one cannot underestimate a number of essential arguments and approaches of leading foreign authors from the point of view of their significance and usefulness for the business practice.

The picture above, which is strongly generalized, results into serious difficulties for the management of organizations in forming a neat concept about leadership in them, its transformation into a policy towards leadership and mechanisms for realization.

The subject of leadership, mastering and applying it in the business practice became particularly significant in modern conditions. On the level of industrial organizations leadership in its human dimension is accepted as a factor that can form competition. At the same time, it determines the technological and innovative leadership of organizations to a significant degree.

It is indisputable that Bulgarian industry needs a long-term vision for development in order to have its proper and dignified place among the industries of the EU member countries. Together with this, it needs to enrich the potential for industrial growth as a prerequisite for its bigger contribution to the economic growth of the country. In the context of the challenges mentioned above, the subject of leadership and in particular mastering and affirming it in industrial organizations has a great scientific and applied significance. Achieving leadership consistently in its human dimensions through adequate policies and mechanisms in our industrial organizations deserves to be defined as a basic priority task in the efforts for increasing their competitiveness and generating industrial growth.

1. Counteractive factors for developing leadership

Our studies in the field of leadership in big industrial organizations in the country confirm incorrect ideas, long established in their practice, such as: accepting leadership and leaders as synonyms; complete domination of the idea that the first (supreme)
head of the organization is its (only) leader; the understanding in many organizations that leadership is a union of the whole management team and others.

The development of current and future leaders of medium and big industrial organization faces a number of counteractive factors and requires overcoming them:

- heads exercise authority and this empowerment is understandable. At the same time many of them have a mentality problem as a result of unwillingness, even a fear to lose power, lose control over the people they manage. In this respect the development of leadership is accepted to a considerable degree as threatening the power and control of senior management;
- big organizations are characterized by structures which are predominantly vertical and bureaucratic. Every head in the managerial hierarchy actually depends on the leader or leaders above him. The sense of dependence too often leads to a behaviour of the particular head that is oriented to “doing what is ordered from above”;
- as a rule managerial hierarchy in the organization is accepted by many heads (and employees with the potential for future heads) as hostile and fostering in them the sense of obedience and even fear of seniors;
- limited ideas for motivation in organizations, including the constant domination of sanctions and punishment, deform the working behaviour of heads in the managerial hierarchy as well – it becomes manipulative and they resort to what eliminates sanction – punishment;
- the philosophy of the “carrot and stick” used by many senior heads in interacting and influencing their employees is another serious issue that counteracts the development of leadership in industrial organizations. Actually, there arise motivation issues that often lead to demotivation for manifesting the leadership potential of the heads in the managerial hierarchy, including employees with potential for growth;
- the long-established belief of heads and employees in many organizations that leadership is a result of a managerial position, even the opinion that there is a single leader in the organization – its first director, respectively. Without denying the influence of the first director or head on the company’s activity and results, it is indisputable that the position “at the top” does not turn automatically the person there into a leader;
- the established and followed “myth” among and by many heads that by holding a high and the next high managerial position in the organization (including the one at the top) they become leaders without having learnt how to be such ones. In other words, seriously undermining the knowledge of leadership that is necessary before holding a managerial position and that turns into mastered knowledge in holding the position;
- automatic link between the influence on other people (employees in the business organization) and the managerial position that is held, in particular the naive belief and expectation that people will always follow the person who manages them;
- the incorrect outlook of many heads and employees in business organizations concerning the limitations of the position held and in particular their understanding that climbing the hierarchical ladder leads to less limitations. In other words, misunderstanding the idea that leadership does not abolish limitations (responsibilities, respectively), it puts them in harmony (accordance) with the individual’s abilities, instead;

- the restriction, voluntarily self imposed by many heads and employees with potential for growth, to manifest inherent leadership qualities and tendencies for leadership behaviour. It results from lessons learnt from interacting with senior heads.

Without generalising, these are examples from the reality in many Bulgarian industrial organizations and the vaguely outlined issues indicate serious weaknesses in the practice of affirming and developing leadership and leaders in them. One can make the initial conclusion that the predominant part of industrial organizations need to reconsider seriously the subject of leadership and, if necessary, with the help of a consultant to lay the basics for its successful application. Actually, a number of studies of renown foreign authors in the field of leadership give the ground to point out that the issues, systematised above, are characteristic (typical) for foreign organisations as well.

2. About framework issues and argumentation concerning leadership in its human dimensions

The richness and variety of the subject of leadership presupposes the necessity to make basic argumentation and understanding, from the point of view of usefulness for the business practice, at that.

The studies of leading authors in the field of leadership (P. Drucker, S. Cooper, D. Maxwell, Ulrich and Smallwood, D. Georges, D. Nicholas, H. Levinson and others) give grounds to distinguish a number of generalizations that are useful for practice:

- What is basic and shared by authors as a whole, is interpreting leadership in its human dimensions as an opportunity to create leaders for all hierarchical levels of the organization.

- An important emphasis is placed on the organization leadership abilities which are elaborated as its capacity to affirm future leaders.

- A significant generalization is that in the centre of leadership is the creation of conditions, environment and prerequisites for the manifestation of leadership qualities and skills on behalf of heads and employees.

- Valuable and useful for the practice is the argumentation about leadership as a process of influencing and creating followers of the real (affirmed) leaders in the organization.

- And last – the important emphasis on the cause-and-effect principle in the relation “leadership – leaders”, as well as the necessity not to accept the two key concepts as synonyms.

My understanding and definition of leadership of the human factor, which I present here in the article, is as follows:
Leadership in its human dimensions, namely leadership of the human factor, is actually the ability and potential of the industrial organization to discover, build, motivate and develop leaders on (for) all hierarchical (managerial and other) levels of the organization.

The understanding above of leadership in organizations focuses the attention of their management on the necessary policy and mechanisms for giving vistas and being at the base of building leaders on (for) all hierarchical levels. In other words, it is about a necessary transition from the essence of leadership to a policy and mechanisms for its development in the organizations.

The second focus is on separate personalities, their qualities and behavior as a prerequisite for affirming them as leaders in the organization, i.e. this argumentation gives directions how to develop company leaders.

The third focus is that the company potential for leadership concerns the creation and maintenance of a favorable (appropriate) environment for discovering and mainly for affirming company leaders – a thesis that can reach organizations and their management in an easy and understandable way.

In the article, among the most important prerequisites for providing leadership of the human factor in industrial organizations I distinguish the following:

- Owners and top managers have a conscious understanding and conviction about the benefits from affirming leadership of the human factor – including benefits for the organization itself concerning the opportunities for increasing the company competitiveness; benefits for the staff ensuing from the vistas for manifesting its labor potential and gaining recognition for better performance; benefits for the economy of the country through a bigger contribution of industrial organizations to the industrial and, hence, economic growth.

- Knowledge in the field of the leadership subject in the top management and availability of the particularly important prerequisite – the empowered first head of the organization is a real leader. In the context of interpreting leadership as a process of creating followers one can define this stage as exceptionally significant.

- Availability of (or reaching) an inspiring vision and mission of the industrial organization; affirming company values, company culture and organizational culture in it; applying standards in relationships that are based on mutual respect, openness, principles, justice and trust. This prerequisite is a serious challenge to the top management, but it lies in the base of sharing values between the leaders and their followers.

- Real accession of human-resources management in organizations to the modern achievements of the science and its requirements. Vistas before leadership in our companies require to have priority tasks in the field of human-resources management, namely:
  - building (or perfecting) systems for managing human resources in them, whose functioning can summon up and increase their labor potential and thus labor productivity;
enriching the motivation policy with mechanisms for increased labor motivation of all employees;

- actions for making teamwork and teams in accordance with scientific principles and requirements.

Why in the context of the leadership subject in the article do I place an emphasis on the necessity of a significant perfection of human-resources management in organizations?

In answering this question there are several important arguments:

- strong influence of the quality and performance of human resources on the net added value of organizations and the added value of manufactured products while at present products have low added value;

- in a close perspective one cannot expect intensified (desirable, necessary) investment activity in the industry and this needs to be compensated mainly through an increased potential of the human factor;

- possible lasting sustainable competitive advantage of the human factor in view of its increased usefulness, worth and value. This potential is created and used through successfully solving the priority tasks pointed out above, together with affirming the leadership of the human factor.

Without elaborating on the plentiful definitions of the leader (leaders), further in the article I accept the following working concept:

**The leader is a personality who, with his qualities and behavior, exerts strong influence on other people – an impact which turns them into his followers.**

This understanding of the leader allows me to distinguish two important initial stages:

- **first**, the strong influence on other people is a result of the personal qualities and the ensuing behavior;

- **second**, the leader’s influence is predominantly on the interpersonal relations, it is oriented to achieving general goals and defending the interests of his followers (respectively supporters).

From the point of view of the subject of the article, of interest is the integration of two roles in the organization, namely: that of the head in the management hierarchy and the organization and that of the leader!

In this sense the next working concept of mine is «head – leader».

What I mean is the officially empowered personalities in the organization hierarchy who have power over people and resources in a way that is significantly different from the so called «management of the boss». In this respect in scientific literature there are plenty of characteristics of the head-leader compared to the non-leader (manager, superior, boss).

As a rule, when particular leaders do not have and do not show leadership qualities and behavior the “niche” is taken by the so called “informal leaders” (of or in the teams).

Informal leaders through their qualities and behavior take key positions in the system of human relations. These relations are not formed in the way the management
«prescribes». Instead, they are the result of spontaneous liking, respect, trust and so on on behalf of the people to particular personalities outside the management team. Their leadership has nothing to do with their working positions, instead it is accepted by employees (or teams) as a result of the people’s judgement that these personalities embody qualities and behavior that inspire respect, trust and recognition. This presupposes the influence of the informal leader on the team members and brings forth a sustainable tendency for creating followers.

The outlined “picture” is a phenomenon that is frequent in our industrial organizations, and assessing it implies several viewpoints. The presence of informal leaders leads to complex relations between them and the officially empowered heads, which can be grouped into three basic types: cooperation, conflict, mixed. Without expressing extreme positions or giving “ready-made recipes” for decisions, one needs to point out that there are “pitfalls” in each of the three types of relations.

Industrial organizations (respectively their top management) therefore need to be ready and have the will to integrate successfully informal leaders, including the likelihood for the informal leader to take the post of the empowered head (non-leader); without the informal leader taking a managerial position, instead by empowering him to exert his influence on other people for the benefit of the organization.

3. The model of leadership qualities and the opportunities for assessing the qualities that heads have

A wide scope of leadership qualities and leadership behavior forms the model of the ideal leader. It is completely understandable that real people (heads and future heads in the organization) do not have simultaneously and completely the qualities that are introduced by the model. The particular head objectively cannot “cover” the idea of the ideal leader, whom Levinson successfully compares to “a diamond with finely cut qualities, but with shortcomings, too”. For the particular personality certain qualities (including leadership ones) are more important than others and this depends on the individual value system, motivation inclination and even the environment (in the company and outside) in which the individual’s living and professional activity takes place.

The real issue in the large scope of leadership qualities lies in the necessity of purposefully parametering this type of managerial behavior that is characterised as leadership. A number of current reference sources offer approaches and decisions for solving the problem. In this article the emphasis is placed on significant personal qualities that are interpreted as leadership ones and the idea is that they underpin the managerial behavior of the particular head, together with this they can be enriched systematically.

Having this orientation to leadership qualities and the ensuing leadership behavior, one can use two approaches:

The first one is actually the introduction of criteria and scales for assessment using defined leadership qualities that are accepted as a model.

The second, without being totally different from the first one, emphasizes on the variety of working situations when the head demonstrates ways of handling them and certain ways are interpreted as leadership.
In both approaches the final scores are expert, approximate and should not be taken as ultimate. They should not be undervalued especially if the underpinning ideas find a successful relevance in an adequate methodical approach and a set of tools for discovering leadership qualities and behavior in heads and employees with leadership potential.

One has to emphasise that the characteristics through which desired leadership qualities are scientifically described, are important but we should bear in mind that people are more complex than similar characteristics. It is difficult to fix human behavior into desired categories. In this sense even a neatly formulated methodologies and its subsequent successful application in organizations will ensure results for having leadership qualities that need to be accepted as approximate and above all as good guidelines for actions aimed at enriching these qualities.

The necessity to “start” from the personal qualities of the head-leader finds arguments in the following:

- they result into the head’s personal attachment to a particular management style (authoritarian, democratic, liberal);
- they result into a priority in the head’s orientation to one of the two types of behavior: to duties and tasks or to people and interpersonal relations;
- personal qualities are the phenomenon which to a considerable degree defines the head’s own motivation and his skill to motivate the team members.

The methodical framework in discovering and affirming leaders in the industrial organization presupposes the necessity of working out a model of leadership qualities. This model underpins the assessment of the leadership qualities that heads in the industrial organization really have. The challenging task is “grounding” to and in the industrial organizations an acceptable narrowed model of leadership qualities out of their rich variety.

When applying the model of leadership qualities I offer to the large industrial organizations, one has to bear in mind purposefulness and thus my recommendation that the model renders an account of the level of the management position. It is indisputable that part of the leadership qualities have different significance for the heads on high, medium and low level of the organization and part of them are relevant irrespective of the management level. D. Maxwell pays attention to this circumstance and places an emphasis on leadership qualities that are specific for the different managerial positions. In other words, in the presence of a number of qualities, interpreted as leadership, creative and convincing one can and has to work out models of qualities that are differentiated for the three management levels and need to be the ground for appropriate methodical notions.

In its analogy the approach accepted and suggested in this article is close both to the argumentation of indicators for assessing the working performance of the management team and the method of competence models. I mean a clear and understandable definition of certain leadership qualities in the model by judging which of them have to be completed with characteristic signs. This completion is in view of not making difficult the subsequent discovery whether a particular real head has or doesn’t have leadership qualities.
In compliance with the argumentation that the vista before the leadership in the organization requires for its first head to be a real leader, further in the article the model is directed to a scope of leadership qualities that are natural and typical for first heads.

The list of the ten leadership qualities suggested in the article is as follows:

1. Being influential;
2. Vision;
3. Experience and empathy;
4. Consistence;
5. Responsibility and fulness.
6. Communicativeness;
7. Dedication and trust;
8. “Eternal student”
9. Orientation to prospects;
10. Flexibility and thought-decisiveness.

A couple of considerations concerning how the list of leadership qualities in the model was made:

First, a large part of the authors define a much broader scope of leadership qualities, without differentiating them according to the separate management levels.

Second, D. Maxwell marks out a number of leadership qualities (more accurately, an examplary scope) for the first heads of the organization and the leaders as a whole.

Third, the list of leadership qualities I suggest, is a result of a questionnaire with twenty executive directors of large Bulgarian industrial companies. The questionnaire covers twenty significant leadership qualities from which the respondents have formed their own ranking list of the ten most important qualities. The list sums up the ten qualities of the model.

Fourth, the leadership qualities above, as well as the remaining ten, have been “deciphered” beforehand according to their basic features (characteristics).

The leadership qualities with their characteristic features are as follows:

1. **Being influential**: the ability to persuade not necessarily with “the power of one’s position”. There are proofs that the members of the leadership team have been influenced by way of persuasion. The person creates the leadership team as one made of his supporters and followers in achieving both strategic and tactic company goals and tasks.

2. **Vision**: the person shares and affirms in the organization the concept of collective leadership (respectively leaders on all hierarchical levels are necessary). He establishes his leadership team “under him” and has an important contribution in building it. He selects real leaders for the team, even ones that are better than him in certain activities.

3. **Experience and empathy**: He is good at listening and especially listening to the leadership-team members and proves it all the time. He understands and shows sensitive insight in the positions, opinions and needs of the team members. Leading the leadership team is preceded by listening to what the remaining team members think and this guarantees their readiness to follow him.

4. **Consistence**: he accepts the creation of followers as one of his basic responsibilities. He encourages leadership initiatives and provides the accumulation of leadership experience in potential leaders. He takes care of discovering future leaders, affirming and developing them in the organization. He evaluates the successful leadership
of certain heads on a hierarchical level as a competence and prerequisite for their leadership and managerial position on a next hierarchical level.

5. **Responsibility and decisiveness.** The individual takes the personal responsibility appropriate for the first head of the organization. He takes also reasonable risks; has the will and courage to make unpopular decisions, including ones in complicated (extreme) situations. He has the skill to delegate rights and responsibilities to members of the team.

6. **Communicativeness:** The person shares the idea about the members of the leadership team as people who increase both the common and his own opportunities for successful management of the organization. On this ground his communication is understandable and sincere, with an emphasis on «important things». Through communication he gives proofs for building and developing interpersonal relations in the team and even in the organization. He communicates with people in a tolerant way and wins them through guidance and encouragement. He takes into account the individual differences and peculiarities of the character of separate personalities. He communicates with respect to people which is a prerequisite for an atmosphere in which everybody can manifest his abilities.

7. **Dedication and trust:** the person shares the idea about necessary mutual empathy of the leadership team to the strategic and tactic outlook and decisions for functioning and development of the organization. On this ground he creates and develops the leadership team as people who trust each other and believe in the team. The person finds the balance in being dedicated to the people (in the team and in the organization), the processes and activities, the achieved results. He can motivate the team members through fair judgement of their contribution and adequate forms of recognition. He has real contribution to and dedication in providing that the goals and interests of the organization converge with those of the staff. His behavior and actions inspire trust both on behalf of the leadership team and the staff.

8. **«Eternal student»**: he is aware of the necessity of always enriching his own professional competences and especially his leadership qualities, style and line of managerial behavior. He proves to have business knowledge in various trends (acquiring scientific innovations, studying and considering good practices of others; learning lessons from one’s own experience and that of other people and so on).

9. **Orientation to prospects:** he shares the idea about a necessary vision for development of the organization. Following it, therefore, has to increase competitiveness. The person gives proofs for his own significant contribution to creating and following a vision for development of the organization. He demonstrates abilities to “see far and ahead”. Together with his team he identifies the necessary changes and “plays” the role of an engine in managing the changes in the organization. He makes the changes and the development of the organization in unity with the development of the people in it and especially the development of the leadership team.

10. **Flexibility and resourcefulness:** the person shares the idea that when the organization functions, together with the strict rules and mechanisms for carrying out processes and activities, there always occur situations that require relevant decisions. On this ground he gives proofs for successful adjustment to changes in the internal
and external environment. He relies on the leadership team too and demonstrates abilities for achieving the best possible results by optimal use of resources. In many cases he rearranges activities and people not only adequately to influential external factors but also having “reserves” (preliminary readiness) for making this rearrangement successful. He comes up with accompanying activities that are the potential for the organization and “the buffer” when problems in the basic activities occur.

The comparison between the leadership qualities in the model and the ones that particular first heads of organizations really own brings forth several problems for solving:

- choosing appropriate methods whose use ensures enough proofs that heads have or don’t have leadership qualities;
- correct use of the methods, also because of the circumstance that to a considerable degree they are based on expert judgement;
- in judging whether the head of an organization has leadership qualities one should also take into account the results from the evaluation of the performance of the head’s team.

Understandably, the article does not go into particularities of the issues, only several important ones are pointed out.

In order to assess the leadership qualities of first heads of organizations one can successfully use a variety of methods such as purposefully made tests, profile (psychological) questionnaires, questionnaires, the method of motivational profiles, the method of competence profiles, case-studies, the method of the 360-degree feedback and others.

By principle the set of profiles mentioned above is applicable (not necessarily all of them) for heads in the hierarchy of industrial organizations. Yet, when one needs to assess the leadership qualities of first heads, undoubtedly he has to take into account a number of considerations concerning and resulting from their position. Thus at least two issues are pointed out in the article:

• **First**, indisputably there is a need to discern the attitude of the staff and especially that of the management team to the first head of the organization, they should admit how they accept him as a leader (or non-leader) of the organization. This sensitive task presupposes working out a specific contents of methods used for this purpose;

• **Second**, naturally, assessing the leadership potential of the first heads of organizations has to be based also on proofs for the results of the organization functioning. This task is much more difficult, having in mind that it is exceptionally difficult to distinguish the contribution of the first heads to the end results of the organization functioning. It is relevant to point out that a research team from the Department of Industrial business in UNWE also works on this important issue in the context of a larger research project. What I can point out in this article is:

- orientation to contribution to results in the context of competitiveness – including the acquiring and/or enriching with competitive advantages of the organization; a tendency for increasing the competitiveness of the
produced products and their added value; entering new market niches and increasing the export potential of the organization;
- strive for limiting factors outside the organization that counteract the results and tendencies above, i.e. for the first head taking into account the unfavorable influence of factors from outside the organization which he cannot influence objectively;
- giving a priority to the first head’s influence on the abilities and potential of the organization when assessing his contribution including management of changes that adapt the organization to the external environment and decrease its unfavorable impact;
- searching for and grounding on indicators for pointing out the contribution of the first head of the organization to end results of its functioning mainly in the scope of his influence on heads, top specialists, employees that has resulted into a motivating environment for full manifestation of their potential in the working activity.

It is indisputable that the type of the suggested consideration and ideas are mainly general on this stage, i.e. the task ahead is to work them out scientifically and on this ground apply them in a number of large industrial organizations in the country.

Conclusion

It is indisputable that currently Bulgarian industry has complex problems and faces serious challenges. Its unenviable place among the industries of the EU countries is a consequence of a number of factors and reasons. Most of them are known, moreover – at forums of the Association of lecturers in economics and management of industry our community discuss them systematically and from a scholar’s point of view, we also make well-grounded suggestions for solving these issues. These conferences, the articles and discussions can be our common contribution to providing a dignified place for the industry, for industrial and hence economic growth of the country.

The subject of leadership in its various dimensions is a challenge both for our specialized community and the representatives of our industrial practice in the strive for achieving industrial growth. Without any unnecessary optimism we can summarize that the symbiosis between “scientific community and industrial organizations” is an important step on the complex and difficult road to achieving industrial growth.

THE LEADERSHIP OF THE HUMAN FACTOR – A STRATEGIC TASK FACING INDUSTRIAL ORGANIZATIONS

Prof. Dr Ec. Sc. Yosif Iliev

Abstract

The leadership issues and particularly the leadership of the human factor is among the current priorities of the science of human resources management. The scientific literature in this field contains a wealth of theoretical concepts, formulations, views and recommendations
towards the business practice. There is the indisputable need for our industrial organizations - including support on the part of consultancies - to give scope to leadership in its human dimensions. This scope calls for an adequate policy towards leadership and mechanisms for its implementation. It is in the context of what has been said above that the subject and the content of the present article lie. The content of the article constitutes a symbiosis between contemporary scientific formulations in the area of leadership and methodological issues with partial approbation in industrial organizations. The achievement of results on the part of our industrial organizations in mastering leadership issues can be their strategic task in the effort to raise competitiveness and generate industrial growth.

Keywords: leadership of the human factor, leaders, managers-leaders, leadership qualities, leader's behaviour.
On 24.10.2013 in the University of Economics–Varna an international scientific conference was held on “Statistics as a science, education, profession and activity”. It was dedicated to “2013 – International year of statistics”. The conference was organized by the Department of “Statistics” in the Faculty of “Informatics” in the university.

36 papers were presented for participation in the conference. They were printed beforehand in a separate collection. The participants were from Bulgaria and abroad. The aim of the scientific conference was to stimulate:

- spreading the contribution of the statistical science, education and profession among all specialties in the faculty and the university for strengthening their integration in the educational process;
- uniting the researches of lecturers on interdisciplinary issues of economics for achieving complex innovative decisions and for stimulating team work;
- creating more opportunities for exchange of scientific ideas in public discussions of the findings of various authors’ researches, reported at the conference;
- presenting the results of PhD students from their dissertations;
- creating publicity of the scientific researches, reported at the conference through publishing them in a separate collection.

For participation in the conference there were presented scientific papers of foreign authors from: the Moscow banking institute (Moscow, Russian federation), Mordovia state university “N. P. Ogaryov” (Saransk, Russian federation), Lvov national institute Ivan Franko”(Lvov, Ukraine), the Higher school of economics and business (Sarajevo, Bosnia and Herzegovina) and the University in Mazandaran (Balbozar, Iran).

The Bulgarian participants with papers came from: UNWE–Sofia, department of “Statistics and econometrics” and department of “Economic sociology”; AE “D. A. Tsenov”-Svishtov, department of ‘Mathematics and statistics”; Sofia university “St. Kliment Ohridsky”, department of “Sociology”; Varna Open university “Chernorizets Hrabar”; the Institute for economic researches at the Bulgarian academy of sciences and the National statistical institute.

The international scientific conference was held under the patronage of Prof. Dr. Plamen Iliev – Rector of the University of Economics–Varna. It was opened by Prof. Dr. Dimitar Stefanov Radilov, chairman of the Organizing committee. In his speech he pointed out that the goal of the conference is to spread the contribution of the statistical science, education, profession and activity among all specialties in the university and the similar higher schools for strengthening their integration in scientific researches and innovative decisions.

Congratulatory addresses to the participants in the international conference were sent by Prof. Dr. Plamen Iliev – Rector of the University of Economics–Varna and
Prof. D. Sc. (Econ) Statty Stattev – Rector of the University of national and world economy–Sofia.

A congratulatory address from Reneta Indzhova, PhD – chairman of the National statistical institute–Sofia was read by Mrs. Diana Gecheva Yancheva – deputy-chairman of NSI–Sofia. In it gratitude was expressed for the invitation to the National statistical institute to take part in the international conference and all statisticians in the hall were wished to do their best for affirming the world, European and Bulgarian statistical practice, for enhancing the professional literacy and interest of young people in statistics.

Congratulatory addresses were offered by the Vice-Rector for academic affairs Assoc. Prof. Dr. Evgeni Stanimirov, the Dean of the faculty of Informatics” Assoc. Prof. Dr. Todorka Atanassova, the Head of the department of “Mathematics” Assoc. Prof. Dr. Rossen Nikolaev, Assoc. Prof. Dr. Margarita Bachvarova – Head of the department of “Legal Studies”, the department of “Tourism” and other departments in the University of Economics–Varna.

The work of the plenary session was led by Assoc. Prof. Dr. Veselin Hadzhiev – Vice-Rector for research and Head of the department of “Statistics”.

At the plenary session two papers were presented by Prof. D.Sc (Econ) Dimitar Radilov and Prof. D.Sc (Econ) Ivanka Saykova.

Prof. Radilov’s paper reviews the knowledge of the statistical science in today’s world. They refer to statistics as a science, activity, education and ethics nowadays. It is pointed out that statistical knowledge is diverse and significant.

In the modern world information, knowledge and communication play a central role. The world develops with shocks and dynamics. Its characteristic features are: creation of new information technologies, turning science and education into basic human values, development of globalization and need for flexible intellectual qualities and life-long learning. A subject for discussion is the new paradigm for developing the science of statistics also as information one, which expands the scope of statistical knowledge. The theoretical-and-methodological function of the statistical science is directed to higher quality of statistical information and turning statistical knowledge into innovations for business needs.

The statistical activity comprises the development, methodology and planning of statistical research; receiving, collecting, processing and keeping individual data, statistical information and its analysis and submitting and spreading statistical information. It develops as an integrated cognitive process. It is necessary to make changes in the contents of the statistical profession and the emergence of virtual offices in their work environment. The education in statistics needs to be harmonized with the education in the European Union. Its contents need to include new knowledge in relation to the changing environment of the labor market, the new rival professions and the marketing of statistical knowledge.

Increased trust to statistical knowledge is based on ethical principles. They need to be part of educational programs. The control over compliance with these principles has to be assigned to independent professional statistical societies.

In conclusion Prof. Radilov pointed out that it is necessary to spread statistical knowledge not only in all spheres of socio-economic life, but especially among young people, pupils and students, and future statisticians as well.
The second plenary paper was presented by Prof. Ivanka Saykova. It deals with the condition and results of the analysis of statistical information which can be assessed both in dynamic aspect and in reference to satisfying public needs, expectations and opportunities offered by science today. Subject of discussion is the analytical work of professional statisticians and other researchers, who deal with analysis of statistical data.

Prof. Ivanka Saykova pointed out that from the point of view of satisfying public needs for new knowledge there isn’t much ground for satisfaction with the results of the analytical work – mainly because of missed good opportunities for gathering new knowledge. The production of new knowledge requires the application of both routine analysis and the theory of heuristic thinking. Yet, its tools are not well known in our country, that is why they are rarely used in analyzing statistical data. In this respect the institutions of the Bulgarian educational system – the Ministry of education and science and its structures are yet to give much more to the public. So does business, which, contrary to its interest is not that active and almost does not show any signs that it is ready to invest in this field, even though in business there is no lack of programs for higher qualification of those employed in the activity. The expectations for producing more scientific knowledge and giving reasons for useful innovations need to be based on serious investment and care for increasing the innovative potential of people, including that of researchers in the field of statistics. The task is of utmost significance, having in mind the fact that the skills for such thinking and behavior are not present. They require special preparation which is missing in our educational system. Above all, it is necessary to reconsider and change the attitude to research and to what is necessary for the researcher. We need also to reconsider and realign our priorities. Increased innovative capacity deserves to become one of the most important priorities in management strategies. In the conclusion of her paper Prof. Ivanka Saykova pointed out that no impossible financial resources are necessary for statistical analysis. The most difficult issue is elsewhere – in providing a sufficient number of lecturers with good preparation on the subject. To do this it is necessary to give the grounds for a strategy, outline a policy, work out and apply respective action programs.

At the plenary session after presenting the papers the issues discussed in them were the subject of a heated scientific discussion.

In the afternoon the work of the international conference continued in three sections. The first was “Development of statistics as a science: theory and methods”. 13 papers were presented as part of the section. They refer to exploring the similarity in measurements in the statistical analysis of dichotomous data; intelligent growth in the Strategy “Europe 2020”; tests for casual fluctuations based on daily, weekly and monthly currency rates; the dynamics of direct foreign investments; the application of the co-integration method in assessing the connection between export, import and gross domestic product; the cycles in end consumption of households in relation to unemployment and others. The work of the section was chaired by Assoc. Prof. Dr. Stanka Zhekova – Deputy-Dean of the faculty of “Informatics”. The work of the first section finished with summaries as a result of the papers for discussion.
The second section was “The statistical education and profession”. 9 papers were presented in it. The work of the section was chaired by Assoc. Prof. Dr. Veselin Hadzhiev from UE-Varna. There were reviewed debatable elements of teaching statistical summaries in Bulgaria, the education on statistical software in applied studies, the use of statistics in commodity science, new ideas in carrying out business questionnaires, the use of nomographs in medical tests, predicting and forecasting missing data in traffic in telecommunication networks and others. The work of the second section finished with summaries as a result of the papers for discussion.

The third section was “The statistical activity and applied researches”. 12 papers were presented in it. The work of the section was chaired by Assoc. Prof. Dr. Rossen Nikolaev. The papers focused on the application of econometric methods for studying the influence of Bulgarian foreign debt on the economic growth of the country, forecasts for consumer expenses, structural changes in state expenses in times of crises, the dynamics of the efficiency of Bulgarian “socialist” state property, the stochastic concept of the assignment task, an application of the de Moivre-Laplace theorem for optimizing the distribution of incoming ships in the Port of Varna-West and others. The work of the section finished with summaries as a result of the papers for discussion.

36 papers in total were presented at the conference: 2 papers at the plenary session, 13 papers in the first section “Development of statistics as a science: theory and methods”, 9 papers in the second section “The statistical education and profession” and 12 papers in the third section “The statistical activity and applied researches”. In the collection of articles there were published 8 papers in English, 3 in Russian and 25 in Bulgarian.

The PhD students had the opportunity to report the results from their dissertation papers which were discussed. Useful recommendations were made too.

The general summary is that the international scientific conference dedicated to “2013 – international year of statistics” achieved the set scientific goals for strengthening public awareness of the power and impact of statistics on all public spheres.
A characteristic feature of the modern world economy is the globalization process, affecting virtually every sector of the economy of the world. As noted Didenko, globalization “may develop unevenly, pause, break through to a new level, while providing a different impact on different countries.” Changes in the structure of economic space resulting from globalization have a significant impact on the Russian economy. Globalization can be defined as the process leading to the internationalization of production, scientific and technical progress, the unification of capital in international financial markets, people into a single global system, global community. It should be noted that the process of globalization is primarily exposed to the financial sector, but its impact is also great for all sectors of the economy, including the sphere of real estate through the flow of capital, information processes, and through the movement of the human capital.

At the same time appeal to the real estate industry is particularly interesting due to the fact that the property is, by definition, non-movable goods, and at the same time, investments in real estate have a strong multiplier effect. According to the study of Chinese economists (see Fig. 1) each monetary unit invested in real estate, generates total demand of 2.6 units.

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In this connection, attraction of investments in real estate is becoming an important factor for economic development in general, stimulating significant economic growth, which each country requires. It identifies the need to analyze the investment attractiveness of the real estate market as a regulator of economic growth in the context of the impact on this market globalization. The problem to be solved, in our opinion, consists of two aspects:

First, given the position of a particular country in the group of countries with similar economies;
Second, given the state of the local real estate market of the country;

Let us dwell on these two aspects.

To analyze the position of the Russian property market in terms of investment attractiveness is needed to select a group of countries with similar economies. According to Goldman Sachs chairman Jim O’Neill “...an increasingly important role in the world developing countries will play”

The BRIC Countries, clustering on the basis of the most dynamic markets, are having greater and greater impact on the world economy. The GDP growth dynamics in BRIC countries is presented in Figure 2.

As of 2012, four BRIC countries: Brazil, Russia, India and China have contributed to world GDP $2.2 trillion, equivalent to the emergence of a new Italy every year.

Figure 1. The multiplicative effect of investing in real estate

<table>
<thead>
<tr>
<th>Investment</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>12.3 billions yuan</td>
</tr>
<tr>
<td>Building</td>
<td>9 billions yuan</td>
</tr>
<tr>
<td>Mining</td>
<td>1.6 billions yuan</td>
</tr>
<tr>
<td>Trading</td>
<td>1.1 billions yuan</td>
</tr>
<tr>
<td>Real Estate</td>
<td>1.1 billions yuan</td>
</tr>
<tr>
<td>Communal-General Service</td>
<td>0.7 billions yuan</td>
</tr>
</tbody>
</table>


Figure 2. GDP growth in the BRIC countries over the period from 2002 to 2012

In 2013, China’s GDP growth is expected at – 8.5%, the growth of India’s economy is projected to reach 6.5%, Brazil - 4% in 2013. Russia’s GDP growth forecast for 2013 is 3.3%.

Figure 3. GDP per capita in BRIC countries

Figure 3 shows leading positions of Russia and Brazil in terms of GDP per capita. However, in whole, the lag of BRIC countries behind the advanced countries persists. The graph comparing GDP per capita in developed and BRIC countries is presented in Figure 4.
The analysis of another indicator - Index of Economic Freedom of the BRIC countries over the period from 2002 to 2012 shows that the index of economic freedom of the BRIC countries has not changed, that is, regardless of the GDP growth, the BRIC countries are grouped as moderate-free - with the index 60-69.9; mostly non-free - with the index 50-59.9. In this case, according to the index, economic development of the country is directly related to index dynamics. The leader in the index is Hong Kong - 87.2, based on 2011. The top ten also includes Australia - 82.5, New Zealand - 82.3, Switzerland - 81.9; Canada - 80.8; Ireland - 78.7, Denmark - 78.6; U.S. - 77.8; Bahrain - 77.7.

Thus, we can conclude that the BRIC countries are close to the level of economic development at this stage, and from the standpoint of economic analysis and investment attractiveness of the real estate market dwell on the BRIC countries (BRIC).

Real estate markets of the developing countries are included in the global economic processes in several areas:
- entry of foreign private investors;
- the arrival of private and institutional investors from developing countries to developed countries, the real estate markets (Western Europe, USA);
- internationalization of the activities of the leading companies in the world - professional participants in the real estate markets and active involvement professional participants in the real estate markets in emerging markets;
- the process of entering the professional participants of the real estate markets of developing countries to the markets of developed countries;
- the processes of mergers and acquisitions involving international companies - professional participants in real estate markets;
- inclusion of professional market participants from developing countries in international associations and organizations (FIABCI,TEGOVA etc.);
- development, negotiation and implementation of international standards of professional activity (assessment, analysis of projects, providing statistical information, etc.) (Eurocodes in construction, standards of education).

We turn now to the analysis of investments in BRIC countries and, in particular, analyze the situation with real estate investments in BRIC countries and in the real estate market of some countries.

Dynamics of the total investment in the BRIC countries is shown in Figure 5.

Figure 5. Dynamics of the total investment in the BRIC countries

It should be noted that the dynamics of investment activity in general coincides with the dynamics of GDP. GDP growth rate of the BRIC countries presented earlier in Figure 2.

At the first location China - increased investment in the reporting period (2002-2012) 6 times. In Russia, the situation is similar: the growth of investment in more than 5.5 times - from 69 to 393 billion dollars.

According to the statistics presented in the UNCTAD World Investment Report 2011 for the period from 2005 to 2010, the total global flow of foreign direct investment exceeded $ 8.5 trillion dollars.

In The BRICS received 14% of this amount, including Russia-2.9%. At the same time, the BRICS have sent 7% to other countries.

BRIC countries receive investments 2 times more than investing Leader on the inflow in BRICS stands China, which accounts for 6% of FDI inflows.

Russia’s significant part of foreign direct investments go to the industries related to the extraction and primary processing of mineral resources. Also, a high proportion of investment is in trade, real estate, financial activities.

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The share of foreign direct investment (FDI) in Russia in 2002 - 2011 was 10 - 26% of total foreign investment in the country\(^6\). The data suggest, the share of real estate transactions in direct investments (18%) exceeds their share in the total volume (6%), which is a good sign for the industry as a whole.

Thus, as can be seen (Fig. 6), foreign direct investment in Russia is quite high proportion of the total investment in fixed assets (15-25%), despite the fact that their share in China is reduced. True, there is another explanation: China’s increasing share of domestic direct investment and it does not need so much direct investment from abroad.


Figure 6. FDI proportion in total investment in fixed assets in China and Russia

Dynamics of real estate investments in the BRIC countries is shown in Figure 7. The leader in this sector is China, while Russia is the 2nd in terms of property investment and shows a steady growth since 2003, with diminishing rate, which, in our opinion, is associated primarily with the world global crisis. The volume of investments in real estate in Russia in 2011 increased by more than 70% compared to 2010 (according to S. A. Ricci company) amounting to about $ 9.5 billion. Comparison: real estate investment in China in 2012 increased by 16.2% to 7.18 trillion yuan ($ 1.15 trillion).

Figure 7. Dynamics of real estate investments in the BRIC countries

In this case, by the share of real estate investments in the total investments, Russia takes the lead (see Figure 8).

Figure 8. The share of real estate investments in the total investments in the BRIC countries

Investments dynamics in real estate in Russia is shown in Figure 9.
The share of foreign investment in real estate in Russia is also growing: from 11% in 2010 to 34% in 2011 in absolute terms, the volume of transactions with foreign capital increased from $630 million to $3.5 billion, or more than five times.

It should be noted that the oscillations can be quite significant. Since the total amount of investment is small, one large transaction can greatly change the picture. For example, the deal to sell the mall “Gallery” for $1 billion in 2011 dramatically changed the indicators of investment in St. Petersburg and Russia as a whole.

Investments in real estate in 2012 by market sectors were more diversified compared with 2011. Most transactions are concluded in commercial property (40.9%), as a result, investments in this segment reached a historic high of $3.5 billion. High investor activity in the warehouse segment led to an increase in the volume of investments in the sector by 34% compared to 2011 - up to 607 million dollars.

Figures 10-11 provide data on investment shares in real estate market sector for 2011-2012.
Dynamics of minimum capitalization rates for high-quality commercial real estate in Russia is presented in Figure 12.
Capitalization rates have a smooth trend downward closer to the values of rates in developed countries.

As for the local real estate markets and territorial diversification of investments the most attractive for investment in profitable real estate are regional centers such as Moscow and St. Petersburg.

Investment center of real estate market in Russia is still Moscow: in 2012, the capital accounted for 88% to 69% of deals in 2011. In some segments of Moscow’s share is even higher: for example, in the office market it reached 97%.

However, there has been a growth in regional transactions. According to S. A. Ricci, share transactions outside the Moscow region (in St. Petersburg and regional cities) increased from 7% in 2010 to 26% in 2011. In absolute terms, the volume of regional transactions increased by 6.5 times, in 2011, which is about $2.4 billion.

Minimum capitalization rates for commercial real estate in Moscow at the beginning of 2013 are: for office buildings - 8.0-8.5%, for retail - 9.0-9.5%, for warehouse and production facilities - 11.5-12.0%. In St. Petersburg, this indicator value is higher by 50-100 basis points, in other regions of Russia - by 150-200 basis points.

The development of commercial real estate in St. Petersburg has been uneven. Most developed markets are office and commercial real estate. Hotels and industrial and warehouse facilities market is far below them.

By the end of 2012 the total market for quality office space in St. Petersburg was approximately 1,92 million sq.m. For comparison, Moscow, being the center of business activity and, as a consequence, the largest and most developed of the office market in Russia, is seriously inferior to European cities by security office space. According to Jones Lang LaSalle in the absolute volume of quality office space, the Russian capital is ranked fifth among European cities with the exponent 15 million square meters. m, behind London (20.4 million sq. m.), Berlin (17 million sq. m.), Paris...
(16.7 million sq. m.) and Munich (15.7 million sq. m.). St. Petersburg market is not even included in the top twenty. The vacancy rate in the city average stabilized, there is a decrease in the class “A” and a slight increase in grades of “B +” and “B”. And stabilized rents, small dynamics is observed mainly due to changes in rates in some objects because of local peculiarities submarket. Key indicators of the office market of St. Petersburg on the results in 2012 are shown in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>Key indicators</th>
<th>class «A»</th>
<th>class «B+/B»</th>
</tr>
</thead>
<tbody>
<tr>
<td>The volume of quality office space by the end 2012 (thousand square meters)</td>
<td>482</td>
<td>1441</td>
</tr>
<tr>
<td>The structure of the office market for late 2012</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>Commissioned in 2012 (thousand square meters)</td>
<td>44,7</td>
<td>75,0</td>
</tr>
<tr>
<td>The vacancy rate at the end of 2012</td>
<td>15,7%</td>
<td>9,3%</td>
</tr>
<tr>
<td>Stated rental rates at the end of 2012, rubles per sq.m. per year (excluding VAT, including operating costs)</td>
<td>14 720 ↓</td>
<td>12 010 ↑</td>
</tr>
</tbody>
</table>

**Source** http://zdanie.info/2393/2420/news/3678

By the end of 2012 was introduced just 119.7 thousand square meters of leasable office space. Input indicators office real estate in St. Petersburg in 2012 were the lowest since 2006. Providing quality office space of St. Petersburg residents per person was about 0.3 sq.m.

As a result, in 2012 the share of business centers, class “A” is 25% of the total quality supply. In general, 2012 is characterized by the increase in the specific share of total input of high-quality objects in the segments of classes “A” and “B +”, which corresponds to trends in developed countries. In the future, we can predict a gradual, but not significant, increase in the proportion of business centers “A” class. At the end of 2012, the vacancy rate was about 15.7% in the class “A” and 9.3% in Class B + and B. In the middle of the city by the end of 2012 vacancy rate in quality business centers was 10.9%.

In 2012 in St. Petersburg retail market about 230* thous. m² of GLA was put into operation, There was an increase of 15% in comparison with the previous year (200 thous. m² in 2011). The share of two major regional SECs - “Rio” and “Piter Land” - was 40% of the input. Retail stock has reached 3 million m². Approximately 15 projects of shopping centers with the total GLA 500,000 m² and predicted time of opening from 2013 to 2015 are under construction.

Key indicators of the retail market of St. Petersburg as of the end of 2012 are shown in Table 2.
Table 2

<table>
<thead>
<tr>
<th>Index</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern retail facilities stock (GLA), mln m², incl.:</td>
<td>3,0</td>
</tr>
<tr>
<td>shopping centers</td>
<td>2,2</td>
</tr>
<tr>
<td>hypermarkets</td>
<td>0,4</td>
</tr>
<tr>
<td>specialized SC (DIY)</td>
<td>0,2</td>
</tr>
<tr>
<td>specialized furniture SC</td>
<td>0,2</td>
</tr>
<tr>
<td>Shopping centers provision (GLA), m² per 1,000 inhabitants</td>
<td>443</td>
</tr>
</tbody>
</table>

Source: http://www.colliers.com/ru-ru/stpetersburg/insights/research-the-market

Demand on premises in qualitative shopping centers remains at rather high level. Occupancy of newly shopping centers with professional concept before opening is not less than 85%. As previously, demand is driven mainly by food retailers, as well as fashion gallery tenants and catering operators of medium price segments.

Average rental rates growth was within 3-10% in 2012 (due to indexation). Developers increasingly use a mixed system of rents payments, when a tenant pays a fixed rental rate or % from the turnover according to the principle: “what sum is greater.”

Table 3

<table>
<thead>
<tr>
<th>Profile</th>
<th>Standard area, m²</th>
<th>Annual rental rates, $/m²/year (triple net)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food hypermarket</td>
<td>5,000 - 16,000</td>
<td>160-250</td>
</tr>
<tr>
<td>DIY</td>
<td>2,500 - 15,000</td>
<td>120-170</td>
</tr>
<tr>
<td>Food supermarket</td>
<td>1,500 - 3,500</td>
<td>250-400</td>
</tr>
<tr>
<td>Multiplex</td>
<td>3,000 - 5,000</td>
<td>150-250</td>
</tr>
<tr>
<td>Household goods</td>
<td>1,000 - 2,500</td>
<td>180-250</td>
</tr>
<tr>
<td>Consumer electronics</td>
<td>1,200 - 4,500</td>
<td>160-350</td>
</tr>
<tr>
<td>Department store</td>
<td>1,200 - 2,500</td>
<td>300-450</td>
</tr>
<tr>
<td>Fitness</td>
<td>up to 6,000</td>
<td>150-180</td>
</tr>
<tr>
<td>Family entertainment</td>
<td>700 - 5,500</td>
<td>100-180</td>
</tr>
<tr>
<td>Sports wear</td>
<td>1,200 - 4,500</td>
<td>180-350</td>
</tr>
<tr>
<td>Goods for children</td>
<td>1,000 - 2,000</td>
<td>250-400</td>
</tr>
</tbody>
</table>

Source: http://www.colliers.com/ru-ru/stpetersburg/insights/research-the-market
Intensified market competition will lead to reconception of neighbourhood and community shopping centers located close to each other: restaurants and services will replace fashion operators.

In H1 2013 the St. Petersburg investment market demonstrated increasing investor’s interest in the land marker for commercial and residential development. More than a half of all purchase and sale transactions in commercial real estate both in terms of transactions number and investment volume were closed on the land market. Land was purchased mainly for residential construction as well as for industrial-warehouse and retail purposes.

The total value of completed purchase and sale transactions in St. Petersburg commercial real estate sector, including purchase of land for residential development, in the first half of 2013 amounted to more than $500 mln which is comparable to the same period in 2012.

Capitalization rates in H1 2013 remained at the level of the end of 2012: for high-quality shopping centers and class A office centers – 9-10%, for class B office centers– 11-12%. Capitalization rates for high-quality warehouse complexes are 12-13%.

Return on investments in various segments of the commercial real estate in St. Petersburg are shown in Table 4.

### Table 4

<table>
<thead>
<tr>
<th>Market segment</th>
<th>Return on investment,%</th>
<th>Payback period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>8-11%</td>
<td>8-10</td>
</tr>
<tr>
<td>Trading</td>
<td>10-13%</td>
<td>8-11</td>
</tr>
<tr>
<td>Production and storage</td>
<td>9-14%</td>
<td>6-9</td>
</tr>
<tr>
<td>Hotel</td>
<td>to 20%</td>
<td>from 7</td>
</tr>
</tbody>
</table>

Source: Media, surveys consulting companies.

As can be seen from the above, Russia and the Russian real estate market holds well deserved place among emerging property markets (In this case, however, the share of the Russian real estate market in its total volume is still quite low - about 1%). By the share of real estate investments in total investment, Russia is the first among the BRIC, at the same time it is substantially inferior to rich countries in volume terms. A distinguishing feature of investments in Russian real estate is the extreme unevenness of their distribution by regions: More than 70% of the total volume of investment in real estate are in Moscow. The FDI share remains fairly low in total, which probably reflects the investors’ cautious attitude to the long-term presence in the Russian market. One of the major constraints on investment in Russian

7 http://www.colliers.com/ru-ru/stpetersburg/insights/research-the-market
real estate, are the conditions for businesses, especially those that are directly connected with the real estate market.

Comparison of key indicators related to real estate (property registering, protecting investors, dealing with construction permits, connection to the electricity supply system) with high income per capita countries (OECD) shows that the variation is quite significant. Russia by the number of procedures to register property is close to the number of procedures in developed countries, but the timing is much longer, openness index coincides with the developed countries, but not up to much of China, the number of procedures for obtaining building permits exceeds almost 2 times the level of China and 3 times the level of the developed countries.

According to Bloomberg Ratings, which recently published the rating of the best countries to do business in 2013, the BRIC countries also showed a poor result. China dropped to 24th place from 19th last year. India, Russia and Brazil are not included in the top 50, ranked 54, 56 and 61, respectively. Three leaders are Hong Kong, the U.S. and Japan.

By a number of other important indicators that reflect business environment and investment, the BRIC countries, particularly Russia, are also significantly behind the developed countries. Ranking countries by the property rights protection index by the end of 2011 the highest - ranked 56th is India, China ranks 60th, Brazil – 65th, and Russia - at all 96th.

According to the Global Competitiveness Index for 2012-2013. (considers 12 indicators of quality of institutions to innovative capacity) China was the 29th, Brazil – 48th, India – 59th, and Russia - 67th. The position of Russia in comparison with 2011-2012 deteriorated, however, quite a bit, by 1 point. Note also that in 2011-2012 the weakest performance in Russia was by such parameters as the quality of institutions (128th among 142 countries), product markets efficiency (128 th), the efficiency of financial markets (127th ).

However, speaking about the ratings, it is worth remembering that the rating scores are not always objective. Furthermore, in our opinion, are necessary parameters describing a real estate transaction.

To summarize, it should be noted that globalization is an undeniable process, during which formed a single market for the most efficient use resources, opportunities and maximize the resources and intellectual potential.

However, to achieve these goals requires good and timely analysis and monitoring of the situation on the market that will ensure the correct decision-making. Thus Russia occupies its rightful place among the BRIC countries and first place in real estate investments, however, essentially conceding developed countries by volumes of investment.

As for the problems and prospects of the real estate market of St. Petersburg as a territorial local market , the current state of the market allows you to select only the most common of these are: the formation of relationships in the property market under

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8 Surveys and statistics of the state statistical bodies, consulting agencies and media http://rss.novostimira.com/n_3962767.html
the determining influence the level and structure of the economy, and the high
dependence of the efficiency of the market from the institutional environment in which
it operates; persisting in the short and medium term are significant differences in the
level of development of market relations in the regional markets, increasing the role
of the primary market as a market segment, increasing specialization of professional
activity in the market with the gradual predominance of highly intellectual activities -
management, consulting.

Given the above analysis, we can draw the following conclusions
– Given its primary features, Russian market holds well deserved place among
emerging property markets (In this case, however, the share of the Russian
real estate market in its total volume is still quite low - about 1%).
– By the share of real estate investments in total investment, Russia is the first
among the BRICS, at the same time it is substantially inferior to rich countries
in volume terms.
– One of the major constraints on investment in Russian real estate, are the
conditions for businesses, especially those that are directly connected with
the real estate market.
– The FDI share remains fairly low in total, which probably reflects the investors’
cautious attitude to the long-term presence in the Russian market.
– A distinguishing feature of investments in Russian real estate is the extreme
unevenness of their distribution by regions: More than 70% of the total volume
of investment in real estate are in Moscow.
– Describing the situation of investment in real estate in St. Petersburg it should
be noted that in terms of doing business based on Doing Business methodology,
it is the 22nd among 30 cities in the country.
‘TRADE’ MAJOR AT Varna University
OF ECONOMICS – TRADITION AND PRESENT PERSPECTIVES

A paper, dedicated to the 60th anniversary of the Department of Economics and Management of Trade (1953-2013) and the 65th anniversary of the Economics of Trade degree course (1948-2013)

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The Department of Economics and Management of Trade at Varna Economic University is part of the large academic community which has not only kept the educational traditions in the area of trade but has also helped further the science of trade.

The founding fathers of the university and the Trade Department recognized the fundamental role which commerce was to play in the development of the national economy and society. The original idea of teaching the subject of trade can be traced back to the time when the Higher School of Trade was founded. The needs of the society, the region and the country were of primary importance in defining the mission of the university. The purpose and objectives of the Higher School of Trade were written down in its original rulebook: to formulate the socio-economic, commercial and technical sciences, which will be seen as the very basis for studies and research in the area of commerce and industry and thus meet the needs of the country.¹

From ancient times up to the present day, trade has been based around free negotiations, and has been the core medium of any working economy. Trade can be associated with ‘wealth’ in terms of the word commercium – i.e., trade, goods and exchange of goods through interaction and communication to a place or market, and the right to enter into negotiations. Under Roman Law, one of the three basic rights is the right ‘ius commercium’ (the right for free negotiation) together with ‘ius connubium’ (the right to enter into a civil marriage with citizens of the Roman empire) and ‘ius migrationis’ (the right to become a citizen of the Roman empire) – until this very day, these three rights continue to be the very basis of the so-called ‘European space’. It is the free, enjoying full rights citizen who is entitled to conclude legal contracts. Also, it is not accidental that one of the statues sculptured on the gable of the university is that of Hermes (the Greek god of trade, weights and measures) and his Roman counterpart Mercury (the Roman god of trade, knowledge and merchants). Without knowledge there is no trade or communications.

Thousands of years ago, trade routes were used not only for the exchange of goods but for the exchange of knowledge and ideas as well. From a social, economic and political point of view, free negotiations are also seen as the very foundation of

¹ Rules of the Higher School of Trade at Varna Chamber of Commerce, Izvestiya, magazine of Varna University of Economics., 1995, issue 1, p. 82.
modern day societies. Awareness of common interests and their significance finds expression in the doctrine ‘res extra commercium’ which means ‘things outside commerce’, i.e. things that are outside the scope of private rights as they represent public or communal interest and as such cannot be subject to trading.

Studies of the trade industry provide trainees with functional and industry sector knowledge and skills. On the one hand, trade can be the integrating function of the business entity. It serves to govern the complexity of informational, legal, marketing, logistic and financial relationships between the seller and buyer.

On the other hand, with the development of supply chains, the importance of trade as an economic sector is increasing. Through employment, domestic consumption, export, investments in IT and communication technology, infrastructure, logistics and transport services, the sector of trade has an overriding influence on other industry sectors and local communities’ development. Trade encourages innovations, helps distribution of new information and communication technologies. The World Trade Organization (WTO) forum, held in October 2013 was dedicated to the expansion of trade, furthered by innovation and digital economics. The focus of the EU plan for the development of retail trade (approved in 2013) is the creation of a single retail market.

In the 18th century, British economists divided the economy in three major sectors – agricultural, industrial and commercial. The origins of the higher education in trade could be traced far back, in 1900 when the first higher school of trade was established at the University of Birmingham. Only 11 years later, the idea for a higher trade school came into life in the city of Varna which was then a thriving trade and regional centre.

The creation of the Higher School of Trade can be seen as an important first step in the institutionalization of trade training in Bulgaria. The teachers invited by Professor Tsani Kalyandzhiev (the first rector of the trade school) were graduates of some of the best European universities providing instruction in this area: Naum Dolinski, Dinko Toshev, Assoc. Prof. Dimitar Georgiev, Lyubomir Stanev, Assoc. Prof. Tsvetan Stoynov, Marko Valkanov, to name but a few. These are the authors of the first publications on the subject of trade in Bulgaria. Professor Oscar Anderson (Associate Professor in 1921, extraordinary professor in 1924, given full professorship in 1928) wrote the first textbook on trade entitled Notes to Trade Politics (1926), in which he had summarized the best of the theory in the field of commerce.

Over the period 1920-1953, the science of trade was further developed by Prof. Feodor Belmer, Assoc. Prof. Dr. Georgi Petkov, Prof. Stancho Cholakov, Prof. Georgi

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Svrakov, Prof. Boycho Boychev, Assoc. Prof. Konstantin Stoyanov, Prof. Georgi Georgiev, Assoc. Prof. Goran Ivanov, Prof. Lyubomir Stanev, Prof. Tsvetan Stoynov, Prof. Marko Varbanov, which suggests that “the foundations of the trade science were laid down here in Varna, at the University of Economics”.

The report of the Higher Trade School for the academic 1924/25 gives evidence that the first graduates had studied and taken oral and written exams in the subjects of Trade Politics, Trade Calculations and Trade Knowledge. The founder of the school and its first rector read lectures in the discipline Organization of Trade Education. In 1930 another step in the institutionalization of trade training was made. The subject “Organization of Trade and Business Enterprise” was also included in the school curriculum as an interdisciplinary subject.

With the development of the national economy, and specialization of business enterprises, 6 new functional economic degree subjects were launched at the Faculty of Economics during the 1948/1949 academic year. During the same year, the faculty was renamed Faculty of Economic and Social Sciences. Some 60 years ago, 140 sophomore students of the same faculty who had started their education in 1946 would be the first to graduate the major “Economics of Home Trade”. Education and training in the area of trade continued improving. With the introduction of European educational standards in 1995/1996, a Bachelor’s Degree course in Economics of Trade and a Master’s Degree course in The Business of Trade were launched, followed by the PhD program Economics and Management of Commerce.

In the context of the European space of higher education, instruction and training in the discipline of ‘trade’ at Varna University of Economics embrace a wide scope of subject matter. Students study different types of trade operations: wholesale and retail trade, foreign trade, e-commerce, etc. The interdisciplinary approach is also applied, encompassing knowledge and expertise in the field of economics, finance, risk management, marketing and logistics.

Since the creation of the Economics of Trade degree course in 1948, a total of 7,965 students of economics have successfully graduated among which 46 PhD students and 4 overseas students. 29 PhD (doctoral) students have defended their theses, out of whom two have won a second doctorate: Prof. Dr. of economic sciences Nikolinka Salova – with a doctorate on the subject Effectiveness of Home Trade in Bulgaria (1980) and Prof. Dr. of economic sciences Nikolay Vinogradskii whose doctorate was on the subject Labour Issues in Trade (1980).

The creation of Economics and Management of Trade Department in 1953 helped further the institutionalization of trade education. Prof. Dr. Georgi Georgiev, Assoc. Prof. Dr. Stephan Dinev, Prof. Dimitar Ganev and PhD Yosif Petkov were among the

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first members of staff and teachers in this department. The founder and first head of the department became Prof. Dr. Dimitar Georgiev. He was succeeded in this position by prof. Georgi Georgiev. It is worth noting that the first heads of this department had defended their doctoral dissertations and habilitated as associate professors and professors in European universities. Not only were they distinguished scholars and proponents of the idea for trade education, but they manifested high moral values and ethical conduct - qualities that are highly respected within the academic community even today.

The above academic traditions have been well preserved and cherished over the years. For more than 20 years, Prof. Dr. of economic sciences Nikolinka Salova had been head of this department (from 1973 up to 1993). On the 90th anniversary of Varna Economic University, Prof. Nikolinka Salova was conferred the honour Professor Emeritus for her lifetime achievement in the field of science and academic studies. Over the period 1993-2000, the department management was taken over by Assoc. Prof. Dr. Georgi Nyagolov, later succeeded by Assoc. Prof. Dr. Georgi Tsonikov (from 2000 to 2005). From 2005 until 2011 head of department was Prof. Dr. Dancho Danchev.

Staff records cover several periods in the department’s history. During 1956-1971, Assoc. Prof. Georgi Ivanov, Prof. Dr. of economic sciences Nedelcho Enev, Assoc. Prof. Dr. Elena Atanassova, Prof. Dr. of economic sciences Nikolinka Salova, Assoc. Prof. Dr. Nikola Stoyanov, Assoc. Prof. Dr. Mariya Alexandrova, Assoc. Prof. Dr. Nikola Nyagolov, Assoc. Professor Dr. Elena Georgieva, all of them have worked as active members of this department. Among other distinguished lecturers, Prof. Stanislav Hadzhiev, Prof. Stefan Tsonev and Prof. Karol Telbizov can be singled out. Since 1974, members of department staff had been many other prominent scholars: Assoc. Prof. Dr. Georgi Tsonikov, Assoc. Prof. Dr. Hristina Kazashka, Chief Assist. Prof. Yovcho Yovchev, Assist. Prof. Petar Yordanov, Assist. Prof. Rossitsa Markova, Senior Assist. Prof. Albena Stoyanova. At present, academic staff on the payroll of the Economics and Management of Trade department comprise 12 lecturers, two professors, five associate professors, three chief assistant professors, holding a PhD degree, one chief assistant professor, withdrawn from a PhD and one assistant professor who joined a PhD program.

Celebrating the 65 anniversary of the degree course Economics of Trade and the 60th anniversary of the Economics and Management of Trade Department, we cannot but pay due respect to the memory of those who are no longer among us – Assoc. Prof. Georgi Ivanov, Assoc. Prof. Dr. Nikolka Stoyanov, Assoc. Prof. Dr. Georgi Nyagolov, Chief Assist. Prof. Yovcho Yovchev, Assoc. Prof. Dr. Georgi Tsonikov and Assoc. Prof. Dr. Dobri Angelov.

Owing to their active research work, all members of this department have greatly contributed to the advancement of the science of trade in our country. The founders of the department marked the beginnings of valuable research in the field of economics of trade and marketing, trade culture and consumer behavior in Bulgaria. The following two books: Types of Consumers and Related Services by Prof. PhD Dimitar Georgiev and The Culture of Trade Service by Prof. Georgi Georgiev have been much acclaimed.
The above authors have also co-written and published a book entitled “Reserves necessary to accelerate turnover of working capital in commercial organizations”. Prof. Dr. Dimitar Georgiev has written the first textbook in the subject “Economics and Planning of Domestic Trade in Bulgaria” and a monograph on clearing payments. Prof. Dr. Georgi Georgiev has yielded more than 40 publications on the subjects of Economics of the Enterprise, Economic Analysis, Company Accounting and Balance Sheet and Economics and Trade Organization.

One of the most commendable efforts of the Department of Economics and Trade Management seems to be the creation of a scientific school dedicated to extensive research in the area of trade efficiency, the foundations of which were laid down by Prof. Dr. of economic sciences Nikolinka Salova. There came a series of publications written independently or under the guidance of Prof. Nikolinka Salova among which the following could be specifically mentioned: “A study on the market and market risk in terms of consumer goods trade in Bulgaria”, “Issues arising from competitive positioning of trade” and “Regional behavior within the trade cycle limits”.

In recent years, as a result of staff habilitation, a number of monographs have been developed and published, among which the monograph of Prof. Dr. Dimitar Danchev entitled Taxonomy of Consumer Goods (2012), Transport as a Key Function in Logistics written by Assoc. Prof. Dr. Zhelyazkova D. (2011), and Modern Trade Formats on Consumer Goods Markets in Bulgaria by Assoc. Prof. Dr. M. Stoyanov (2011). Over the past years, during the period between the last two scientific conferences, the number of publications by staff members has risen to 120, out of which 4 monographs, 10 papers, 42 articles and 64 research papers. Departmental staff have also participated in the development of 15 textbooks and study materials.

One of the successful traditions of this department is to organize and hold international scientific conferences every five years. In the 2008 conference, entitled ‘Trade in the Modern Society’ there participated more than 74 presenters, representing 19 higher schools from 11 different countries. In the scientific conference held in 2013 on the topic ‘Trade – Regional and Global Dimensions” there were more than 75 lecturers and practitioners from home and abroad who participated with papers, out of which 18 foreign lecturers, representing universities from Austria, Russia, Slovakia, Slovenia and Ukraine.

The cooperation among three different university departments: Economics and Management of Trade department at Varna University of Economics, the Economics of Trade department at Sofia University of National and World Economy and the department of Trade and Tourism Business at the Business Academy D. A. Tsenov has largely helped to establish the institutional basis of the training and science of trade in Bulgaria. Teaching and research objectives of department staff are pursued via close partnership relations with the scientific and branch organizations in Varna and on a national level. Co-operation with corporate partners is arranged on the basis of contract agreements and joint initiatives in the area of education, R&D, consultancy work and practical training. (Piccadilly, Vartek, Stamatovi to name but a few, whose managers had graduated the degree subject Economics of Trade).
In conclusion, we use the historic perspective to evaluate the present and outline future perspectives for development. Furthermore, environmental changes call for continual modelling of the educational content to ensure the right course for professional and career development for those students who obtain a degree in trade. A clear sign in this direction is the fact, that many universities have combined majors on their agenda.

Many universities today offer degree courses in trade at Bachelor and Master’s degree level which only confirms the viability of this long standing tradition focusing on a wide scope of interdisciplinary training. More importantly, university graduates with such degrees have the competitive advantage of finding better job opportunities in today’s extremely dynamic economic environment, which calls for an integrated approach in resolving the complex issues of trade and economy as a whole.
Among EU countries the issue of social responsibility in public procurement selection processes has been steadily gaining in importance. Recent years’ economic and financial hardships are still affecting the normal operations of the European community. Many of the member-states are increasingly concerned over the inadequacy of traditional mechanisms for fostering social justice and inclusion. Therefore, socially responsible public procurement may serve as an example in simultaneously fulfilling economic and social criteria. The EU spends around 3 trillion euros annually on public procurement, which represents about 17% of its GDP. This offers great potential for supporting businesses’ corporate social responsibility, as through sensible purchase decisions governments not only facilitate fair trade, but can also demand wider applications for social standards, thus facilitating consumption, employment and social inclusion. The influence of socially responsible public procurement can be especially great in sectors such as construction, business services, information technologies, etc., where government bodies are major consumers. Moreover, by encouraging socially responsible award of public procurement contracts, the state can influence the market through example and motivate private companies to also develop socially responsible management systems.

Therefore, the purpose of the following paper is to investigate the opportunities for inclusion of social criteria within procurement procedures, as well as the benefits of such inclusion.

1. The public sector as a conduit for corporate social responsibility

The relative stability of public finances enables governments to undertake policies in the spirit of the European social model – for example, around social inclusion and financing of key public services such as health and education. But since 2008 we have been witnessing a global reduction in economic development rates, a long-term destabilizing of financial markets and increased competition for scarce resources. Globalisation and rapid technological advances also play their part – special skills are increasingly popular among employers and the gap between qualified and unqualified labour is widening. EU members implement various measures to correct the fiscal disequilibriums, to reinstate trust in financial markets and the abilities of national governments to introduce responsible and sustainable fiscal and social policies.

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Meanwhile, the continued effects of the crisis put pressure on governments to undertake austerity reforms. Thus, on the one hand, savings need to be made, and on the other, it is necessary to respond to demographic tendencies, unemployment, poverty and social alienation.

To counteract these growing problems, the European Commission Renewed Social Agenda\(^2\) introduces the principles of opportunity, access and solidarity. It recognizes the need for constructive ideas to overcome negative realities of contemporary society, which threaten humanity through different catastrophes -- environmental, economic and social. The concept of sustainable development is at the heart of the strategy\(^3\). It is a social development philosophy, based on integrating the economic, environmental and social criteria in decision making with regards to securing the life and work of future generations. The theory of development embodies new values and new regulatory principles for economic, social and environmental processes.

Governments may succeed in pursuing sustainable development, if businesses employ the Corporate Social Responsibility (CSR) principles. CSR ‘encourage companies to assume more responsibilities as most welfare states in Europe are increasingly facing limits to their capacities of tackling social issues in the way they traditionally did’\(^4\). One could say there are three reasons for governments to encourage CSR: ‘: it can substitute for government effort; it can complement government effort; and it can legitimise government policies.’\(^5\) Therefore, European governments need to be innovative in their policies and to generate an enabling environment for corporate social responsibility.

CSR is a concept through which companies voluntarily implement social and environmental activities in their business operations\(^6\). In the CSR area, companies, together with their owners and managers can help integrate their own goals and the public economic and social goals. What is important is the agreement that a good environment, quality employment, common economic growth and motivated workers are a guarantee not only of a company’s reputation, but also of its future success.

Through public procurement, responsible companies can be further rewarded for recognizing the social aspects of manufacturing and offering their products and services. Procurement is a major factor in successful public funds management and a

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3. The sustainable development concept is by no means new to European citizens. It has been in circulation since 1987’s Our Common Future report by the UN Environment and Development Commission. In it, the goal of sustainable development is defined as ‘meeting the needs of the present without compromising future generations’ ability to meet their needs.’ See: Our Common Future, United Nations World Commission on Environment and Development, Oxford University press, 1987, p. 43.
As far as CSR is increasingly being associated with sustainable development, a similar process has been observed with public procurement, which has the substantial potential to support CSR in businesses. Based on this, we could differentiate between three concepts that go beyond the purely economic – sustainable, green and socially responsible procurement. Through sustainable public procurement states are aiming to balance the three pillars of sustainable development – economic, social and environmental. Through green public procurement, government structures take account of the environment, when signing contracts for goods, services and employment. And socially responsible transactions relate to processes that encourage employment opportunities, adequate working conditions, social inclusion, SME support etc.

One of the biggest challenges we face on our way towards sustainable development is the requirement for innovative approaches and thinking modes. Therefore, the major issue becomes how to integrate economic, social and environmental criteria within the award process, while at the same time ensuring government decisions are impartial and transparent. The role of the counterparties needs to be viewed from a balanced perspective, so that the current challenges contracted businesses face as employers for example, or the exchange of duties between government and non-government stakeholders, as well as how all this reflects on income inequality and social security are all taken into account.

2. Socially responsible procurement award and the European social model

The European social model is a vision for society, which combines the requirements for equal opportunities, high quality of life, social inclusion and a healthy environment. This implies the creation of a successful economy with a progressive network of social standards. The two main challenges in maintaining the social model are stable growth and better jobs in the current climate of global competition and aging population. Therefore, in 2001 the European Commission developed a strategy to clarify how social responsibility applies to public procurement⁹. At the heart of the strategy lies the aim to secure a dynamic and positive interaction between economic, social and labour policies, so that they mutually support and stimulate each other, within the prescriptions of existing legislation.

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The nature of socially responsible public procurement is to facilitate socially progressive government policies without or instead of government regulations. Through the procurement process the state “buys social justice”, as it integrates social justice within market mechanisms.

This is also the position expressed in the European normative regulations on public procurement award, as per the Rome Treaty on the Common Market, and more specifically stated in Directive 2004/17/EC and Directive 2004/18/EC. The directives offer scope for taking account of social considerations, provided in particular they are linked to the subject-matter of the contract and are proportionate to its requirements and as long as the principles of value for money and equal access for all EU suppliers are observed.

In 2010 the European Commission published a Guide to Taking Account of Social Considerations in Public Procurement. It presents an exhaustive list of criteria to apply and establish a specific social framework in procedures: providing employment opportunities; encouraging public procurement contractors to respect their workers’ social and labour rights; stimulating wider voluntary engagement with corporate social responsibility; providing support for social inclusion and encouragement for social economy organisations; SME support etc.

The Directives and the guide provide the basis for implementation of the social criteria, but do not impose them as obligatory. Still, some European countries expand their legislation in this direction. In 2007 the Scottish Government published a guide to considering social aspects when awarding public procurement. It sets out the requirement (if applicable and in accordance with the law) for awarding bodies to request from contractors to be good employers with healthy and safe working conditions, responsible tax and social security payers and to provide further employment opportunities, to facilitate social inclusion and integration for vulnerable groups. Since 2005, a German federal state law requires Federal public procurement agencies to keep a proportion of their budget for projects, which could be awarded to disabled workers’ shops. In 2010, Finland approved changes which allow for social criteria

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such as basic human rights, equality and lack of discrimination to be accounted for when awarding public procurement contracts.18

Legislative reforms around public procurement are one of the 12 priority actions in the April 2011 Single Market Act19. Among the prescribed measures emphasis is placed on social criteria and facilitating SMEs in entering procurement procedures. This raises the expectation for social aspects and ethical concerns would gain in importance and would improve the quality of public procurement.

3. Possible benefits of socially responsible award of public procurement

One of the major benefits is that socially responsible procurement can be used by authorities to support the European social model. With the Europe 2020 strategy, the EU sets its own goal to become an intelligent, sustainable and inclusive economy, in an ever-changing world. These three priorities should help the EU and its member-states to achieve high levels of employment, productivity and social unity. Therefore, in late 2011 the Employment and Social Affairs Commission proposed a European Parliament Directive on public procurement, which is still under debate20. Some of the suggested measures in the Directive deal with increasing the efficiency of public spending in terms of quality-price, while enabling better use of public procurement towards supporting wider social purposes, among which are increased employment and social inclusion.

Socially responsible public procurement shows the public that governments take account of social responsibility in their decisions. This in turn could result in businesses as a whole becoming more responsive and accountable to society’s values and needs. Indeed, if the government is socially responsible, then it ought to ensure that a given social services contract reflects the needs of all stakeholders (including disabled clients and other specific groups).

Socially responsible procurement also stimulates integration and efforts to lower unemployment. In Denmark for example, awarding contracts for public procurement services with high local participation, such as catering or hygiene include measures to encourage jobs for unemployed people, whereupon suppliers receive up to 50% of due wages as a subsidy.21 On a local government level, Greater London encourages corporate social responsibility by awarding contracts with clauses on increasing the workforce of suppliers through training and employment for unemployed and socially excluded people. For 2010 the results are: 4.7 billion Euros spent on public procurement, which have provided

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21 Haselmayer, S., Rasmussen, J. Navigate Change: How new Approaches to Public Procurement will Create New Markets, ACC 10, 2011, p. 34.
352 new jobs and 650 internship placements\textsuperscript{22}. Additionally, public procurement is a method to encourage the integration of specific groups – disabled, women, minorities, small businesses. For example the French Code du travail (Labour Code) requires of employers who have more than 25 workers or employees to provide at least 6\% of existing jobs to people with disabilities. In the case of public procurement awards, this requirement could be fulfilled by contracting organisations which support the work of disabled people\textsuperscript{23}.

Socially responsible public procurement award can also improve the efficiency of public spending and encourage innovation. Not only would that be beneficial to public finances, but it would also enable better and more affordable products to enter the market and to support various social purposes. In Sweden for example, in 2007 Stockholm’s City Council appointed Astando (a middle-sized organisation responsible for the public roads database) to develop a digitalized pedestrian network for visually impaired residents e-Adept through cell phone navigation. Product testing began in 2011. The result of the project is cutting the costs for a substantial network of social workers, transport services providers and physiotherapists. The procurement contract is worth 370,000 Euros per year, and pilots indicate the direct economic return of e-Adept for the city could reach 17 million Euros\textsuperscript{24}.

In the procurement context there may be other circumstances, which lead to broader social gains (the so-called social added value). For example, when making a decision on public regeneration contracts in a given town, as stipulated in Scottish law\textsuperscript{25}, certain requirements may logically be imposed on the contractor. They may be expected to consider ways to support wider regeneration of the area through various activities combining environmental regeneration and opportunities for training and inclusion of unemployed locals.

4. The Bulgarian Context

Nationally, public procurement contracts are regulated by the Public Procurement Act\textsuperscript{26} and the Statute for its implementation\textsuperscript{27}.

It guarantees publicity and transparency, free and fair competition, equality and non-discrimination. In it, however, there is no specific mention of social criteria. The offers appraisal is subject to one of the following criteria: lowest price or most economically-beneficial offer\textsuperscript{28}. According to article 26 of the Act, the contracting

\textsuperscript{22} Haselmayer, S., Rasmussen, J. Navigate Change: How new Approaches to Public Procurement will Create New Markets, ACC 10, 2011, p. 35.


\textsuperscript{26} See: DV br. 28/2004, posl. izm. DV br. 15/2013.

\textsuperscript{27} See: DV br. 53/2006., posl. izm. DV br. 20/2012.

\textsuperscript{28} Public Procurement Act. See: DV br. 28/2004, posl. izm. DV br. 15/2013, chl. 37, al. ‘1.
party can include additional requirements for the procurement to do with environmental concerns, unemployment or jobs for disabled people, but these would not hold special priority. Thus, the lowest price requirement becomes an obstacle for organisations and companies, which do not have the financial or technical capacity of larger, established businesses and are therefore unlikely to compete with those. At the same time, public procurement represents a substantial part of EU funds spending, which creates conditions for increased funding towards, and possible corruption pressure by larger companies\textsuperscript{29}.

In 2012, there were 20,946 public procurement contracts with total value of 5,969,449,257 leva. Between 2008 and 2012 the total value of all public procurement contracts is 31,323,800,000 leva, which is about 10 per cent of the national GDP, or about 21\%–24\% of the consolidated national budget\textsuperscript{30}. During the same period, out of all 130 specialised enterprises and cooperatives of disabled workers only 23 have been awarded 60 contracts of total value of 20,105,000 leva excluding VAT\textsuperscript{31}. The contracts won for 2013 by such companies are worth mere 458,000 leva. Obviously, current restrictions in the existing law stop specialized enterprises from participating in public procurement. For example, Tih Trud Ltd. (a national network of production facilities for hearing-impaired workers) has won a 2 million leva contract in France, but does not fulfil the Bulgarian requirements to access the public procurement awarding process.

Given the conditions of the recent economic downturn, only the state has the capacity to secure society’s interests and to support smaller enterprises, including those for workers with limited abilities to work. At the same time, participation in the work force is the only way to transform the disabled from support beneficiaries to a productive group within society. Through their efforts they will create additional social product, and their income would widen the social insurance base and would contribute to social security funding.

One option for better access to public funding is the public-private partnership (PPP), as regulated by the respective law\textsuperscript{32}. This mechanism allows for the provision of accessible services of social interest to fulfil various social needs, especially among vulnerable groups.

However, there are some specific requirements of public-private partnerships that SMEs and cooperatives of disabled workers may not always be able to fulfil. The duration of public procurement projects is short or medium (up to 5 years), while a PPP is a long-term scheme (5 to 35 years). Public procurement contracts deal with fully public funding, while PPPs have partially private funding. In public procurement, it is the public stakeholder that carries the majority of project risks, while in a PPP risk

\begin{footnotes}
\item[31] Ibid.
\item[32] Public-Private Partnership Act, See: бр. 45/2012 г., посл. изм. бр. 15/2013 г.
\end{footnotes}
is effectively transferred to the partner who is most capable to cover it. Finally, the timing of payments from the public partner or society is important – a typical public procurement contract allows for considerable funding at an early stage (for example during construction phase), resulting in lower day-to-day expenses, while in a PTP payments are made only upon providing the service, availability payments and/or payments for service use\textsuperscript{33}. Thus, due to insufficient financial resources and limited investment opportunities, SMEs and specialized enterprises can only rarely participate in a PTP and the more accessible option for them remains a public procurement contract.

The stipulations of the current Public Procurement Act don’t facilitate social policies, but a change is already expected. On the Council of Ministers’ website\textsuperscript{34} there is published a draft bill for amending and updating the Public Procurement Act. It features some new propositions, which pave the way for including certain social criteria. According to the amendments in article 47, a person who owes social security payments for their employees, or has been convicted on grounds of unsanitary or unsafe working conditions, or violation of workers’ rights, is restricted from entering public procurement awarding procedures. The proposed text for article 50, paragraph 1 lists among the requirements as to the financial and economic state of interested parties the secured availability of salary funds and the subsequent social security payments.

Further, §10 of the Bill proposes a new article 16g, according to which if the object of the procurement is among the list specified in article 30 of the Integration of People with Disabilities Act\textsuperscript{35}, then specialized enterprises or disabled people’s cooperatives have a priority in the selection process. Thus, the contract would be awarded to other parties only in the absence of such candidates.

The amendments to article 51a provide opportunities for SMEs – and especially for newly-registered businesses, to secure the resource stability they need through contractual or other methods from third parties\textsuperscript{36}. This means that SMEs and startup businesses, or specialized cooperatives would have the chance to participate in the procurement process and thus promote wider participation in this specific market further.

**Conclusion**

To sum up, Bulgaria has a long way to go towards including social criteria within its public procurement selection process. It is recommended that the contractor be given the option to include other types of social criteria when selecting the service provider – for example, employment opportunities for marginalized or disadvantaged groups (especially in the construction sector), access to training in the work place or

\textsuperscript{33} See: Metodicheski ukazaniya za publichno-chastno partnyorstvo, Ministerstvo na finansite, 2009, s. 9.

\textsuperscript{34} www.government.bg

\textsuperscript{35} See: DV br.. 81/2004, posl. izm. DV br. 68/2013.

\textsuperscript{36} See: Motivi kum proekta za Zakon za izmenenie I dopalnenie na Zakona za obshtestvene porachki - www.government.bg.
gender equality. One could also include a valuation of the external social costs resulting from the object of the contract, as well as its overall social impact. When applying the ‘most economically viable offer’, contractors should take into account not only the lowest price, but also the possible use of public procurement in supporting sustainable development, abiding to social and labour rights, social inclusion, social innovations, creation of new and sustainable employment opportunities, and other socially beneficial activities which aim to generally increase the efficacy of public spending. Of course, all this should still be considered in line of best ‘quality/price’ scenario.

Nevertheless, the proposed amendments are a step forward and would create a better environment for increased employment and improved efficiency in public funds spending. Without a definitive stand on the side of the state, it would be impossible to realize adequate social policy of employment that fulfils European standards. That is why contractors carry a substantial responsibility in facilitating any regulatory reforms around public procurement. Given the fact that public procurement deals with public funds, contracts should not be used for short-term goals, but ought to be treated as a long-term investment for society’s benefit.

SOCIALLY RESPONSIBLE AWARD
OF THE PROCUREMENT CONTRACTS

Assoc. Prof. Dr Hristina Blagoycheva

Abstract

With the Europe 2020 strategy the EU has set itself, under conditions of a changing world, the goal of becoming an intelligent, sustainable and inclusive economy. Under the current conditions of budget constraints and economic difficulties the conventional mechanisms for promoting social justice and social cohesion are insufficient. Through the inclusion of social criteria in the awarding of public procurement there can be guaranteed the compliance with social insurance legislation, furthered the decrease in the unemployment rate, stimulated the integration of isolated groups of individuals and achieved greater efficiency of government spending as a whole.

Keywords: public procurement, corporate social responsibility, social criteria, social policy.
OPTIMIZING THE ALLOCATION
OF MATERIAL FLOW IN A LOGISTICS SYSTEM

Chief Assist. Prof. Dr Tanka Milkova

Introduction

A necessity to apply effective methods and modes for managing different business activities tangibly comes into being under the conditions of market economy and unstable economic environment. The development of the market economic system objectively brought about the logistic approach in managing material flow and ancillary services. This approach determines the need to implement a system for integrated management and oversight of movement and allocation of all range of items – resources and materials, as well as products. The scientifically well-grounded logistic approach should be taken in as a real precondition for efficient solution of problems with diverse complexity and scope, originating in the process of utilization and distribution of material flow: specifying the required production and transportation capacity; demand forecasting and estimating the needed resources on this basis; development of a resource management system; planning and managing of supply, production, warehousing, disposal, distribution, transportation; organization and optimization finished products allocation, etc.

The outlined above wide range of logistic approach aims goes far beyond the scope of these, connected with “procurement of production and trade of required goods, optimal use of resources and minimizing logistics costs”. One should highlight that streamlining the processes of movement of the material flow and applying different logistic operations to it is a complex optimization task. On account of this circumstance the aim of the study becomes searching for approaches and techniques for effective solution of particular fragments of the elaborate and sizeable tasks ensuing from the logistic approach.

In this context, the main goal put forward in the study is to suggest potentials for optimization of material flow allocation in a logistic system taking into account the impact of costs incurred by warehousing contingent stock, which is an attempt for complete synchronization of movement of material flow in the logistic system.

The following basic tasks are formulated in order to achieve these goals:

1. To produce tangible economic formulation of the problem set for consideration and ensuing from the worked out goal.

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1 For the purpose of the present study Material flow is interpreted as „raw materials, pre-fabricates, final products, that are to be found in a state of motion, and to which are applied logistic operations and/or functions connected with the physical movement in space: loading; unloading; transportation; classifying; consolidation; unpacking, etc. (Dibskaya V. V. I dr. Logistika. Integraciya i optimizaciya logisticheskikh biznes-procesov v cepyah postavok. Moskva: Eksmo 2008, s. 94 – 95.).

2. To design appropriate mathematical models which adequately coordinate material flow allocation between suppliers, customers and stocks warehousing costs in the logistic system.

3. To suggest rational methods and approaches for solving the formulated mathematical models.

4. To provide a real possibility for application of models and methods through testing with exemplary numerical values.

The object of the present study is the material flow in the logistic system. The subject of the research is the allocation and movement of product flow from suppliers to customers in a logistic system, as well as the process of stock generation in the particular sections of the system. The author upholds the proposition that distribution and movement of product flow in a logistic system is likely to be optimized on the grounds of implementation of special approaches and techniques. Basically, at the core of the last mentioned, the study offers mathematical models and methods which targets at both optimizing the mere distribution of product flow in a logistic system, and the ensuing expenses for stock replacement and warehousing.

1. Economic consideration of the issue for optimizing the allocation of material flow in a logistic system

The logistic system from the point of view of the terminology dictionary APICS (American Production and Inventory Control Society) is defined as „a process of planning and coordinating all aspects of handling material resources, unfinished production and finished products for minimizing general expenses” 3. In this particular study the logistic system is examined in a more limited aspect, namely, as a combination of suppliers, customers or logistic intermediaries, mutually joined to a specific material flow and incorporated as an entity in order to apply rational approaches in the process of planning and coordinating its movement. On this ground one could outline the following distinctive characteristics of the above defined logistic system: presence of flow process; physical movement of the material flow; specific system integrity.

This short introduction to the logistic system allows to make certain generalizations that outline some of its more important characteristics. However, they should be borne in mind when using mathematical devices.

1. The logistic system should be looked at as an integral (unified) blend of its composite elements, which interact among themselves.

2. Substantial links are established among the separate elements of the logistic system. They, in conformity with requirements, determine the integrative qualities of the system.

3. The links among the very elements of the logistic system should be rationally established, i.e. the logistic system possesses the quality organization.

4. The logistic system should possess integrative characteristics, which are extrinsic to all of its elements in isolation: a capacity to supply specific products in a certain time, to a designated place, with the required qualities, at minimal costs.

2. Designing a model that will enhance allocation of material flow in a logistic system

The circumstances of the economic-mathematical model for improvement of material flow allocation in a logistic system can be reduced to the following case. Let us consider a logistic system, consisting of \( m \) dispatch point (called suppliers) and \( n \) receiving point (called customers), which obtain products of the same kind (or replaceable ones) from suppliers. Let \( a_i \) stands for available stock in \( i \)-th supplier, and \( b_j \) – stands for needs of \( j \)-th customer for a certain period of time \( T \). We also designate with \( c_{ij} \) transportation costs for conveyance of unit of product (freight) from the \( i \)-th supplier to \( j \)-th customer. It should be explicitly noted that some assumptions were reported in completing the study:

1. Transportation links (communication) exist among all dispatch and receiving points\(^4\).
2. Transportation costs for a unit of freight \( c_{ij} \) are constant, irrespective of total amount of conveyed products.
3. Communication is not tolerated among separate suppliers and among customers, too.
4. The total amount of homogeneous product, which is to be found in the dispatch points, we assume, is equal to the total amount that is required by the end users, i.e.

\[
\sum_{i=1}^{m} a_i = \sum_{j=1}^{n} b_j.
\]

This is a condition for balance\(^5\) between the available amounts of products and the needs of all sections of the logistic system. This hypothetical balance guarantees that:

- The available amount of products, which can be found in the points of dispatch will be conveyed;
- The needs of all receiving points will be entirely met.

It is also assumed that no limits are imposed regarding which of the suppliers (they can be the producers, too) will meet the needs of the customers.

The logistic system, that is able to respond to the requirements claimed, has to be organized in an integrated manufacturing and transportation system, including all participants in the described logistic processes. In large, this requirement can be put into practice by means of the following manufacturing and transportation model:

\[
\min : Z_1 = \sum_{i=1}^{m} \sum_{j=1}^{n} c_{ij} x_{ij}, \quad (1)
\]

\[
\sum_{j=1}^{n} x_{ij} = a_i \quad (i = 1 \div m), \quad (2)
\]

\(^4\) Otherwise approaches for possible transportation freeze should be applied.

\(^5\) In the absence of such balance we have to turn to an open model of the problem.
Apart from the direct transportation costs, delivery of the amounts of homogeneous product from suppliers to customers incurs other charges in relation to the transportation arrangements which do not depend on the amounts but on the number of the batches of products delivered. The bigger the number of batches delivered, the higher the additional costs. Raising the number of delivered batches, hence their frequency can result in reducing the needed product stocks, which will bring about a cut in costs of stock warehousing. It is assumed that the products are received from each supplier to all customers into identical batches in equal intervals. Each customer provides the needed products in the course of the whole period of time $T$.

Let all amount of products $x_{ij}$ $j$-th customer receives from the $i$-th supplier of $n_{ij}$ identical batches at equal time intervals. Then the amount of each separate batch will be $\frac{x_{ij}}{n_{ij}}$, while the time intervals will prove to be equal to $\frac{T}{n_{ij}}$. For a unit of time the $i$-th supplier has to provide only for the $j$-th customer $\frac{x_{ij}}{T}$ units of product, and the $j$-th customer for a unit of time will consume similar quantity of the product, entering only from the $i$-th supplier. The $i$-th supplier has to dispatch to all customers for a unit of time $\sum_{j=1}^{n_{ij}} \frac{x_{ij}}{T}$ units of product, or in line with (2), $\frac{a_i}{T}$ units, which tangibly corresponds to the resources of the $i$-th supplier; the $j$-th customer is obliged to consume for a unit of time $\sum_{i=1}^{m_i} \frac{x_{ij}}{T}$ product units, or in line with (3), $\frac{b_j}{T}$ units of product received from all suppliers which likewise corresponds to the needs of the $j$-th customer. In other words, all communications can work independently in the sense that each quantity $x_{ij}$ from the homogeneous product irrespective of the other analogous quantities can be delivered and consumed steadily in the course of the whole period of time $T$ of batches with unspecified dimensions. It is only important that all batches from the same supplier to the same customer should have equal volume and enter through identical time intervals.

In order to define all costs in a logistic system, it is assumed that delivery expenses are usually in proportion to the number of supply batches and the value of stock storage costs – the stock amounts and their storage time. We designate with:

- $p_{ij}$ handling costs of one batch of supply of the $i$-th supplier to the $j$-th customer (these costs may depend on the suppliers themselves, and the customers);
- $r_i$ – the costs\(^6\) for

\[ \sum_{j=1}^{n_{ij}} x_{ij} = b_j, (j = 1 + n), \quad (3) \]

\[ x_{ij} \geq 0, (i = 1 + m, \ j = 1 + n), \quad (4) \]

\(^6\) The values we bring to use may have also another interpretation – processing costs, costs for maintaining quality; costs for packaging, and others.
storage of one unit of stock in the warehouses of the \(i\)-th supplier; \(k_j\) – value of cost for storage of unit of stock in the warehouses of the \(j\)-th customer during the whole time period \(T\). The value of costs \(Z_2\) for handling all deliveries in the logistic system for the time \(T\) can be expressed in the following way

\[
Z_2 = \sum_{i=1}^{m} \sum_{j=1}^{n} p_i n_j .
\]  

(5)

Each batch with amount \(\frac{x_{ij}}{n_j}\), which the \(j\)-th customer receives from the \(i\)-th supplier, is consumed evenly in the time interval \(\frac{T}{n_j}\), at the beginning of which the stocks from the batch that entered consist of its full amount, while at the end (towards the moment when the next batch from the same supplier enters) they are equal to zero. Because of this the average value of product stock which the \(j\)-th customer receives from the \(i\)-th supplier will be \(\frac{1}{2} \frac{x_{ij}}{n_j}\) and in the course of the time interval \(\frac{T}{n_j}\) the consecutive batch will be consumed, hence throughout the whole time period \(T\). The total average value of stock in the \(j\)-th customer will be \(\frac{1}{2} \sum_{i=1}^{m} \frac{x_{ij}}{n_j}\).

Likewise each batch with amount \(\frac{x_{ij}}{n_j}\) is formed in the \(i\)-th supplier for the \(j\)-th customer in the same time intervals \(\frac{T}{n_j}\). At the beginning of each interval of this kind (immediately after sending the consecutive batch) the product stocks, evenly accumulated in the \(i\)-th supplier only for the \(j\)-th customer, equal to zero, and at the end (naturally before sending the consecutive batch) – \(\frac{x_{ij}}{n_j}\). The average value of these stocks during each of the explored time intervals, therefore in the course of the whole time period \(T\), equals \(\frac{1}{2} \frac{x_{ij}}{n_j}\). Hence, the total average value of stocks in the \(i\)-th point of dispatch will be

\[
\frac{1}{2} \sum_{j=1}^{n} \frac{x_{ij}^2}{n_j} = \frac{1}{2} \sum_{j=1}^{n} \frac{x_{ij}^2}{n_j} .
\]

\[
\sum_{j=1}^{n} x_{ij} = \frac{1}{2} \sum_{j=1}^{n} x_{ij} .
\]
Then the cost value of stocks in $i$-th supplier will be defined by
\[ Z_1 = \sum_{i=1}^{n} \sum_{j=1}^{a} r_{ij} \frac{x_{ij}^2}{a_{ij} n_j}. \]

On the basis of this result it is easy to define the total value of $Z_3$ of stock storage costs in all enter points
\[ Z_3 = \frac{1}{2} \sum_{i=1}^{m} \sum_{j=1}^{n} r_{ij} \frac{x_{ij}^2}{a_{ij} n_j}. \]

The total value of $Z_4$ of the costs for storage of stocks of all customers will be
\[ Z_4 = \frac{1}{2} \sum_{i=1}^{m} \sum_{j=1}^{n} k_{ij} \frac{x_{ij}}{n_j}. \]

The stock storage costs during the time of deliveries of products from the supplier to the customer should be taken into account, too. They are usually paid by either the supplier or the customer depending on the way of payment.

Let us assume that a batch with amount $\frac{x_{ij}}{n_j}$ is transported from the $i$-th supplier to the $j$-th customer for a period of time $t_{ij}$. We designate with $q_{ij}$ the value of storage costs of a unit of stock during the transportation from the $i$-th supplier to the $j$-th customer. Then the value for storage of one batch with amount $\frac{x_{ij}}{n_j}$ for time $t_{ij}$ for transportation from the $i$-th supplier to the $j$-th customer will be $q_{ij} \frac{x_{ij} t_{ij}}{n_j}$, while the value for storage of all products $x_{ij}$, i.e. for all batches $n_{ij}$ during transportation will be equal to $q_{ij} \frac{x_{ij} t_{ij}}{T}$.

If one assumes that these costs should be paid from the suppliers, then $q_{ij}$ in the expression above should be taken as equal to $r_{ij}$. If costs are paid by customers, it is obvious that $q_{ij} = k_{ij}$. In this case the total value $Z_5$ for storage of stocks for the entire logistic system during the period of product transportation will be found from the equation
\[ Z_5 = \sum_{i=1}^{m} \sum_{j=1}^{n} q_{ij} \frac{x_{ij} t_{ij}}{T}. \]

Having added all costs, defined in (1), (5), (6), (7) and (8) we have found an expression for all costs $Z$ in the logistic system, connected with the allocation of material flow in it:
\[ Z = \sum_{i=1}^{m} \sum_{j=1}^{n} \left( c_{ij} x_{ij} + \frac{q_{ij} x_{ij} t_{ij}}{T} \right) + \sum_{i=1}^{m} \sum_{j=1}^{n} \left( p_{ij} n_j + \frac{1}{2} r_{ij} \frac{x_{ij}^2}{a_{ij} n_j} + \frac{1}{2} k_{ij} \frac{x_{ij}}{n_j} \right). \]

In the formula (9) the addend, dependent on $n_{ij}$ is separated completely on purpose.
3. A method for finding the optimal solution of the constructed economic and mathematical model

Finding an optimal solution of the constructed model is connected with finding the least possible value of the sum total of Z. To determine it we will try to group terms in the second sum in (9) according to numbers \( n_{ij} \), in such a way that each of these quantities take the minimal value only in reference to \( n_{ij} \) at arbitrarily fixed \( x_{ij} \). Only then can we proceed to find the minimal value of \( Z \), defining in this way the volume of shipments from each supplier to each consumer for the whole time period \( T \). So, let’s denote with \( Z_{ij} \), this part of (9), which depends only on \( n_{ij} \):

\[
Z_{ij} = p_{ij}n_{ij} + \frac{r_{x_{ij}}^2 + a_{ij}x_{ij}}{2an_{ij}}. \tag{10}
\]

The derivative of \( Z_{ij} \) in relation to \( n_{ij} \) should be found and then make it equal to zero

\[
\frac{dZ_{ij}}{dn_{ij}} = p_{ij} - \frac{r_{x_{ij}}^2 + a_{ij}x_{ij}}{2an_{ij}} = 0,
\]

where we find

\[
n_{ij} = \sqrt{\frac{r_{x_{ij}}^2 + a_{ij}x_{ij}}{2ap_{ij}}}. \tag{11}
\]

Substitute \( n_{ij} \) in (10) with its equal from (11) and find

\[
p_{ij} \sqrt{\frac{r_{x_{ij}}^2 + a_{ij}x_{ij}}{2ap_{ij}}} + \frac{r_{x_{ij}}^2 + a_{ij}x_{ij}}{2a} \sqrt{\frac{2ap_{ij}}{}}, \tag{12}
\]

The expression thus found can be taken as a more general representation of Wilson well-known formula’. After some simplifications the expression (12) will be of the type:

\[
\sqrt{\frac{2p_{ij}(r_{x_{ij}}^2 + a_{ij}x_{ij})}{a}}. \tag{13}
\]

The expression determined in this way presents the minimal possible total costs both for organizing all shipments from the \( i \)-th point of dispatch to the \( j \)-th customer, and for these originating from storage of stocks in the \( i \)-th supplier but only of products intended for the \( j \)-th customer, and for the \( j \)-th customer, delivered from the \( i \)-th supplier. In this way the problem for minimizing costs at random fixed volume \( x_{ij} \) of shipment can be viewed in the section „\( i \)-th supplier – \( j \)-th customer” irrespective of the other corresponding sections. Let’s substitute in (9) the found values of \( n_{ij} \) expressed through (11). Thus, we get the expression

\[\text{3. A method for finding the optimal solution of the constructed economic and mathematical model}\]

\[\text{Articles}\]

\[
Which, for short can be expressed in the type

\[ Z = \sum_{i=1}^{m} \sum_{j=1}^{n} \left[ \left( c_{ij} + \frac{q_{ij} T}{T} \right) x_{ij} + \frac{2p_r r_c}{a_i} x_{ij}^2 + 2p_r k_j \right] . \]

Now the problem that is examined can be formulated in the following way: find the minimum of the function \( Z \) (determined by means of (14)) at the restricting conditions (2) – (4). If \( \beta_{ij} = \gamma_{ij} = 0 \), we have a covert model of a transportation problem. The function \( Z \), determined by (14), is separable, because every addend depends only on one variable \( x_{ij} \). It is easy to take into consideration that every function has negative second derivative for each \( x_{ij} \), therefore they are convex functions. Since \( Z \) is a total of convex functions, \( Z \) is also a convex function. It is known, that the minimum value of a convex function \( Z \) can be obtained only in top points of the polyhedron of the solutions defined by the restricting conditions (2) – (4).

A method for figuring out the solved problem, based on an algorithm of the distribution method\(^8\) for working out transportation problems will be suggested. It is advisable to apply an initial supporting plan that will be shown in the table of a transportation problem having \( m \) rows and \( n \) columns. (table. 1).

Let us build a support plan following the popular rule of the „northwest corner”\(^10\), the number of positive components which at its highest value equal \( m + n - 1 \). At random lines one can always find a cell in the transportation table, for which \( x_{ij} = 0 \). Let \( x_{ij}, x_{ik}, \ldots, x_{ik-1,0} \) are the numbers, which are contained in the cells of the table line found at its route. Then following this route a redistribution can be carried out by random positive number, not bigger than \( \theta = \min \{ x_{ij}, x_{ik}, \ldots, x_{ik-1,0} \} \). If in this case the value of the objective function can be decreased, the redistribution should be fulfilled at the highest possible number, i. e. at \( \theta \), with the aim to get maximum decrease of the importance of the objective function \( Z \). If redistribution according to the highest possible number for each route leads to a rise in the objective function, this is a sign for ending the redistribution, i.e. the optimal plan is found. We should mention that the question whether the minimum we obtained is an absolute one, remains open. If the value of the objective function \( Z \) can be decreased even at one redistribution route, a transition to a new support plan is carried out by its help. By means of finite number of steps in this method a solution can be obtained, which is impossible to enhance any more by only using this method alone.

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\(^8\) Zangvill, U. I. Nelineynoe programirovanie. Moskva, 1973, s. 149.
5. Implementation of economic and mathematical model with exemplary numerical data

An attempt will be made to put to a test the suggested approach on the basis of numerical data. Let us assume that there are three suppliers and four customers available.

Table 1

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>B_1</th>
<th>B_2</th>
<th>...</th>
<th>B_j</th>
<th>...</th>
<th>B_n</th>
<th>a_i</th>
</tr>
</thead>
<tbody>
<tr>
<td>A_1</td>
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<td>x_{11}</td>
<td>x_{12}</td>
<td>...</td>
<td>x_{1j}</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>γ_{21}</td>
<td>x_{21}</td>
<td>x_{22}</td>
<td>...</td>
<td>x_{2j}</td>
<td>...</td>
<td>x_{2n}</td>
<td>a_2</td>
</tr>
<tr>
<td></td>
<td>α_{21}</td>
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<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>A_j</td>
<td>γ_{j1}</td>
<td>x_{j1}</td>
<td>x_{j2}</td>
<td>...</td>
<td>x_{jy}</td>
<td>...</td>
<td>x_{jn}</td>
<td>a_i</td>
</tr>
<tr>
<td></td>
<td>α_{j1}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A_m</td>
<td>γ_{m1}</td>
<td>x_{m1}</td>
<td>x_{m2}</td>
<td>...</td>
<td>x_{my}</td>
<td>...</td>
<td>x_{mn}</td>
<td>a_m</td>
</tr>
<tr>
<td></td>
<td>α_{m1}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b_j</td>
<td>b_1</td>
<td>b_2</td>
<td>...</td>
<td>b_j</td>
<td>...</td>
<td>b_n</td>
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<td></td>
</tr>
</tbody>
</table>

Table 2

<table>
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<tr>
<th>A_i</th>
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<th>B_2</th>
<th>B_3</th>
<th>B_4</th>
<th>a_i</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td>A_2</td>
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<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>A_3</td>
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<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>b_j</td>
<td></td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
The coefficients \( \alpha_{ij} \) and \( \gamma_{ij} \) are given by the matrices
\[
\begin{bmatrix}
1 & 1 & 2 & 2 \\
2 & 2 & 2 & 1 \\
3 & 2 & 2 & 1
\end{bmatrix}, \quad \begin{bmatrix}
4 & 1 & 1 & 1 \\
1 & 1 & 2 & 2 \\
1 & 2 & 1 & 4
\end{bmatrix}
\]

and all coefficients \( \beta_{ij} \), for easy calculations, we assume equal zero, i.e. \( r_i = 0, i = 1,2,3 \).

An initial support plan is constructed having in mind the rule of the „northwest corner” (table 3). The numbers \( \alpha_{ij} \) written in the left bottom corner of the cells, and \( \gamma_{ij} \) – in the top right cell corners in the table.

**Table 3**

<table>
<thead>
<tr>
<th>( A_i )</th>
<th>( B_j )</th>
<th>( B_1 )</th>
<th>( B_2 )</th>
<th>( B_3 )</th>
<th>( B_4 )</th>
<th>( a_i )</th>
</tr>
</thead>
<tbody>
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<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>( A_2 )</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>( A_3 )</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>( b_j )</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

To this support plan corresponds an objective function value equal to
\[
Z_1 = (1.6 + 4.\sqrt{6}) + (1.1 + 1.\sqrt{2}) + (2.2 + 1.\sqrt{2}) + (2.2 + 2.\sqrt{2}) + (2.1 + 1.\sqrt{1}) + (1.5 + 4.\sqrt{5}) = 46.99
\]

Having done the redistribution along the denoted route (table 3), containing the cell explored, with number two, we obtain a new solution (table 4).

**Table 4**

<table>
<thead>
<tr>
<th>( A_i )</th>
<th>( B_j )</th>
<th>( B_1 )</th>
<th>( B_2 )</th>
<th>( B_3 )</th>
<th>( B_4 )</th>
<th>( a_i )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( A_1 )</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>( A_2 )</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>( A_3 )</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>( b_j )</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>
Thus, after the solution obtained we find $Z_2 = 45.68$. The next step is to find a new support plan (table 5) with the value of the objective function $Z_3 = 44.61$.

**Table 5**

<table>
<thead>
<tr>
<th>$A_i$</th>
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Table 6 offers an optimal solution arrived at redistribution along the line, containing cells $x_{11}, x_{21}, x_{31}, x_{14}$, and along the line $-x_{22}, x_{24}, x_{34}, x_{33}$, for the numbers 4 and 3 respectively.

**Table 6**

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Thus, the optimal plan received (table 6) $Z_{\text{min}} = 43.93$.

**Conclusion**

The results obtained in the research indicate that the suggested approach creates good prerequisites for implementing the efficient handling of material flow in the logistic systems, ensuring minimal cost value in stocks storage and in maintaining high quality shipment of material flow.

This gives us good reason to believe that the basic goal is reached and the ensuing problems are solved. The author’s thesis is defended, namely that redistribution and handling of material flow in a logistic system can be made efficient on the basis of
implementing special approaches and techniques, and the basic results may come down to the following: 1) economic formulation of the problem for optimizing the distribution of material flow in a logistic system is submitted; 2) economic and mathematical model ensuring handling of material flow in a logistics system at minimal shipment and storage costs is designed; 3) an approach for determining an optimal solution of the already designed economic and mathematical model is suggested; 4) on the basis of the implementation of the suggested economic and mathematical model using exemplary numerical data, the benefit from its real practical application is proved.

OPTIMIZING THE ALLOCATION OF MATERIAL FLOW IN A LOGISTICS SYSTEM

Chief Assist. Prof. Dr Tanka Milkova

Abstract

The article is devoted to the issue of the optimum allocation of material flow in a logistics system, the author’s proposition being that the allocation and movement of the material flow in a logistics system can be rationalized, based on the use of special approaches and techniques. There is presented the economic formulation of the problem and is constructed the economic and mathematical model ensuring the movement of the material flow in a logistics system at minimum cost of its transportation and storage in the system. There is put forward a method for finding the optimal solution of the economic and mathematical model designed in this way and is presented its approbation on the basis of sample numerical data, through which there is shown the benefit of its actual application in the practice.

Keywords: optimization, material flow, logistics system.
APPROACHES TO THE INTERPRETATION AND CLASSIFICATION OF OPPORTUNITIES IN MANAGEMENT

Chief Assist. Prof. Dr Radko Radev

Introduction

In a large part of the theoretical works opportunities are interpreted as conditions that are formed as a result of the favourable influence of the factors of the external environment. A major shortcoming of this approach is that it is passive in nature and narrows considerably the horizon of management by turning it into a “consumer”, rather than a creator of prerequisites for on-going development of the business organization.

Under conditions of a dynamically changing environment, increasing globalization and intensity of competition there is needed the adoption of a more active approach to the interpretation of opportunities.

The proposition being put forward is that the contemporary interpretation of opportunities requires a broader perspective of perception of the sources and the specific causes, which determine those. In this connection there is adopted the view that all external conditions and internal prerequisites must be treated as potential sources of opportunities.

Perceiving the latter in this way managers broaden their horizon by forming an entrepreneurial style of behaviour based on the constant development of knowledge in the business organizations run by them. In this way opportunities are “sought” in every situation, action, inaction and change which would allow improvement in the management, the way of functioning and ultimately the results of the activity.

The aim of the present article is to put forward an interpretation of opportunities in a way that goes beyond the limits of the generally adopted view that those are conditioned solely by the favourable influence of the factors of the external environment.

In order to achieve the main objective there have been set several principal tasks:

♦ To perform a brief characterization of the two main groups of approaches to the perception and interpretation of opportunities from managerial standpoint;
♦ To work out a classification of the main groups of approaches depending on the sources and the causes, which determine them;
♦ To propose a classification of opportunities, which supports the thesis defended in the article;
♦ To propose a common algorithm for the assessment of opportunities, identified by means of the active approaches.
1. Approaches to the interpretation of opportunities

Depending on the way in which those are viewed, there can generally be identified two main groups of approaches to perceiving opportunities – passive and active. The reason for their differentiation is the different viewpoints taken by the individual authors and schools in the area of strategic management.

1.1. Passive approaches

The first of the two main groups of approaches that are considered in the present article is the passive ones. What is characteristic of them is that as the sources of opportunities (for the business organizations) there are perceived only the favourable conditions formed as a result of the individual or combined positive influence of the factors of the external environment (Fig.1).

The role of managers in this case consists in assessing the favourable preconditions through an “opportunities matrix”, which the business organization - depending on the strengths and weaknesses it possesses - is able or not to take advantage of. Threats are perceived only as unfavourable factors, in respect of which there must be taken defensive actions in order to minimize their negative effect.\(^1\/2/3/4\)

The basic passive approach

As the principal positive aspect of the basic passive approach there may be pointed out that it coincides with the traditional understanding, according to which as sources of opportunities there are regarded only the favourable conditions external to the organization. This makes it easy for acquisition, which is why it is widely adopted in theory and practice. The understanding of possibilities in this way coincides with the meaning of the word “opportunity” in the English language – appropriate moment or circumstances, which are conductive to the occurrence of something anticipated (positive).\(^5\)

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4. Petkova, I, Georgieva, K., Praktichesko rakovodstvo po proekten menidzhmant, Sofia, ForKom, 2012
Fig. 1. Passive approaches to perceiving opportunities

Its main disadvantage consists in that it entails a passive or at best a reactive role on the part of the management. The manager is viewed as “capturing” the opportunities which are conditioned as a result of the favourable influence of the factors of the external environment, rather than as the “creator” of those. In the ultimate version of this approach opportunities are perceived as such only if they coincide with the strengths possessed by the organization.

Two varieties of the basic passive approach

Along with the basic passive approach, there are identified two principal varieties of the latter.

The first supplementary approach refers to the search for market opportunities, through which there are “exploited” the strengths that the business organization possesses. In this way we aim at maximizing the benefits which ensue from those.\(^6\,7\)

The second supplementary approach is characterized with the fact that it considers the possibility for overcoming certain weaknesses.\(^8\,9\)

These two varieties can be defined as “transitional”. On the one hand they entail relatively more active behaviour on the part of managers with respect to opportunities, in comparison with the basic passive approach. On the other hand they differ from the active approaches both in terms of the range of the sources from which there ensue the opportunities for the business organization, and in connection with the conditioning relation “goals (and strategies) - opportunities”. In that sense opportunities are identified on the basis of whether they contribute to achieving the approved goals and strategies, or not, without considering a scenario for their change.

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1.2. Active approaches

The second group of examined approaches which are considered in the present article, are defined as active. They “prescribe” the perception of opportunities in far broader limits in comparison with the passive approaches. In this way the favourable conditions of the external environment are not viewed as the only source which determines opportunities for the organization. As such there are also accepted some unfavourable preconditions that are identified. Their distinctive characteristic is that the intercompany preconditions (company strengths and weaknesses) are regarded as main sources of opportunities (Fig.2).

The active approaches presuppose also a different way of perceiving the opportunities in terms of the relation “goals (and strategies) – opportunities”. In this connection opportunities are not identified solely in the context of the followed strategy. We break out of those narrow boundaries by allowing also a scenario of reconsidering the goals and the pursued strategy.10/11/12

Broadly speaking, the advantage of active approaches is expressed in an orientation towards constant development and search for new knowledge-based challenges. The perception of the latter in this way entails an active role on the part of managers, who not only identify opportunities, but also create those themselves.13/14 In that sense managers must “decisively relieve themselves of the role of ‘running after

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12 Tregoe, B and Zimmerman, J., 1983, Top management strategy: what it is and how to make it work, Simon and Schuster.
change’ and master the art of generating change, which leads to economically, socially and environmentally expedient results”.  

One argument in favour of the adoption of the active approaches is found in the meaning of the noun “възможност” (possibility) in the Bulgarian language. According to the dictionary of the Bulgarian language “възможност” means “opportunity, way, means, which allow the accomplishment of something”. In the first part of the definition the possibility is connected with an “opportunity” which is conditioned by the environment. In the second part there are given the internal prerequisites – “way, means”, whereas in the third part there are the expected benefits from the realization of the possibility – the “accomplishment of something (goal, strategy)”.  

With the synonyms that are found there can be done similar grouping. Through it there are revealed the various aspects of the meaning of the concept of “opportunity” in business organizations. In the first group there fall the synonyms according to which possibility is connected with the internal conditions and prerequisites: way, means, manner, chance, method, technique, sphere, competence. The second group of synonyms reveal possibilities as determined by the external conditions, and at the same time there is emphasized their probabilistic nature: opportunity, ground, reason, cause, hope, ease, probability, outlook, chance, certitude, hazard, risk, contingency. Finally there are included the synonyms which reveal the range of the possibility: sphere, place, range, scope.  

The cited significance and the abovementioned synonyms confirm the need to adopt a broader perspective of perceiving opportunities. Those should be “sought” in every situation, action, inaction, change, which would allow us to improve the competitive position by product and market, improve the economic indicators, the image, etc.  

Within the active approaches there can be identified three main varieties. The first is connected with the entrepreneurial approach, the second with the concept of “learning organizations”, whereas the third stems from the configuration approach in strategic management.  

**Entrepreneurial approach**  

This approach to perceiving opportunities is inherent in business organizations, mostly SMEs, which are characterized with the entrepreneurial model of management. Despite the uncertainty and the limitations faced by an organization, the entrepreneurial pattern of behaviour brings to the foreground the search for opportunities and their realization over the preservation of the status quo and the security. According to the traditional view, the entrepreneurial style of thinking is characterized by undivided authority where the entrepreneur is perceived as the only member of the organization, who is “authorized” to identify and assess the opportunities for the organization.
During the development of the entrepreneurial approach there is a breaking out of this narrow frame. There is reached the realization that the “cultivation” of entrepreneurial thinking underlies the on-going development both of the companies of entrepreneurial type, and of those with professional management. All members of the organization (not just the managers) are oriented towards a continuous search for new opportunities, viewed in their broadest sense.  

*The concept of “the learning organization”*  

At the basis of this approach there is placed the accumulation and development of collective knowledge and continuous training of the management and the remaining employees in the organization. In its development there stand out various stages: private incrementalism, logical incrementalism, strategic initiatives, developing strategy, retrospective rationalization. According to the concept of learning organizations the identification of opportunities must not be approached one-sidedly, by considering only the internal prerequisites or the external conditions. Essentially, it rests on the principles of dialectic and holism, according to which opportunities are sought in the internal conditions of the business (resources, abilities, processes, key competencies, the different aspects of the activity) and in the conditions of the external environment (micro and macro factors). The basic idea is that the development of the business is determined by the abilities of the organization to acquire new knowledge and to develop the existing knowledge through continuous training at all levels and all areas of activity.  

*Configuration approach*  

The configuration approach is the most complex of the three active approaches. The key starting notions, through which there is revealed its nature are configuration and transformation. Through configuration there is expressed the relative stability of the established structure in the organization, the organization culture, the pursued strategy, the achieved results, the effect of the factors of the external environment. Transformation in its turn is defined as a process of developing the strategies and passing from one state into another, during which there is carried out partial or total strategic change.  

The configuration approach is applied in accordance with the internal conditions, prerequisites and opportunities and threats which are conditioned by the effect of the factors of the external environment. This approach is based on: the life cycle of the business organization and its products, the market positions, the organization structure, the size, the degree of diversification; the conditions of the macro- and microenvironment, the change in the priorities and goals.

According to the configuration school, the role of strategic management is to ensure stability for comparatively long periods of time, and to a maximum extent utilize the opportunities which are “in accord” with the executed strategy. When strategic change is needed, there is determined the scope and the degree of transformation. In that sense, opportunities may affect one or several individual parts, and ultimately the organization as a whole. Along with the strategy, the transformation may include also opportunities connected with change in the remaining stable elements – structure, system, culture, staff, etc.,28/29/30

The great variety of opportunities offered by the active approaches, necessitate the need for their classification according to the sources and the causes, which condition them.

2. Basic classification of opportunities according to the active approaches

The basic classification of opportunities is done by determining the internal and external to the business organization sources and the causes, which determine them. The sources of the first two types of basic opportunities are outside the business organization, i.e. they are of the kind that cannot by definition be influenced by the management. The causes connected with this source are the favourable or unfavourable conditions of the environment. The source of the next two types of opportunities are the internal conditions, the specific causes being the weaknesses and strengths possessed by the business organization (Table 1).

The first type of basic opportunities ensue from the favourable effect of the factors of the external environment. The utilization of this type of opportunities in the short term and the medium term depends on the economic and managerial potential of the business organization, whereas in the long term - on their development. In short, the opportunity of this type can be described as: 1) “favourable precondition – possibility for achieving higher results”, when the positive influence of the external environment coincides with an existing strength; 2) “favourable precondition - possibility for achieving better results in the future”, when it is needed for the business organization to further develop its own strengths or to overcome certain weaknesses. Here are included actions connected with changes in the product and market profile and substantial investment cost.

The second basic type of opportunities are identified when the influence of external sources is unfavourable. At first sight the perception of the expression “to use the threat as an opportunity” sounds like a task that is practically impossible to fulfil. In practice there can be pointed out at least two main varieties of the opportunities of this type: 1) when all competing companies are subjected to the same unfavourable influence, for each one of them there exists the possibility to overcome the threat better than its competitors, by improving its competitive position in terms of individual products, markets and as a whole; 2) if the unfavourable conditions of the external

environment are “interpreted” as inevitable and irreversible, they can “force” the managers to undertake changes, which have been put off – restructuring, entering new markets, launching new products, since there are present arguments for overcoming the resistance of various stakeholders.

Table 1

<table>
<thead>
<tr>
<th>Sources of opportunities</th>
<th>Specific reasons</th>
<th>Identification and classification of the basic opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors of the external environment</td>
<td>Favourable preconditions</td>
<td>1. First basic type - opportunities to “use” a favourable precondition, determined by the environment.</td>
</tr>
<tr>
<td></td>
<td>Unfavourable conditions</td>
<td>2. Second basic type - opportunities connected with overcoming the unfavourable effect of the external factors.</td>
</tr>
<tr>
<td>Factors of the internal environment</td>
<td>Weaknesses of the organization</td>
<td>3. Third basic type - opportunities for overcoming a weakness, which would help improve the management and the functioning of the business organization.</td>
</tr>
<tr>
<td></td>
<td>Strengths of the organization</td>
<td>4. Fourth basic type – opportunities, connected with the use of a particular strength of the business organization or its further development.</td>
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</tbody>
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Source: Adapted from Zlatev, V., Radev, R., „Vavedenie v upravlenieto na proekti”, s. 57-64, UI „Stopanstvo”, 2011.

The third type of opportunities is connected with the need for the business organization to undertake actions aimed at overcoming its weaknesses, since they are perceived as internal conditions, having a restrictive and restraining effect on the present and/or future results. The study of this type of opportunities is based on the understanding that managers ought to regard the overcoming of every identified weakness as an opportunity to improve the competitive position of the business organization, its development potential and the results of its activities. An example of such an opportunity is the launch of an improved or completely new product on the market. Other similar examples are: if the business organization experiences a shortage of production capacities; weaknesses in the logistics area; lapses in the marketing area; shortage of managerial capacity, etc. Their overcoming is an opportunity for the business organization to improve its competitive positions, to increase sales, revenues and profits.

The fourth basic type is conditioned by the inherent in the business organization strengths, which are not “exploited” to the full. These are characteristics which form competitive advantages for the business organization. The possessed strengths further the achievement of better results of operations in the short term and the medium term, when external conditions are favourable. In the long term there arises the question of their development and expansion. Such an opportunity is present when the business organization possesses a product which is accepted well, but is offered on a limited geographical market. The expansion of its geographical presence is an opportunity to raise
the sales, market share, revenues, profits. Another similar opportunity is observed when the business organization possesses strong market positions through its existing products. This provides it with the opportunity to launch new products on the respective markets.

The identified groups of basic opportunities are further classified according to: the geographical range (local, regional, national, international and global); the duration of the opportunities and/or the anticipated benefits (short-term, medium-term and long-term); the nature of the benefits (economic, non-economic and managerial). An important classification attribute is the character of opportunities (whether they are of strategic, tactical or operating nature).  

3. Algorithm for assessing opportunities

The existence of a multitude of opportunities gives us reason to introduce the concept of “opportunities portfolio management”. Generally speaking, its nature consists in that through it there is introduced the requirement for the managers to classify, assess and realize opportunities in accordance with the anticipated benefits, i.e. the extent to which those contribute to achieving the priorities of the business organization. The assessment is carried out by also considering the resources, connected with the realization of opportunities. Key terms in performing the assessment are: “groups - interests”, “need”, “benefits”, “costs”, “efficiency”.

The identified opportunities are assessed through the consideration of two hypothetical variants of development – “is not realized” and “is realized”. When considering the first variant there are assessed the consequences, which can be expected for the organization, if no actions are taken with respect to the identified opportunities. With the second variant there are assessed the effects, which can be expected, if the organization proceeds with the realization of the opportunities. The economic opportunities are assessed according to their economic expedience, whereas the non-economic ones - according to the expected benefits and costs. Lastly, there is carried out the final assessment. The adoption of the active approach in considering the opportunities requires that there be worked out a common algorithm for their assessment and prioritization (Fig. 3).

In the first stage there is conducted an analysis of the variant, in which the opportunity is not realized, going through five interrelated stages (from 1.1. to 1.5.). The aim is to assess what the consequences for the organization would be, if it does not realize the identified opportunity.

- First, there are identified the expected positive effects (1.1.). The main ones are as follows: no additional risk is taken, no additional resources are involved, no additional cost and investment cost is incurred, staff are not engaged in activities, which would distract them from their day-to-day duties, etc.
- Second, there are assessed the negative consequences if the opportunity is not realized (1.2.). Thus, for example, if a certain technological opportunity is not utilized, this would lead to a fall in the comparative productivity of the organization and its competitiveness.

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31 Zlatev, V., Radev, R. „Vavedenie v upravlenieto na proekti“, U1 „Stopanstvo“, 2011, s. 57-64.
Third, the period is specified, within which the organization would stick to this variant, without any effect on its functioning and performance, threatening its survival (1.3.).

Fourth, a comparison is made of the positive aspects and the negative consequences for the organization, if the opportunity is not realized (1.4.).

Finally, a general assessment is presented, the aim being to estimate the expedience of the variant, in which the opportunity is not realized. The result of this stage is also the reason for subsequent comparison with the alternative variant, in which there is considered the hypothesis according to which the identified opportunity is not realized (1.5.).

Source: Adapted from Zlatev, V., Radev, R., „Vavedenie v upravlenieto na proekti”, s. 57-64, UI „Stopanstvo”, 2011.

Fig. 3 An algorithm for assessing opportunities
The second stage includes the assessment of the alternative, in which the opportunity is realized. In it there is assessed the situation, in which it is presumed that the identified opportunity is realized. This approach allows the assessment of the expected benefits on the one hand and the needed resources for that purpose, on the other. The assessment in this case is also carried out in passing through five steps. They correspond to the five steps, through which there is assessed the variant envisioning realization of the opportunity.

- **First**, an assessment is made of the particular results the realization of a given opportunity would lead to. What is important is to determine the expected benefits for the organization, their geographical range and the duration of their action (2.1.).

- **Second**, there is conducted an assessment of the resources that are necessary for the realization of the opportunity, including material, human and financial. Through this step there is determined the ability of the organization to create the necessary preconditions for the fulfilment of the identified opportunity. The assessment of the necessary resources and the costs connected with those is the basis, on which there is established the efficiency and the expedience of the respective opportunity (2.2.).

- **Third**, there is specified the period of time, which would be necessary in order to realize the opportunity and to get the expected results. In addition, there is assessed the impact which the realization would have on the commitment of those involved in the routine operations in the organization, on its present and future functioning (2.3.).

- **The fourth step** includes the accomplishment of comparative analysis, in which the expected results and benefits are contrasted with the costs in order to make an estimation of the efficiency and to substantiate the need to take action for the realization of the identified opportunity (2.4.).

- **By means of the fifth step** there is carried out a final assessment of the expedience of the realization of the identified opportunity. This requires the making of a comparison between (economic and non-economic) benefits which are expected on the one hand, and the costs and the resources which are necessary for that purpose, on the other (2.5.).

In the third stage there is made the final decision and is substantiated the need for the realization of a given opportunity. At the basis of this argumentation are placed the results of the individual steps and the final general assessments of the two alternative variants. By means of the comparability, which is attained through the proposed methodological framework, a comparison is achieved of the two possible variants of development. Precisely that underlies the decision-making on whether the opportunity should be realized or not. For the final decision it is also necessary to assess whether or not the organization is capable of realizing the respective opportunity. The expedience of that decision is argued on the basis of the concept of the portfolio of opportunities, which was mentioned above.
Clarifications connected with the proposed algorithm

Proceeding from the assumption that managers carry out their assessment of opportunities more or less intuitively, it is recommended that they adopt a more methodical approach for their assessment. The proposed algorithm constitutes an approach of this kind. A major drawback in its current state is that it is presented in a too general and descriptive form. Its purpose is to outline the frame, by means of which there are taken the decisions connected with the opportunities. Depending on whether economic or non-economic opportunities are considered, there is recommended the use of the methods and approaches that are suitable for their assessment.

This assessment allows for opportunities to be classified according to the potential benefits and the necessary expenses. Depending on the expected benefits there are distinguished the following: 1) opportunities of low potential; 2) opportunities of medium potential and 3) opportunities of high potential. From the point of view of the expenses that are necessary, opportunities are subdivided into: 1) opportunities requiring no resources; 2) opportunities, requiring insignificant resources and 3) opportunities, the realization of which is connected with considerable resources.

Recommendations to managers concerning economic and non-economic opportunities

An important recommendation to managers is connected with the classification of opportunities into economic and non-economic. In so far as the first, as is clear from their name, have a direct effect on the economic indicators of the company, their identification, assessment and realization can be specified as relatively more routine for the management. Thus, for example, the management proceeds to utilize every opportunity which helps improve economic performance (e.g. increase in revenues, cost-cutting, increase in profits, etc.) in the short run, when for that purpose there is not required considerable investment. Even when economic opportunities require considerable investment cost and the positive effects are manifested years later, for their assessment there are used a multitude of well-established in the theory and practice methods of investment analysis.

Non-economic opportunities in their turn are more difficult to identify and assess. The main reason for this is that the positive effect of their utilization usually does not manifest itself directly in the values of the economic indicators. In the majority of cases, their effect is felt after a certain lag in time. The same holds true of the costs associated with them. For that reason managers tend to disregard this type of opportunity. In connection with that is the main recommendation to the former. It states that managers must not underrate the significance of non-economic opportunities, since quite often it is precisely their utilization that is at the basis of the steady growth of economic indicators in the medium term and the long term. Thus, for example, the change in the organizational structure, the corporate culture or the introduction of an automated management information system could lead to considerable economic benefits to the organization.
Conclusion

The proposed interpretation of opportunities differs from the one put forward in a large part of management literature, in which opportunities are treated solely as having been formed under the influence of the external factors favourable conditions.

The adoption of the active approaches which are discussed in the present article offers a broader interpretation, with which both external conditions and internal factors are to be perceived as potential sources of opportunities.

The perception of opportunities in this way is conducive to managers being perceived not only as “consumers” of opportunities, but also as the “creators” of those. At the root of the adoption of the active approaches are the entrepreneurial pattern of behaviour and the concept of learning organizations.

The proposed algorithm is suitable for the assessment both of a particular economic or non-economic opportunity, and with the assessment of a portfolio of opportunities. In its present state it aims at outlining the methodological framework, through which managers should assess opportunities, which are revealed before the business organizations run by them. Even if it is not formalized in its practical application, its adoption as a mental model for the assessment of opportunities is advisable.

For a more precise assessment of the opportunities there should be used a specific economic and non-economic set of tools. Of particular interest is also the concept of opportunities portfolio assessment. These two issues will be the subject of the author’s attention in future publications.

APPROACHES TO THE INTERPRETATION AND CLASSIFICATION OF OPPORTUNITIES IN MANAGEMENT

Chief Assist. Prof. Dr Radko Radev

Abstract

In the present publication there is proposed an interpretation of possibilities, which goes beyond the boundaries of the universally adopted view that those are conditioned solely by the favourable influence of the factors of the external environment. Defended is the proposition that there is needed a more active approach to the perception of possibilities, based on the understanding that all external conditions and internal prerequisites must be regarded as potential sources of possibilities. This approach to the perception of possibilities is conducive to the formation of an entrepreneurial pattern of behaviour and orientation towards continuous development of the business organizations.
POSSIBILITIES FOR ASSESSING THE ECONOMIC SUSTAINABILITY OF THE CONSTRUCTION ENTERPRISE

Assist. Prof. Velina Yordanova

Introduction

The market conditions in which enterprises perform their manufacturing and economic activity are characterized by increasingly growing competition and dynamic environment. This places every business, the construction enterprise being no exception, in a position facing more and more demands and challenges which the business must cope with in order to survive in these circumstances. To stay in business, the construction enterprise has to be able to constantly adapt to the changing environment. For this reason achieving economic sustainability is gaining importance for the management of the construction company, as economic sustainability allows for attaining the major business goals. Economic sustainability is one of the most important factors to influence the functioning and development of the enterprise in the developing markets. A major issue connected with economic sustainability is its assessment, as there is still no uniform methodology to do this.

Therefore, the aim we set ourselves in the present study is to offer a method for assessing economic sustainability that could be used as an auxiliary instrument by the management of the construction enterprise when an analysis is made of the state of the business.

To achieve this goal, the following tasks are presented and solved:
• Defining the notion of economic sustainability;
• Analyzing various methodologies for assessing economic sustainability by identifying their strong and weak points.

1. The nature of the notion of “economic sustainability”

The idea of “sustainability” in itself is derived from “sustainable development” and is associated with the report of the Brundtland Commission. The concept of sustainable development envisages economic growth that is capable of meeting the needs of the present without compromising the abilities of the future generations to meet their own needs. The measurements of sustainable development are social, economic, environmental and institutional. In this line of thought we could make the point that sustainable development calls for operating in a mode of optimal use of resources and achieving the highest economic, social and environmental end results. Sustainable development is synonymous with high efficiency and strong competitiveness, as it generates cheaper and higher-quality products, as well as better working conditions.

1 Van der Tak, C. M. Microeconomic Foundation for Sustainable Development, Amsterdam, 1992, p. 43.
2 A company’s competitiveness is its ability, through perpetual updating and improvement to generate and sustainably maintain competitive advantages resulting in high financial results in the long run. Velev, Mi. Assessment and analysis of company competitiveness. Sofia: Softrade, 2004.
Sustainability is also closely connected with the term “economic equilibrium”, which in itself is an essential characteristic of the economic system in a situation where the interaction of divergent forces is mutually neutralized in such a way that the system’s properties being monitored remain unchanged. Economic equilibrium can be viewed in two ways: as static, i.e. a situation, a state of equilibrium, and as dynamic, i.e. an even and streamlined process of development. In this sense the notion is associated with the idea of system sustainability. If under external impacts upon the system the unchangeability of the system’s properties is retained, then we have sustainable balance.

As for economic sustainability, it is a scientific category reflecting the state of the enterprise in the market conditions and guarantees it purpose-orientated in its present and future progress. This category encompasses a set of the enterprise’s properties, including output, non-current fixed assets, resources, personnel and intellectual potential.

As a result of studying the opinions of different authors on the notion of economic sustainability, we can say that these opinions vary. In our view, some of them do not cover adequately the characteristics necessary for a sustainable state and the means for its achievement, while others are too complicated and cumbersome. This gives us ground, complying with the purposes of the current study, to assume that the economic sustainability of the construction enterprise can be characterized as a guarantee of its profitable manufacturing and economic activity by means of increasing the efficiency of the manufacturing resources used and production management, the healthy financial state of the business, the effective development of the manufacturing facilities and the social progress of employees under the conditions of self-funding in a dynamic external environment.

Achieving economic sustainability is an important task for every enterprise operating in the conditions of a dynamic and highly competitive market. In our opinion every construction business must strive to achieve economic sustainability, as these results in a number of advantages such as:

4 Kasarova, V. Models and indicators for analyzing the financial sustainability of the company. E-document: http://eprints.nbu.bg/637/1/FU_1_FINAL.pdf
6 The external environment is a set of the external conditions and limitations the enterprise operates in. Therefore it is a source of disturbing influences upon the manufacturing and economic activity of the construction enterprise. External factors are those components of the outside environment, which through their characteristics define the conditions and limitations in the operations of the company. They do not depend on, and are beyond the direct managerial influence. Depending on the sources of impact, the external environment factors can be classified into two groups: factors of direct impact (direct factors) and factors of indirect impact (indirect factors). The more important direct factors are: customers, competitors, suppliers, and those of indirect impact are: the overall political and economic situation, technological development, social and cultural relations, regional relations.
• Competitiveness of the enterprise and its output;
• Efficiency of the enterprise’s operations;
• Flexibility in relation to the external environment;
• Adaptability of the enterprise;
• Risk management;
• Market stability of the enterprise;
• Economic security of the enterprise.

We have to note that achieving economic sustainability is a complex process, requiring good knowledge on the part of the management of the construction company. In connection with this, we shall take the liberty to present an adapted model of economic sustainability, described in fig. 1. The model includes all the cash flows that are essential


Fig.1. Model of the economic sustainability of the construction enterprise
for manufacturing activities and reflects those areas of the manufacturing and economic activities, about which decisions are being made and which we consider the most important: these areas are investment, manufacturing and finance. The model is based on the unity of those three types of activity, as they ensure the necessary and sufficient condition for the economic sustainability of the construction enterprise.

The most important guidelines for increasing the economic sustainability of the enterprise to take into consideration are as follows: creation of a rational and reliable manufacturing programme, organization of the supply of raw materials and components, operational management of production, placement of the construction output, development of competitive output, production restructuring, efficient investment management.

2. Methods for assessing economic sustainability

One of the most important issues relating to the management of economic sustainability is providing the uniform methodology for its assessment\(^7\). Here we should note that among scientists and economists there doesn’t seem to be an unanimous opinion about what definite economic results of the enterprise are to be viewed as indicators of economic sustainability. This is revealed in the various approaches to assessing sustainability. In order to assess the economic sustainability, at present mostly the methods of quantitative evaluation of the company’s financial results are being used. For the purposes of the current study, we are going to examine certain methods, which will allow us to draw some conclusions.

According to A. Sheremet and E. Negashev the relation between material resources and the size of the company’s own equity and borrowed capital forms the economic sustainability of the business. In their opinion ensuring all the resources necessary for the manufacturing, as well as their sources, define the essence of the economic sustainability\(^8\). In our opinion, however, apart from the optimal relation between the company’s own capital and borrowed capital plus providing the necessary manufacturing resources, a number of other activities of the enterprise, such as the manufacturing process, marketing, etc, play a part. Therefore, in order to get a more comprehensive and accurate assessment of the economic sustainability, other substantial aspects of the company’s activity should be examined.

An interesting method of assessing economic activity is devised by Y. Bogatin. The method is based on assessing the sustainability of the core activities of the enterprise. This method defines the overall economic sustainability of the company, which is a sum total of the sustainability of each of the subject’s economic activities. The author identifies the following kinds of activities and on the basis of their analysis an assessment of economic sustainability is performed\(^9\):

\(^7\) By assessing the economic sustainability of the construction enterprise we mean a number of activities aimed at defining the diversion of the economic system from the desired state where we achieve the system’s effective functioning and development in relation to the objective at any given time, based on the realization of the system’s inner capacity, despite the negative effects of various external and internal factors.

\(^8\) Sheremet A.D. Metodika finansovogo analiza predpriyatiya. M.: YUNIGLOB, 1992, s. 73.

Organizational and technological activities;
Supply and manufacturing activities;
Marketing activities;
Financial and economic activities.

The numerical value of the economic sustainability for each type of activity is defined by the degree of diversion of real results compared to balanced results. The advantage of this method, in our view, is its complex character. The assessment of the economic sustainability encompasses various spheres of the enterprise’s activities, which adds considerably to the comprehensiveness of the economic assessment. Nevertheless, we believe that this method is too difficult to apply in everyday practice.

It is obvious that those two approaches can only give a static assessment of the enterprise and do not reflect the dynamics of the company’s development. They are also likely to be subjective, inasmuch as the choice of indicators to be included may be subjective. The principle of bringing together a group of individual indicators into one single integrated assessment of the enterprise’s behaviour is an interesting one, though somewhat vulnerable in terms of methodology, as it mixes together individual indicators and deprives them of their individual significance.

In assessing economic sustainability mathematical methods can also be used. In this case indicators are defined and an economic-mathematical model is created, so that this model can, within a degree of accuracy, predict the likelihood of the business going bankrupt. The first attempt at developing a model by using financial ratios for predicting failures was made by W. Beaver. Since Beaver a series of models have been developed to solve the problem by analyzing a group of companies, examined on the basis of pre-selected qualitative characteristics (financial ratios). Most of the successful research in this field is implemented using discriminant multi-factor models, developed by means of multidimensional discriminant analysis. It is important to point out that all the authors of similar models recommend that they be used as supplementary tools of the analysis and not as the main one.

Balanced results are defined as the ideally possible, that is, the results achievable under the state of balance for each of the factors which influence the types of activity.


He compares indicators of 79 insolvent companies with the same indicators for 79 financially stable enterprises to find out that 5 years before failure strikes, the difference between the two groups of indicators is considerable and signs appear of the imminent crisis.

The best known and meaningful group of models for predicting the likelihood of bankruptcy is represented by the Z-models, developed by the American scientist E. Altman. The main objective of the researcher is to define the possibilities for differentiating the firms which are not threatened by insolvency from those of a high degree of probability of going bankrupt. Without dwelling in great detail on the models themselves, we shall just make a note that using these models we should bear in mind the fact that they were developed within the framework of a particular, developed economy, in a certain time period and thus may not correspond to today’s realities; the methodology for developing the models does not take into consideration industry differences, which may have a negative effect on their flexibility and adaptability. They should therefore be used as additional instrument of analysis and they should also be suitably adapted to the current economic conditions.

From the critical analysis that we have performed on these methods, we could identify certain important problems, which in our view should be taken into consideration during the developing of a methodology for assessing the economic sustainability of enterprises:

- The problem with the complex character of the assessment. Most of the suggested methods for assessing economic sustainability focus on one characteristic (mostly the financial side is considered when economic sustainability is assessed) and other important activities for the company’s well-being may be ignored. As a result, the assessment can turn out to be incomprehensive and inaccurate.
- The problem with selecting normative values for the indicators that comprise the assessment. All methods of assessment share a common disadvantage – inadequate argumentation or lack of normative meanings of a given parameter to which actual results can be compared.
- The problem with the quantitative representation of the assessment. The quantitative representation of all values is connected with some of the essential problems of measurement, and namely the problem of uniqueness, adequacy, argumentation and generalization.

In the present study we shall take the liberty to suggest a methodology for assessing the economic sustainability of the construction enterprise by attempting to consider some of the problems mentioned. First of all, we believe that it is feasible to choose an assessment criterion which covers the essential and meaningful aspects of the manufacturing and economic activity of the construction company. Defining the essential activities largely depends on the size of the company and its positions on the market.

Examining the company’s operations with economic sustainability in mind, we could identify three basic types of activity: financial activity, relations with customers and suppliers and organization of the company’s own business processes. Over each

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and every one of these activities there are influences exercised by both the company itself and the external environment the enterprise is functioning in. For this reason, in order to identify the common denominator for economic sustainability of the construction enterprise, it is necessary to systematize factors and identify indicators that characterize them.

In our opinion it is feasible for assessing economic sustainability to be performed for a group of indicators, which correspond to concrete factors and characterize essential aspects of the manufacturing and economic activity of the construction business. Besides, analytical indicators must correspond to the following requirements: economic argumentation, validity and objectivity, possibility for formal representation, concrete character and lack of ambiguity of the end results as well as possibility for the indicators to change in time. In Table 1 we have suggested, by way of example, analytical indicators for each of the essential activities of the construction enterprise.

<table>
<thead>
<tr>
<th>Essential activities</th>
<th>Group number</th>
<th>Indicators in the group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial</td>
<td>Group I</td>
<td>Relation between manufacturing costs and the volume of construction and assembly work; Ratio for the realization of construction output.</td>
</tr>
<tr>
<td>Relations with customers and suppliers</td>
<td>Group II</td>
<td>Market share; Customer satisfaction</td>
</tr>
<tr>
<td>Organization of in-company business processes</td>
<td>Group III</td>
<td>Execution of business processes; Efficiency of business processes.</td>
</tr>
</tbody>
</table>

Here we have to note that apart from the concrete factors, it is necessary to also take into consideration the specific factors which play a part in the construction industry. These can be acquiring the land that will function as a construction site, the different place for the realization of the construction output, the participation of various companies (as subcontractors) in producing the end product of construction, the longer production cycle, etc.

Based on the above assumptions, assessing the economic sustainability may be performed by means of the following algorithm:

1. The source information about the construction enterprise is presented as a set of vectors \( P_i \):

   \[
P_i = (p_{i1}, p_{i2}, ..., p_{in}),
   \]

   where \( i \)-group number of indicators, referring to a certain factor of influence over sustainability;

   \( n \)- number of analyzed indicators in the \( i \)-th group.

2. The set of vectors \( Q = (q_{1}, q_{2}, ..., q_{n}) \) represents the normative values of the indicators that concern all the enterprises in the construction sector for a certain time
period $t$, which reflects the dynamics of the macroeconomic environment. Normative values are constant, or only seldom change.

3. The unification of the grouped indicators may be executed according to the formula:

$$y_{ij} = \frac{p_{ij}}{q_{ij}},$$

(1)

or

$$y_{ij} = \frac{q_{ij}}{p_{ij}}, \ i = 1, 2, ..., s; \ j = 1, 2, ..., n.\quad (2)$$

Quotient $y_{ij}$ defines the degree of approximation to the best value of $j$-th indicator in $i$-th group. Formula (1) is used for indicators whose growth is related to improving the overall indicator for economic sustainability, and formula (2) – in the opposite case.

4. The overall/common indicator for the economic sustainability of the construction enterprise is defined according to the formula:

$$Y = \sum_{i=1}^{s} \sum_{j=1}^{n} \lambda_i \mu_{ij} y_{ij},$$

where $Y$ – the economic sustainability of the construction enterprise;

$\lambda_i$ – priority of $i$-th group of indicators ($\sum_{i=1}^{s} \lambda_i = 1$);

$\mu_{ij}$ – priority of $j$-th indicator in $i$-th group ($\sum_{i=1}^{s} \mu_{ij} = 1$);

$y_{ij}$ – quotient of the relation between the value of $j$-th indicator in $i$-th group for the analyzed enterprise, and the same indicators for all the enterprises in the construction sector, defined according to formula (1) or (2).

**Conclusion**

Economic sustainability is an essential characteristic of the construction enterprise, which guarantees the rational organization of the manufacturing and economic activities of the company. Assessing economic sustainability can be performed using various approaches to grant plausibility and validity to the resulting data. The indicators reflecting economic sustainability may vary widely, but they should allow for the specific features of the environment the company operates in and also take into consideration the peculiarities of the manufacturing and economic activity of the enterprise so that high efficiency and long-term sustainability is achieved.
POSSIBILITIES FOR ASSESSING THE ECONOMIC SUSTAINABILITY OF THE CONSTRUCTION ENTERPRISE

Assist. Prof. Velina Yordanova

Abstract

Economic sustainability is an important characteristic of each enterprise, including the construction enterprise. In the present study there is made an attempt to deduce some of the main issues connected with the assessment of the economic sustainability of the construction enterprise. For that purpose there is clarified the nature of economic sustainability and are discussed various methods of assessment, revealing their strong and weak sides. There is made an attempt at providing some basic guidelines, which the author believes ought to be followed in the development of a reliable methodology for assessing economic sustainability.

Keywords: economic sustainability, assessment, construction enterprise.