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## Innovative Social Policies for the Romanian Agriculture

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#### Abstract

The subject of innovative social policies is an important one in the field of agriculture for the researchers and practitioners nowadays. As expected, Romania has a lot of potential for improving agriculture and increasing its performance and efficiency, the decreased tendency of agricultural professionals having its roots in several causes. The lack of interest in this field was fostered mainly by the lack of financing and state subsidies, while one of the most important obstacles is represented by the lack of an "umbrella" institution to optimally define and manage this strategic change. The sustainable management system behind such an institution should provide means for regulating and facilitating the development of agriculture in Romania and lead it to the achievement of a much more territorial unity for the people owning farms, cooperatives, family local institutions or other forms of collaboration. Having this strategic goal in view, the current paper will describe, as an element of novelty, the appropriate relationship between a company which accesses and implements a project with European funding and the specific associated risks. The aim of the paper is to describe such risks and to derive the tools and instruments for controlling them. The innovative part is completed by the addition of one decisive variable, the managerial risk. Therefore, this paper designs the implication of such an important variable in a model, using the multi-criteria decision-making methodologies, respectively the Analytic Network Processes (ANP).

**Keywords:** Innovative Social Policies, Multi-Criterial Analysis, Analytic Network Processes, Managerial Risk.

#### Introduction

While in Romania agriculture is still considered to be "traditional", having a large proportion of aging population working in this field, with very small-sized lands, lacking necessary equipment and tools, at the European Union's level the modern agriculture concept is developing consistently. Due to the wide plains and fields, Romania possesses one of the most important resources, the soil, which can become one of the most important granaries for Central and Eastern Europe. However, the efficiency of the agricultural policy is encountering many improvement opportunities, that could be identified under the form of an institution which can

sustainably lead the change process, for developing and fulfilling all the major stakeholders' needs (e.g. farmers, cooperatives, family businesses, entrepreneurs, companies, public authorities, other forms of collaboration). By properly establishing the roles and responsibilities of such a form of organization for agriculture might lead to obtaining finances and subsidies much easier, to facilitation of the participation in projects financed by the state or by the European Union, and of course, to an increased productivity and efficiency, bargaining power of the suppliers and quality of the products, making it a reference market in Europe. Following the achievement of such goals, this paper will analyze the characteristics between a company which accesses and implements European funding project and its associated risks in the field of agriculture. Therefore, these risks will be described, having the help of the multi-criteria decision-making methodologies, the expertise of the managers of such a company describing all the processes involved, using a sustainable way of taking decisions, respectively an ANP model and by adding an essential variable, the managerial risk.

So far, the perceived risks when implementing a financed project have been considered only from the external and other parties' point of view. However, the good implementation and knowledge of the management team represent the key for driving the project and the company itself to success.

The awareness regarding the evaluation of risks in financing projects should reach an increased level between the managers, experts and decision makers of such institutions, companies and organizations, because they should have the vision and strategic objectives to overcome them and design an action plan which should fit the profile of the entities that they are representing. This study and its application represents another milestone for continuous improvement of the knowledge in the field. In the continuous quest for finding what it means to take sustainable decisions, we have used the AHP and ANP methodologies for designing other similar applications for the subject in question. So far, the evaluation of the managerial risk has not been underlined in an appropriate way, hence the gap between a managerial decision, its risk and the output of a project implementation. Therefore, the need of correlating in a systematic manner the risks of decisions taken by the managers (and implicitly the roles and responsibilities described by the managerial theory), the implementation of a financed project and its performance exists, and the managerial team should be aware of it. This paper describes, as an element of novelty, the tools and instruments for assessing such risks and controlling them. The benefits of such an analysis are multiple, starting from mapping the decision process, evaluating the management team efforts and strategic thinking, until the sustainable resource allocation and the creation of a sustainable management system, which to lead to better results in the field.

#### **Literature Review**

Taking optimum decisions represents a relevant subject from the literature viewpoint, due to its daily importance. No matter if it is about the strategic, operational or just simple decisions, every individual follows a certain decision-making method. The percentage of consistent and sustainable decisions however, remains rather unknown for most of the decision-makers. During last decades, the topic became even more popular, attracting a lot of interests from both scientists and practitioners. Few methodologies managed to build a bridge towards the obtaining of optimum decision-making.

The American professor Thomas L. Saaty addressed the topic by creating the Analytic Hierarchy Process (AHP) and Analytic Network Process (ANP) multi-criteria theories of measurement. By his approach, Saaty designed and applied several models of taking sustainable decisions in almost every industry, focusing on the quality of the decision-maker. Approaching the experts and top management members from companies whom he worked with, he created a software (Super Decisions), which is more user-friendly in assisting the process of taking decisions. The program uses a set of mathematical algorithms, based on decisional matrixes, priority vectors and on some very simple techniques of providing the input data, for facilitating an interface for the users, which can be attractive and simple to use. Since foundation until the present, the AHP and ANP theories of measurement were used to develop decision models' applications world-wide. Organizations, public or private companies and individuals, all of them have customized their own relevant models of decisional processes and used them consistently in time as a sustainable solution for assisting them in the quest of relevant decisions. Thomas Saaty described in his books several micro and macro-economic problems, relevant for the society and economic environment, such as the resurgence or social security in the United States economy. The applications do not stop here: market share models, resource allocation models or prediction models have become the object of activity for the founder of the AHP and ANP methodologies (Saaty and Vargas, 2006).

One of the main financial risks studied by Romanian researchers is the Altman Risk. The continuation of these research studies was then taken to a higher level by studying the components of the Altman Risk. In 2016, Radutu and Pop conducted a piece of research using an AHP model that identifies the priorities of importance of the main types of banking risk from the Romanian banking system. They find out that there is a unitary perception of risk assessment, of course with small variations in the weights of each type of risk, and that the credit risk one has the highest importance, with an aggregate value of over 60%, followed by liquidity (approximately 30%) and the other main (operational, systemic, market) risks having a combined value of less than 10%. The same authors have used these results and relying on the experts' opinion and on a model derived from the first article, they wanted to discover how the allocation of resources in the bank risk management can maximize the performance of the portfolio of such institution, while at the same time providing the lowest possible cost. Studying the relevant data from 2014, the authors illustrated that, having the input of the experts from the Romanian banking system, that the largest capital allocations in 2014 should have reached to the nonperforming credits (EUR 20 million), followed by the restructured loans (approximately EUR 11 million) and to consumer credits (EUR 3,66 million). The last priority for allocating funds, according to the associated perception of risks from the experts, would have been to allocate capital for buildings and transport alternatives (Pop and Radutu, 2016).

As a result of these research studies, the authors have succeeded in highlighting the importance of multi-criteria analysis (AHP) in economic applications, such as decision models or resource allocation. Applying these decision-making techniques and sustainable policies in the Romanian banking system has the potential to stabilize the market, to reach a balance of portfolios and to increase the perceived quality of services offered by banks to customers. In turn, banks' representatives, especially those who take risk management decisions, would have the potential to thoroughly analyze the benefits of such implementation, having a tool that is highly adaptable and which can adequately assist them in these processes. Although banking risks appear to be

homogeneous, the financial risks associated with investment projects are not as homogeneous. This can also be seen in the seemingly contradictory conditions of the investment project development guidelines. Therefore, the managerial skills expressed through the main managerial functions are put into this paper in connection with the financial risks of investment projects in a model associated with ANP. By having the support of the management of such a company described above, a model which to properly assess the risk of managerial implications was designed. By considering all the risks and variables implied by such a decision of implementing a financed project, the experts in question evaluated afterwards the model using the AHP/ANP principles, reaching to consistent decisions. Therefore, the model was validated and the risks of managerial implications of such an organization can become a reference model for every entity which considers the application for a financed project.

# Research methodology: Defining a sustainable decision-making conceptual model using Analytic Network processes (ANP) in the context of Multi-Criterial Analysis:

Starting from the premises that the human mind can perceive different degrees of intensity of preference, professor Saaty designed the Saaty Scale (Saaty and Vargas, 2006), which is describing nine sets of values, for comparing the perceived importance between two elements from a model (criteria or alternatives) (Saaty and Vargas, 2006). Another added value component was that with the help of this scale (Table 1), professor Saaty overpassed the difficulty of measuring the objective reality (having rather a measurable character), with the intangibles. While it is considered to be rather difficult to assign a value of importance to the values, beliefs and other elements that cannot really be quantified, for the first time in the history of decision-making processes, this comparison was realistic and sustainable for the decision makers (Saaty and Vargas, 2001).

	Table 1. The Fullualite					
Value of perceived	Definition	Interpretation				
•						
importance						
1	Equal Importance	Equally perceived importance				
		between two elements				
2	Weak Importance					
3	Moderate Importance	Slightly perceived importance for				
		one activity over the other				
4	Moderate Plus Importance					
5	Strong Importance	Strongly perceived importance for				
		one activity due to the experience				
		and judgement				
6	Strong Plus Importance					
7	Very Strong or Demonstrated	Very strong importance for one				
	Importance	activity over the other, its				
		dominating trait being observable				
		in practice.				
	Importance	dominating trait being observable				

Table 1. The Fundamental Scale

8	Very, very Strong Importance	
9	Extreme Importance	The evidence is favoring one activity over another with the highest possible order of affirmation
Reciprocals from above		A reasonable and logic assumption

Source: Saaty, and Vargas, 2006

Professor Saaty designed in his methodology the classic representation of a model. It contains three mandatory clusters: the decision problem or the decisional goal, which represents the decision that is put to question, the criteria or the more specific elements that can be decomposed from the decisional problem or goals and the alternatives or the solutions for the decisional problem. The differences might appear in terms of the specificity of the relationships. Therefore, the structure of the models, as it was previously described can have the form of a hierarchy (a top-down approach) or of a network (a top-down approach, mixed with a bottom-up one) (Saaty and Vargas, 2001).

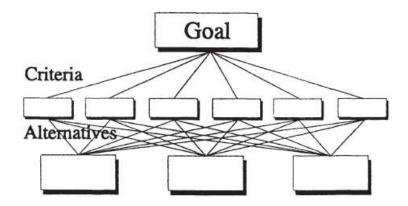


Figure 1. A model with three clusters Source: Saaty and Vargas, 2001

This defined structure is serving several purposes. Firstly, it allows the expert or the manager of the company in question to visualize better the complexity of one specific problem or goal. Secondly, it defines all the elements and relationships between clusters and nodes, until reaching the specific roots of the problem. Third, it becomes a user-friendly "mind-map", which can be used every time by every individual, the level of awareness leading it in obtaining good and consistent results. However, for properly functioning, the multi-criteria models must be very well defined: criteria and alternatives should be realistic and homogenous, and the specific relationships should be able to properly define all the elements of a goal or decisional problem. Also, if the case, the decision-maker has the liberty to design sub-clusters of criteria (sub-criteria)

in the quest of identifying the most relevant connections or relationships within the model. The decision maker possesses the choice of adding or eliminating few or several levels of clusters and their elements (nodes), with the aim of achieving the highest level of significance and relevance for the goal.

As it was affirmed previously, ANP is different than AHP in one rather important characteristic: in a network, unlike the case of a hierarchy, not only the criteria are influencing the alternatives, it can very well be the reversed case. While in a hierarchy, the decision-maker is designing a top down dependency, in a network, the specific of relationships can be bilateral (from a cluster to another and from the second one to the first one). There are also cases when the network relationships imply criteria that are influenced by others from the same cluster, called loops.

#### **Principles of AHP and ANP**

After the stage of reaching the consensus in designing the decisional model, the methodology of reaching from the decisional goal until the solution follows a series of principles. Being based, as previously stated on mathematical structures such as decisional matrixes or priority vectors, the decision maker will have to go through the completion of these decisional matrixes, according to the existent connections between a reference node (source) and the dependent ones (connected nodes). At that point, the principle of pairwise comparison is applied. For example, the top management of a company which has the decisional goal A, and influencing the criteria B, C and D, will have to evaluate all the criteria two by two on the Saaty Scale with his perceived importance related to the decisional goal A. The pairwise comparison principle is offering therefore, a more objective viewpoint for A.

The next step in conducting the process of taking optimum decision is the reciprocity. This principle states the logical argument of a choice. Assuming that from the decisional goal A, the decision maker is considering B over C with "3" (moderate importance), then the perceived importance of C over B should have the exact inverse relationship value, respectively "1/3". The reciprocity condition should be applied to all the inverse relationships after completing the first step of the decisional matrix.

Another very important principle which has the role of process confirmation and validation is the consistency. Being associated with the transitivity from mathematics, this rule states that the rational from a choice should follow the same logic in similar situations, otherwise the decisions taken are not consistent in substance and during time. Continuing the above example, if the expert will consider from the decision goal A's viewpoint that his perceived importance of B over C is "3" and next, the perceived importance of C over D is "2", then the logic should tell and confirm him the fact that the importance of B over D is "6", as the multiplication of values between the two relationships. The Super Decisions software measures every decisional matrix's consistency by computing automatically its consistency ratio. This represents an indicator which should tell the decision maker how consistent it was in his choices. A good value of consistency is when the ratio is having a coefficient which is below 0.1.

#### An ANP Conceptual Model for evaluating the managerial risks Description of the ANP Conceptual Model

Considering the implementation of a sustainable way of assessing the managerial risks, associated to the financial risks, the top management of the company which wishes to adopt a

financed project has defined based on a consensus an ANP conceptual model (Figure 2). Using the transfer of know-how of the author, the most important criteria and alternatives, specific to the defined objective has been established and designed, with the support of the Super Decisions software.

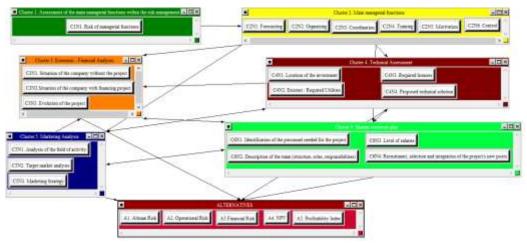
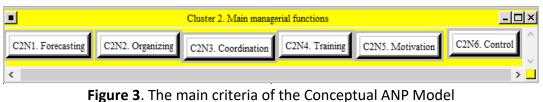


Figure 2. The Conceptual ANP Model Source: Authors

If the decisional goal was clear, the definition of the relevant criteria and sub-criteria of such a model required rather a more detail-oriented focus. Therefore, the main criteria (the main functions of a manager) have had implications with more specific elements (defined as distinctive characteristics of several other clusters), the whole being synthetized in possible solutions of the decisional model.

The "*Main Criteria*" cluster contains 5 nodes: "2.1 Forecasting", "2.2 Organization", "2.3 Coordination", "2.4 Training", "2.5 Motivation" and "2.6 Control". They are the main functions that a manager should fulfill, aspects that can be perceived as the main strategic directions in assessing the risks of funded projects (Figure 3).



Source: Authors

The description of this complex model of evaluating the financial risks based on the managerial functions input is completed with the cluster of alternatives. Previously, each factor or criterion has been described as a variable which influences the outcome with a certain extent. Therefore, the five alternatives represent the degree in which the top management roles and responsibilities are reflected in the financial risks associated with an implementation of a financed project. This approach has a novelty character and has the potential of representing the core of a future decision of implementing such projects by companies.



Figure 4. Alternatives of the Conceptual ANP Model Source: Authors

#### **Description of Relationships and Connections**

The table below illustrates the number of clusters defined by the top management of the company in question, willing to implement a financed project and the nodes that are part of every cluster.

Cluster	Nodes					
1. Assessment of the main managerial functions within the risk management	C1N1. Risk of managerial functions					
2. Main Managerial Functions	C2N1. Forecasting					
	C2N2. Organizing					
	C2N3. Coordination					
	C2N4. Training					
	C2N5. Motivation					
	C2N6. Control					
3. Economic – Financial Analysis	C3N1. Situation of the company without the					
	project					
	C3N2. Situation of the company with financing					
	project					
	C3N3. Evolution of the project					
4. Technical Assessment	C4N1. Location of the investment					
	C4N2. Existent / Required facilities					
	C4N3. Required licenses					
	C4N4. Proposed technical solution					
5. Marketing analysis	C5N1. Analysis of the field of activity					
	C5N2. Target market analysis					
	C5N3. Marketing strategy					
6. Human Resource Planning	C6N1. Identification of the personnel needed					
	for the project					
	C6N2. Description of the team					
	C6N3. Level of salaries					
	C6N4. Recruitment, selection, integration of					
	the project's new posts					
7. Alternatives	A1. Altman Risk					
	A2. Operational Risk					

#### Table 2. Clusters and nodes of the Conceptual ANP Model

A3. Financial Risk		
A4. NPV		
A5. Profitability Index		

Source: Authors

The relationships between the clusters' nodes is illustrated below in Table 3.

\_\_\_\_\_

Reference node (Sources)	Connected Nodes (Syncs)
C1N1	C2N1, C2N2, C2N3, C2N4, C2N5, C2N6
C2N1	C3N1, C3N2, C3N3
	C4N1, C4N2, C4N3, C4N4
	C5N1, C5N2, C5N3
	C6N1, C6N2, C6N3, C6N4
C2N2	C3N1, C3N2, C3N3
	C4N1, C4N2, C4N3, C4N4
	C5N1, C5N2, C5N3
	C6N1, C6N2, C6N3, C6N4
C2N3	C3N1, C3N2, C3N3
	C4N1, C4N2, C4N3, C4N4
	C5N1, C5N2, C5N3
	C6N1, C6N2, C6N3, C6N4
C2N4	C3N1, C3N2, C3N3
	C6N1, C6N2, C6N3, C6N4
C2N5	C6N2, C6N3, C6N4
C2N6	C3N1, C3N2, C3N3
	C4N1, C4N2, C4N3, C4N4
	C5N1, C5N2, C5N3
	C6N1, C6N2, C6N3, C6N4
C3N2	C6N1, C6N3
	A1, A2, A3, A5
C3N3	C6N1, C6N3
	A4, A5
C4N1	C3N1, C3N3
	C5N2, C5N3
CAND	A1, A2, A3, A4, A5
C4N2	C3N1, C3N3
C4N3	A1, A2, A3, A4, A5 C3N1, C3N3
	A2, A3, A4, A5
C4N4	C3N1, C3N3
	C5N1, C5N2, C5N3

•	Table 3.	The node co	nnectio	ns	of th	e C	Conce	ptual A	ANP model
	1-	•					1-		

C6N1, C6N2					
A1, A2, A3, A4, A5					
C3N1, C3N2, C3N3					
C4N4					
A1, A2, A3, A4, A5					
C3N1, C3N3					
C4N1, C4N4					
A1, A2, A3, A4, A5					
C3N1, C3N2, C3N3					
C4N1, C4N4					
C6N2					
A2, A3, A4, A5					
C3N1, C3N3					
C4N4					
C5N3					
A1, A2, A3, A4, A5					
_					

Source: Authors

The risk of managerial functions (main goal) associates a perceived importance to the main managerial functions (main criteria):

- C2N1. Forecasting;
- C2N2. Organizing;
- C2N3. Coordination;
- C2N4. Training;
- C2N5. Motivation;
- C2N6. Control.

The relationship between the nodes is a top-down one, illustrating a hierarchical dependency from the decisional problem to the criteria. Below in Figure 5 it is illustrated an example of pairwise comparison, as interpreted by the manager of the company's in question.



Figure 5. Pairwise comparison with respect to C1N1. Risk of managerial functions Source: Authors

According to the management of the company, from the perspective of the managerial functions risk associated with financial risks (goal), the most important managerial functions are considered the coordination one (C2N2) with 31.3%, training (C2N4) with 24.82% followed by organization (C2N3) with 17.57%. These are followed by forecasting (C2N1) with 11.96%. and control with 4.32% (C2N6). As it can be observed, the consistency ratio for this pairwise comparison is under 0.1, illustrating the impressive know-how of the management regarding the importance associated from the financial perspective to the main managerial functions (Table 4). The experience of a good manager or in the implementation of such financed projects is essential and has to be highlighted, the decisions taken having a consistent foundation.

	0
Node	<b>Priority Vector</b>
C2N1. Forecasting	0.11963
C2N2. Coordination	0.31309
C2N3. Organization	0.17571
C2N4. Training	0.24827
C2N5. Motivation	0.10002
C2N6. Control	0.04328
Inconsistency	0.07873

Table 4. Priority Vectors of C1N1. Risk of managerial functions

Source: Authors

The next level of connection is represented by the main criteria, which are influencing at their turn several nodes from other clusters, according to their specific degree of relevance. For example, as it was illustrated in Table 3, the "organization" function of management (C2N3) is connected from a top-down approach with the following nodes:

- C3N1, C3N2 and C3N3: it is mandatory to have a good organization of such a project and the manager should know the pre-requisites of the actual situation of the company before having the opportunity to implement a financed project, instruments of the operational management for assessing the evolution of the project and the company's framework of activity after the successful implementation of such an initiative.
- The nodes from the "Technical Assessment" cluster (C4N1, C4N2, C4N3 and C4N4): due to the necessary studies for assessing the required and identifying the existent licenses, premises, establishments or other necessary technical resources.
- C5N1, C5N2 and C5N3: the three specific nodes providing useful information about the marketing analysis. For developing its activity, a company should know its field of activity, the sector or segment where its products or services are fitting in, who are its clients what should contain a relevant marketing strategy for fulfilling their needs.
- C6N1, C6N2, C6N3 and C6N4: no project or activity is performed without the right people. Therefore, the required human resources, alongside with their needs and appropriate training should be in regards of a good manager.

The pairwise comparisons are completed by the manager of the company, his input being the main source of data that should be analyzed in evaluating the risk of managerial functions. Figure 6 illustrates another significant example of assessing the importance of criteria.

Graphical Verbal I			_	_		and a		<u>()                                    </u>											
Comparisons v	nt *C;	2N5	i N	loti	val	tio	n" i	000	të i	n "	C	us	<b>bir</b>	6	H	úm	ian re	SOUTCRS	plan" cluster
																			4 Recruitment, set
1. CBN2 Descripti-	==0.5		1	0		4	3	2	2	4	4			2			>=0.0	No.comp.	CEH2-Laweint*
2. C6N2 Description	240.0	9	8	1		4	2	5	2	1	14			2			**6.5	No comp.	Cillia Recruitment
2. CBMJ. Level of -	1.1.1.1			1				-	1.5		1	-						1	Canada Analysis and and
<ol> <li>CRHJ. Level of *</li> </ol>	>=9.5	9		1.1		4	3	2	12	1.	14		- 6	3	а.	181	++9.5	No comp.	CEN4. Recruitme

Figure 6. Pairwise comparison with respect to C2N5. Motivation Source: Authors

The example above is quantifying the perceived importance of the criteria from the cluster 6 ("Human Resource Plan"), by considering as reference point the "Motivation" function. The results of the pairwise comparison can be interpreted as it follows: having the perspective of motivation, a good manager will consider the level of salaries as being the most important factor with 54.69%, followed by the recruitment, selection and integration of the new posts into the project with 34.45%, while the description of the team will take the last place in importance with 10.85%.

Table 5. Filolity vectors with respect to czi	J. WICHVALION
Node	Priority Vector
C6N2. Description of the team	0.10852
C6N3. Level of salaries	0.54693
C6N4. Recruitment, selection, integration of the project's new posts	0.34454
Inconsistency	0.05156

Source: Authors

The next section will describe the synthetized priority vectors or the solution obtained by the top management after completing all the pairwise comparisons, by means of this instrument and model.

#### **Results and Discussions**

Considering all the pairwise comparisons that the management of the company in question had to evaluate, the results are represented by an aggregation of all these perceptions. The synthetized priority vector illustrates this, and it can be interpreted as the synthesis of all the alternatives from the model. It can be affirmed, therefore, that the values of this synthetized priority vector represent the order and the extent of the most important alternatives. Coming back to our decisional goal, respectively evaluating the analysis of the managerial functions in the risk management, the synthetized priority vector will become a sustainable instrument for measuring the biggest risk perceived by management, followed by the next highest risk and so on (Table 6).

Name	Ideals	Normals	Raw
A1. Altman Risk	0.314183	0.127682	0.060755
A2. Operational Risk	0.322938	0.131240	0.062448
A3. Financial Risk	0.267390	0.108665	0.051706
A4. NPV	0.556166	0.226021	0.107548
A5. Profitability Index	1.000000	0.406392	0.193374

Source: Authors

While the "Raw" column represent the nominal values of the synthetized priority vector, descried above, the "Normal" column represent the normalization of these values, or their proportions in percentages. The "Ideals" one, like the name, offers a perspective to the decision maker, considering the best alternative as a reference point, and comparing all the other ones with it. As illustrated in the table, the solution to the decision problem described at the beginning at the paper has the following interpretation: the most important perceived risk when evaluating the managerial functions in assessing the risk for implementing a financed project is the "A5. Profitability Index" with 40.63%. Hence, this alternative is considered by the top management of the company in question to have the most importance for them, therefore also the biggest risk, due to its important character. The second most important risk from the point of view of the decision problem formulated is the "A4. Net Present Value" with 22.60%. Similar with the previous alternative, both have the potential of deciding between adopting a financed project and transform it into a success for the company in question and following a financed project without the possibility of a real benefit. The third most important perceived in risk by the top management was considered "A2. Operational risk" with an extent of 13.12%. While the first two are engaging over 60% of the risks involved in implementing such a project, the operational risk is perceived to be rather medium important, the daily trait of such a risk becoming something that all the team involved has to be aware of and assume as a part of the daily operations. The first alternative's importance, "A1. Altman Risk" is 12.76%, the effects of aggregating an indicator

such as "Z function score", which to assess the health of a company with such a financed project, diminishing with every single variable or ratio included in the model. The last, but not least alternative, "A3. Financial Risk" was the least important one from the top management's evaluation considering the implementation of a financed project, with 12.08%.

#### Sensitivity Analysis

While in the previous section the results were obtained and analyzed with the help of the Super Decisions software, in the current one, there will be identified some key criteria for reaching these conclusions. Similar with the real life, if the principles are the ones which guide a person towards success, their appliance should be very well associated to some criteria, from the organizational point of view.

Figure 7 indicates us the perceived importance of the alternatives regarding the situation of the company with financing project (C3N2). As can be illustrated below, the basis for sensitivity analysis starts at parameter 0.5, where the priority vectors of the alternatives are 38.5% for the profitability index, 23.4% for the NPV, 13.6% for the operational risk, 12.4% for the Altman risk and 12.1% for the financial risk.

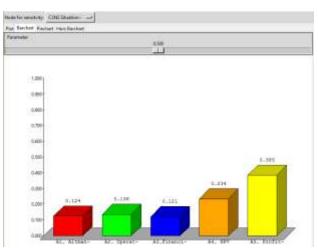


Figure 7. Node sensitivity with respect to C3N2. Situation of the company with a financing project Source: Authors

On the other hand, if the importance of the company's situation with a funding project would be increased by 50%, now having the 0.75 parameter, the impact on alternatives would be affected by the changes in Table 7.

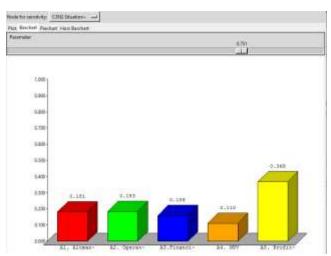


Figure 8. Node sensitivity with an increased importance of C3N2 Source: Authors

It can be noticed that with an increase in the importance of the situation of the company with a financing project, the profitability index would remain unchanged, the NPV would decrease by 52.99%, while the Altman risk would increase by 45.96%, the operational risk by 34.55, and the financial risk with 30.57%.

Node	Milestone	Increase with	Difference	%
		50%		
A1. Altman Risk	0.124	0.181	0.181 - 0.124	+45.96%
			0.124	
A2. Operational	0.136	0.183	0.183 - 0.136	+34.55%
Risk			0.136	
A3. Financial Risk	0.121	0.158	0.158 - 0.121	+30.57%
			0.121	
A4. NPV	0.234	0.110	0.110 - 0.234	-52.99%
			0.234	
A5. Profitability	0.368	0.368	0.368 - 0.368	0%
Index			0.368	

 Table 7. Exchange rate table for sensitivity analysis of C3N2 node (a)

Source: Authors

If the perceived importance of the company's situation with a financing project was reduced by 50%, the impact on model alternatives would be the following (Figure 9).

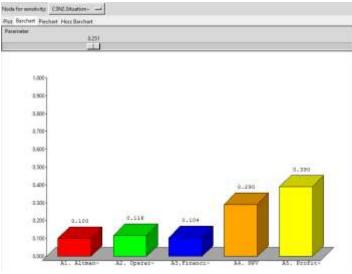


Figure 9. C3N2 importance decreased with 50% Source: Authors

The table below illustrates that, while having a 50% reduction in the importance of the company's situation with a financed project, the NPV would increase by 23.93% and the profitability index would also increase by 5.9%. The perceived importance given by managers wishing to implement such a project would be diminished for Altman's risk by 19.35%, for the operational risk by 14.70% and for financial risk by 12.39%.

Node	Milestone	Increase with 50%	Difference	%
A1. Altman Risk	0.124	0.100	$\frac{0.100 - 0.124}{0.124}$	-19.35%
A2. Operational Risk	0.136	0.116	$\frac{0.116 - 0.136}{0.136}$	-14.70%
A3. Financial Risk	0.121	0.106	$\frac{0.106 - 0.121}{0.121}$	-12.39%
A4. NPV	0.234	0.290	$\frac{0.290 - 0.234}{0.234}$	+23.93%
A5. Profitability Index	0.368	0.390	$\frac{0.390 - 0.368}{0.368}$	+5.9%

Table 8. Exchange rate tab	ble for sensitivity analysis	of C3N2 node (b)
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Source: Authors

#### Conclusions

Defining an optimal institution is a succession of activities that ensure the sustainable implementation of a decision-making system. For achieving this optimal institution, a strategic project should be the concern of every manager or board of administration, which considers the success of the projects and activities not only from tomorrow, but also the strategic development and results for the next year, period, decade or so. Therefore, the definition of an established vision and of some strategic objectives is just the first step. Next in line, the board of administration, managers and experts must break down these strategic directions and establish their personal roles and responsibilities, according to the complexity of the projects, objectives, desired results, timeframe and of course, resources (both tangible and intangible). This is the moment when the awareness between the risks of delivering any activity and financial risks is starting to impact the managers beliefs and vision regarding the sustainability of the decision-making process.

However, associating financial risks with the managerial functions is a different story and a long road to follow until the milestone is reached. A very good facilitator in increasing the speed of this process is the awareness created using multi-criteria measurement theories defined by professor Thomas Saaty. Sitting at a round table with the board of directors and reaching to a consensus for a model which allows the identification of strengths and opportunities for improvement in the decisions taken by a company is not an easy task.

What makes a great leader different than just another executive is the ability to have a strategic orientation, vision and the mentality of continuous improvement. This paper introduced as an element of novelty the link between the risks associated with managerial functions and financial risk, two of the most important topics for any company that wants to achieve performance. The ANP model, having the contribution of experts and managers of such a company wishing to implement a financed project, brought to light a sustainable way to illustrate the opportunities for identifying and controlling the extended financial risks, by the implication of the managerial functions. The results, methodology and process of conducting such a complex analysis revealed that a company is essentially driven to success of a financed project, depending not so much on the financial risks (they are implicit), but rather on the managers' capabilities to overcome and reduce these risks. The paper illustrated that this can be done by providing good decisions, good organization and coordination and of course, the ability to focus on specific elements or aspects that can be exponential (as seen in the sensitivity analysis).

As a plus, applying this method and sustainable tool in the agricultural field, in an agricultural chamber or cooperative, enables the model to become the core of the optimal definition of an institution and thus to facilitate the difficulties encountered by the Romanian farmers, agricultural entrepreneurs and other agricultural entities. In addition, Romania has a very big opportunity for easing the transition from the status of the agriculture to a modern one, the EU financed projects in this field being one of the most important chances of development. This paper has achieved its aim of describing the risks for such a company and deriving the tools and instruments for controlling them. Demonstrating the link between the financial risks and the managerial functions is an important element of novelty.

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