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RISK'S AND UNCERTAINTY IN THE KNOWLEDGE ECONOMY

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ABSTRACT

In the context of a bright economy towards we aim the insurances represent are activity branch a services department with a financial character and with many valences.

Beyond of the essential role of these is that the protection of the properties and the persons too between the various risks, the insurances accomplish many socio-economic functions like as attending as an offeror on the loan capital's market the achievement of investment by resources or on the value document's market, the creation of P.I.B. and the creation of jobs.

The specialized bearers of risk are presented in any national economy in nowadays and they always take over them the risks which threaten the physical persons and the juridical persons, offering them a high level of certainty in change of the insurance's prices.

Consequently these specialized societies which accomplish the insurant role just unload of their contact partners which are the insurants by material consequences of the risks which threaten them.

The insurance premium is the cost which is payed by insurants to the insurer, this being much more reduced than the damage which it could suffer in case by producing an insurant risk. This can be a protection form between the worst events which can appear and influence the human life and the economic agent's activity.

Chapter I: Risk and uncertainty in our day's economy

World economy's globalization can be defined as been the very dynamic process of the interdependence's increasing from the national states, like a consequence of the extinctions and the deepening of the transnational contracts in the several branches of economic, politic, social and cultural and which has the implication's right the fact that the problems become more global than national, and it asking too, a solving more global than national.

A consequence of the economic globalization is the contracts improvement between the developers of the same industry from all over the world (of the industry's globalization), but a national sovereignty erosion too, about the economic branch.

The transition to the market economy in these countries which had a complex process which brought essentials changing's over the progress conditions of the economic factors activity and at the conditions and "gameses" fixed by the market economy.

The complexity's increase of the structured relations, growth promoters of whole economic-social system and adding the technology and science developing, created important alternations in the approaching type of theoretic and practice aspects for the risk's nations and uncertainties.

The economic, social, politic and national domain acts and advances humans and is full by uncertainties.

Nowadays we can recognize more and more that a system which functions for to obtain an effect for future works from definition in uncertainty state even by indetermination.

For to cope whit the risks, for could control it, and to thwart the plans or reduce their negative consequences, the human invented the plan; this instrument answer to that mission because it's anticipate the most important marks of the next activity, realize the essentials correlations between production's factors and the industrial complex and substitution's ratios at the microeconomic level and the main priorities of the national economy, it is allocate an important part of the financial resources and by work power and it's directs the economic activity.

This plan promotes to the extinction of the certainty branch and to the restriction of the uncertainty's branch in the limited economic space and time. If are known these risks and uncertainties, the economic agents improve their behavior and make progress in their knowledge's and from it they are able to carry on their activity more efficient, event to use it. In the present it's obviously that the economy and the society need by professional people whit high theoretic ability and practice ability, people who can be risk manager and not just dealers by certainties. The consciously of the risks and uncertainties demand's a responsibility in the human being.

The terms of risk and uncertainty are used whit the same meaning, but in the specialty literature it exist a real difference between them. The uncertainty represents the fact that it's unknown what will happen in the future and the risk is considered like a testimonial of uncertainty degree. The risk is more obviously if the uncertainty is higher, and this is dued who that makes the action, and also the social environment's facts. Uncertainty is absence by certainty, is incertitude, doubt and hesitation. To risk means, in fact to expose

conscious to a big danger or a small one. The risk is the possibility to appear damage as a result of the events producing and of the unpredictable phenomenon's (facts). The concept of risk was used in the past and it still use now in the propensity of the insurance's domain, but in the last time was used in much more human activity domains, each one tried to obtain the best notables from its right administration.

If it's start from these several definition it can be express the following idea that the risk has a wide range of characteristics which can be considered as acceptance and also it can be associated to it, too, like this: represents a wide range by uncertainties; forms a remuneration of the invested capital; show an incapacity of the business adaptation from the environment conditions; it means the appearance's probability of an unexpected event; it means the variability of the result under the environment pression; the analyze of the risk is a systematic analyze of any business risk. The risk involves:

- a) Adopted strategy – the selection of an alternative from many facts.
- b) Nature condition – the minimum conditions by which depends the adoptions of some strategies.
- c) The action's result – the profit or the damage; evaluated in financial units.
- d) The encasement's matrix – the action's results are associated of the multitude by combinations between adopting strategy and the nature's condition.

It's essential that in the same time with the economic system development, with the complexity of its increase are enriching the uncertainties and because of this, the system become more vulnerable. The risk it is a main port of the economic and the social life it can be recognized within the commercial risk (the absolutization risk of produces, unbeatable risk, the prices risk), social risks and risks by production.

In the real condition of the risk and uncertainty's existence, the resolution's substantiation will assume the deeply knowledge in good time of twice braches: internal and external, where the economic agents are developing their activity.

The rationalization of the actions and the human decisions doesn't consists in the risks avoidance and the uncertainties removal, but more in its control over the risk and consequences and in decrease of the uncertainty and the indetermination's decrease at good levels in these cases. The human live whit the risks, but their consequences grew up and advanced in the same time with the society progress, from lower to upper (inferior to superior).

Chapter II: Methods by measuring of the risk

The valuing of risk's volume and its effects too, can be realized just in conditions by knowledge of the result's probability and extend it, a period in which they are revealed and their dynamics.

The classification and valuing's criteria are arranged by many authors, in three parts: volume (complexity, variable's number), significance (time's agent) and probability (uncertainty's degree).

The achievement by one real quantity of the risk valuing, in comparability conditions, involve the conversion of some equivalents of qualitative aspects and quantitative aspects too, using some methods by aggregation (for example, from using to a standard degree +, O, -, for big positive influences, naught influence and big negative influences).

The explorer people consider that the volume and the size of risk's valuing are given by the attitude over the risk, by size in which a decident think and understand a risk. (6)

It don't exist a certainty in one risk's valuation, and many times the rationality is determined by the volume of times wide when can be taken the decisions and has as a probabilistic resul the fact that a state of risk and the attitude about it can be formulating in many alternatives:

a) *The comparability presume* the existence of two possibilities by appearance of one risk, A and B. The decident will prefer the state A given the situation B ($A > B$), or B given the situation A ($B > A$), or is indifferently compared to both situations ($A = B$).

b) *The transitivity presume* the existence of some relations: by preference, by indifference, or by transitivity; it means, if we have $A > B > C \Rightarrow A > C$. The same if $B > A$ and $C > B \Rightarrow C > A$.

c) *The continuity*, presume that in case we have three possibilities, in which: $A > B$ and $B > C$; exist a probability $D = (p; A, B, C)$, in which we have $D = B$.

d) *The independence*, presume that in case if a person is indifferent of two events (A, B), and if one from them is a profit of one compound probability (C), this can be replace by another (D), and the preference doesn't be changed by the event appearance, that when $A = B$ and $C = D$, we will have $(p; A, C) = (p; B, D)$.

e) *The monotony* shows the fact that if two probabilities star from the same result, the decident will prefer that result which has a bigger probability by would be produce, even if the other probability is more favorite.

The difference between risk and uncertainty is that in case by risk are known the probabilities each possible alternative, but in uncertainty cases, alternative's probabilities are unknown.

The distinction between risk and uncertainty was reduced by insertion of subjective probabilities, in which the analysis are real and has to base statistics, dates, obtained from analysis on a period of time. Any uncertainty situation can be transformed, in a risk situation from many subjective probabilities association to possible alternatives.

In the process of decisions' adopting, the ideas by uncertainty (risk's support) and certainty (risk's absence), it can't be apposite, but can be realized a degree in function by information's quality which can affect the economic quality decisions. After the studies which were performed, it can say that the decision's problems don't depend just by the profile, the proportions and the time in which the risk's cases are revealed, but the existential space too.

The definite domain represents that space in which the decisions are adopted, if are known all problem's dates, and the decisions are almost real and the errors are reduced, insignificance.

The uncertain domain represents a group of decisions or situation which lead at the possibility to find some known repeats, for to get over the instability state, but without to know the probabilities of the appearance to identify events or the existence of a real decision, in the provement of the decisional optimum, are used the following criteria:

Laplace criterion or "the equal chance" criterion has the theoretical probability appearance can be considered equal. (1/3, 1/3, 1/3), the area in the same with the influence's probability.

Wald criterion or the maxi-min criterion, is a pessimistic criterion and it establish that the best decision is that which maximize the minimum profits. The application of this criterion limits the obtaining of better results for to obtain a right result.

Hurwicz Criterion is used to optimistic decisions or those which are to the extreme. This situation is quantified from using a factor which depends by the decident aversion over the risk, and is a subjective criterion.

Savage criterion is based by cost's phenomena, on opportunity, using a standard method; its make the difference between the result from on any decision and the best possible result which can be obtain if the event didn't appear.

Maxi-max criterion is on optimistic criterion where the event is not important, and the decident will do anything for to obtain the best result. The decident will chose the maximum value of each alternative result and than the maximum value of these maxima. For a long time this criterion is not indicated.

The accidental domain represents an entirety of situation which of situations which have a statistical stability what using several types of probability and depend by the accidental variables. Are used the following examples:

Statistical Stability model where can be shaped in probability's low; and the big members low to be used as main low.

Hope - Variation Model has as a function a variable described from variation mean.

The Hostile domain is that existential space where the risks certainly exist and can be added others more dangerous.

Chapter III: The insurance by property and persons, a way to prevent a destructive risk action

In the insurance domain, the risk is definite as an unpredictable event which can produces in the future and it has two particularities: the appearance's probability and the materials and financial consequences.

The appearance's probability can be determined by mathematics statistics. If we take the auto's accidents, we can't know when and how produces an accident. If we have a period of time, a region or a country, we can analyze a group of statistics to accidents, and we can determine the producing probability.

Another size of the risk (the material and financials consequences) is to give importance just usual event and not all events. Aircraft traffic, fluvial transports, and maritime and oceanic are some domain where the accidents are rarely meet.

The third size of the risk is the perception of it. The awareness over a smoker who is predisposed to risk, to his illness by cancer is a good example for this size. We have to elaborate some rules and protection methods which can preview the risks.

The producing of some events or phenomena's can provoke material damages and can affect the economic activity and to put in danger the integrity and the human life. The human care suffers by nature phenomena's, by technics, and the social or economic facts.

These causes which generate economics damages can be independent by human being (earthquake, dryness, thunder lightning, hurricane, tornado, rains, floods, freezing, death) and dependents by human wish (accidents, floods, explosions, smashing etc.)

From good methods the social insurances create necessary conditions from which provide the developing of the national economy, the extinction of the extern economics relation, tourism and trade and in the same time, realize the economico-social progress of the country from defence of public integrity property, private and personal.

Also we are in front of production facts developing and a increase of relations between people and a increase of property and person's insurance and we use several forms of insurance.

In conclusion, in one economy full of uncertainties the insurance leads the humanity to economy and to the financial market.

The insurances can be classificated like this:

-property's insurance

- persons insurances
- civil responsibility's insurance.

Chapter IV: The improvement of the decisional process using automatic instruments by subscription and valuation's risks from insurance domain

The application "RISK ANALYZER" is an informatics system by attending of decisions. This can be used in many directions: the performing of objective analyses risk, the possibility to make insurances a stuff who didn't be educated in this sense and the possibility to realize some portals for these types of insurances can be subscribed on-line. (fig. 1)



Fig.1 – Informatics systems usable in insurance area - „RISK ANALYZER”

The approaching of protection and realization to an informatics system dedicated to decision's attending in the insurance activity has the role to persuade that the informatics technology insertion in the society's management and interactive attending of decisions assume a detailed knowledge and a grand effort to shape of all processes which interpose in subscription's activity from insurance's company.

In the present, in Romania exists an alert rate about the employer's stability from insurances companies. Are many employers with low age. To the properties insurance it has to be done a previous instruction, even with two or three month before to be realized the risk's subscription, for the employer to be very good prepared.

Going on a good confidence of the insurant (to life insurances) with this application it can be put the on-line subscription's bases of these types of policy and arriving even to the policy listing of the insurant terminal and the on-line performance of the premium. Soon the period in which are realized the risk's inspections it will be passed, and the policies will be done on base which result from the future's based of the electronics dates which are registered at the urbanism office from the local directions, and in this case the on-line subscription will be a true reality.

In advanced countries, the insurances represent a part of education, of tradition and even a life one, but in Romania, in nowadays we can't talk about a high level education in this branch. In particular, in our country's conditions we have a low tradition for insurances and a financial objectives fact too, the supply being low adapted to the market conditions.

It doesn't exist a development system of the financial offices (loans and mortgages) what means a supply a deficits in infrastructure.

The extent of the risk which can affect the people, physical person and juridical person prescribes as a necessity the activity increasing of insurance. The dangers and the risk's to can be demand the people it could produce great damages and the humans have to know it and their effects, and for to action between them.

The analysis of these risks must be done, on one side on the quantitative criteria, but also on the qualitative elements too for to a right adopting of the insurance's decisions.

CONCLUSION

A support system for decisions is a power instrument and have to be an important part of decisional work which must to extend the ability of the decident to process the legal information's and to approach the complex problems and reducing the time which is affected for decisional process, but improving the decisional fiability's process, a process of learn and developing which creates an strategic advantage and a competitive advantage for the organization.

The necessity of information's it is felt to all levels and the insurances progress reflect a need of information's concerning the financial state of the society, the confidence in approving budget and the implementation's degree of the developing strategy.

To realize an informatic system for decision's attending in exposing to risk of any properties which are affiliated to juridics persons and individual persons in the life insurances we have two models which include the analyses of the providing character from some groups of indicators.

The providing decision of the properties it can be taken just if are provided 28 qualitative parameters, unit in two indicators and in function by result, will be generate the end decision. (fig.2)



Fig.2 Adopting economic decisions

If we talk about the life insurances, we have to know the risk's subscription is very delicate and here work many facts, especially medical facts which will establish the providing character of a person.

An informatic system specialized in risks valuation for the insurance domain must represent an instrument which allows the users to control the decisional process and to be able to offer informations about the providing inacceptance cases, but also to the potential steps solving of these problems.

The main purpose of the decision's analyses is not the solution, of several decisional problems, and to help and to stimulate on the decident to think, to reflect of the problem, for to understand much better, for to see very clear the objectives and for to indicate the action's alternatives for valuation.

In the present the informational society from bussines is very complex because of the increasing volume by information's for bussineses, for increasing numbers of informational resources and to a high number of technologies for access and stocking dates.

The decision support systems must serve as a main medium for the decidents and for to remain at the same level with the exponential increasing of size, with the complexity and the rapidity with that the bussineses will must lead. Also a decision support system will improve the fiebility of the decisional process and will encourage the learning and exploring process, in the creating of a competitive and strategic advantage for the organization.

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