

# INTERPRETATION AND ANALYSIS OF THE RESULTS ON THE CROWDSOURCING IN THE MANAGEMENT INNOVATION PROCESS

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## Abstract

This research will attempt to clarify the process management innovations of Crowdsourcing and to clarify the effect of this process on the stains creative and complex tasks. As well, we are going to present briefly a general view of literature on the process of innovations, the Crowdsourcing and we will present the results of our semantic study carried out on a sample of 23 volunteers motivated by the web, the E-management and the practice and the management of virtual communities which has been used in combination with a deductive study. On the other hand, viewed in dynamics, innovation should be defined as the process of specifying given idea from its occurrence to its market realization in the produced new products, services, technologies, processes. (Agov et al, 2008, p. 152).

**Keywords:** innovation management, framework and detailed, Crowdsourcing, subcontracting, discussion and inputs.

## Introduction

In this regard, science is one of the sources of new ideas. Creation of an enabling environment for innovation and innovative activities implies commitment of significant financial resources which small and sometimes medium-sized enterprises do not have. (Ratka. Ivanova, 2017), Innovation-modern means of achieving competitiveness, Journal of Science, Экономика и Управление (Economics and Management) God XIII br, 1/2017 година, Економски факултет- Благоевград, usuu#1Retrievet1January/2017, form: <http://ep.swu.bg/images/pdfarticles/2017/INNOVATION – MODERN MEANS OF ACHIEVING COMPETITIVENESS. Pdf, p. 143>.

This example of a relatively new method of the creation of ideas is called: the Crowdsourcing as its name indicates, the outsourcing to the

crowd (The concept of Crowdsourcing is still in its beginning and therefore quite new in the field of innovation, therefore the researchers have a limited knowledge on this subject. The few studies that have been conducted are essentially on the motivation of the crowd and the differences between the types of Crowdsourcing. However, from an organizational point of view, research into the process of Crowdsourcing is rare. Therefore, the existing literature does not cover adequately the process Crowdsourcing our article will deal with the following question: the concept of Crowdsourcing is there a process of innovation for the execution of creative and complex tasks? This problem makes us ask these two questions about research intermediaries:

1/How can this be considered the Crowdsourcing as process innovations?

2/Are the variables of the innovation process have the same effect on the Crowdsourcing complex tasks and Crowdsourcing creative tasks?

### 1. Interpretations and analysis of the results

The software that we deployed, in this present study, we offer the advantage of quantifying the data in a global framework and detailed.

For the overall framework, we can also treat the relational concentration between the themes as well as the relational density and the weight of the themes. The concentration of relations is calculated by dividing, for each reference, the total number of relations by the number of different relations.

Another possibility used with Tropes for the detailed framework is the analysis of the environment of references:

- With the representation of references by the spheres, these last are proportional to the numbers of occurrences.
- The distance between two references represents proximities identified within the different phrases of the text.
- The graph allows you to analyze the environment of a reference with the other themes expressed.
- The graph is oriented: to the left the references are, in a way, the subjects of the verbs (actants) and to the right the objects (acts). This enables you to detect which is the origin of the formation of a reference or to the reverse; what is the result.

This will not be used as such for this study.

The scenarios regarding the Crowdsourcing: In this step, the process of externalisation is referred, without referring to the technical means used with zooms on »outsourcing» and «enterprise», and then clicks the group of two references. are small in size; but also very scattered on the entire map, and are not very connected between them, are of less importance; for example, is found in the first analysis (in blue) outsourcing, procedure, scientific, people, world, time, work and external: Then, there are a number of factors which have been cited in the second analysis (in green) which are: outsourcing, business, scientific, work, model, development, quality, concept, opinion, way, organization, sub-contracting and public (factors which are repeated, but there are also new variables). In this context, according to (Mc Connon, 2006) the Crowdsourcing need some standardization in the procedures to reach the greatest number of people. For (Lebraty, 2007, p.187), the Crowdsourcing is only a new mode of outsourcing:

"The Crowdsourcing means the outsourcing by an organization, via a web site, of an activity of a large number of individuals whose identities are the more often anonymous".

B/The Scenario Crowdsourcing /Outsourcing: the most important factors are "outsourcing" and "Crowdsourcing" that is located at the centre of the map with the sizes large to medium; either in the first phase of the study or in the last, the two factors are cited with the same proportions.

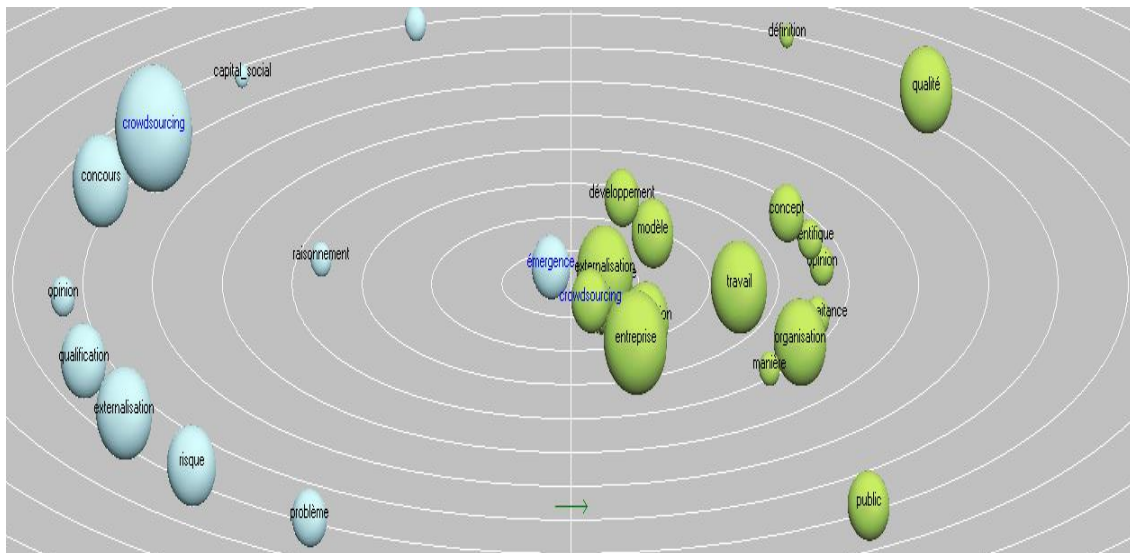


Chart 1: Relationship Crowdsourcing/Outsourcing

The Crowdsourcing factor includes other variables "model", "concept", "emergence", "qualification", "risk", "problem", "quality", "public", "work", "organization". The many other factors are very scattered throughout the graph. There is a relational importance between them (small distances between these factors) with spheres of average size. The factors have been mentioned by a small number of contributors, examples of factors: definition, social capital, reasoning, opinion.

In referring to the various studies of (Arnold Local a and Krogh et al. 2003, p.126), the Crowdsourcing is defined as the outsourcing "open" to the crowd of "hobbyists". These emerging concepts allowing for the resolution of problems by addressing the public competences via the web. This phenomenon is in its infancy, and it is difficult to predict its evolution. The Crowdsourcing is a new mode of outsourcing. It is a realistic alternative to a classic outsourcing. Also, it is considered as a type of outsourcing emerging from having less risk than a classic outsourcing. (Mc Connon, and Tiemann, Dahlander and Wallin, 2006, p.125).

It is clear from the definition of Crowdsourcing that it is similar to outsourcing, but there are some differences. In what follows, we try to highlight the characteristics of Crowdsourcing, by comparing the similarities and differences between the two.

- Similarities between the two: first, break the border of the Organization: The two crowdsourcing's and subcontracting allow the addition of tasks breakthroughs by the border of the organizations, and extends to the contractor or the public outside the organizations. Secondly, they are both the products of development of communication technologies, especially the internet.

- Difference between the Crowdsourcing and the subcontracting: First of all, their philosophy and their orientation are different. The outsourcing reflects the relationship of pure work. Outsourcing is a contract to the task of the organizations or persons fixed professional, and it is the inevitable result of the social specialization. However, the Crowdsourcing released the tasks to public persons uncertain, most are not professionals. It emphasizes the potential of innovation brought by the diversification and differentiation.

The scenarios concerning the determinants of the Crowdsourcing:

- In the second step, we introduced the characteristics of the Crowdsourcing. With a tightening around the notions of Competence and Quality

A/The scenario Crowdsourcing/skill: With the introduction of the web and social networks,

factors have been cited; otherwise in relation to the previous step; such as outsourcing, skill, organization, qualification, procedure and development which are located in the centre with the important relationships between them. The variables; such as work, concept, opinion and so have been more discussed by the

contributors to the first to the last analysis of the study with a relational density between these factors; but there are still other factors of less importance than the first far from the centre with the important distances within these variables.

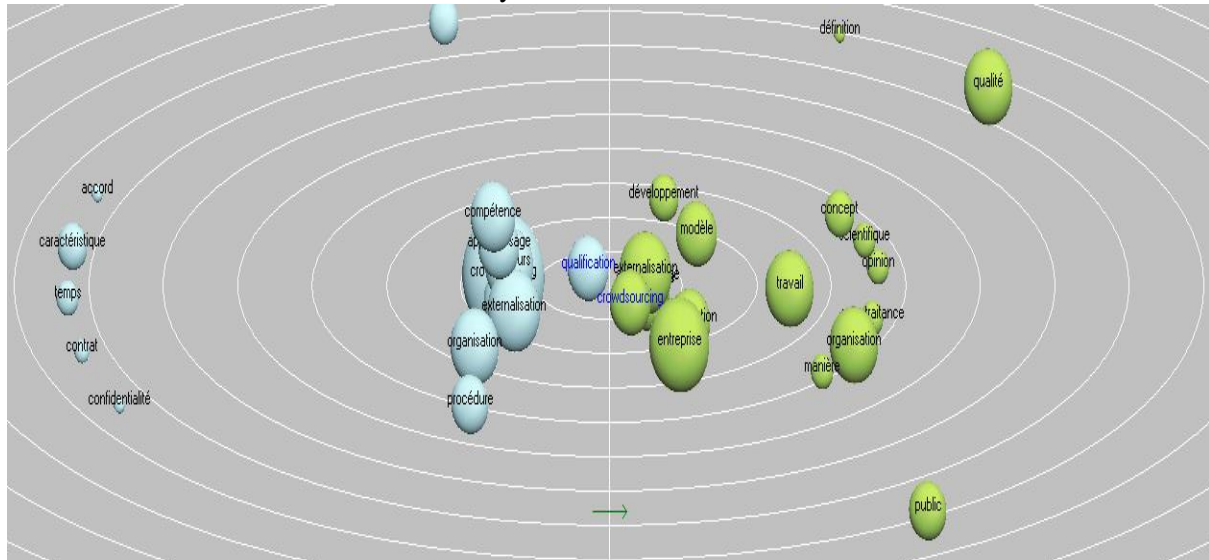


Chart 2: Relationship Crowdsourcing/skills

The concept of jurisdiction apprehended the way in which organizations acquire, exploit and renew their competitive advantage. The boundaries of the firm are then determined so as to maximize the value of the portfolio of resources. Via the web the company externalisatrice can benefit from the high skills and very targeted to an individual for a micro-given task and this at a lower cost. The adequacy between problem and skills obtained, this multilateral relationship is likely to present a number of benefits in relation to the creation of value. This multi-laterality of the outsourcing relationship open presents a number of disadvantages in terms of value creation in the insofar as it tends to limit the investments in specific assets as well as the transfer and sharing of knowledge. During a

classic outsourcing, the appropriation of the value depends on the bargaining power and therefore of the mutual dependence of each of the partners (Brabham, D.C, .2008, p. 14)..Gold in a relationship of Crowdsourcing the dependence appears to systematically consider the side of the individual, in the inability as such, to exploit its knowledge and skills to the task concerned, outside of the outsourcing relationship.

B/The scenario Crowdsourcing/Quality: All factors are also important in this card because through the contribution to the Crowdsourcing, we note that the concepts were all almost the same weight and importance as well as the relationship between them (the factors are very close; see even confused between them).

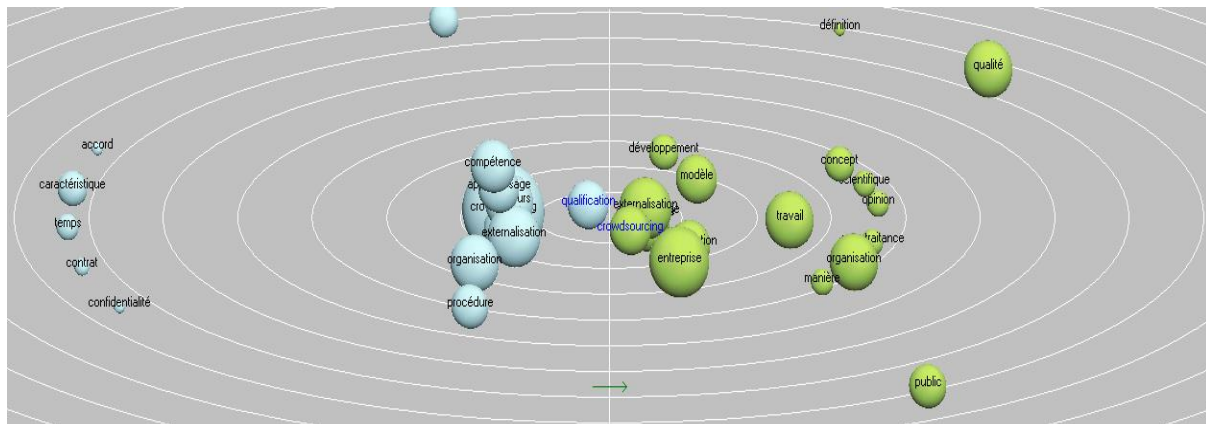


Chart 3: Relationship Crowdsourcing/quality

The absolute majority of sites Crowdsourcing require a minimum of quality to enhance the members of the site and reflect the objectivity of the site in question. By examining the service offered by the crowd, we see the care with which it is done that leads to the conclusion that it's the specialists who are behind this quality. Here we notice the disappearance of the concern of the company search for experts in the field to which causing huge costs. But, checking the distance of this recording of the centre, we note that despite its significant weight, located far from the centre, this can be explained by the fact that despite the existence of specialists in the crowd, it is quite possible that the service provided by the latter may be of poor quality. This poor quality is often caused by a massive presence of unqualified contributors; they are usually attracted by the remuneration proposed on the platform. The presence of these elements in the crowd imposed to the enterprise additional costs of filtering.

In addition, the quality of the contributors is also important (Howe, 2008, p. 87). According to (Howe 2008, p.88), quality is important, because all the ideas generated by Crowdsourcing are not by definition good. According to (Schenk and Guitard 2009), this quality affects the variety of contributions. This variety of contributions thus reflects the diversity of the proposed options to resolve the problem (Shenk and Guitard, 2009). Therefore, the quality of the contribution of Crowdsourcing depends on taking into account of variety (Shenk and Guitard, 2009, p. 211).

In addition, (Poetz and Schreier 2010, p. 254) in their study of comparison between the ideas generated by the professionals and the ideas of Crowdsourcing, stipulate that the ease of the use of the idea is an important measure for quality, as well, a contribution has value only if it can be possibly applied in practice. Subsequent research by (Acar and Van Ende 2011, p. 321) has also used the friendliness of ideas as a measure of the quality of the conditions of Crowdsourcing. In conclusion, it appears necessary to put into perspective the usefulness of this tool which is the Crowdsourcing. Intrinsically linked to the development of the internet, this tool of "liberation" of the talent of the "crowd" can give rise to the best as to the worst.

The scenarios concerning the process of Crowdsourcing:

In the third step, we introduced the process of the Crowdsourcing. With a tightening around the notions of interaction and learning (feedback):

A/The scenario Crowdsourcing/Learning: We note that the concept of learning is at the centre, with an average size with a rapprochement between its distance with the outsourcing and the qualification; but we found that the factor Crowdsourcing has the largest size and the farthest from the centre. For the other factors which are very distant between each other with low weight, in a first phase we found "agreement", "time", "management", "globalization" which have been cited; but by few people. To note the emergence of new



concepts such as "motivation", "solution" and "globalization".

Learning is deemed necessary in order to exclude the answers non-specific and non-relevant. In fact, the competence lies mainly in the ability to draw the right information in its various resources and to use in an appropriate manner these knowledge and skills in the action. (Leimeister, Huber, Bretschneider and Krcmar, 2009, p. 245) in their research of ideas competition has found that the information of the organization initiator had a positive effect on the motivation of participants. Also, previous research by (Jeppesen and Frederiksen, 2006, p.128) found that users of online communities are motivated by the desire to obtain the recognition of the organization.

Organizational learning refers to the activities that lead to the creation, acquisition and

transfer of experiences, ideas and information in an organization that develops its capacity. Indeed (Nambisam, 2002) (Shah, 2006, p. 45) in their research on open source projects, mention the feedback to participants as a condition that could increase the development of products. This is because the evaluations give the participants the feeling that the work they have done, is very much appreciated and is useful to the other (Shah, 2006, p. 46). The fact of giving feedback is described as giving a "pat on the back" and this fact has a positive effect on the motivation of people to participate (Shah, 2006, p. 49). In other words, it is estimated that the information gives participants a sense of their contributions which increases the willingness of the participant to contribute (Nambisam, 2002, p.124).

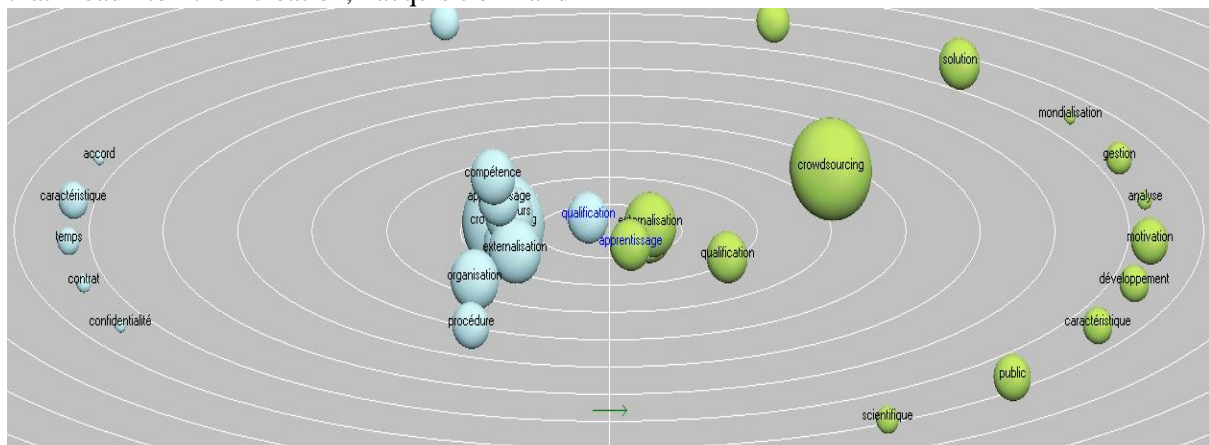


Chart 4: Relationship Crowdsourcing/Learning

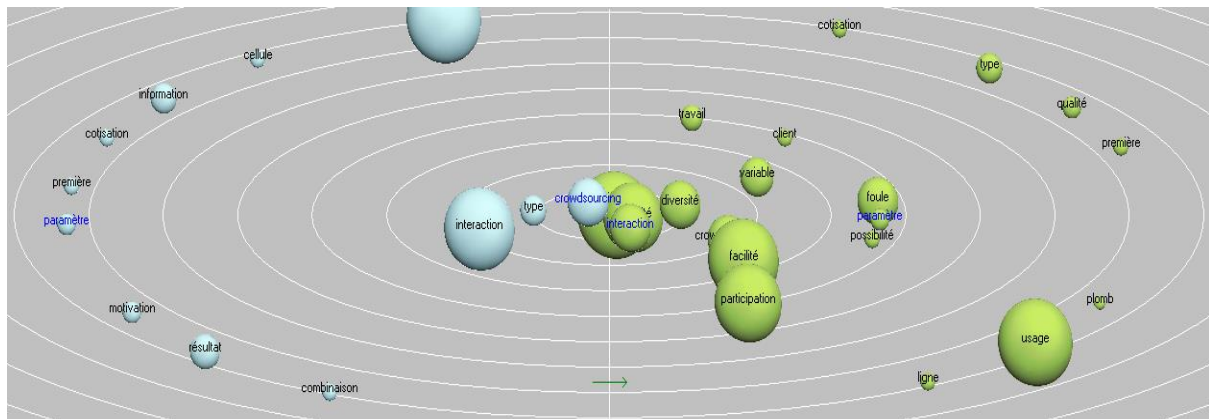
To sum up, business companies can particularly benefit from resources without being formally detained by them. This will be particularly the case during the use of the Crowdsourcing, the crowd then constituting a particular resource (not necessarily specific) not owned by the company. In effect, the vision of the company based on the resources also stresses the importance of the capacity for the integration of external resources made by the crowd. Nevertheless, the crowd does not include only qualified individuals. A large majority of these individuals presented a great problem of lack of knowledge and expertise. This incompetence of this part of the crowd might pose a problem for the conquest of the actants, potential customers

of actor's providers. An efficient management of these skills is proving, therefore paramount, and even necessary. Nevertheless, according to (Rus and Lindval, 2002, p. 24) the management of skills reveals the main activities of the Knowledge management.

B/The Scenario and the Crowdsourcing relationship/Interaction

In the first analysis the most important factors are "Crowdsourcing" and "interaction" that is located at the centre of the map with the spheres of large to medium size. We note that all other factors are small in size and very disperse on the card so they are not very connected together and are of less importance

as: combination, result, motivation, information,



Graph 5: Crowdsourcing Relationship/Interaction

After in the second analysis, there are a number of factors which have been mentioned such as participation and facilitates that have an important relationship between them (the two spheres are very close), other variables are scattered in the card and of lower importance such as: crowd, variable, type, job ... We note also an important relationship between the diversity and the interaction (the two spheres are very close).

These results are consistent with the work of (Nambisan, 2002, p. 341) where he claims that the interaction between the clients in the development of new products allows customers to become as a community. This "community feeling" contributed to the active participation of the participants therefore influence the success of the development of products (Fichter, 2009 and Nambisan 2002, p. 125). For the Crowdsourcing, this interaction could mean that, thanks to this "sense of community" the crowd found inspiration by the other members and therefore they are more likely to participate. The interaction could thus lead to a social motivation important to the crowd in order to have a good contribution (Leimeister et al. 2009, p. 144) In fact, note the presence of the variable motivation on our graphic in the first phase of the study. The research done by (Bayus, 2010, p. 211) on the emergence of creative ideas by groups of persons, confirmed that when people are exposed to the ideas already proposed, they are more likely to have creative ideas that people who have little or no awareness of the contribution of the other.

## 2. Discussion and inputs

After the results that have been found, we can say that companies can benefit from resources without being formally detained by them. This will be particularly the case during the use of the Crowdsourcing, the crowd then constituting a particular resource (not necessarily specific) not owned by the company. In effect, the vision of the company based on the resources also stresses the importance of the capacity for the integration of external resources made by the crowd. Nevertheless, the crowd does not include only qualified individuals. A large majority of these individuals presented a great problem of lack of knowledge and expertise. This incompetence of this part of the crowd might pose a problem for the conquest of the octants, potential customers of actor's providers. An efficient management of these skills is proving, therefore paramount, and even necessary. Nevertheless, according to (Rus and Lindval, 2002, p. 124) the management of skills reveals the main activities of the Knowledge management.

The importance of the interdependence between the members of the crowd should be stressed. In effect (Surowiecki 2004, p. 211), asserts that the diversity of the group is a major asset in the use of the crowd. It is necessary to maintain this diversity among the crowd, he also claims that the diversity is an essential condition to have to benefit from the wisdom of the crowd. Therefore, the interaction between the members of the crowd offers a good contribution in term of diversity, quantity and

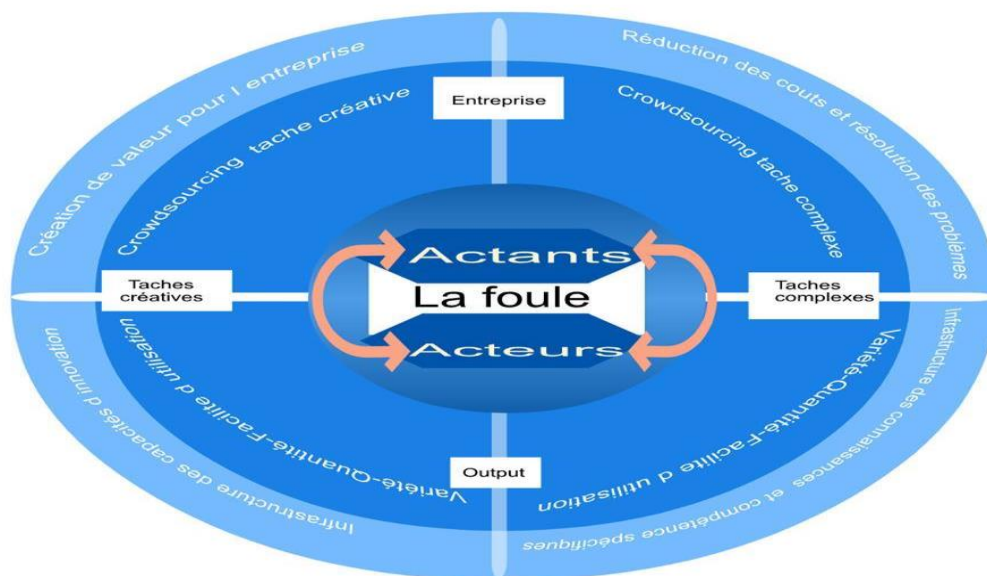
ease, we can see this result on the graph 6 where the scenario interaction/work was treated. On this graph it is clearly noticed that the variables quantity, diversity and participation are very close and also a importance of variables: use and facilitates (sphere of large size in relation to the other).

To summarize our results in a graph that highlights and explains the environment the process of the Crowdsourcing as a dynamic process between the different stakeholders namely, the recording (the licensor of orders for the outsourcing) and the actor (the receiver of orders) and that whatever the types of the Crowdsourcing and the purpose of the outsourcing (complex tasks, creative spots) and the contributions (output). Thus this proposed chart shows well that the Crowdsourcing is a process which is not a linear model of traditional innovations (first generation) or the innovation is represented by a line of sequential process which begins by pure science and ends by a commercial application (A. J. Berkhout et al. 2006, p. 58).

Also, it is not a model of innovation of second generation or the process of innovation is still designed as sequential steps as in the first generation except that the innovation process is reversed in this case science is replaced by the market, which has become the source of innovation.

Figure 6 shows that the proposed model describes a dynamic process or the interaction between the members of the crowd and the feedback (learning) between the crowd and the company (stating) affects the output of two types of Crowdsourcing in other words on the contribution of the Crowdsourcing.

In effect this quality is determined by the quantity of solutions or ideas proposed by the crowd, the variety, which reflects the diversity of options proposed to resolve the problems (Schenk and Guitard 2009.p.126) and the ease of use which refers to the usefulness of the ideas.



Graph 2: Environment of the innovation process of the Crowdsourcing

The generation of new ideas is essential to increase the competitive advantage of business organizations in terms of constant search for ways and means of improvement. (Filosofova, G., and V. Bikov. 2008). New ideas are the basis of innovation and innovative activity of enterprises. The fast pace, at which consumer

requirements change, requires investing in innovative solutions to ensure the continued existence and development of business organizations. Namely innovations are the main driving force of the market economy. (Nenov, T. 2010, p.100). Management Globalization is a process of economic, political and cultural



integration and unification on a global scale, involving a world economy, recently understood as a combination of national economy, and linked to one another by the system of international division of labour, economic and political relations in the world market. (Yuriy Ossik1 and Nazar Ulakov 2017, p. 147), Economic content, multidimensionality "black swans of globalization, Journal of Science, Економија и Управлење (Economics and Management) God XIII br, 1/2017 година, Економски факултет - Благоевград, issue #1 Retrieved 1January/2017, ECONOMIC CONTENT, MULTIDIMENSIONALITY AND "BLACK SWANS" OF GLOBALIZATION. Pdf, p.3.

The success of this dynamic process and interconnects the Crowdsourcing raises a creative interplay between infrastructure capacity for innovation and infrastructure of the specific qualifications of a large number of internet users. This success which will be materialized by quantity and quality of ideas and of the proposed solutions suggested to a business company, which will generate a value and additional reduction of costs. Indeed (Lebraty and lobre, 2009, p. 111) argue that the development of the Crowdsourcing can be explained by its creation of value for the organization. Precisely by taking into account the creativity and ideas of the crowd we have already created an additional value for the firm. We can say that the firm created the value using the competence of the crowd to manufacture the products that wants the crowd.

Other shares (Dujarier, 2008, p.12) specify that the Crowdsourcing is none other than the work of the volunteer amateur. This idea has also been supported by (Lebraty, 2007, p.114) which stated that the individuals who offer their services have a salaried activity main. For them the Crowdsourcing is a "micro-task" that generates a "micro-income" and to which they give a small part of their time. In the case of the Crowdsourcing, the outsourcing is "open" to the crowd of "hobbyists".

## Conclusion

The results of this research to better understand the process of Crowdsourcing. However, our study presents a certain number of limits. From the point of view of the empirical analysis, many issues have not been addressed and remained to be dealt with in order to better understand the process of the Crowdsourcing, for example, what happened exactly after a process of Crowdsourcing?

To which generation belongs the process Crowdsourcing? How the ideas are selected and which ultimately causes the adoption and use of contributions? How many firms, large & SMES, have recourse to this practice? What is the turnover of these past few years?

Legitimacy of these players deserves to be asked. Also, we have tended to guide the contributors and to orient in the virtual discussion during this experimentation. Would we find the same results; if we do not have oriented the contributors in this experimentation? Would we have the same factors with the same importance?

Thus, in the context of a first approach to this concept of process Crowdsourcing, we believe these specialists, internet lovers, sufficiently representative and notified for that their evidence can be used in a scientific communication.

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