KNOWLEDGE MANAGEMENT TECHNOLOGY PROJECTS TECHNOLOGICAL DEVELOPMENT CENTERS IN HIGHER EDUCATION QUERÉTARO

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Abstract

This study was carried out in the City of Queretaro, contains the principal elements of analysis of the management of knowledge and technological projects in technological development centers. The question guide the investigation is: What effect has the management of knowledge in technological projects in technological development centers in Queretaro? The independent variables are centers of technological development in Queretaro. Among them are the Advanced Technology Center (CIATEQ, by its acronym in Spanish), the Center for Engineering and Industrial Development (CIDESI, its acronym in Spanish), research electro-chemical and the Center for Development (CIDETEQ, by its acronym in Spanish), public and private institutions of higher education, firms and the government. The dependent variable is the management of knowledge, both tacit and explicit, based on the theory of Nonaka and Takeuchi (1999). Fifty-one interviews were carried out, the revision of each one of the variables in order to establish the impact of the management of knowledge in technological projects in technological development centers. The research has been developed using the qualitative methodology in the traditional way, phenomenology, ethnography and the method of interaction symbolic, studying the subjective meanings and individual powers. The use of semi-structured interviews. The tool "Atlas.ti" was used for the analysis. The encoding of an average of twenty indicators empirical. Between the final reflections it was found that the researchers are able to spread the impact of the management of knowledge within the technology projects in technological development centers, in the participants in the investigation. Based on the results of the study, proposes a methodology of knowledge management through the use of a manual of procedures to facilitate productivity efficient and effective in technology projects in the centers of technological development for the participants, providers of

Keywords: Knowledge management, projects technology and development centers in higher education

1 INTRODUCTION

The management of knowledge lies in place the necessary information from the centers of technological development, integrating the knowledge to effectively and efficiently through the tacit knowledge and implicit, to be used in the development and growth of these. (Del Moral good, Pazos Sierra, Rodíguez Fernández,

Rodríguez-Plato plowed, & Suárez Garaboa, 2007). Technological development According to Quintanilla classifies it as endogenous and the exogena, the first is the improvement of processes, reliability, the operation by means of efficient mechanisms exempt from value laden and the second is the use and consumption, sociological, economic, cultural, social and demographic factors. Effect socio-cultural and social constructivism proposal humanistic. (Quintanilla, 2005)

The place where the research was conducted was in the state of Queretaro and the actors are the leaders of investigation of that state, doctors, teachers, public officials state and federal, in different areas Institutions of Higher Education, with the interest to know the effect of the management of knowledge in technology projects defined these to Sapag as the resulted from new products or improvement of these, facilitating the life of the human being, these arise after analysing other projects that have failed, giving continuity making them (Sapag Chain & Sapag, 2013).

In this study is achieved contribute and generate benefits of projects to the needs and issues of transfer the knowledge to the participants of this research, the starting point was to realize that some research is only remain in the knowledge of the researcher not leaving evidence of it in other cases is left lacking information about the project.

The research question it was found What effect has the knowledge management in projects of technology from the technological development centers of Queretaro? the overall objective to propose a model for knowledge management through a manual of procedures to facilitate productivity efficiently and effectively in the projects of technology centers of technological development. Assumption if the effects of the management of knowledge in the technology projects in the centers of technological development in higher education of Querétaro is met, then the investigation is transfers to the society.

There was a qualitative methodology of traditional way, phenomenology, ethnography and inter-actionism symbolic, studying the subjective meanings and attribution individual. Using the instrument of the interview semi-guided and the tool Atlas.ti, encoding an average 20 codices, focused and includes the phenomena of the effects of the decision-making of the researchers from the centers of technological development, browsing from the prospective participants of the interviews in an environment where they develop research.
This process does not behave in a linear fashion is in constant change, stages include the definition of the problem, work design, collection and analysis of data, report and validation of the information permanently. (Hernandez Sampieri, Fernández Collado, & Baptista Luicio, Research Methodology, 2010)
Independent variable in this exploration are the Technological Development Centers (CDT) of Queretaro, institution of higher education, business and government as an active entity in the taking of decisions in this area and as a subject research the dependent variable the knowledge management of tacit and explicit.
The viability is feasible at the time of the investigation with the resources available were the interviews, recordings, transcribe and the tool Atlas.ti available in the field of study.
Membership in the context of this investigation of knowledge management in technology projects in the centers of technological development in Queretaro, it is necessary to determine the effects of the management of knowledge in the projects in the CDT. All the text must be in one column and Arial font, 10 point, normal, justified alignment, including figures and tables, with single-spaced interline spacing.

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2 THEORETICAL FRAMEWORK

The organizations are based on the establishment, exploitation and trade of knowledge looking for during the time the functionality and permanence in the market. Research and development actions applied principles of knowledge management in projects that society needs to resolve problems that generate the evolution of man.

Karl Pooper mentions that the philosophy of science is regarding how to express and promote the growth of applied knowledge between science and non-science from be highly ignorant and only differ in small portions of the knowledge that they have and that a cooperative effort may allow to be next to the truth. (Valhondo, 2010) This research raises the effort that the entities government, development centers technologic and the higher education institutions pendent organize to obtain favourable effects.

Peter F. Drucker lawyer Austrian, treatise, journalist, writer, consultant and businessman, mentions be entering the knowledge society, where the economic resource basic already is not the capital, or natural resources, nor the work, but it is and will remain the knowledge. (Drucker, 2003) The tactic basic would be the know, the willingness to apply knowledge to generate knowledge.

Kaoru Ishikawa was born in Japan in the year 1915 and died in 1989. Graduated from the engineer at the University of Tokyo. He obtained a Doctorate in engineering at the University and was promoted to Professor in 1960. (Giugni, 2013) won the Deming and a recognition of the American Association of quality. He died the year 1989. Proposed the cause and effect diagram is a working tool to manage the knowledge explicitly and cup, looking for an intellectual capital suitable to solve problems. In the research is sought in the various subjects that are involved in the management of knowledge; for example, the centers of technological development, institutions of higher education, the company and the government looking for the effects of the management of knowledge, transferring this knowledge to society.Use as many sections and subsections as you need (e.g. Introduction, Methodology, Results, Conclusions, etc.) and end the paper with the list of references.

The world moves rapidly transforming from continuously, so that the knowledge is of great importance in the organizations. This knowledge should be administered and the intellectual capital, the successful organization must pay attention to share, capture, create, debug and maintain the knowledge. During the investigation it was found that one of the relevant factors in the management of knowledge is the human capital.

To manage the knowledge that is born in the organizations turns a fundamental activity to be competitive. The constant, vertiginous and deep changes that happen in our society do also that certain knowledge becomes soon obsolete, that's why the importance of learning and of unlearning turns an urgent activity that is to say to innovate or to die.

There are two types of knowledge, the first is Tacitus is that during the life is acquired subjectively where involve the experience that the time given for mistakes and successes, knowledge simultaneous the here and now is recorded in the body and allows you to practice that is a knowledge similar. The second knowledge is explicit, is acquired by reason, developing a knowledge sequential and subsequently registers to leave evidence for future generations facilitating decision making in an efficient and effective manner.

Tacit Knowledge: It is he who remains in an unconscious level, is disjointed, what deployed and running in a mechanical way without realizing its contents, is something that is known, but it is difficult to explain. In this research emphasizes that, at the time of transfer the knowledge to the students according to the institutions of higher education and enterprise, practices that develop generate a tacit knowledge, such as the realization of professional practice and social services.

Explicit knowledge: Is aware the performer, it is easy to share with others because it is structured and outlined to facilitate its dissemination. In this investigation it is found that the transfer of this knowledge develops in students with written procedures, orders or guidelines that are preset for projects some are of CONACYT.

The analysis of some of the knowledge management models, to choose the SECI model (Socialization, outsourcing, Combination and internalization) of the creator of knowledge. (Nonaka & Takeuchi, 1999) is a model for the generation of knowledge through two spirals of epistemological content and ontological. The interaction between tacit and explicit knowledge where the nature is dynamic and continuous. It is constituted in a spiral of transformation ontological internal knowledge, developed along four phases.

Socialization (knowledge harmonized) tacit knowledge to tacit knowledge is to share experiences. There are skills and knowledge from observe, imitate and practice. The key part for tacit knowledge is the practice. Share the tacit knowledge through information against affronted or shared experience. An example is the research in technological development projects carried out in the research centers in Queretaro.

Combination (systemic knowledge) explicit knowledge to explicit knowledge people exchanged and combine knowledge through various means such as, for example: talks for cellular, indexed journals or magazines arbitrated, books, documents in internet, etc. combining parts of explicit knowledge generating a new knowledge. Composition of various elements of the explicit knowledge: engineering of a prototype. It applied the before mentioned in the investigation, reviewed the effects in the centers of technological development of Queretaro.

Articulation or externalization (conceptual knowledge) tacit knowledge - explicit knowledge are articulated the

elements of tacit knowledge individually and are intangible and possible to share, to create new knowledge. Nonaka in his book The knowledge - creating company considers this process as a goal in the creation of knowledge. Developing concepts that articulate with the tacit knowledge combined and supported its communication.

Internalization or internalization (knowledge operational) explicit knowledge to tacit knowledge, presents the communication between the explicit knowledge - tacit knowledge. Transmits the new explicit knowledge and those who take, interiorized for external, forming and restructure it in its tacit knowledge.

3 METHODOLOGY

This research to be done in the state of Queretaro is distinguished by the population growth accelerated 2000 to 2010 of 2.9 per cent (INEGI, 2013, p. 19), and is distinguished by located three of six centers of technological development headquarters of CONACYT in Mexico, (CONACYT, Technological Development, 2014), an entity which by nature is distinguished by innovative technology to be established the first University Aeronautics in Queretaro. (UNAQ, University of Aeronautics in Queretaro, 2014)

It reviewed the history Queretaro, NACE 1446 according to the Codex mendocino made by the Aztecs this was developed for their taxes, located in the Ravine, the first registered officially of this territory called Tlachco place where to play the ball. Displays its first official university UAQ in 1951, spent 505 years without an institution of higher education, the first center of technological development CIATEQ (CIATEQ, 2013), settling in the avenue the altarpiece in 1978 i.e. spent 532 years without instituting the technology. (García Ugarte, 2011)

The general objectives of the research are to propose a methodology for knowledge management that facilitates productivity efficiently and effectively in the projects of technology centers of technological development, establish the benefits that knowledge management is in technological projects identify and analyse the transfer of knowledge of technology projects and analyse the classification of projects and evaluation.

We used the qualitative methodology is defined as a design where researcher extracts of descriptive form the phenomena that occur on the basis of the observations by means of interviews, narratives, field notes, recordings and transcripts of audio, video, photos and any other electronic medium, in this project was to use the semi-structured, field notes, recordings, transcripts and coding in the tool Atlas.ti.

We used the following methods, in the first instance phenomenology sought to know the meanings that the study participants have, according to his experience and what is important to learn the process of interpretation, for the management of knowledge in technology projects in the centers of technological development of Queretaro.

Took in a traditional manner, i.e. a method ethnography is to observe the cultural practices of the social groups in this research is oriented to a group formed by the centers of technological development, institutions of higher education, business and government. The inter-actions symbolic is used to designate an approach relatively defined for the study of the life of the groups of researchers and the behaviour of these, studying the subjective meanings and the attribution of individuals.

Herbert Blumer, 1937 coined the label of inter-actions symbolic, collecting information of Charles Cooley, William James, George H. Mead and John Dewey, sustaining three basic premises:

1. The human being placed his actions toward the things depending on what they mean for him. In this case what effect the knowledge management in projects of technology from the technological development centers of Queretaro.

2. The source of that meaning is a social product that is has an effect on the society, which emanates from and through the activities of the researchers to interact. The investigation has the knowledge management those effects on society in the projects of technology through the centers of technological development.

3. The use of the meaning by the participants in the projects of technology causes through a process of interpretation of its own, that boasts auto interaction and management of meanings.

The inter-actions symbolic argue that the meaning that things hold for the human being is a central element in itself. In summary, the inter-actions symbolic reflects that the meaning is a social product, a creation that emanates from and through the activities determinants of the participants of the case study to measure that they interact, transfer of knowledge. (Alvarez Gayou Jurgenson, 2010)

The nature of life in societies and human groups of participants in research. The human groups are formed by individuals involved in the action, nature of social interaction such as the centers of technological development, higher education institutions, companies and the government, a society is composed of individuals who engage in an interaction with others is the way to cause effects as agents that transfer knowledge. The social interaction occurs between the participants of the investigation, not considering the powers and looking for the nature of the physical objects; the technology projects, transfer of knowledge to society and the management of knowledge as an abstract element. (Alvarez Gayou Jurgenson, 2010)

Nature of human action, was applied at the time of conducting the interviews to the sample so that these are involved in first instance and achieve the ability to auto be formulated indications confers on the human action to generate knowledge and leave it embodied for future generations. Had to face the scenarios where is obliged to act, investigating the meaning of events outside and planning your decision-making. (Alvarez Gayou Jurgenson, 2010)

Interconnection of the action, the life of every group of researchers is based on the lines of action in technology projects of the various members of the group. The juncture of these lines cause and manner the joint action, i.e. a community organization of behaviour based on the different acts of the various participants, centers of technological development, higher education institutions, firms and the government. (Alvarez Gayou Jurgenson, 2010)

Shortening this approach reflects that a human society has committed people in the fact of living. Life is the cause of a continuous activity of participants develop lines of action in the face of countless situations that have to challenge. Participants are as united in a process of interaction.

The technique that was used was the semi-structured interview is determined beforehand the relevant information it wants to achieve. You perform the open questioning, giving the opportunity to receive relevant information, the order of the questions and time can several on the fly. Is the format that the researchers used continuously, requires attention by the interviewer to direct and link the subject of research. (Estevan Talaya, 2014) was applied in this research achieving count with the possibility of having their work in the research projects of technology achieved effects through the management of knowledge in relation to the society.

Using the instrument of the semi-structured interview and the tool Atlas.ti This is a software program created at the Technical University of Berlin by Thomas Muhr, to segment data in units of meaning; encode data and build concepts, categories and themes. The researcher adds the data and primary documents as texts and with the support of the program, the encoded according to the schema that was designed, (Hernandez Sampieri, Fernández Collado, & Baptista, Research Methodology, 2010) were codified an average 20 codices in the investigation.

Its behaviour is not in a linear manner is in constant change, stages include the definition of the problem, work design, collection and analysis of data, report and validation of the information permanently permanently. (Hernandez Sampieri, Fenández Collado, & Baptista Lucio, Research Methodology, 2010)

The first phase of the qualitative research was the definition of the problem is to contribute and generate benefits of projects to the needs and problems that have society currently, the point of departure was realize that some research is only remain in the knowledge of the researcher not leaving evidence of it in other cases is left lacking information on the project or research.

Second phase is the design of work of each stage by means of a timetable taking into consideration times and research activities, considering planning, development, culmination and feedback looking at each stage the decision-making.

Third phase data collection was considered in the population the variables involved in the investigation, it is considered the participation of the institutions of Superior Education (IES), the centers of technological development, the participation of companies and the Government, considering a total of fifty-one interviews.

4 RESULTS AND DISCUCION

The results of the investigation, after applying the methodology that is explained in the previous chapter, on having used the instrument of the interviews recorded in audio, to Centers of technological development, higher education Institutions, companies and government, transcribing the content and the information was prepared for on to the tool Atlas.ti, later they decided them, dividends in three groups, the first one next it appears, takes knowledge management as a name formed by the following ones cogive; with 0.65 % knowledge networks it means that its relevancy was mentioned by the interviewees rarely, that is to say in

the concept it is an amount commenting on it in the interview Dr. Aurelio Domínguez of the Autonomous University of Querétaro, the director of the faculty of Engineering:

[… they are multidisciplinary not, if it is important to involve the people of different areas with institutions …] (Domínguez González, 2013)

[… when we realized an advance since that had to be learning and discussing some subject-matters of the prosecution of images this is what I like of that not, that I learned things that I was not dominating and partly I contributed others …] (Domínguez González, 2013)

1.-Redes of knowledge it is the maximum expression of the multidisciplinary knowledge, capable of involving the people of different air, for the need for technological support on having developed projects, improving the conditions of the processes.

Secondly understanding that they were analysed of the minor to major percentage respecting the graph of dispersion, the following code to transmit its knowledge with **0.97 %,** teaching Dr. Roberto Salas Zúñiga of the Aeronautical University in Queretaro:

[… I like teaching, it is when I chat with the students, sometimes some practices where I apply the acquired knowledge. …] (Zúñiga, 2013)

2.-**Investigator transmits its knowledge** across diffusion mechanisms as there are the publication, conferences, consultancies and practices in the academic ambience with the students.

The third place occupies the knowledge management **7.42%**las contributions, investigative Dr. Juan Bautista Hurtado Ramos of the National Polytechnic school campus Querétaro in the research laboratory of (CICATA, 2013).

[… we are accustomed to the knowledge to develop how such a thing is done and how to solve such and such industrial situation and the criteria are more faced to the economic aspect that is going to have certain project...] (Hurtado Ramos, 2013)

3.-The knowledge management is the main tool for the development of technologies; the knowledge generated must be real, true, innovative and assertive for the better management of the information and the implementation of the project.

7.42% represents the publications to occupy the fourth place contribution of Mr Rector Gilberto Herrera Ruiz of the Autonomous University of Queretaro:

[… publication was precisely in the journal Science and development it had to do with that computer that we did in those times, I am speaking of 1988 I think already makes a few ayeres…], […publications on everything that is stimulated track stimulus is lacking that is not left on the role and carry out i think that is the great challenge of how to make teachers go outside to what developed…] (Herrera Ruiz, 2013)

4.-The publication for the researchers is important to publish the findings of its investigations, this allows you to transfer the knowledge to other researchers, students, companies and government. Figure 4.1

Fifth place knowledge management documentary with a percentage **10%,** Dr Gerardo Sanchez Rodriguez researcher (CIATEQ, 2013) Your input:

[…impact in its publications for them significant i believe it is not a practice. It is very variable depends of the disciplines and depends on the times, depends on the institutions of higher education is very variable is very diverse…] (Sanchez Rodriguez, 2013)

Dr John the Baptist Hurtado Ramos researcher of the National Polytechnic Institute Queretaro campus in the research laboratory (CICATA, 2013).

[…Equis or ye, and then there were some readings that I made long ago that I became very recorded how scientific knowledge is growing and we said that it is maybe what one makes…] (Hurtado Ramos, 2013)

5.-Knowledge Management Documentary must be the proper documentation to the investigators are paid by means of the mechanisms of protection of industrial property in the quality projects, effect on the ethical aspects and the leadership, the objectives is to ensure the transfer of knowledge and work with strategy, logistical and financial support.

The effects occupy the sixth place with a percentage **11.48%** Mr Rector Gilberto Herrera Ruiz of the Autonomous University of Queretaro:

[…if an investigation that has no impact on the society is very expensive and especially for a country…, is also how to exit to resolve a problem of society…] (Herrera Ruiz, 2013)

6.-Effects is the benefit to the company, society and in particular to students by bringing together the motivation to carry out investigations and remain in them, in the scientific field of technology, achieve the opportunity to solve the problems that are currently live in Queretaro, domestic and foreign.

The Society is one of the important factors for researchers Dr. Pharsmat (ITESM, 2013)

[… develop a habit in young people, resolve the problem because they are very stuck with the books and do not have an attitude…] (Pharsmat, 2013)

Member of the state Queretaro the Licensed Beatriz Marmolejo Rojas:

[…society is the consumer of all these projects of technology…] (Marmolejo Rojas, 2013)

1.-Sociedad he is the technology consumer in turn he promotes the development sustainable and the education.

The government is a regulatory factor, which proposes law initiatives:

The governor José Eduardo Calzada Rovirosa (Roadway Rovirosa, 2013):

[… He Is the promoter of the technology, of the economic resources and establishments of laws to regulate them …]

The magistrate Eugenio Castellanos Malo its contribution:

[… the government believe the CONACYT for the care and he guards of the economic resources that are invested in these centers for projects that resolve problematic of the society …] (Castilians, 2013)

2.-Gobierno the organ is a manager of financial resources for the CONACYT projects.

The third place CONACYT with a percentage of participation 0.97 % its contributions are:

The magistrate Eugenio Castellanos Malo its contribution:

[… the government believe the CONACYT for the care and he guards of the economic resources that are invested in these centers for projects that resolve problematic of the society …] (Castilians, 2013)

Senator Enrique Burgos García its contribution:

[… federal Government that promotes the investigation, scholarships, publications of the projects and exchanges with other centers of technological development in different countries, economic funds for project development, has relation with the higher education institutions …] (Burgos García, 2013)

3. CONACYT it is an entity of federal government that promotes the investigation, scholarships, publications of the projects and exchanges with other centers of technological development in different countries, economic funds for project development, it has relation with the higher education institutions.

The fourth place is Centers of Technological Development with a percentage of participation 3.23 % its contributions are:

The governor José Eduardo Calzada Rovirosa its contribution:

[… Querétaro is one of the States benefited with the Centers of technological development at national level, the rest there are the Institutions of higher education that also are provided with quality investigators …] (Roadway Rovirosa, 2013)

4. lth Centers of Technological Development are the base to acquire practical and theoretical experience, on having taken part in them professionally, they feel satisfied, in them patents are generated. Querétaro is one of the States benefited with the Centers of technological development at national level, the rest there are the Institutions of higher education that also are provided with quality investigators, where the technology develops of basic and hard form, generating in its interior the knowledge capitalizing institutions and centers, impressed to the society queretana.

The fifth place higher education Institutions is:

Teacher Juan Manuel Pichardo Peña (ITQ, 2013) teacher reaches port:

[… the unit where cimienta the knowledge for the next life, theinvestigators is an opportunity area to reach its

studies …] (Pichardo Peña, 2013)

[… the pupils who take part in the projects are of social service the knowledge is generated, only that when they finish its service does not leave to himself evidence of the processes of its work and when they come new we need to begin again …] (Pichardo Peña, 2013)

Dr Jose Gerardo Montejano Gaitan researcher of (ITESM, 2013) in the department of food its contribution is:

[…is an area of opportunity to complete their studies and learn to do research and projects efficient…] (Montejano Gaitán, 2013)

5.- Institutions of higher education are the drive where builds knowledge for life next, the researchers is an area of opportunity to complete their studies and learn to do research and projects efficient. The sixth place industry with a percentage of participation:

The engineer Hector Sanchez Lopez responsible for linking with Japan and Mexico of the industry (Mazda, 2013)

[…the view results for further work in the form of new adventures to the center, in solution to specific needs of the industry…] (Sánchez López, 2013)

6.-Industry is an area of work for the researchers that must know perfectly according to the functions performed, carry out projects of technological development, follow-up to existing and follow-up to these.

The seventh place calls its contributions are:

Dr Alberto Traslosheros Michel of the university (UNAQ, University of Aeronautics in Queretaro, 2014) its contribution

[… officially to a call nothing more for a year, then from now we began to see other companies, their needs and started to work on the project, even sometimes … (Traslosheros Michel, 2013)

7.-calls it is important to be aware of the calls that perform various technological development centers so you can carry out projects are funded and transfer knowledge by means of publishing the results of these projects permeant to society and to the future.

The first is to patent their contributions are:

Dr. Enrique Gonzalez Sosa of the Autonomous University of Queretaro in the Faculty of Engineering Your input:

[…we are going to sell the patent which is what you need, then of the two there are projects that had already been killed by what we do not find interest in us, the company no longer told us anything and there are others who continue…] (Gonzalez Sosa, 2013)

1.- The patent is the right to exploit an intellectual project and unfortunately for the researchers is difficult to reach one of them.

The second place is guides of calls its contributions are:

Doctor Salvador Perez Arce responsible for research and postgraduate (CIDESI, 2013):

[…the guide more important are the calls of CONACYT, however I think there should be an adaptation of these to prioritize the issues of greatest importance to the state of Queretaro, as can be the social development sustainable, education…] (Perez Arce, 2013)

2.- Guide of calls is the process through which it develops the registration of projects to be subsidised with the support of CONACYT.

The third place is a model of innovation with a participation are:

[…simply concrete and accurate, i.e. the receive a feedback that leave us in clear why a project was rejected…]

3.-Model of innovation is the process for the development of new technological projects generated from an idea, that need funding, discipline and knowledge to succeed.

The fourth place on success with a percentage of their contribution is:

Dr Alejandra Lorena San Martina researcher of (ITESM, 2013) belongs to the Department of Food Research

providing:

[…we want to measure the distance in this way and so, and they want to hear in this type of valuations is what is the degree of innovation, what savings which is going to take or the impact…] (San Martina, 2013)

4.-success is the satisfaction of performance because of the need to obtain the expected result.

The fifth place is nationality their contributions the Dra. Teresita Martín del Campo (ITESM, 2013) researcher at the department of food.

[…Mexican researchers have recognition at the international level and in Queretaro exists to mention some Spaniards, Argentineans, Hindus, Colombians…] (Martín del Campo, 2014)

5.- Nationality researchers selected for the interview in its majority are of Mexican nationality.

The sixth place is feedback of projects with a participation, their contributions the engineer Elvia Olvera Olvera from the Autonomous University of Queretaro of the Faculty of Engineering:

[…simply concrete and accurate, i.e. the receive a feedback that leave us in clear why a project was rejected…] (Olvera Olvera, 2013)

6.- Feedback of projects are expressed in writing the detailed analysis of the evaluation of projects coupled with concrete arguments and accurate because it was accepted or rejected the project and take decisions to improve its effect.

The seventh place is project control their contributions by the teacher Yuko Kishino (ITQS, 2013) as the person responsible for the project in Japan:

[…there if in a certain sense there is not much control, that on the one hand it is good, on the other hand is not good , i think basically is already more commitment more toward the center of research …] (Kishino, 2013)

7.-Control projects are the stage in which the investigator is in constant concern with the project not to decline the possibility of achieving the success of its function.

The projects occupy the eighth place the Lord Rector Gilberto Herrera Ruiz of the Autonomous University of Queretaro:

[…well the project that has to do with greenhouses, there is a problem of food in this country, we are importing 60% of what we consume and with the great problems that when other countries…] (Herrera Ruiz, 2013)

Dr Rebecca del Rocio Peniche Vera of the Autonomous University of Queretaro:

[…precisely the attitude and the trend and the requirement are precisely to work on projects that are of impact not, to solve problems of our environment…] (Pichardo, 2013)

8.-Projects are projections made for the identification of the problem and effect on society, strategies are being used for the design and manufacture of the solution model. Requires a financial investment important, define the field of work and the strategies to continue, considering the sector to which it directed the project. Integrate researchers, students, companies, institutions of higher education and the government is multidisciplinary that permit the passage of these participants and reversed each permeant the knowledge generated in these.

Technology is the ninth place with a participation of the Lord Rector Gilberto Herrera Ruiz of the Autonomous University of Queretaro:

[…then we need to begin to develop our own technologies, then there was something very satisfying the part of farm production technology under climates protected…] (Herrera Ruiz, 2013)

Maestro Maximiano Ruiz Torres researcher of CICATA:

[… with the definition of technology when they do not accept it, now is my definition of technology is not the absolute truth, then, is something that we then in the dialog with the students but from there are learning...] (Ruiz Torres, 2013)

9.-Technology is the tool for the development of a functional prototype with a structure and logistics of quality within a productive process that satisfy the needs of the consumer.

The tenth place is a researcher with a percentage of participation 0806% their contributions are:

Doctor Juan Carlos Jáuregui Belt (UAQ, 2013) of the Faculty of Engineering:

[…made technological projects based on the knowledge, as main objectives, solve needs such as industrial and social…] (Jaureguí Belt, 2013)

10.-researcher are the people made the technological projects with the basis of the knowledge as objectives main is solving needs such as industrial and social, considering the time factor, the interest and the ability to search for and to share the knowledge that depending on the level goes increasing taking it to a thorough investigation.

The participation of knowledge management, represented by the active subjects of the investigation, it is considered is a concept they have in their minds, even when not in plasma by writing of the events after during the development of technology projects, you can analyse the success and attempts to consider them wrong they diminish the importance.

5. CONCLUSION

It is analysed the central question of the research What effect has the knowledge management in projects of technology from the technological development centers of Queretaro?

One of the effects is the transfer of knowledge to the members of the centers of technological development, by means of technology projects that evolved in these. In the investigation, it was found comments during the interviews that the management of knowledge is lost at the time of having as subject the providers of social service, professional practice and fellows at the end of the time to comply with the hours are removed taking the knowledge of the processes in research projects

[…students who participate in these projects are of social service knowledge is generated, only that when they finish their service is not evidence of the processes of their work and when they reach new we need to begin again…] (Pichardo Peña, 2013)

This comment was ratified by (Herrera Ruiz,2013), (Domínguez González, 2013), (Castellanos, 2013) (Hurtado Ramos, 2013) (Marmolejo Rojas, 2013) (Mabel, 2013) (Martín del Campo, 2014) i.e. is supported an opportunity to find a possible solution.

Giving validity to the contribution of (Santillan de la Peña, 2010), the cost of not knowledge, is a waste of time and economic, to repeat errors, because they are not prepared to new opportunities, assume risks that threaten the project or the institution, difficulties to build new initiatives since they do not have a history of the errors committed and decision-making erroneous causing declines Economic Society.

To comply with the general objective proposes a methodology of knowledge management, through a manual of procedures to facilitate productivity efficiently and effectively in the projects of technology from the technological development centers, for participant's providers of social service, practitioners and scholars.

The structure of the manual of procedures is the following:

Introduction

I. Historical background

II. Purpose of the manual of procedures

III. Definitions of the participating subjects

IV. Organization Chart

V. Mission

VI. Vision

VII. Profile of the provider of social service

VIII. Profile of professional practices

IX. Profile of Fellows

X. Description of activities of the provider of social service

XI. Description of activities professional practices l

XII. Description of activities of Fellows

XIII. Legislation

XIV. Strategic Map

XV. Systems

XVI. Functions

XVII. Processes

XVIII. Ongoing training

XIX. Information Technologies

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Achieving generates an opportunity cost, defined by Carl Menger:

[…corresponds to the satisfactions to waive by not having a particular good or service…] (Gregory, 2010)

That is to say, not having the operation manual, has generated the costs that are described in the Table 5.2 in the centers of technological development, IES, industry and government, this causes costs that are not recovered as the time and the economic, achieving a reverse constantly.

How supports the management of knowledge in technological projects? The knowledge management is a tool that leaves embodied each decision-making or as interact with other airlines to resolve the problem that is presented in the technological projects. In the research:

[…are multidisciplinary not, if it is important to involve people with different areas of expertise with institutions…] (Domínguez González, 2013)

The specific objective is to determine the effects of the management of knowledge in technological projects, through a manual of procedures to facilitate productivity efficiently and effectively in the projects of technology centers of technological development. The effects are to have the cost of knowledge, generates no loss of time and economic, is to avoid repeating the same errors or be converted into opportunities to generate new projects, having the documented information to observe and analysed the error, be prepared to new opportunities, be conscious with documentary evidence of the risks that threaten the project or the institution, build new initiatives since it has a history of the errors committed and decision-making erroneous causing economic opportunities for society.

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