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Content

Article	Page
Poverty and stress from the economy behavior	522-538
ITIL v3 –service management of TI	539-544
Social, technology and public education protection: Promoter factors of the Latin American economic development. Empiric evidence from models of autoregressive	545-559
Creation of value: From the intangibility to the tangibility	560-566
Financial securitization in the reinsurance industry	567-578
The strategic efficiency in the negotiation of the international commerce	579-586
Digital gap in Business	587-595
<i>Instructions for Authors</i>	
<i>Originality Format</i>	
<i>Authorization Form</i>	

Poverty and stress from the behavioral economics

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The situation of poverty in the world remains one of the main issues of concerning humanity. Traditional Economic Theory has addressed this issue, emphasizing economic development as an engine to solve this problem. However, the actions for poverty reduction are not proved as effective as desired; perhaps the mentioned theoretical perspective has been formulated upon the prototype of the rational man, typical of a conventional economics situation. In this paper we intend to review the importance of combining Psychology and Economics to provide a thorough explanation of economic phenomena in real scenarios. In order to find better tools for policy and international cooperation agents for development, employ Behavioral Economics to study how stress and coping strategies affect southern people in situations of exclusion.

Poverty, Behavioral Economics, Stress, International cooperation for development

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Introduction

The poverty situation in the world continues being one of the principal topics which worried to the humanity. The Traditional Economic Theory had addressed this issue, pointing the economic develop as motor to solvent this problem. However the persistency of the problem have carried to propose that a more consistent sequence could be the inverse: Let worried to reduce the poverty, that this would allow us to impulse the development.

Don't forget that reduce the poverty allows stimulate the consumption (see Perez Moreno, 2012), and improve the human capital (see, p. ex., Garcia Lizana and Perez Moreno, 2009), favoring in this way the economic growth, at the time is contributing to increase the welfare and improve the life conditions.

However, the actions for the reduce of poverty are not being as effective as is desirable; maintaining, or even increasing the corresponding indicators in the context of the big current economic contraction. Maybe, because the perspectives taken like referent for the intervention are biased by the concept of the rational selfish man, characteristic of the Conventional Economy.

Which obviously suppose a reductionist focus, because the spectrum of psychology possibilities with which the human beings could affront the problems that affect them is bigger.

During the last years, the use of psychological methods in the study of the economic process is taking big relevance to give answer to the approaches that are not solve for this conventional Economy.

Applied to the poverty study, implies understand it as a fact which is beyond of a simple situation of material resources privation, affecting to the motivations, attitudes and behaviors of people. If this is like that, is necessary to understand the limitations of a politic guided to simply compensate the lack of resources.

As the Nobel price of Economy, Amartya Sen, propose the poverty is raised as a state of privation added to the incapacity of the person to implement mechanisms which carry to enjoy of the personal welfare, which make us reflect about the homo economicus concept defined by the theory traditional approaches.

This are the reasons that make us search responses in alternative models, in this case those adopted by the economy of consumption, because is considered more useful in the study of the human process, because it feeds of the psychology, science that study the person's behavior and mental process.

The objective of this study is to achieve to the assumptions which are maintaining the poverty conditions, despite the economic efforts of the international community.

For that, we will analyze the theory framework proposed by the economy of behavior (Paragraph 2); we will focus, in the concept of stress and its connections with the poverty, checking some works that approach this line, as well the study of the coping strategies which could be adapt and its incidence in the problem persistence.

Taking in consideration the realized studies about other vulnerable aggregations, like handicapped people (paragraph 3).

To explain and apply the transactional model of stress of Richard Lazarus in people who live in exclusion situation in the impoverished countries, emerging some applications for the politics and performances of international cooperation which could be

extracted from previous study (paragraph 4); before to end the work with the presentation of the principal conclusions (paragraph 5).

Behavioral Economics

The problems over which the Behavioral Economics works are of different nature. Tries to answer to question about people's saving, how do they make the decision to save? What capacity do the people have to perceive the financial risks that they faced?

It also study the labor economy and the organizational economy, in which way the organization configure the motivations of their members? How much importance do the justice and equity in the work market?

Similarly we found research about poverty or the international cooperation, and their psychological effects.

Which characterize the Behavioral Economy in the introductions of elements taken from the psychology in the analysis of the economic behavior.

Although the Behavioral Economy is a new economy's area, Economy and Psychology have being related since the XIX century.

We could go back to Adam Smith, author of the Wealth of Nations, which addressed this relation although in a rudimentary form.

Using in its economic model a simplify interpretation of what move the individual preferences. Below this model is elaborated the concept of homo economicus, which was useful for the principle of the posterior economy.

Also Keynes used psychology elements to develop his economy models. The "fundamental psychological law" explain the spending options of consumers; and, in general use psychological motivations of consumers, savers, owners and investors.

Other antecedent of the psychology factors use in the Theory of Economy it is found on Gunnar Myrdal; specifically on his book An American Dilemma, in which addresses the problems of ethnic segregation in EE.UU.

However, it is not until the half of XX century when we found the strongest ties between Economy and Psychology.

Different form the traditional economic analysis that Kahneman and Tversky will focus in the current scene. George Katona, American psychologist from Hungary, contributed in the Second World War with the with the U.S government using the psychology in order to fight the inflation caused by war.

Distinguish for apply the psychology principles in the Macroeconomics and be consider as one of the Behavioral Economics' fathers by the use of psychology principles applied to the Economic theory and its later empiric checks in different fields like the take of decision of consumers, businessmen and politicians or the labor economics.

His most important contributions to the Behavioral Economy are on his book Psychological Analysis of Economic Behavior.

In this book Katona details the importance of combine both disciplines; Economy and Psychology, because to understand the economic process is necessary study subjective variables of each person, like the motivations or attitudes. Or in other words, the economic process is the result of the person's behavior and is influence by the different rules of behavior.

The authors highlight that the Economy study the human behavior in the adjudication and distribution of the limited means, and the psychology is the behavior science. So why do separate them? Even more, the Economy is part of the psychology? Katona answer this question with a negative, pointing that the Economy, besides to analyze part of the human behavior, also study variables like the own economic process.

The author point some reason for which both sciences are separate. On one hand the Psychology is separate from the rest of the social sciences when start to investigate about physiological process (for example time of reaction to stimulus); also, it focus in the study of the "abnormal" behaviors and on the unconscious (psychoanalysis), quite irreconcilable with the economists' objective, *establish an exact sciences which produce laws of generic value.*

In the side of the economy we found in the same form reasons for the split, being the conception of men as ideal or rational being, that search the maximization of its benefit in any circumstance, the principal reason. This concept, the homo economicus, simplify all the psychology variables, such as attitudes, motivations or expectative.

In this way, the Economy without Psychology left on a side some of the most commune aspects of human behavior and the Psychology without Economy does not analyze the own economic process, outside the human behavior.

In front this situation, Katona saw necessary and Psychological Economy that analyze from a psychological point of view the economical behavior, trying to fill the emptiness of the economic theories, such as the theories of consumers or business behavior, supported in a simplified vision of the human motivations.

At the same time George Katona propose his Psychological Analysis of Economic Behavior. Hebert A. Simon, American economist and psychologist, focus his work in the psychological process of the decision-making; for his findings will be awarded in 1978 with the Nobel Prize of Economy.

This author focuses his study, in the fifties, in the process of decision-making.

Formulated his most relevant theory respect in 1951, called "of Bounded Rationality", which pretends replace the concept of the Economic Theory about the rational man for other closer to reality.

Simon shows the paradox between the theory of the perfect rationality (conventional economic theories) and the decision-making of people.

For the perfect rationality, in a decision-making situation: The medium, the information, the previous experience and the personal believes are optimal; the estimations of probabilities are easily approach.

The subject has a cognitive system which allows calculating all the possibilities of each alternative, selecting most suitable, assuming that is not place for errors.

But is this possible? Is it also in front of difficult decisions with high number of alternatives?

For Simon this hypothesis raises serious doubts; the author propose an approximation to the person closer and narrowed, developing his Theory of Bounded Rationality, which combine this three dimensions.

- The available information about each alternative: is not possible to know in front of difficult decisions the relevant facts of each one of the possible alternatives.
- The person's cognitive capacity: the calculation and computation possibilities of people are bounded, in this case, for the study of alternatives.

Therefore, we will have to have on account this dimensions to establish the person's behavior. For Simon, is the decision-making the space where Economy and Psychology meet.

This author, on his book *Models of Man* (1951), points that the psychology theory establish that people choose alternatives which get to satisfy their necessities, and even though in occasions achieve to maximums their benefits, is not the general pattern in front any option.

Starting from this concept, Simon propose replace the optimization hypothesis, characteristic of the conventional economy, for the hypothesis of plenty satisfaction, which will be of big importance for the fundament of Behavioral Economy.

In this form suggest that economic agents use in the decision-making heuristic methods more those rigid rules of optimization, given the complexity of the situation and the impossibility to process all the information of the existent alternatives.

Even do Simon and Katona establish the bases of the Behavioral Economy and show the importance of combine both disciplines, Economy and Psychology, are Kahneman and Amos Tversky who place it in the present the relevance of this understanding form.

Studying the economic process in which people are the key factor.

Amos Tversky, Israeli psychologist, was pioneer if the Cognitive Psychology and an important figure in the discovering of the cognitive biases and the inclusion of the risk.

Daniel Kahneman, American psychologist and economist (with double nationality Israeli), get the Nobel Prize of Economy in 2002, for integrate aspects of the psychological investigation in the Economic Science, especially about the human judgment and the decision-making under uncertainty.

Both authors, under the cognitive current of the psychology science, started to compare their cognitive models of decision-making under uncertainty and the economic models based in the rational behavior.

Then, jointly, publish the Theory of the Perspective in 1979, in consonance with the proposed previously by Simon and Katona, critic the conception of the person as economically rational being.

The Theory of the Perspective allow describe how people make decisions in situations where they have to decide between different alternatives that include risks, for example the financial decisions and how they evaluate the possible lost and profits, taking on account the emotional value that the decision involucrate, and could be in conflict with the market worth, doing decisions that value the personal utility under this perspective, although from a perspective un rational utility an different alternative would be chosen.

In summary, what Simon and Katona, Kahneman y Tversky put in manifest is the influence of the analysis approximations of the economic process by the Traditional Economy, in which is suppose that the conditions to decide are optimal and the person have infinite capacity to process information and chose best option, situation that is far from reality.

From there that the Economic Science appealed to the Psychology in order to explain real situations, punctuating the real conditions of the people involved. According to H. Hosseini (2003), the Behavioral Economy is, precisely, for its defenders, a reaction to the deficiencies of the conventional Economy.

But it should not be interpret as a situation of confront or radical separation. Simon in the preface of B. Gilad and S. Kaish (1986), point that we need increase and correct the existent body of the Classic and Neoclassic Economic Theories to get a most r realistic image of the economic process.

Being the Behavioral Economy the investigative labor which cover these necessities.

Even when its application, as we saw, could be really significant, there are problematic fields in which the economic traditional visions have not being able to elaborate theories that give satisfactory answers; and, more than anything, that allow to appraach the reality in order that to get consistent results, like, as an example, the situation of poverty in the South countries.

The Behavioral economy: stress and poverty

After verify the contributions of the Behavioral Economy for the study of the economic process, from a perspective closer to the real situation of people, we are going to review the recent investigations about the poverty situation and the relevance to use psychological fundaments for its comprehension.

Like Paul Anand and Stephen Lee (2011 A) point, the study of poverty by the traditional economic theory have being slant by the same concept of rational men that we saw until the moment, without taking on account the heterogeneity of people.

Traditionally have being used monetary evaluations to obtain evaluations of welfare and identify people in situation of poverty, forgetting other criteria.

These authors point that if the rationality concept is useful for the economic study, looks impossible that the development could be guided exclusively by this concept, because not always its rigid conditions are given; and not for that it should consider irrational to the person.

Propose to use the Psychology to know how people make decisions and use the concept of “humanly rational”.

Also Anand and Lee (2011 B) suggest, like H. Simon did on it moment, that Psychology and Economy have a meeting point in the decision-making and it is precisely a big interest of the economy for the welfare of the poor an important opportunity of collaboration between them.

These proposals are in consonance with the Unit Nations tendencies, and its program of Development (PNUD), to the focus of Human Develop, in which for the study and intervention about poverty are use financial criteria, but also not financial.

Mariano Rojas (2011), on his study about poverty and psychological stress in Latin America, shows the Stigma that means to be poor. Rojas, through the Gallup 2007 Survey, which contribute with facts about psychological stress that suffer people in condition of poverty in 16 Latin American Countries, determinate that the low profits are prejudicial for the psychological welfare.

The psychological anguish of people who live with less than 2.5\$ daily is higher than the people who are part of the middle class, and of course more than the group that get higher profits.

More interesting that these conclusions, easily predictable is that Rojas contribute with facts, which point that fast economical growing influence in the psychological anguish of the group of people with less resources.

For that surge the conveniences to incorporate the concept of emotional welfare in the develop study.

In the same line, Anand and Lee from the Behavioral Economy point of view, and the Welfare Economy, raised the importance to consider these impacts when we work in the development of the impoverish countries.

If we understand poverty also as a psychological syndrome, Is it enough with contribute with economic resources or should we know better the local contexts and the different dimensions in the experiences of privation?

Berry, Reichman, Klobas, McLahian, Hui y Carr (2011) claim the role of the Organizational Psychology in order to contribute with the decrease of poverty. The literature of develop is charge of examples of good proposals that are not moved adequately from a context (normally occidental), to a poorer one, socially and culturally different. The efforts in the reduction of poverty present, usually, psychological complications.

The interpretations that make the receptors of the aids could limit the efficacy of the same, cause frustration and stress.

The succeed of the Organizational Psychology in the private circles, working in the people motivation, the adaptation of the different social and cultural contexts, make of this discipline an interesting claim for the works in favor of the impoverish countries. However, none of these authors have on account the importance of the stress confronting strategies adopted, and which could explain with major precision the South situation.

In this sense, could take on account the work made about the importance of the psychological variables in the economic process, even if the field of the impoverish countries, which are approaching Cruz and Garcia Lizana in the labor and disability economy field.

After many works, in 2011 present conclusions about people with a disability (PCD) in the Spanish labor market.

The authors try to search satisfactory answers to the low participation of this group of individuals in the active employment rate. With an added paradox: according to EPA statistics (Survey of Active Population) showed.

The PCD group used in the unsubsidized market, enjoy of better work conditions that the average. After search answers in the traditional economic models, that study the disability and employ (neoclassic and institutional focus) without being satisfactory, use the Behavioral Economics frame.

After the application of psychological theories of stress in the economic phenomenon, and based in the findings about the decision-making of the Behavioral Economy, raised that the strategies of stress confrontation (caused by the stigmatization of their disable situation) control the PCD elections respect to the incorporation to the work market.

The importance of these conclusions is huge for the decision-making in economic politics, generally worried for the economic incentives and the manpower demand made by the employers. Cruz and Lizana propose that the social stigmatization of the PCD genre a situation of psychological stress which presses over the behavior guidelines of the manpower offers. The answers to this stress will be fundamental, and will condition the participation, or not, in the labor market of this collective.

Most of the time, is produced a negative answer of confrontation in the affected people, modifying, as consequence, its utility function, until the point to shun the incorporation of the labor market, displacing in this form the function of labor offers of PCD and making it more rigid.

Being able to break the relation between labor offer and salary retribution in limit situations; But in the case of some components of the group, will be the positive answer of confrontation which explain its better positioning that the average of the population group, including the people without disability.

After the verification of this research about the Behavioral Economy, poverty, stress and confronting strategies, we think that is pertinent study how these mechanisms could influence in the answer to this by people who live in situation of poverty in South countries.

For that we are going to check in the next paragraph the stress theories and its confronting, in a form that allow to us use it fundamentals in the economic study of poverty.

Stress, confronting and poverty

Transactional model of Lanzarus and Folkman

Stress is a terminus that raises much interest, as much in the public opinion as in different professional fields, like Medicine, Psychology, Biology or Economy. Before anything, is necessary to warned the constant evolution that the terminus had suffered since XIV, in which was define as tension and adversity.

However, it is not until the half of XX century is conceived the stress as proper of the human and inevitable in life; market the difference between people for the form to confront it. From there that is displaced the interest of the investigators, precisely, to the confrontation, as Lazarus proposed it (1966).

ECONOMY

To explain and understand the psychological stress we will use the theory model of Lazarus and Folkman, which join the major consensus inside the Cognitive Psychology, as well the two critical processes that have place in the relation between the person and the environment: The cognitive evaluation and the confrontation.

Stress and cognitive evaluation

The definition of stress has been changing above the time, and has different focus in function of the science that studied it.

While for the classic psychologists, inside the traditional paradigm stimulus-answer, the eye is on the stressors (stimulations that provoke stress), for the Psychology and Biology the determination if a phenomenon as stressful is in the answer, characterized by a high physiological activation of the people in front determinate events. Lazarus and Folkman point the importance to study as much the stressors, its classification and origin, as the answer that provoke.

For these authors, the concept of psychological stress should approach both questions like and interaction.

When the attention about stress highlight the stimulus role, the interest focus in the environment events, such as natural disasters, diseases, labor problems or poverty conditions.

This consideration accept that some situations are, universally, stressful, but do not have on account the individual differences in the evaluation and confrontation if the same. The definitions that make an emphasis in the answer are limited on its utility, because a stimulus is consider stressful in terms of the answer in front of the stress that generate.

But is necessary to establish adequate norms that allow to determinate in a specific form the conditions under which some stimulations result stressful.

The proposed definition by Lazarus and Folkman make emphasis in the complete process, the psychological stress is a particular relation between the person and the environment which is evaluated by this like threatening or overflows its resources and put in danger its welfare.

It is parallel to the concept to the current medical concept of disease, according to which, the disease is no longer saw as only a consequence of the action of an external agent, but also exist the participation of the organism, adding relevance to the characteristics of the person. The consideration that a determinate relation between a person and the environment is stressful or not, would be estimates according to the cognitive evaluation that the person makes. Even though some pressures and environmental demands produce stress in a considerable number of people, as could be do not have resources to enjoy a dingy life, the individual and group differences, according to the level of answer, are always manifest.

For example, while some people have, in front the named situation, answers of depression which carry them to the inaction or begging, some others could feel provoked and emigrate to a place consider prosper where find a job or fount a business. Another reason to understand the cognitive evaluation process is that, to survive, the men needs distinguish between favorable situations and dangerous situations.

This necessary distinction for the adaptation process of a person to the environment requires and efficient cognitive system, capable to achieve symbolic process to distinguish from experiences that damage, threat, challenge or feed it.

The cognitive evaluation reflect the particular and changeable relation that is establish between a person with market characteristics (values, compromises, thoughts and perception) and the environment which characteristics should predict or interpret,

Therefore, the cognitive evaluation support the idea that the emotional and behavior response developed by a person in front an event depends in the form in which is analyze.

It put in March mechanisms to confront the stress, is the re-evaluation- Primary evaluation: which could consider the situation as:

- Irrelevant: do not have implications for the person.
- Positive: the consequences preserve or improve the welfare.
- Stressful: generate a situation of stress, which could mean:
- Damage/lost: produced by a past event.
- Threat: when the event of prejudicial character has not happened yes, but prevents the realization of it in a future.

Challenge: is different from the threat that the person considers that has resources for the confrontation and generate pleasant emotions.

Secondary evaluation; guided to determinate what is going to do in front of a situation previously detected (in other words, the strategy of confrontation), as well the consequences of each option. This type of evaluation interacts with the above, determining the level of stress and the intensity and quality of the emotional response.

Re-evaluation: do again any of the two evaluations over the base of the new information precedent of the environment.

The confrontation and its characteristics

From the Psychology perspective, the person could suffer stress (consequence in our case of the poverty situations, as we point paraphrasing Rojas, 2011); but depending on how want (or can) confront it, will opt for some decisions or others (conscious or unconsciously).

The evolution of the events and, therefore, the economic process that define the persistence of the own poverty; even though the external interventions. At least, such is the initial formulation that we could use as hypothesis of work. From there the importance of the type of behavior adopted.

The content of the terminus confrontation also has evolution since its use in the 50th by the Psychology.

Nowadays, the most accepted conception understand it as a process, overcoming its old definition as feature. Following to Lazarus and Folkman (1986), are consider as those cognitive and behavioral efforts constantly changeable that develop to manage the internal or/and external specific demands, which are evaluate as excess or surplus of the person's resources. These grouped the confrontation modes around two functions: guided to the emotions and guided to the problem.

The firsts will try to decrease or increase the rate of the emotional disorder caused by the stressful stimulus.

While the seconds will try to define the situation, search alternatives to weigh up the relation between the necessary effort and the benefits that could be obtained, and put them implement to its application.

In this point, given the study objective of this communication (the influence of the stress and the adopted confrontation strategies for the people who live in conditions of poverty), following to Cruz and Garcia (2011); We will use, also, in a complementary form, the classification of the strategies of confronting which grouped them in positives and negatives (or functional and dysfunctional), because consider it very pertinent for our study.

In this sense, we consider negative all those which carry to maintain or make worse the current situation of poverty, when the person fold over its own situation, conditioned as much as its cognitive limitations as by the pressure of the context, accumulated experience, etc. And positive, those which are guided to overcome the situation of poverty, controlling the emotional disorder produced and/or raising alternative that allow modifying the situation.

Obviously, the options for some strategies and others will be influenced by the concrete conditions that characterize the situation of people, in this case those who are living in situation of poverty. Lazarus and Folkman (1986) show, precisely, a group of factors that will influence, in general form, in the confrontation of the situations of stress, grouped in six categories, which are of especial interest to evaluate the answer capacity of the people who we are considering.

- Positive believes (psychological resources):
- High self-esteem and self-confident give to the person perception of control of the situation, which produce more activity and perseverance in the confrontation.

- Efficacy expectative (Bandura 197): the positive evaluation of the control capacity of the specific situation determinate also the effort in the confronting process and its persistence.
- Technics for the problems resolution: Janis and Mann (1977) define them as abilities to analyze the situation, examine possibilities, predict useful options to obtain result and choose a suitable action plan.
- Social abilities: is a relevant resource because the important role of the social activity in the human adaptation. It refers to the form of communication and behavior with everyone else in a socially adequate and effective form.
- Social support: the social system contributes with resources for the confrontation. The people get best results if they receive or believe that are going to get social support when they need it.
- Material resources: do reference to the money and wells or services that are acquired with it. People with high resources, know how to use them, are more efficient confronting the stress, because they can get easily to healthiness or security.

Practical application: the transactional model of stress in people in conditions of poverty

Traditionally, the poverty, in the economy area, was considered in one-dimensional form, as material privation, measured by the incomings of a person or family. However A. Sen (2001) critique this conception because he consider that there is not a “tight” correspondence between the poverty view as lack of resources, and the poverty view as the incapacity to solve elemental and essential necessities.

Sen propose that besides to have the access to material and social wells, the people also had the capacity to use them with efficacy, in such way that allows them to be free to yield their own welfare.

After this conception of poverty that we assume as own, and undeniable which is constitute as a real source of stress over the people who suffered it.

In this way result of major importance try to study the strategies of confrontation that use the people who live in situation of poverty in the South countries, to know if these could be influencing in the process that maintain its exclusion; And pouring, therefore, to the failure of the activities and politics of cooperation in the measure in that they do not have them on account.

If this like that, its adequate study will allow suggest performances of international cooperation to the development equipped of more efficacy.

We should point, that this approximation has a strong limitation. The model which we are using for the study of the stress and confrontation of Richard Lazarus and Dusan Folkman, is design for the study of clinic cases, and nor from a perspective of social research.

Therefore from the Social Psychology we found models that study specifically this relation. In consequence, we try to apply the principle that George Katana postulate of micro analysis of individual behavior which allow us to know a specific situation, to next obtain conclusions relative to the collective behavior, in a similar way that how they act, as kept said, Smith or Keynes, in function of the tendencies detected by them.

With the difference that they postulated, finally, uniform economic behaviors, with a pretended universal worth; while in our case, we try to trail differenced behavioral rules and in consequence, function in preference blended, which identification should oriented us in the process of assignation of resources¹.

Although such procedure supposes a difficulty added to the practice: determinate the level of generalization inside the analyzed social nucleus of the functions preferences, understanding with Katona: that the economic process it is the result of the individual process influencing different behavior rules.

An adequate knowledge of such situation will help to design models of collective intervention.

Knowing the indicated limitations, we will try to analyze the role that plays the stress and the strategies of confrontation in the people who live in condition of poverty, having on account that could help us to explain alternative patrons of behavior that condition the collective develop and which should guide, therefore, the design, first, and the evaluation then, of the correspondent politics. Defined the stress as a process between the person and the environment, the people who do not have conditions to satisfy their basic necessities (access to education, housing, health, work) and that is a medium that do not offer opportunities to get them.

To achieve the two proposed evaluations by the transactional model of the stress. The primary evaluation will have as answer in the majority of people considered the context of problematic form, conditioning perniciously its welfare (in the line with the pointed by Rojas).

This point is crucial to activate the mechanisms of confrontation, because its considerate as lost, threat or challenge, consider the secondary evaluation to select the strategies of confrontation.

Understand this aspect of the evaluation is the of important relevance for the performances of the agents of international cooperation for the development, because those communities formed by members with personality stiles more defeatist, conditioned by the deficient dotation of the factor proposed by Lazarus and Folkman, could be evaluating the situation as past events in front of which they can do nothing (damage/lost).

Or like inevitable threats of which just kept protecting; which could explain the adoption of strategies of dysfunctional confrontations.

More worried to relax the emotional tension than to remove the existent obstacles; or, in any case, to adequate the possibilities that are presented to maintain more or less deadening the situation.

Some good performances in formation, sensitization and empowerment of these members, that make possible the re-evaluation of the situation will be indispensable in order that the individuals classify the context as a threat which could be avoid or deflect, or a challenge which could be overcome, trusting that they can achieve actions which change the environment yet.

In this form, we will pass to do a new secondary evaluation that allows assume and implement strategies of positive confronting, to overcome the existent limitations.

The participant evaluation that we implement in the bateyes (rural settlement dedicated to the sugar cane cultivation) of the Dominican Republic, in which the majority of the population are Haitian undocumented migrants, allow in this study make and approximation of the strategies of confrontation approach for these people in situation of social exclusion.

The strategies of negative confronting like the avoiding, the negation or the conformism are usual in the people who live in the bateyes. These people use to lack of the necessary resources to confront the strong pressure which means the poverty situation; here get in the game the factors pointed by Lazarus and Folkman who will support the confrontation process.

The low self-esteem and weak or zero expectative of improvement of the situation (psychological resources), the lack of education and technic formation (technics for the problems resolution and the social abilities), the deficient conditions of health (physic resources), the bad relations between the people who populate the batey, result of the survival situation in which they live (social support), the lack of economic resources (material resources), of which they arrange carry to these people to not implement strategies of positive confrontation in front poverty.

The international cooperation performances that are catalogued as assistance, in other words, they limit to provide material resources to the people, without meaning an increase of their capacities to solve by themselves their necessities (strategies of positive confrontation), will be reinforcing the strategies of negative confrontation and the maintenance of the situation of exclusion, which lessen considerably the efficacy of the help.

These politics or actions characterize for not mean an effort for the receptors of the help to cover their own necessities, which do not involucre on their develop process. This situation is related with the definition of Sen about poverty, because this would not only be the privation of basic necessities, but the incapacity to solve and procure in a free form the own welfare.

But even the most dynamic actions of cooperation could equally fail if they do not have on account the concrete conditions of the population in terminus of stress caused by the poverty and confrontations stiles adopted, which obviously condition the interpretation of the help initiatives by the people and in consequence, their answer of the same and the final succeed or failure. As was said, the viability of the displayed depends of how they adapts to the motivations and conditions of the population, according with its strategies of confrontation.

In the same form, we could observe people who implement strategies of positive confrontation; is the case, for example, of those people who continued associations of neighborhood type, in which are detected the problems and search resources to overcome them.

As the contact with international ONGD that work in the zone. The role of the international cooperation agents is the key in many occasions for succeed of these strategies.

Facilitate the problem identification, accompanied and counseling these people, promote the design of an action plan, involved the communities in this decision-making and the research of economic, technic and social resources which help to the overcoming of the necessities.

Are performances that promote the use of strategies of positive confrontation of the most unfavorable people, and guide then to satisfy their own welfare.

The performances of the international cooperation and the develop agents in the South play and important role in the factors that influence the confrontation of stress.

We could considerate that the approach projects in the bayetes about health, housing, sanitation or alimentary security increase the physic resources of the impoverish people.

In the same form that the performances in education and technic formation to achieve some little business based in models of social enterprises will be affecting over the psychological and material resources.

In the other hand, are unsettle signatures until now those actions focus to consolidate technics of problem resolution, improve the social support and the social abilities of the habitants of the communities, as value resources in the moment of confront the stress.

We highlight that in some occasions the habitants of a community do not talk the same language, in this case Spanish in front to creole (Haitian language similar to France), having the same problem the agents of develop in the zone.

Conclusions

There is an international consensus in the preoccupation about the efficacy of the support. Result of it is the declarations and summits of Rome (2003), Monterrey (2005), Paris (2005) or Accra (2008). The big economic, technic and human investment which is make in the impoverish countries does not have the expected results; increasing the international inequalities, and also between rich and poor of the same villages.

The explanations of such failures do not result obvious from an economic point of view; from there the interest to apply models from the Psychology to the Economy.

To search explanations closer to the reality which give more precise answers to no solved problems by the theory of Conventional Economy.

Pretend to increase the efficacy and support to the development should pass for the evaluation of the politics, performances and projects that approach the different actors of the international cooperation.

But in the same form is necessary to investigate alternatives to the conventional models to diagnostic the mechanisms which are performing in the development process in the South and which are not being consider by the traditional perspectives.

The objective of this work is to open new lines of investigation and propose new tools that improve the efficacy of the support from the perspective that relate the stress management and the strategies of confrontation of the people affected with the maintenance of the poverty conditions.

According with the studied in the present document, and warning that it's about an open investigation program over which its necessary to advance, complete and deepen, we could anticipate some of the line that we consider relevant for the politics and performances of the international cooperation for the development:

- a) Investigate, analyze and systematize the cognitive evaluation of the situation and the strategies of confrontation implemented by the habitant of the South, in such way that allow identify the capacity and conditions to control the own situation and response to the develop initiatives:
- b) Evaluate the efficacy of the adopted politics, having on account the diagnostic of the situation in the pointed terms;
- c) Design the performances of intervention having on account the diagnostic.

Related to the last point and, in concrete, could be pointed, in a no exhaustive form, the followed performances:

- It is possible that in many occasions the South people consider (primary evaluation) in the environment generated of stress as an event about which is not possible to performs, adopting, as consequence, dysfunctional strategies of confrontation.
- The use of tools that provoke or stimulate the cognitive re-evaluation of the situation, in a way that perceive that is possible to modify the environment, will make approach the secondary evaluation, searching the strategies of positive confrontation, which allow the resolution of the `problem, implying actively top the population in the overcoming of the situation.
- The action of welfare character could be reinforcing the negative strategies of confrontation, and to the poverty maintenance, contributing with the inefficacy of the support.
- IT is the more interest design and applies politics and actions of international cooperation destined to favor the factor that influence about the confrontation of stress.

- As well politics and actions guided to increase the self-esteem and perception of control of the situation of the South people (psychological resources); politics and actions guided to improve the communicative resources between the people (social abilities).
- Politics and actions focus to proportionate technics of problems resolution and that promote the analysis capacity, planning and execution of alternative which improve autonomously the situation of poverty; politics and actions to foment the associations between the habitants of the communities.

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ITIL v3 –service management of TI

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This paper investigated the use of ITIL v3 as best practice and their implementation within organizations, a brief history of ITIL and how it is best practiced can provide advantages and benefits to organizations. Mentioned areas of ITIL v3 knowledge and give a brief description of each publication, which offers ITIL certification for its implementation and finally some requirements for certification in ITIL v3.

ITIL v3, Best practices, Areas of knowledge, Certification

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Introduction

The implementation of ITIL had its beginning in the 1990's influencing in different aspects of other international norms like ISO/IEC 20000, covering the elements of IT and ITIL services management; considered as a framework that refers to the best practices. ITIL is divided into 5 knowledge books, each book dedicated to a specific area within IT management, constructed in a view based on operation control and management model-process often attributed to W. Edwards Deming. ITIL was developed by the Central Computer and Telecommunications Agency (CCTA) of the Britannic Government as an answer to the growing dependence on information technologies and in acknowledgement to that without standard practices, state agencies and private sector contracts were creating individually their own IT management practices and double their efforts inside their ICT projects, which ended in common errors and higher costs.

ITIL is a trademark of the Office of Government Commerce, (OGC) in 2001 the CCTA was added to the OGC. On December 2005, the OGC issued a notification of an update known as ITIL v3 that was planned to be published by the end of 2006; one of the ITIL benefits in their new update is a glossary of precisely defined terms.

ITIL v3 (IT services management)

ITIL is an international standard of best practices in Informatics Services Management.

Nowadays organizations depend more on best practices to achieve corporative goals. ITIL is a best practice based on ITIL experts and users, which provides a theoretical framework for identification, planning, information technologies deliver and support for business.

The main goal is provide value to the client and the business in IT services form using different tools, steps and a defined structure for its implementation. ITIL is a guide that gives the organization a way to use IT as a tool to make easier the change in the business, transformation and growing. "it is divided in 5 main areas which provides a professional and systemic reach for IT services, allowing the organizations to deliver appropriate services, ensure constantly that they are reaching the business goals and obtaining benefits"[1].

In every organization projects of great impact, importance and investment for the organization are developed; which have objectives, mission, vision, significance, processes, improvements, implementations, observations, monitoring and conclusions, all of this included in a life cycle. Through all the life cycle of an IT project, a certain period is invested in each phase or process of the life cycle. The five areas of a life cycle of the process implemented by ITIL are:



Figure 1

2. ITIL's life cycle:

- Service strategy
- Service design

- Service implementation and transition.
- Service operation
- Monitoring and Continual service improvement.

Statistically, we have loss of time in each IT project:

Operation phase: 70-80% time and cost.
 Development phase: 30-20% acquisition.

Based on this statistic, it is fundamental that, in every IT Project, the IT services management are efficient and effective, “this applies to any kind of organization, big or small, public or private, with centralized or decentralized IT services, with internal IT services or supplied by third persons”[2].

Advantages and benefits

When we apply ITIL as a best practice within the organizations, we search the following advantages and/or benefits [4]:

- To improve the IT services.
- To improve the client satisfaction through a more professional service.
- To improve the productivity.
- To reduce costs.
- To improve the use of skills and experiences.
- To improve the delivery of third persons services
- To line up the projects with the business needs.

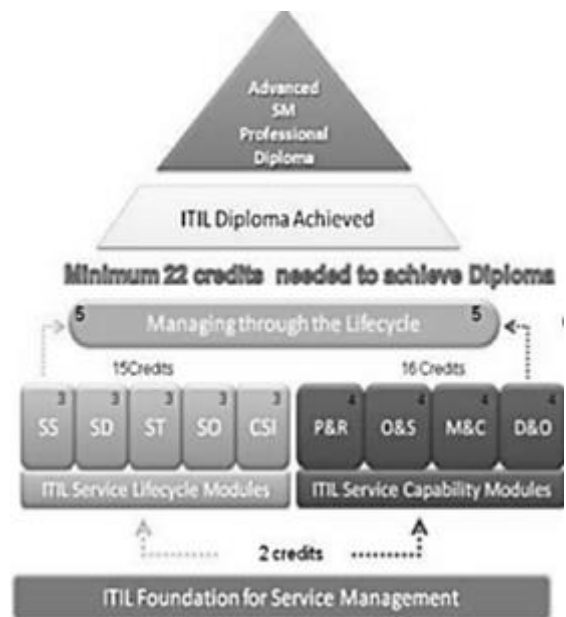
By means of the ITIL methodology roles, tasks and responsibilities that can be adapted to any IT organization are assigned, “the objective of this best practice is having a better communication and management in the IT organization.

It provides the needed elements to determine improvement objectives and goals that help the organization to mature and grow”[5].

Learning levels within the ITIL

In order to be an expert in the IT implementation, cover the next certification steps or processes are needed, there four levels in this schema:

- Fundamentals (Foundations Level)
- Intermediate (Lifecycle Stream & Capability Stream)
- ITIL Diploma
- Advanced (Advanced Service Management Professional Diploma)



The ITIL implementation is becoming more common, many organizations are choosing to certify their staff in the implementation of this practice, they are worried about capacitation, updating, courses, certification programs, conferences with the aim of improving the quality of its Services Management. Some of the organizations that implemented it are:

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- High technology: Microsoft, HP, Fujitsu, IBM;
- Distributors: Target, Walmart and Staples;
- Financial organizations: Citi, Bank of America, Barclay’s Bank;
- Entertainment: Sony, Disney;
- Manufacturing: Boeing, Toyota, Bombardier;
- Science companies: Eli Lilly, Pfizer, Takeda Pharmaceuticals.

“the framework of best practices in IT services management represents a complete set of organizations, Tools, education and Consulting services, related frameworks and publications”[6]. Nowadays many organizations, certified people, work groups and other participants are cooperating to promote and improve the ITIL standard in order to be able to have a better quality in IT services management.

ITIL v3 knowledge areas.

Through ITIL, the improvement in the IT services management quality is searched. The ITIL v3 standard is composed by five publications that are briefly described in Chart 1.

ITIL certifications

ITIL qualification standards are managed by the ITIL Certification Management Board (ICMB), which groups the OGC, itSMF International, and the two existing Examiners Institutes: Exameninstituutvoor Informatica (EXIN, Dutch institution) e Information Systems Examination Board (ISEB, United Kingdom). [8]. There are three levels of ITIL certification for professionals:

Foundation Certificate: certifies a basic knowledge of ITIL in information technologies services management and in the understanding of the terminology of ITIL. It is intended for those who wish to know the best practices specified in ITIL.

Practitioner's Certificate): it is intended for those who have responsibility in the management process design of the information technologies department and in planning the activities associated to the processes.

Manager's Certificate: It guarantees that the person who holds it has deep expertise in all matters relating to the managing of information technologies departments, and it enables him to direct the ITIL based answers implementation.

Publication	Brief Description
Service design	Provides guidelines on how to design IT services and how to evaluate the interactions between solutions and their business environments. Includes the processes of: <ol style="list-style-type: none"> 1. Service Catalog Management 2. Service level management 3. Capacity management 4. Availability management. 5. Management of IT service continuity 6. Management of information security 7. Management of suppliers.
Service Transition	Provides guidelines on how to deliver a service for operational use. It includes the processes of: <ol style="list-style-type: none"> 1. Planning and support of the transition 2. Change Management. 3. Configuration and service assets management 4. Version and deployments management 5. Validation and service testing 6. Evaluation 7. Management of the knowledge of the service
Service Operation	Provides guidelines for the attainment of the agreed levels of quality for the service delivered It includes the processes of: <ol style="list-style-type: none"> 1. Event Management 2. Incident Management 3. Request Management 4. Problem Management 5. Access Management 6. IT Operations
Continuous improvement	Provides guidelines on how to adapt existing services to new customer needs. It includes the processes of: <ol style="list-style-type: none"> 1. Process of continual service improvement

Chart 1

ITIL represents best practices framework in IT services management, it represents a whole set of organizations, tools, education and consulting services, related frameworks and publications.

Nowadays a large number of organizations are currently cooperating internationally to promote the ITIL standard as a fact standard for IT services management. Another institution who has been dedicated to certifications is APM Group Limited, official site of ITIL that provides a certification diagram for ITIL implementation through external organizations that cooperate with them through principles of best practices international standards. If they approve the certification diagram, they are assigned a license to operate under the ITIL scheme.

Requirements for certification

To get a certification in ITIL all the organizations must fulfill the following requirements [9]:

- All the organizations eligible for accreditation can choose license materials, coaches and / or other MQS from another organization to be accredited in order to meet accreditation requirements and the needs of their customers. In these cases, the organization designated by APM limited Group needs to ensure that the licensing aspects meet the overall assessment criteria.
- When an organization to be certified chooses the capacitation of another organization to be certified, the capacitation can only be made within the parameters in which such organization is certified.

- The organizations to be certified can have members to offer capacitation courses in determined regions, territories or markets. The members are obligated to sign an intellectual property license and can be subject to review by institution designed by the APM Group Limited as a part of the certification auditing process.
- The institution designed by the APM Group Limited must advise all the member capacitation institutions.

Conclusions

The key in the ITIL implementation as a frame of best practices is providing a high quality service that gives the organizations a distinction regarding their competitors, the intangible value that the organizations offers to their clients. Understanding the objectives of the business, the client and the rol the organization takes in order to implement the ITIL to fulfill the business goals.

An essential feature of a best practice implementation is warning the client, being prepared and analyzing the clients' behavior pattern for any situation. The system use of services management practice that are measurable, consistent, and adequate to provide the necessary quality to clients' needs.

Continuous analysis of service management once the ITIL is implemented as best practice within the organizations.

Giving the client the approach in improvement for business necessities without being worried about the IT services performance. We must give the client value, controlling the handling of risks and costs.

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Social, technology and public education protection: Promoter factors of the Latin American economic development. Empiric evidence from models of autoregressive vectors

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This research examines how the topics such as social protection, science and technology (S&T), and state education, can correct structural historical of social backwardness (poverty and inequality) in Latin America. The paper applies statistical methods of multivariate time series (VAR models) to demonstrate the importance of the topics mentioned, and the urgency of developing public policies based on these themes, and aimed at strengthening the technical progress and welfare of the general population.

Social Protection, State Education, Poverty, Inequality, Technical Progress.

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Introduction

Not considering the peripheral countries on the politic and economic international reforms when organizing the postwar capitalist economy, would become later in an element that emphasizes the whole system vulnerability, blocking the third world development, and obtaining fragility in the international economic relationships. Among the main problems of the underdevelopment state, there are low growing rates in the production, inequity in health and education systems, inflationary pressure intensification, changing uncertainty and absence of an institutional framework capable of facing the new worldwide changing situations of great financial and speculative volatility. (Espinosa y Vaca, 2011a).

This paper pretends to show the importance these three public politic fields, fundamentals for the progress of Latin-American nations, have, for example:

- In the social protection system that has been held as a study topic for the last few years, there has been an unprecedented increase of people working in the informal economy (Cecchini & Martinez, 2011), generating a meager, unstable and fluctuating incomes as well as the uneven development of the productivity of labor, and thus the deterioration of living standards of families found in this situation.
- Science and Technology (S&T), because it produces a more labor productivity in a long-term, which allows to be more competitive in the international market, based not only in the exportation of low added value goods (such as raw materials or light manufacturing goods), but also in goods that have high knowledge and innovation, based on the continuous improvement of technical progress.
- In the economic field, the knowledge is a crucial source of added value in the production of services and goods. For example, the development of new medications and its effectiveness, the advance in telecommunications and software, the mechanization of productive process, among others, state the primary role of knowledge in the contemporary world (Piñón, 2004). Therefore, in public politics this topic plays a decisive role with the growing scientific council institutionalization in the more diverse spheres, as for example infrastructure, public health, industry, agronomy, agriculture and transportation.
- State education, since it has a dynamic role in the equitable development of societies.
- Education allows the societies to transform and construct their own mental structure (culture, sentiments, wishes, ideologies, aspirations, etc.)
- On other hand, the academic and human resources formation in people who doesn't count with needed means to pay for a private education, balanced under certain conditions their access to employment, to the possibilities of holding it, and determines in part, the labor income we could have, the work expectations and another set of complex factors that affect the salary distribution of population in general.

Theoretical framework

Nowadays the social problems that are more attained to underdeveloped countries make constantly reference to countryside poverty, social marginality in cities, technological backwardness in the means of production, distributions disparities and limitation of oportunities.

Following a brief analysis about the importance of each topic is made, in order to begin to give answer in a progressive way to these problems and limitations of the Latin American society.

At the same time indicators that show a general contextualization about contemporary situation of the region.

Social protection

A good approach and handling of social protection systems in the region will be necessities to forge the basements of a social and economic development.

Through social protection high poverty and inequality levels can be fought, which contributes to the formation of a more inclusive and fair society, where economic, social and cultural rights are respected and recognized for all the citizens (Cecchini & Martinez, 2011).

As a consequence of the strengthening of the social protection, a better life quality for the community is aimed and in this way the creation of higher possibilities of human capital progress, which allows an intensive use of research and technology that influence in the generation of industry and a more competitive regional productive system, reaching a sustainable development able to answer macroeconomic crash and natural disasters that influence the growing path (Hernandez & Rico, 2011).

In order to achieve the already mentioned social and economic development, it is indispensable to start a promotion plan of social protection systems that, through health, pension and social welfare, promotes a social cohesion (Gasparini et al, 2007) and in this manner to guarantee the minimum for life quality levels (Cecchini & Martínez, 2011).

Nevertheless, there are different approaches to address the politics over social protection topic, those that are executed according to the principles of development models in each country (Mejía & Franco, 2007).

In Latin American, generally the following approaches are identified (Gasparini et al, 2007; Cecchini & Martínez, 2011):

- Social security approach, with which contributive social protection is developed and economic means that allow reaching the minimum life conditions in term of health, education and recreation of society as a whole, are guaranteed, giving importance to economic, social and cultural rights. This seeks to establish common grounds of quality and coverage.
- Social insurance approach, with which non-contributive social protection is developed and an improvement in living conditions is searched through the diminution of labour risk and the promotion of the quality of labour markets with the of generation of formal jobs. From this approach, social insurances arise as a mean to overcome poverty and labour legislation, which limits the social protection coverage to individual linked to a formal job, excluding in this manner vulnerable social sectors such as rural and urban informal workers.
- Social welfare approach, with which a non-contributive social protection is developed and in which social promotion programs are promoted, both universal and focused to the most economically vulnerable population.

The impacts of this approach are in the long-term, since it aims to reduce intergenerational poverty through health and education policies' promotion that allow to strengthen human capital and as a result improve the employment and income rates of disadvantaged people.

Usually these approaches are executed simultaneously, in the sense that countries aim to promote social protection systems through various mechanisms, for example, the promotion by the contributory and non-contributory via. Concerning the first via, between the 1990-decade and the beginnings of the XXI century, little progress in access to social protection has been observed. Since in the region coverage reached 38.7% of the occupied on average.

In the rural-urban relationship, between the same dates the regional average of employed with access to social security in rural zones was 21,9 % while for employed in urban regions was 45,9% (CEPAL, 2006). Referring specifically to countries, this deterioration was accentuated in Bolivia, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Paraguay, Paraguay, Peru and Venezuela who in the period between 1997 and 2002 had a coverage under 36 % of employed.

In the same period Colombia, Mexico, Panama and Dominican Republic had a coverage inferior to 50%, being Argentina, Brazil, Costa Rica, Chile and Uruguay, the countries of the region who showed a coverage over 50 % (Uthoff, 2008).

This declining trend has been marked since 1990, in which the fraction of workers who contribute to the social security has been reduced (with the exception of Mexico and El Salvador who had substantial growth).

This behaviour is explained in the volatile economic growth of the region and precariousness of employment that has generated a structural unemployment rate ranging between 10% and 15% over the past two decades (CEPAL, 2006). This situation has prevented the strengthening and coverage of contributory social protection.

On the other hand, the detriment of the labour market has increased the rate of informal employment, characterized as unstable, with low productivity and low salaries (Bertranou & Gasparini, 2004), which prevents the increase of social security coverage, since informal workers are the least protected in the region because they are unable to enrol in a social protection system. Moreover, the few membership rates reduce fiscal capacity, which limits State's social expenditure for the promotion of social security policies (Uthoff, 2008).

Regarding the improvements, Latin America has had a moderate progress in the last decades in the social welfare in education. For 2005, the region reduced the analphabetic rate of people over 15 years old to 9.5%, after reaching rates of over 20% in the 1970s.

In contrast, the gross primary enrolment rates have increased from 77% in 1970 to 96% in 2001 (CEPAL, 2006). In terms of health, public expenditure in percentages of Latin America's GDP in 2005 was 6.6%, close to the world average (6.2%) and to the OECD countries (8.9%). Nevertheless, there is still a difference of more than 200 dollars per capita between the region and the world average at the expenditure per capita level that prevents a better redistribution and equity of health system performance (CEPAL, 2006).

Referring to the scope of action and implementation of public policies, it can be observed that according to social and economic structure of each Latin American country, different and varied social protection schemas have been implemented to fight (and/or eradicate) poverty and inequity in the region.

Equally, intranational and international cooperation programs have been promoted in order to encourage with more efficacy and effectiveness, health, employment and wellness in the society. Thus, different programs have emerged around the region, like “progesa” in 1997 in Mexico, “Mi Familia” in 2000 in Nicaragua, “Familias en Accion” in 2000 in Colombia, “Bono de Desarrollo Humano” in 2002 in Ecuador, “Jefes y Jefas de Familia” in 2002 in Argentina, “Bolsa Familia” in 2003 in Brazil, the project “Chile Solidario” in 2004 in Chile, “Solidaridad” in 2005 in Dominican Republic, “Ingreso Solidario” in 2005 in Paraguay, “Red de Oportunidades” in 2006 in Panama, “Programa Tekopora” in 2005 in Paraguay, among others, which consider within their designs historical and cultural conditioning of each country.

Science and Technology (S & T)

Investment in S & T becomes vital, it allows qualifying technically to the population in the long-term, increase the discovery of new inventions, improving the already existent goods and services, generate innovations in the production process and incentivize the creation of new technologies that permit to rise different industries competitiveness in the economy.

For this reason, the society of knowledge has become in the mean of access to opportunities and benefits of progress for different actors of a nation, because it attempts achieve high levels of human development that affect economic development and thus allow improving the life conditions of society (Miranda, 2007).

In Latin America, the promotion of science and technology has not been consistent in the various countries of the region.

In the middle of the twentieth century, the S & T had more relevance in Argentina, Brazil and Mexico.

Since 1950, policies for the development of this field started to be executed, which led to an institutionalization process that allowed the professionalization of the different scientific disciplines, getting to strengthen the academic and practice settings and increasing their participation in different activities and sections of economics. (Vaccarezza, 1998).

At the end of the 1950's and during the 1960s and the 1970s, the development of this field was held in great proportion by the State, which showed, despite the government efforts, a separation between productive system and research.

In the 1980s, Latin America faced to economic reforms where the State reduced its role in economics and opened to international commerce, obtaining consciousness, because of competition, of the importance of science and technology in the industrial innovation and production processes (Vaccarezza, 1998), which led that, at the end of the XXth century, science and technology were taken in mind as knowledge and added value producers.

Consequently, the intensive use of knowledge has been promoted by different multilateral agencies, those who have developed programs such as the “Programa Iberoamericano de Ciencia y Tecnología para el desarrollo” (Iberoamerican Program of Science and Technology for Development) –CYTED- in which a contribution to the development of the Ibero American region formed by Spain, Portugal and several Latin American countries is searched.

This program aims to improve the productive system and the life quality in the region through cooperation among research groups of universities, research centers and innovational companies of these countries (Bellavista & Renobell, 1999).

In regard to the role of the State in the evolution of science and technology, in Latin America the public expenditure in this field is far lower regarding the one of other developed countries, where for the last ones ranges from a tier 4.7% and a rooftop of more than 7.6%.

While for the first ones, it is about 1% in countries like Ecuador, and 5% in other countries such as Mexico, Colombia and Costa Rica (Miranda, 2007). At a general level (private and public sector) according to the information of the Organization for Economic Co-operation and Development (OECD), developed countries invest an average of 2.5% of its GDP in research and the private sector participates with an average of 80% of those resources.

This trend reflects the fact that in these countries priority to investment in S & T is given in order to increase industrial competitiveness of its economy.

In contrast, developing countries have a lower availability of resources to invest in S & T, which implies that the GDP share of this strategic area is very small (below 0.15% of GDP for most Latin American nations).

However, although the product of the region is insignificant compared to the world total, it has been observed since 2001 an output growth in the region which has led to increased investment in research and development (R&D) similar to GDP growth, being the region of Latin America and the Caribbean the one that has grown more in R&D during the XXI century (RICYT, 2010); within Latin America, Brazil, Mexico and Argentina are the countries that have experienced a greater share of investment in R & D accounting in 1999 and 2008, 54.5% and 66.5% in Brazil, 20.2% and 14.1% in Mexico, and 12.6% to 6.4% in Argentina, respectively. The rest of the region rose from 12.8% in 1999 to 13% in 2008 (RICYT, 2010).

The results of these policies were seen in the increase in the Human Development Index (HDI) in Latin America for the period 1990-2000, highlighting Brazil with 11.3%, Colombia with 8%, Chile 6.8%, Panama with 6% and Mexico with 5.5%, these being the states with growth above 5%.

Although the region's growth was diverse, since there was HDI growth rates between 1990 and 2007 inferior to 2% like in Trinidad and Tobago and Venezuela, most countries had a growth of over 3.5% during the period 2000-2007 (UNDP, 2010), which allows to observe that, even though a slow growth of indicators have been given, great advance in the medium and long term are happening, could positively induce the path of socio-economic growth.

Consequently, S&T is highlighted as an essential development topic that can be used as a mechanism to fence in the divergence of the region with the rest of the world, defining efficient policies that promotes research and technology, which in the medium term allows to generate a growing accumulation of human capital stock that has the ability to promote productive development of technical progress in the means of production (increasing the factors' productivity), as well as in different sectors of economics, with the aim unclog the persistent problems of poverty and low macroeconomic growth.

However, despite the results discussed in earlier paragraphs and according to Maloney and Perry (2005) .

The Latin American countries lack the capacity for innovation, which has prevented the sustained growth in the region over the past decades. By 2008 the region contributed to the total number of researchers in the world only by 3.5%, although they have increased their participation since at the end of 1990 they contributed with less than 3% (RICYT, 2010). So that, even though the number of researcher in the region has increased, they should not only strengthen the quality of their training, but also increase their involvement with firms, so an increase of economic support funds could be achieved, generating better innovation levels.

Public education

The exercise of education should be understood as a program that contains ideas, principles, requirements, regulations, laws, codes, standards, customs, etc., that are intended to guide and point an outline of theoretical and practical behaviour in which the generation of added value increase due to applicative technical effort and the productive improve of tasks to exercise.

With the main purpose of reaching a model of optimal social welfare, specifically knowing the requirements for the inhabitants to have the most favourable macro-environment that can be maintained, prolonged and reproduced in the bets material and intellectual conditions (Espinosa & Vaca, 2011b).

Nonetheless, despite these benefits of education and the structure of the state educational system is considered of vital importance for any society, since it gives guidance, training, education and knowledge bases to the less fortunate members of the community.

Improving their staff training and human development at the same time (ECLAC, 2002) in recent years it has been observed in the region the deterioration of public education thus generating great social movements fighting for the defence of it.

Besides, low quality, the reduction of public expenditure and education budgets in many countries, precarious working conditions of the education professionals and the stagnation or slow progress of access to education, confirm a setback that widens the gap between the current situation and the goals of the governments, and multilateral organizations (UNDP, 2010).

This can be observed between 1980 and 2000, where the low income countries barely spent 3.2% of its GDP in education (Neira, 2000), this percentage has only increased by 0.6%, which together with the lowest GDP per capita becomes insufficient numbers for education expenditure at the time of the achieving proposed educational goals. Reason why it is difficult to achieve equity intended to be achieved with the universalization of education for all the vulnerable population.

In this context, private education systems that charge money for their offered services face many difficulties to answer in an effective way the demands of a society increasingly complex and uneven, because of the resulting costs to parents of their children study. Therefore, there is no guarantee of an appropriate access to the different stages and types of education unless there are entities subsidized by the state who have coverage on the disadvantaged population.

This lack of education in the region is one of the causes to continue in poverty because an uneducated person is less likely to access the different existing distribution circuits in society than a well-trained one. Therefore, a relationship between education and poverty is set, where, as affirmed by Aguerrondo (1993, p 8) "a vicious circle is established between these two phenomena, because on one hand poverty generates less education and on the other, having less education prevents to get away from poverty.

Therefore, in the implementation of public policies related to education, the state should have regulatory mechanisms to enable auditing public spending efficiency in schools, technical institutes and universities. In this way, it is intended to promote education as a pillar of human development, since it acts as a knowledge transmitter, driver of creativity and innovation, productivity generator and builder of a society in favour of equality and the potential development of science and technology. Reason why it has acquired a strategic and priority role in the policies of developed and emerging countries, like in the case of the Asian tigers.

Data, series stationarity, integration order and models approach

To represent the importance of the mentioned topics in this document, we proceed to the application of models of multivariate time series, specifically of bivariate VAR systems, estimating 57 total models (the three topics for each of the 19 countries and Latin America).

Where for the period between 1990 and 2010 the GDP growth rate is related (Crec_PIB) versus: 1) Investment in the social protection system as a percentage of GDP (%Prot_Soc), 2) Investment in science and technology as a percentage of GDP (%CyT), y 3) investment in public education as a percentage of GDP (%Educ_Estat).

To determine the stationarity of the series, and their integration order, the ADF (Augmented Dickey Fuller) statistic was used, taking a significance level of 5%.

In table 1, in the column entitled "Outcome", there are numbers in parenthesis that follows the next definition (1): Stationary series, modelled without constant and without tendency- integration order 0 $i(0)$ -, (2): stationary series, modeled with constant – integration order 0 $i(0)$ -, (3): Stationary series, modeled with constant and tendency – integration order 0 $i(0)$ -, and (4): non-stationary series. For cases in which occurs (4), an integration order 1 $i(1)$ - is held, nevertheless it is modeled without correcting the non-stationarity in order to analyze and compare uniformly the impulse-response of the three variables over the Crec_PIB of the different countries.

OPTIMIZATION

Results, analysis and interpretation of the applied models.

Below the results of the 60 econometric models developed are presented, taking a significance level of 5% for all statistical, except Granger Causality Test which is analyzed based on a significance level of 10%.

In the chart entitled "p-value", is the criterion used to define whether the %Prot_Soc or %CyT or %Educ_Estat causes the GDP growth rate. The following box named "IMPRES (2 and 3 Step Ahead)", presents the impulse-response analysis results using a Cholesky methodology for the second and third moment, after an exogenous crash of a standard deviation of one of the three variables of study over the Crec_PIB. The chart named "p" refers to the optimal lag number for each model. Finally, in the called LM and SB, there is the LM autocorrelation test and the multivariate normality Shenton-Bowman test respectively.

Tipo de Resultados (Causalidad en el Sentido de Granger)	
1	%Educ_Estat / %Prot_Soc / %CyT, <u>SI</u> causa Crec_PIB, y Crec_PIB <u>SI</u> causa %Educ_Estat / %Prot_Soc / %CyT
2	%Educ_Estat / %Prot_Soc / %CyT, <u>SI</u> causa Crec_PIB, y Crec_PIB <u>NO</u> causa %Educ_Estat / %Prot_Soc / %CyT
3	%Educ_Estat / %Prot_Soc / %CyT, <u>NO</u> causa Crec_PIB, y Crec_PIB <u>SI</u> causa %Educ_Estat / %Prot_Soc / %CyT
4	%Educ_Estat / %Prot_Soc / %CyT, <u>NO</u> causa Crec_PIB, y Crec_PIB <u>NO</u> causa %Educ_Estat / %Prot_Soc / %CyT

Chart 2

Making an analysis of chart 1 it can be deduced that starting from the Impulse-response columns and p-value of the Granger test, there are different groups of countries, with very similar characteristics among them. In a "first group" composed by Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Mexico and Uruguay, the impact of an exogenous collision of a standard deviation of one of the three variables of study, have a positive response in the GDP growth rate, on orders of 0.01% to 1%, for more than 5 periods, beginning to stabilize Crec_PIB between the fifteenth and the eighteenth period. At the same time, based on Chart 2, no country presents a result type 4

In the "second group" formed by Bolivia, Chile, Ecuador, Paraguay, Panama, Peru and Venezuela, at least one response of the Crec_PIB by country, have negative values between -0.1% and -0.3%, and Granger causality ranges between the type 2 and 3 result mostly.

On average, Crec_PIB stabilizes between twelfth-fifteenth period.

On the other hand, in the "third group" composed of Salvador, Guatemala, Dominican Republic, and Honduras, there are the nations in which variables that define the investment in social protection systems, or Sciences and Technology or public education, are not primordial to determine the behavior of the GDP forecast.

País	PROTECCIÓN SOCIAL		IMPRES		ANÁLISIS RESIDUALES		EDUCACIÓN ESTADÍSTICA		IMPRES		ANÁLISIS RESIDUALES		CYT		IMPRES		ANÁLISIS RESIDUALES	
	P	Resultado	2-3 Paso Adiante	F	LM	S-B	P	Resultado	2-3 Paso Adiante	F	LM	S-B	P	Resultado	2-3 Paso Adiante	F	LM	S-B
AMÉRICA LATINA	0.077	2(3)	0.025243	3	0.12	0.93	0.022	2(2)	0.002991	3	0.27	0.31	0.055	1(3)	0.038521	5	0.41	0.31
Argentina	0.079	2(1)	0.0214964	1	0.08	0.43	0.007	3(3)	-0.0011398	4	0.65	0.43	0.067	2(3)	0.0070991	1	0.15	0.92
Bolivia	0.348	3(4)	-0.003347	4	0.88	0.66	0.095	2(1)	0.0035701	5	0.83	0.40	0.185	4(3)	0.0081771	5	0.93	0.63
Brazil	0.062	2(1)	0.0019840	1	0.20	0.56	0.013	1(2)	-0.0010183	2	0.93	0.68	0.054	2(3)	0.0069499	2	0.73	0.27
Chile	0.094	2(1)	0.0017331	3	0.27	0.75	0.077	2(2)	0.0008129	2	0.23	0.18	0.620	4(3)	0.0021559	3	0.06	0.65
Colombia	0.014	2(3)	0.0054113	3	0.76	0.49	0.070	2(2)	0.0029372	3	0.54	0.05	0.008	2(3)	0.0048133	4	0.56	0.05
Costa Rica	0.002	2(4)	0.0001049	2	0.60	0.35	0.022	2(1)	0.0059166	3	0.54	0.35	0.011	2(2)	0.0029928	1	0.31	0.91
Cuba	0.046	2(2)	0.0008622	2	0.06	0.62	0.021	1(1)	0.0067226	4	0.28	0.64	0.058	2(2)	0.0076541	5	0.66	0.13
Ecuador	0.358	3(2)	0.0061177	5	0.64	0.37	0.225	3(2)	0.0055588	3	0.09	0.30	0.089	1(4)	0.0009493	2	0.16	0.09
El Salvador	0.903	4(2)	0.0052544	1	0.55	0.09	0.221	4(3)	-0.0012111	1	0.93	0.20	0.428	4(2)	0.0018186	3	0.86	0.14
Guatemala	0.127	4(3)	-0.0011895	2	0.18	0.24	0.657	4(3)	0.0026076	2	0.83	0.35	0.234	3(2)	0.0013413	4	0.34	0.16
Honduras	0.521	4(3)	-0.0009331	1	0.34	0.70	0.179	4(3)	-0.0024095	4	0.14	0.11	0.807	4(2)	0.0058484	3	0.59	0.08
México	0.059	1(3)	0.0007657	3	0.68	0.42	0.091	2(2)	0.0095154	4	0.87	0.96	0.063	2(2)	0.0027162	5	0.90	0.13
Panamá	0.271	3(2)	0.0051998	1	0.96	0.25	0.034	2(2)	0.0009088	1	0.91	0.73	0.057	2(1)	0.0044104	1	0.80	0.11
Paraguay	0.059	2(2)	0.0008707	2	0.89	0.12	0.236	4(2)	0.0043022	2	0.39	0.69	0.005	2(3)	0.0014785	2	0.45	0.20
Perú	0.082	2(3)	0.0008423	2	0.31	0.49	0.025	4(2)	-0.0028472	3	0.26	0.17	0.062	2(2)	0.0077967	5	0.78	0.47
Rep. Dom.	0.001	2(3)	0.0001967	4	0.18	0.77	0.005	1(1)	0.0068973	3	0.90	0.33	0.022	2(2)	0.0074537	5	0.10	0.07
Uruguay	0.536	4(2)	0.0002927	2	0.83	0.22	0.271	4(3)	0.0079065	2	0.74	0.12	0.367	4(1)	0.0014154	3	0.83	0.11
Venezuela	0.219	4(3)	0.0001872	4	0.23	0.62	0.070	2(3)	0.0070628	5	0.24	0.18	0.284	4(3)	0.0001279	2	0.34	0.94

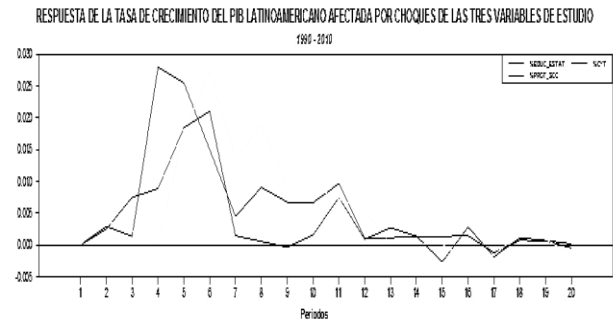
Chart 1

Crec_PIB responses to take negative values of -0.8%, softening between the tenth and thirteenth period.

These econometric results confirm some analysis made by United Nations in their different annual reports. Where for example, countries where %Educ_Est doesn't cause Crec_PIB (or vice versa) have as an special case a "failed" public educative system (ranking among the last of the region) on aspects of coverage, efficiency, quality, equity, autonomy, evaluation standards, teaching profession and budgetary financing (UNDP, 2010).

Concerning %Prot_Soc, the negative IMP-RES values, coincide with countries where labor illegality is more pronounced, especially in SMEs since there is no focused execution policies about social security that allows to reduce the generation of informal work, for it is in these kind of businesses in which much of the economically active population is concentrated.

The negative effects over the GPD growth rates, starting from an initial shock in %CyT, id;s found in all the countries that belong to the called "third group", where historically none policies to ensure the prioritization of investment and financing of scientific activity and technological management were consolidated, at the same time they haven't been legitimized. Nor standards and laws in areas such as intellectual property and incorporation of technologies have been legislated.



Graphic 1

Analyzing Latin America as an aggregate, it can be observed that exogenous investments collisions in public education generates the better positive answer in the medium term in the GPD growth rate (0.02784 to the fourth year). In turn, investment in social protection systems have smaller average responses (approx. 0.01153), being only significant results from third to sixth period. Investment collisions in science and technology are the most influential in Crec_PIB, and although its response is more delayed, (reacts to the fifth period), it reflects the current importance of the technical progress as a motor of economic growth and gives relevance to the establishment of a regulatory frame that guarantees S&T prioritization as an pillar activity of the development in the region.

Conclusions

From the study with VAR models (impulse response and Granger causality analysis), we can deduce that the three topics in question are a fundamental base for building a more prosperous and educated society.

Where the problems of extreme poverty and inequality that have always plagued Latin America for many years can be eradicated. Therefore:

- The State must be based on the study of its structure and historical conditioning in order to, through judicious and responsible policies, make efficient use of fiscal resources to ensure social cohesion.
- This cohesion will tend through support to disadvantaged through sustainable and economically viable social protection systems which allows to progressively reduce the informal economy and conceive increasingly better work environments that influence the construction of human capital generator of knowledge and added value and succeeding in improving the living conditions of the whole society
- It is urgent to intensify cooperation and participation between State, Researchers and Companies, with the aim of increasing scientific and technological achievements in Latin America and in this manner convert the S &T topic in a useful tool for industrial competitiveness and technical progress.

This will generate synergies in knowledge that permits to adapt new technologies and innovation ideas to the economic structure of the region, reaching a more stable growing in the long- term.

- The social policies to be executed must consider that the progress of public education system in their different levels (primary, secondary and pre-grade) depends on various factors such as its faculty and the structure of their academic curriculum structure; environment and cultural system of the society that fixes their orientation and action ratio.

The advancement and dissemination of science, doctrines, disciplines and arts; economic resources available to the educational centers; mission and contribution of the educational centers to society; the government of each educational institution.

- Legal system that enables to run or invalidate certain processes. If a good exercise of the discussed above is performed, educational investment plans that may decrease the gap between the poorest qualifications and people in high-income as well as the present inequality between urban and rural, could be made in a more objectively way.

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- i. i. These cooperation programs not only are developed through the support between countries, but also through the support of international organizations such as the International Labour Organization ILO, the Organization of American States OAS, the Pan American Health Organization PAHO, among others.
- ii. For more details on programs of social protection in each Latin American country, see the excellent article by Fonseca (2006), where a detailed and rigorous study of the historical development is carried out, and there are implications for public policy (in the decades of 1990 and 2000) for different existing social protection systems.
- iii. The Organization of American States OAS, the Inter-American Development Bank, the Economic Commission for Latin America and the Caribbean ECLAC, the Organization of the United Nations Educational Scientific and Cultural Organization UNESCO, among others.

- iv. Some cooperation programs are Bolívar-Link of UNESCO and IDB, Academy of Sciences of Latin America (ACAL) and the Regional Office for Education (CRESALC) in which the workforce promotes the exchange of researchers allowing the dissemination of scientific knowledge and technology (Bellavista & Renobell, 1999).
- v. This program has the support of the governments of Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay and Venezuela.
- vi. The evolution of R & D in Latin America and the Caribbean is measured in current dollars.
- vii. The distribution of R & D Investment in Latin America and the Caribbean is measured in current dollars.
- viii. Distribution of researchers in the world measured in Full Time Equivalency researchers.
- ix. In Latin America, researchers who have designed their R & D activities in the companies sector have gone from under 20% to just over 40% during the 2000s (RICYT, 2010).
- x. Currently in the region the cases of Chile, Colombia, Dominican Republic, among others stand out.
- xi. For the econometric applicatio, RATS 7.2 and CATS 2.0. softwares were used.
- xii. This sum more than 90% of the Latin American GDP (<http://pwt.econ.upenn.edu/>).
- xiii. The statistical data were extracted from web pages of ECLAC and the World Bank; and Penn Database Table (University of Pennsylvania). This study period due to institutional constraints information was taken.
- xiv. Protección Social for Bolivia and Costa Rica, and CyT for Ecuador.
- xv. For all countries the Crec_PIB series was stationary with trend and constant except for Cuba who had only constant.
- xvi. Causality in the sense of Granger (1969) start of the intuitive idea that the cause must precede the effect. But it is brought to causality in the strict, logical sense. According to Lütkepohl (2005) causality is defined in terms of improving measured as the minimization of mean square error forecast. Ie, one variable causes in the Granger sense to another, if the variable helps improve the outcome variable; I trying to imply that the variable has important information about the future behavior of the variable (Novales, 2003).
- xvii. Estimating confidence intervals for each of these impulse response results, it was obtained that statistically effects equal to zero were: 3rd impulse response of Bolivia and Cuba to% Prot_Soc, 3rd impulse response of Paraguay for% S & T, and 2nd impulse response for% S & T Paraguay.

- xviii. To estimate the VAR model, the selection of appropriate lags are made from the following ratio of verisimilitude test:

$$\chi^2 \text{ con } g \text{ grados de libertad } \sim \ln$$

Σ_u = Matriz de covarianzas de residuales.

T =

N x m de la muestra (n) por N x m de variables (k)

Having the hypothesis:

H_0 = Coefficients of the unrestricted model versus restricted.

H_1 = At least one of these coefficients differs from zero.

- xix. Similarly seasonality test was performed, but no model had significant dummy variables at a level of significance of 5%. This is very likely to happen because the series are annual and do not have historical repetitive behaviors in different periods of study as some monthly series do.

- xx. Better known as the Breusch-Godfrey test, where the statistical distribution LM test for autocorrelation of order or less, is asymptotically distributed as a $\chi^2(j)$.

- xxi. Prueba conjunta entre asimetría y kurtosis a partir del principio Score de Rao, construyendo así, una prueba conjunta de multinormalidad (Shenton & Bowman, 1977).

- xxii. This procedure is performed using the Cholesky approach where it is assumed that the first variable entered into the system (which for this work is Prot_Soc% or Educ_Estat & T) is having an immediate impact on the second (Crec_PIB).

So formally, it must first diagonalize the matrix of variance and covariance of the bivariate system, so that the shocks are not contemporaneously correlated and therefore prevent contemporary shocks that may affect more than one variable.

- xxiii. This country is a special case because even though the variables do not cause Crec_PIB (or vice versa), responses to exogenous shocks are highly positive (between 0.3% and 0.9%), showing the inherent importance of the topics.

- xxiv. Honduras, El Salvador, Paraguay, Peru, Guatemala. Uruguay does not enter in this analysis even though it fulfills with the econometric conditions to do so.

- xxv. The forecasts for latter variable improve when taking into account the historical behavior of the topics of study, concluding that Prot_Soc%, Educ_Estat & T and have important information about the future behavior of the variable Crec_PIB.

Creation of value: From the intangibility to the tangibility

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Analysis of the intellectual capital and the creation of value is a very important part of management accounting. However, the financial accounting recognized as some of the limitations of financial statements, presented the book value of the assets and liabilities, quantifiable reliably in accordance with the rules of financial information and are not intended to present the fair value of the entity as a whole. Therefore, it is vital that companies, in addition to creating knowledge, can generate additional information supplementing that contained in the basic financial statements so that the same user a complete vision of the company and has the elements for proper decision-making. This theoretical work carried out within the framework of an investigation, analyzes the relationship of financial accounting and the creation of value through intellectual capital, to seek benefits present and future sources in organizations, complementary to information emanating of the basic financial statements.

Creation of value, Accounting and financial reporting standards

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Introduction

In the age of knowledge is vital for businesses to use all the elements that allow them to create and sustain competitive advantage through human talent management to add value to the company and successfully achieve its presence into the market.

For several years, companies have paid special attention to knowledge as a basic element of organizations and a key to business competitiveness.

Nowadays, one of the more important assets for companies are the intangible assets.

Nevertheless, nor this created value nor some intangible assets are part of the basic financial statements; since Financial Information Norms establish that assets must be identified and quantified in monetary terms.

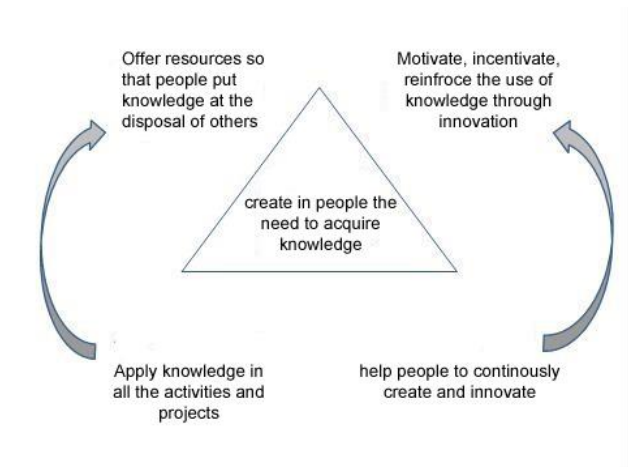
The present research work has the objective of establishing the existent relationship between financial accounting and the creation of value in the companies through intellectual capital to make decision that sustains competitive advantages, improvement of their processes to avoid activities that does not add value to the company, achieve the growth and guarantee the staying in the markets.

Creation of value

Japanese companies have been successful due to the ability to create organizational knowledge.

That is, generate and make it known among members to materialize it in products, services and systems, say Nonaka and Takeuchi (1999).

This capacity of generating knowledge, counting with constant improving process, staff with the adequate competences and the skill to attract and hold the ideal staff is the base of knowledge management. An organization is composed of people, not of physics assets, and have a common objective: to achieve the objectives for which the organization was created according to Garrison and Noreen (1994).

**Figure 1**

For Simon (1988) the organization's objective is not a static thing.

The organization, in order to survive, must have an objective that attracts their clients in such a manner that they make the needed contributions to sustain it. The objectives of the organization tend to adapt constantly to the users' changing values or secure new customers groups to replace those that are lost.

In most of failing companies, there are visible signals of existing problems, but these are ignored since the organization, as a whole cannot recognize the implications of such menaces, says Senge (1998). To achieve the organizational learning he proposes to identify seven barriers:

RISKS

- I am my position: the laborer identifies himself with the task he does and does not get to see how those contribute to the achievement of the companies' goals.

- The external enemy: it consists on blame others with their faults, whether these others are external or internal to the company and the laborer focuses too much in his position that he does not get to understand that his acts transcends it.

- The illusion of taking charge: consists on assume a proactive attitude but through an aggressive action against the enemy without stopping to perform a cost-benefit analysis.

- Focusing in the facts: the preoccupation about everyday situations prevail over, prevent from crating value and the real threatens that come from slow and gradual process are ignored, these threatens could be: arms race, ecological deterioration, erosion of public education system, lack of quality in the designs and products, etc.

- The parable of the boiled frog: it claims that when we put a frog in a pot and go increasing the temperature gradually, the frog will not try to escape because it will be increasingly dazed.

- The illusion of "learning through the experience": the organizations faces the dilemma of learning better through the experience. But sometimes the effects of the decisions made in the interior of the organization not always is reflected immediately and besides, they are decisions with no margin for trial and error since they have an impact in the whole organization and their effects have a long time duration.

- The myth of the manage team: the business experts teams fight to defend their territory and do not work well when the problems are complex.

There are three critic aspects that the organizations must identify in the corporative structure and that are fundamental for success: the conferring of authority for the decision maker, measurement systems of individual performance and business units and the methods of individual compensation same that were identified and classified as very poor in the Enron case. Brickley, Smith, Zimmerman y Willet (2003) make an analogy where they compare each one of the critical elements with the with the legs of a stool and they say that it is necessary that an equilibrium exists between them so the companies could stay in the market.

However, the staying in the market is not important but they can create value and generate knowledge. To achieve this, they must develop new capabilities and innovations through three activities, that Choo (1998) states as follows:

- Build and share tacit knowledge: through metaphors, analogies, models and anecdotes.

- Check and create the prototype of explicit knowledge: transformation of tacit knowledge through combination, verification and refining.

- Link and take advantage of external knowledge: The organizational culture influences the transfer of external knowledge and other departments since it is a social process.

Levit (1991) mentions that the modern organizations face two big challenges: having workers who have the needed knowledge and have an organization in which they can prosper and wish to stay.

Financial accounting

Romero (1997) defines Financial Accounting as a medium through which stakeholders can measure, evaluate, and monitor the progress, stagnation or decline in the financial position of the entities, from the lecture of economic and financial data of quantitative nature, gathered, transformed and resumed in reports called financial statements which allow to make decisions.

For Ramirez (2005) it is an information system designed to provide information to third parties for decision-making.

The Financial Reporting Regulations (2011) say that accounting is a technique used for the registration of operations that influence an entity economically and produce financial data systemically and structurally.

Financial information

The Financial Reporting Regulations (2011) establish that financial information is quantitative, expressed in monetary units, and descriptive, showing the financial position and performance of an entity, whose primary purpose is to be useful to the general user in making economic decisions. The financial information must satisfy the information needs of the general user:

- Shareholders or owners
- Sponsors
- Monitoring and surveillance corporate bodies, internal or external
- Managers
- Suppliers
- Creditors
- Employees
- Clients and beneficiaries.
- Governmental units.

- Taxpayers
- Regulators and
- Other users.

Qualitative characteristics of financial information

It should be useful to evaluate the entity: Since it is used to evaluate its economical-financial behavior, its ability to optimize resources, its viability as an ongoing business.

Make investment, resource allocation or extend credit decisions; evaluate the ability of the entity to generate resources or income for their operational activities; distinguish the origin and characteristics of the financial resources of the entity; form an opinion on how the entity has been handled; evaluate the management administration, growth capacity, generation and application of cash flow, its productivity, the changes in its resources and its obligations, its capacity to maintain the equity or stockholders' equity, the potential to continue operating normally and the ability to fulfill its social responsibility at a satisfactory level.

Likewise, the financial information must provide judging criteria regarding the solvency, liquidity, operational efficiency, financial risk and profitability of the entity. The Financial Reporting Standard FRS A-4 says that the financial information must have a set of features to be useful for decision-making.

The main characteristic is the utility and from it the primary features splits:

- Reliability: The content of the information must be consistent with the transactions occurred:

Veracity
Representativeness

Objectivity
Verifiability
Enough information

- Relevance: Ability to influence decision-making
- Chance of prediction and confirmation relative importance
- Understandability: Understandable for the user
- Comparability: Allow its comparative analysis with previous reports from the same institution or another.

The qualitative characteristics include certain restrictions in obtaining maximum levels so the concepts of opportunity, cost benefit and balance arise.

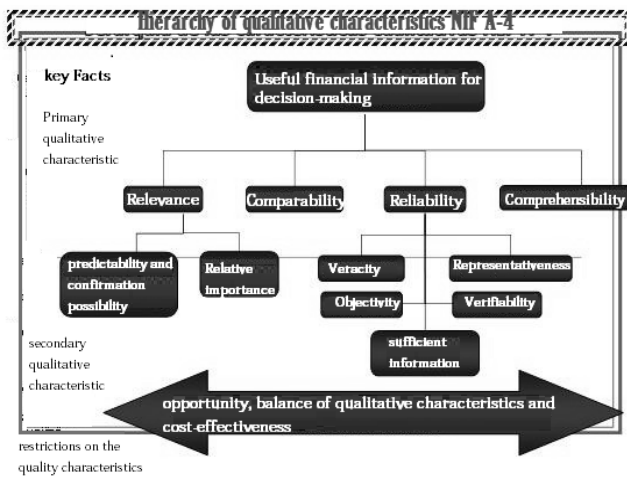


Figure 2

Financial statements limitations

- The operations of the entity are recognized with different alternatives, affecting their comparability;

- The financial statements, especially the balance sheet, contain the book value of the assets and liabilities of the entity, reliably measurable based on the FRS and do not pretend to present the fair value of the entity as a whole;

- The ongoing business are based on various aspects of estimates and judgments that are elaborated considering the different cuts of accounting periods, reason why they do not pretend to be exact.

Intangible assets

The FRS C-8 defines the intangible assets as those recognizable non-monetary assets, without physic substance, which will generate future economic benefits controlled by the entity.

Characteristics:

- Represents costs incurred, rights or privileges waiting for future economic benefits.
- Those future economic benefits are represented in incorporeal form.

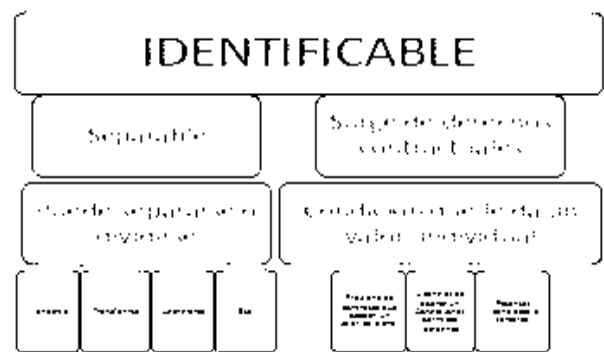


Figure 3

The valuation standards of intangible assets indicate that for the initial recognition the cash or equivalent paid is taken into account.

If it comes from business acquisition its cost is the fair value (market value or its FRS A-6 estimation); and, if it is generated internally, its cost are the disbursements for its development. They also clarify that the differences between market value and book value does not represent the cost of intangible assets controlled by the entity.

Prieto (2009) points out that the companies are in a constant fight to survive and that there are many factors affecting the business and one of them is the investors demand to upgrade processes and technology with the strategic goals, therefore accountants must meet these growing demands with information that meets their needs.

Management accounting

Garrison and Noreen (1994) define management accounting like the one that offers information to managers who direct and control an organization; they point out eight differences between management and financial accounting:

- Focuses on providing information for internal use
- Emphasis on the future
- Less emphasis on precision and higher in non-monetary data
- Emphasis on the segments of the organization.
- It is assisted by other disciplines
- It is not regulated by accounting principles.

- It is not mandatory.

They also have some similarities: both are based on the accounting information system, they require management responsibility and they are focused in providing information for decision-making.

Conclusions

The knowledge management must be performed continuously, since changes make it obsolete in a short time, says Chiaverato et. al (2010) and must be in the search of value. Ramirez (2005) defines the value as an energy or force that motivates human action.

The value-based management focuses on delivering maximum value to customers, shareholders, members of the company and community in general.

In order to achieve this, all their activities are focused in generating shares with a value that generates cash flow so that the benefits outweigh the costs.

Management accounting is based on the information system of the financial accounting to issue information as a basis for decision-making.

One of its features is that it is at the service of the needs of the management, and the management requires value creation to grant competitive advantages so the company can stay in the market according to the basic premise of the conceptual framework of the financial reporting standards named ongoing business.

FRS C-8 clarifies that the difference between market value and book value does not correspond to intangible assets that have generated value for the company therefore the discussion is focused on determining the method to be used the added value companies have and that is product of the intangible assets generated through intellectual capital management. Therefore, if the company has created value for shareholders, clients, employees or community it is essential that the value is recognized in reports that complement the content of financial statements so that the decisions taken are the most appropriate and guarantee the company positioning and continuance in the market, and continue to generate value in the future.

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Financial securitization in the reinsurance industry

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Analysis of the intellectual capital and the creation of value is a very important part of management accounting. However, the financial accounting recognized as some of the limitations of financial statements, presented the book value of the assets and liabilities, quantifiable reliably in accordance with the rules of financial information and are not intended to present the fair value of the entity as a whole. Therefore it is vital that companies, in addition to creating knowledge, can generate additional information supplementing that contained in the basic financial statements so that the same user a complete vision of the company and has the elements for proper decision-making. This theoretical work carried out within the framework of an investigation, analyzes the relationship of financial accounting and the creation of value through intellectual capital, to seek benefits present and future sources in organizations, complementary to information emanating of the basic financial statements.

Creation of value, Accounting and financial reporting standards

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Introduction: reinsurance and securitization justification to transfer risks concept.

The objective of this work is expose the way in which reinsurance, a classic method in risk management of insurance and reinsurance companies, is being complemented by assets securitization, technique thoroughly developed in financial markets, allowing this combination (reinsurance-securitization) to transfer risks into capital market in order to be able to secure risks of high amounts. To illustrate and justify its using, several actual application examples of securitization in reinsurance companies are exposed, concluding that it is and effective alternative for risk transfer. With the application of securitization, products linked to financial securities are being produced (ILS, insurance links securities), issued and negotiated in the capital markets and that allows to transfer to this, part of the supply risks assumed by the reinsurance companies in the development of the assurance management of an event. The ILS are created with the assets securitization and its financial structure is varied: bonds, receipts, cat bonds, etc.

Like it has been said in the objective of the work, to illustrate this way of risk transfer, examples of the ILS market linked to different underlying assets: non-life insurance (AXA), life insurance (Aurigen Reinsurance) and catastrophe bonds (Parametric Re). This article started introducing the reinsurance like a type of insurance for insurers. Whose main functions are:

- Help the insurers to manage their risks.
- Absorb part of their loss.
- Stabilize their results and requirements over the own capital making easier their growing.

In short it allows the insurance companies to take very high risks that in other way would be hardly covered. The traditional reinsurance model, as pointed Cummins and Trainar (2009), works in an efficient way to transmit, manage and assume risks, when they are limited and slightly correlated. Besides it diversifies risks coming from differentiated geographic regions, combines different lines (life, non-life, maritime, etc.), producing added value in its advisory work and risk coverage of the insurance sector, by being a data transmitter vehicle between assignors and reinsurances.

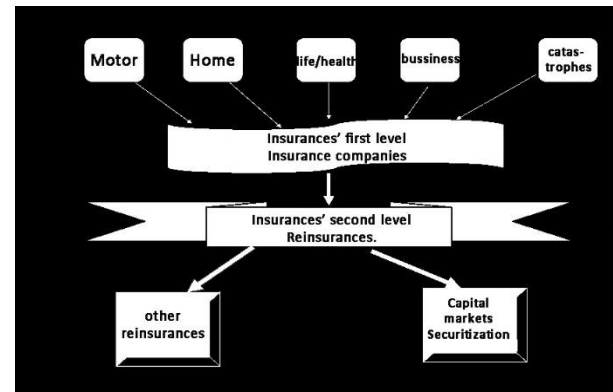


Figure 1

As it can be observed in the previous figure (figure 1), the insurance market has different phases within its process: A first level is established with the insurance contracts (motor, home, life/health or catastrophes).

The holder of these contracts is covered against eventual risks in these concepts in exchange to the payment of the corresponding premium. Being established a first risk transference among individuals or companies with the insurance entities.

The second level, the insurance premiums are set in portfolios or “pools” with similar risk levels that are transferred to reinsurance companies in exchange of the corresponding liquidity. Therefore the primary insurance undertakings use the reinsurance to transfer part of the stock risk assumed by the insurance business to third persons

Third level, the reinsurance companies can continue to apply this technique reinsuring with other companies or assuming financial techniques developed in the capital markets such as financial securitization.

The time to apply the financial securitization process in the insurance field is given by the insurance market itself. The risk transfer mechanism pointed out in the first and second level and that could be considered as “traditional”, changes when we face events leading to potentially very large losses in which diversification alone is not going to take away the risk assumed by reinsurers. We face a scenario in which the model loses some of its efficiency, increasing capital costs necessary to maintain acceptable levels of solvency. To the point that it cannot be profitable for insurers, and in which securitization can help to reduce the underlying risks of the insurance process.

The securitization of insured assets, offers significant opportunities for insurers and re-insurers when financing risk, playing the role of risk transmitter to capital markets through bonds and options. Securitization does not replace the reinsurance market, complements it.

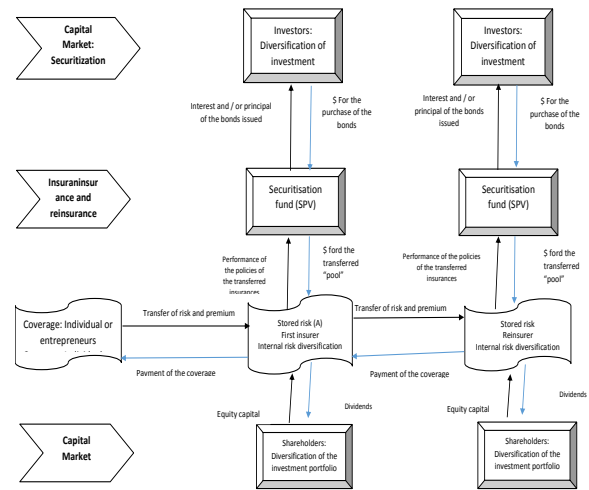


Figure 2

Figure 2 shows how companies and/or individuals are covered from potential losses arising from events through the contract with insurers.

Those, take the risks warehouse, manage them through the diversification, geographic, and offered range. (*Risk warehouse A- almacen de riesgo A*)¹.

However, this is not enough to eliminate the risk. A second level of transfer is used by the insurance companies (*Risk Warehouse B*) which, in turn set risk minimization strategies, by a further diversification and / or transfer to other insurers or reinsurers. Finally, there is the securitization. Insurers and reinsurers can transfer their risks to the capital markets, issuing insurance-linked assets, ILS.

¹ Riesgo de cobertura de un evento, asumido por las entidades aseguradoras en el desarrollo propio de su negocio, a cambio del pago de la prima de seguro correspondiente.

Where the regular cash flows, derived from the insurance and reinsurance contracts premiums, are transformed in assets negotiated in the market. Each ILS has a trigger, an element that determines the conditions under which the transferor may suspend the payment of interest and / or principal either temporarily or permanently. When the public does not know the trigger, this may find difficulty in measuring risk, in the actual amount of risk transferred, since the comparison to the expected loss is not feasible. Each trigger can be linked to one or multiple events or happenings, and becomes effective after the loss of a transferor exceeds a particular value. The triggers (Figure 3) can take any of the following forms:

- Loss: it happens when the actual losses suffered by the issuer on an established segment of the business manage to reach a certain level
- Index: it happens when the values of a previously established indicator, reach a certain threshold.
- Parametric: the suspension of interest and / or principal occurs when a specific metric measure reaches a certain value.
- Compensation: issuer payments are based on a level of compensation for their losses.
- Sectorial: the loss of an economic sector due to the occurrence of a catastrophic event.
- Hybrid: combines more than one trigger.

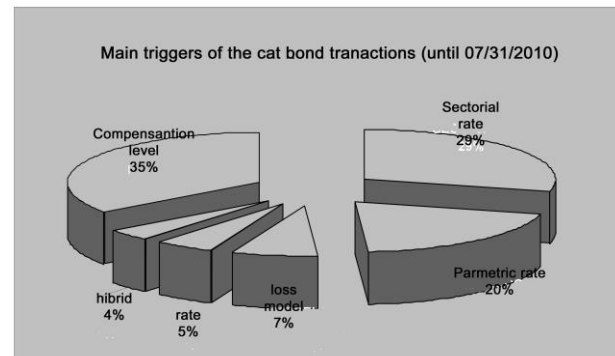


Figure 3

In the next section, the implementation mechanism of the process of financial securitization to the insurance sector exposing three cases as an example. In the non-life, life and natural disasters fields, illustrating the classic way to implement this financial technique and we finish the paper with the conclusions.

Securitization of covered risks

The market for insurance-linked securities (ILS) is growing continuously according to Swiss Re² data.

Enabling governments, corporations, and (re) insurers to access to capital markets, solving their liquidity needs, reducing risks through its output to the financial markets. Insurance companies group in a portfolio or "pool" their insurance policies that are transferred to a securitization fund or special purpose vehicle (SPV) in exchange for the corresponding liquidity, reducing the risk coverage for the insurer. The securitization fund will issue to the market, based on the underlying pooled, ILS to be acquired by investors. The structure of the ILS is varied as well as activators to which they are referenced. The insurance securitization process is outlined above in Figure 4:

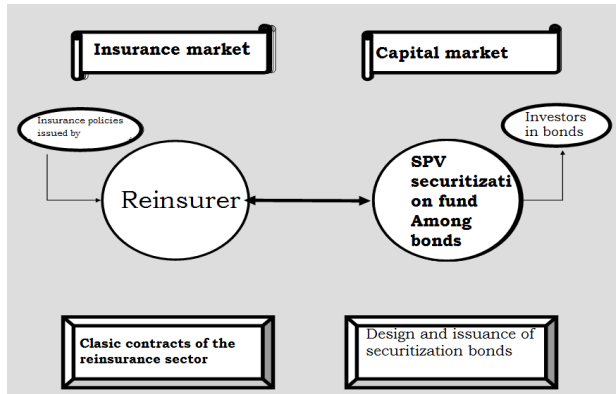


Figure 4

In the next paragraphs, the process of securitization in the insurance sector, in different scenarios developed in the international financial markets, is explained.

Non-life case: securitization of automobile insurances policies of the company AXA.

BAE, KIM and KULPERGER (2009), expose an example in the insurance sector for the nonlife branch.

Specifically on the loss risk management in the automobile insurce of AXA through this process, it transfers part of the part of the risk of their automobile policies, covering about three million vehicles with a premium income of € 1 billion, to the capital market.

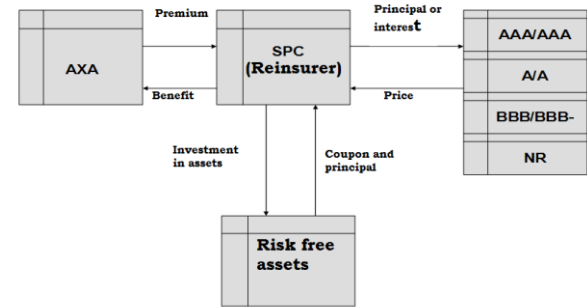


Figure 5

Figure 5 shows how the insurance entity reinsures a pool of insurance policies in the automobile sector to a SPC (*special purpose company*)² in exchange for an economic compensation. The SPC issues, based on the underlying of insurance policies, four courses of assets with different risk levels, to widen the supply to the capital market, with the structure of CDOs (collateralized debt obligation)³.

In this way investors coming from the capital markets are the ones who provide funds for the operation and they assume its risk, according to the rating or ranking of risk associated to acquired securities.

The method called “cash flow waterfall” is used, it involves the segmentation of the issue in different tranches subordinated to among them and with different credit characteristics⁴.

² Companies that are created to develop the securitization process. They acquire the assets that will be used as underlying in the securitization process in exchange of the economic amount and at the same time will be the responsible of carrying the issuing process of the CDOs (Collateralized Debt Obligation), its placement in the market and the payment of principal and interest to investors according to the characteristics of the different sections of issuance.

³ Collateralized debt obligations. Securitization structure in which the portfolio object of it is slightly granular, while the assets that compose it are heterogeneous.

A comprehensive analysis of the securitization structure described in "Structure of securitization: characteristics and implications for the financial system" LOSADA LOPEZ R. CNMV Monograph No. 14, October 2006

⁴ La diversificación en tramos, (*tranching*), implica que existe varias series en la emisión de modo que los inversores en algunas series tengan preferencia en los cobros frente a los de otras. Las series mas senior cobrarán el interés y principal antes en el orden jerárquico que las más junior, que solo lo percibirán una vez que las otras cobren. Esta cascada de pagos, implica que solo se realizan pagos al escalón inferior si previamente se han cubierto los pagos al escalón superior.

The tranches of the issue are distributed in four: three note issuance A, B, C, from highest to lowest rating and the tranche with less risk aversion, equity tranche (non rated). In figure 6, the basic features of ILS issued with base on insurance policies of AXA automobiles are gathered. Where the amount of each tranche, their ratings as well as levels applied trigger by losses are indicated.

Features of notes issued in the AXA Motor Securitization.

	Equity Tranche	C Notes	B Notes	A Notes
Amount	Euro 337 million	Euro 27.0 million	Euro 67.3 million	Euro 105.7 million
Rating (S&P/Fitch)	NR	BBB/BBB-	A/A	AAA/AAA
Risk Transfer Thresholds ^d	Loss ratio trigger -3.5%	Loss ratio trigger	Loss ratio trigger +2.8%	Loss ratio trigger +9.8%
Tranche Size ^e	35 points of loss ratio [-3.5%; 0%]	2.8 points of loss ratio [0%; +2.8%]	7.0 points of loss ratio [+2.8%; +9.8%]	11.0 points of loss ratio [+9.8%; +20.8%]

Figure 6

In the securitization of AXA, the bopnds issued by the SPC had a four-year period of time. During this period, investors received coupons if the loss indicator was not activated. These bonds were centered on a loss ratio trigger determined at level 3 that covered each of the four years of the issue, analyzing independently each year.

The trigger is executed when the loss rate of this non-life insurance rises above the trigger on any of the four annual periods of duration of a bond.

If the level has been passed, the damage above the trigger is deducted to the total amount of contingency deposit, of € 200 million, before the funds are repaid to investors. Therefore, if the damage are increased in an unplanned way, AXA, is partially protected from extraordinary damage to car insurance. The trigger needed to establish the rating for each year, confirmed by the rating agencies, otherwise there would be chances of early redemption of the bonds, according to the different tranches. The activator value is identified by M% and depends on the size of the tranche and the risk transferred.

So in the notes B loss ratio is valued at an interval [2,8%-9,8%]. This means that if the loss ratio is below 2.8%, the notes B are not affected and the return on investment will be the total, coupons and principal. This securitization is characterized by the transferring of high frequency and low severity risk to the markets, even though it is always possible a low frequency and high severity event that will activate the trigger.

Life case: securitization of Canadian life insurances.

Securitization of life insurance is a financial instrument for managing capital for insurers and reinsurers because it makes liquid intangible assets; it is used to manage the capital requirements mandatory by the regulatory authorities, increasing equity yields and transferring risk to markets through the issuance of mortality bonds that protect the reinsurance companies against extreme dramatic events, like for example pandemics or generalized deceases for any reasons.

The ILS constitutes an instrument to transfer insurance risk to the capital market, besides being an instrument of financing. Securitization is made over the flows of future payments of traditional life insurance premiums, maintaining its commitment of the insurance obligations to holders of such premiums, being mortality risks and cancellation for nonpayment assumed by investors. Some life bond function as catastrophe bonds, i.e., they transfer extreme risks to capital markets. They are based on mortgage rates: if mortgage is over the activator value, investors can stop receiving coupons or/and capital, if contrary, they will receive the cash flow established by the issuance. In the classic structure of the ILS, the reinsurance company subscribes with a SPV a financial contract. The SPV in turn, issues life bonds.

The amount of the bonds is invested in high quality shares, generally state debt, entering yields on such securities into a collateral trust deposit.

Finally the SWAP contract counterparties, exchange the investment return for a LIBOR-based interest. Figure 7 schematically outlines the phases discussed.

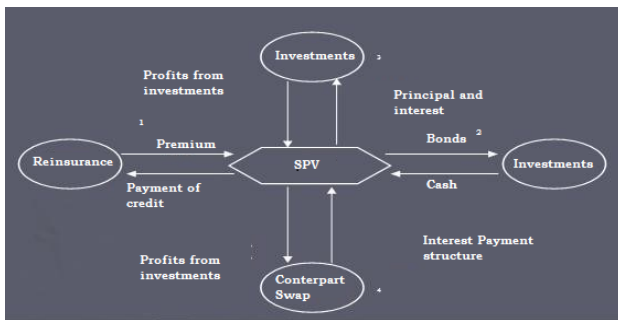


Figure 7

Another component of the securitization process is the credit enhancement applied to ensure the stream of cash flows of the underlying assets to investors in issued bonds. The real case chosen as an example to expose is the Credit Agricole Securities case. In December 2011, Credit Agricole Securities (USA) Inc. issued the first placement of corporate by bonds totaling 120 million Canadian dollars, issued by Vecta I Ltd. and, corresponding to the securitization of Canadian life insurance of intrinsic value. The operation, sponsored by Aurigen Reinsurance Limited, was sustained over a closed pool of policies reinsured by ARL between 2008 and 2010. Includes a single tranche rated BBB+ by Standard & Poors. The bonds have a expiration estimated of 6.25 years and a coupon rate of 8.0%.

Credit Agricole Securities led the structuring of the financing and was the coordinator of issuances along with Swiss Re Capital Markets. The principal payment of the bonds is linked to the emergence of future profits in the business in question, which consists of twelve life reinsurance contracts issued by Aurigen Reinsurance Company, a subsidiary of ARL, from six different insurance companies life.

Natural disasters

A natural disaster is a loss event caused by natural forces, which generally produces a multitude of individual damage affecting many insurance contracts and often several tranches.

Natural disasters and man-made disasters⁵ caused more than 300.000 victims and an economic cost of around USD 218.000 million in 2010. With an increment of 60% in regard the previous year in secured damage, even though staying in the top ranking of the year 2005, with the hurricane Katrina (see chart 1 annexed).

The world insurance sector quantified costs around USD 40.000 million in 2010 as a consequent of natural disasters and around USD 3.000 millions for man-made disasters (see figure 8). Events like hurricane Andrew, the attacks of September 11 in New York or hurricane Katrina generated the bankruptcy of many insurer companies and had caused the search of new elements of risk transfer different from reinsurance.

⁵ Grandes siniestros asociados a la actividad humana: grandes incendios y explosiones; catástrofes de aviación y navegación espacial; navegación marítima, fluvial y lacustre; catástrofes

ferroviales; accidentes mineros; derrumbamiento de edificios /puentes y otros, incluyendo terrorismo. Quedan excluidos los conflictos bélicos y similares.

Following this conception, financing has been searched in capital markets through the securitization of insurable risks, and especially, the securitization of insurances by losses from natural disasters. Also known as “act of God bonds”, they are corporate bonds that require that investors exempt the principal and/or interests in case of a disaster losses exceed a specified level.

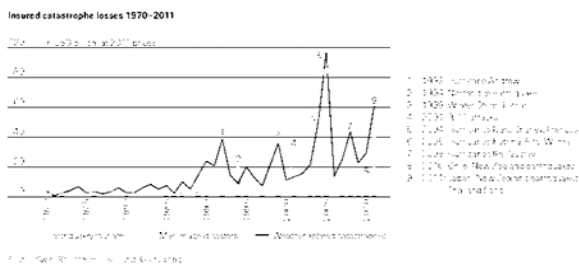


Figure 8

This form of risk transfer by disaster (designed as a development of asset securitization) has been mainly used by insurance and reinsurance companies as a way to obtain complementary coverage in the capital market. Nevertheless, it has been also applied directly by corporative entities that in another way would look for coverage through insurance companies. In regard to it functioning, the usual structure of a transaction follows the steps pointed out in figure 9:

- The owners negotiated policies with insurance companies.
- Insurance companies acquire reinsurance with a Securitization Fund.
- The securitization Fund that offers reinsurance sells bonds.
- Investors purchase those bonds.

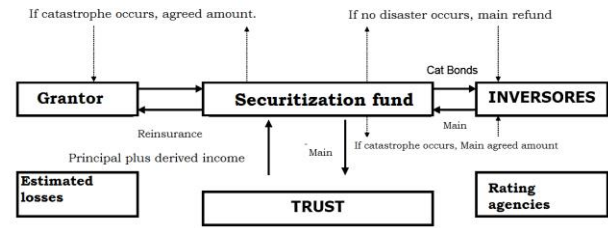


Figure 9

Investors initially pay an amount to the Securitization Fund and take their bonds. Afterwards they will receive coupons and principals if none disaster occurs. The Securitization Fund invests the premium in risk-free assets in order to pay its obligations. These transactions provide an structure for which the price paid by investors in bonds, the reinsurance premium and the investments are adequated to cover the loss by disaster risk with certainty.

One of the advantages of securitization against traditional reinsurance is the elimination of risk of the “hiring part”, in other words, the possibility that the other party does not meet the payments to which he is bound by contract, important risk in case of reinsurance and really low, almost null, with securitization. A characteristic of the catastrophe bonds is the trigger to which it is linked.

Parametric Re chose a parametric rate, more concretely it used the magnitude of the Vulcan activity in Tokyo measured by the Japanese Meteorological Agency and according to it the epicenter will be in an area delimited by Tokyo, Yokohama and Chiba or outside it, with the following structure of the loss percentage of the bond. (figure 10)

- Richter scale	7,1	7,2	7,3	7,4	7,5	7,6	7,8
epicenter in the area	25%	40%	55%	70%	85%	100%	
epicenter out the area			25%	44%	63%	81%	100%

Figure 10

The payment to the Securitization Fund and the corresponding loss for the buyer of cat bond is determined by an objective measure of the specified parameters. The formula that quantifies the value of the payment can be as simple as a binary structure in which buyers loss all principal and interest if the event occurs. Or be complicated by scaled functions that estimate, with less error margin, losses of securitization fund. Valuation techniques are complicated by the fact that, in general, assets based in the insurance risk do not have a single price based only on considerations of free price arbitrage. To see how this assessment is performed, we start with the simplest case in which constant interest types and zero coupon bonds, issued in the moment 0, with a nominal value F and expiration T, are assumed.

The payment of bonds depend on the value it has in the moment T a loss rate I(t) by natural catastrophe occurred during the exposition period that ends at $T' < T$. Final payment is an eventuality, a relationship between the rate value at expiration, I (t), and a threshold trigger value, represented by K.

- If $I(T) \leq K$ the payment is F.
- If $I(T) > K$ K the payment is $F - [I(T) - K]$ nevertheless in this case, a minimum payment of B is guaranteed.

If V(T) is the bond value in the moment T, we can find three possibilities:

$$I(T) \leq K \rightarrow V(T) = F$$

$$K < I(T) < K + (F - B) \rightarrow V(T) = F - [I(T) - K] > B$$

$$I(T) \geq K + (F - B) \rightarrow V(T) = B$$

The value of the bond at the end of the period would be:

$$V(T) = F - \text{Max}[0, I(T) - K] + \text{Max}[0, I(T) - (K + F - B)]$$

It is widely accepted that the price of an asset linked to insurance has to be the sum of a risk-free rate plus a differential that expresses the expected insurance losses, i.e. a reward for the risk taken. The problem arises when the risk is difficult to quantify, so far there is no measure good enough to be useful in all circumstances. The traditional average of risk capital markets, expected loss, probability of default, standard deviation, etc.. do not work properly with the assets linked to insurance. To calculate and evaluate the differential risk, it can be divided into two components:

- A compensation to investor for expected losses (EL)
- A compensation to investor for assuming the risk of investing. It is the amount he demands to deposit his risk capital (EER). In a perfect market without risk, EER would not exist since compensation would not be necessary for taking risks.

Lane (Lane, 2000) considers that this second risk is going to be a function of frequency and severity and that it could get closer to the Cobb-Douglass production through a similar function:

$$EER = \gamma(PFL)\alpha(CEL)\beta$$

Function that if $\gamma = \alpha = \beta = 1$, where the higher possible premium would match the expected loss, resolving the equation we would have:

$$EER = (PFL * CEL) = EL ; CEL = \frac{EL}{PFL}$$

Like $0 < PFL \leq 1$ and $0 < CEL \leq 1$, the result is that PFL is over the expiration period and it could also be used as long as it is consistently linked with the total expected loss of the same period. The mentioned *severity* of the loss would indicate the size of a loss, if happens (CEL). If the total loss is considered a CEL of 100% of principal and coupons then a rational investor will demand more to a bond according to the increase of his CEL. As a measure has two good features: it is relatively easy to measure and it can be divided. For the determination of the severity there are a number of simulation models (see figure 10) that would have the following structure:

Risk model. It defines the degree of stochastic of the potential occurrence of the loss in terms of their physical characteristics and their probability of occurrence.

The inputs of this model are the historical data, terrain features and scientific knowledge. The output is to indicate for each site the probability of occurrence and the characteristics of the potential loss.

Damage Model. Determines the damage caused by a particularly loss in infrastructures, houses, factories, facilities, etc.

For this, sometimes engineering applications are used, other times data from the experience are used in insurers' loss. The outputs of this model are the estimates of damage caused by a specific incident on the structures.

Financial Model. Applies previously calculated damages according to the specifications of the insurance and reinsurance contracts to determine the impact of the estimated loss and calculate final financial losses.

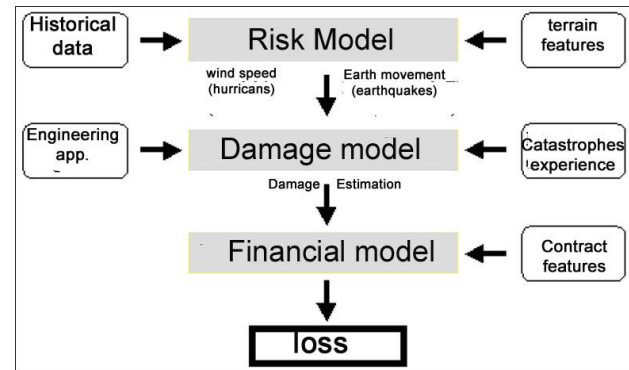


Figure 11

The market development of cat bonds (catastrophe bonds) in 2011, although it was slightly lower than in 2010, is considered robust in the historical development of this sector. Being 2011 one of the most costly years on the ranking of catastrophic losses.

The earthquake in Japan in March 2011 or tornadoes and hurricanes that hit the southern and central United States have been very significant.

Conclusions

This research has exposed how the securitization is an effective mechanism for transferring the risk complementing reinsurance. For that, its operating mechanism has been first explained to later illustrate it in three real examples applied to different cases that may occur.

Therefore, as conclusion we cite the advantages of this process:

First, the securitization of insurance through the ILS provides an alternative model to the traditional one in risk financing. The classic model of reinsurance applied widely to cover small and poorly correlated risks can lose efficiency in a context of major disasters with risks correlated. In addition, securitization allows transferring, through the ILS, the risks of the insurance business assumed by reinsurance companies to capital markets.

Moreover, the application of securitization in reinsurance companies establishes a better management of their solvency ratios by allowing lessening their capital requirements and according to Cummins (2009), securitization reduces moral risk and facilitates the regulation of arbitration in the sector. On the other hand, in countries with large geographical areas subject to natural disasters (see Annex Table I) catastrophe bonds.

Definitely through ILS an alternative or supplement is established, as appropriate, in the management of traditional risk of insurance companies, widening the range of management products in this sector.

However, we should not forget that securitization is a complex financial process that only now is being implemented by major international reinsurers.

Anexes

The 40 most costly insurance losses (1970-2011)

Insured loss (in USD m, indexed to 2011)	Victims	Date (start)	Event	Country
74 686	1 836	25.08.2005	Hurricane Katrina: floods, dams burst, damage to oil rigs	US, Gulf of Mexico, Bahamas, North Atlantic
35 000	19 184	11.03.2011	Earthquake (M _w 9.0) triggers tsunami: aftershocks	Japan
25 641	43	23.08.1992	Hurricane Andrew: floods	US, Bahamas
23 848	2 982	11.09.2001	9/11 attacks	US
21 239	61	17.01.1994	Northridge earthquake (M 6.6)	US
21 141	136	06.09.2008	Hurricane Ike: floods, offshore damage	US, Caribbean; Gulf of Mexico, et al
15 350	124	02.09.2004	Hurricane Ivan: damage to oil rigs	US, Caribbean; Barbados, et al
14 468	95	19.10.2005	Hurricane Wilma: floods	US, Mexico, Jamaica, Haiti, et al
12 000	813	27.07.2011	Flood caused by heavy monsoon rains	Thailand
12 000	181	22.02.2011	Earthquake (M _w 6.3), aftershock (M _w 5.6)	New Zealand
11 625	34	20.09.2005	Hurricane Rita: floods, damage to oil rigs	US, Gulf of Mexico, Cuba
9 583	24	11.08.2004	Hurricane Charley: floods	US, Cuba, Jamaica, et al
9 322	51	27.09.1991	Typhoon Mirille/No 19	Japan
8 292	71	15.09.1989	Hurricane Hugo	US, Puerto Rico, et al
8 248	562	27.02.2010	Earthquake (M _w 8.8) triggers tsunami	Chile
8 036	95	25.01.1990	Winter Storm Daria	France, UK, Belgium, et al
7 930	110	25.12.1999	Winter Storm Lothar	Switzerland, UK, France, et al
7 300	354	22.04.2011	Severe storms, tornadoes	United States (Alabama, et al)
7 050	155	20.05.2011	Severe storms, tornadoes	United States (Missouri, et al)
6 609	54	18.01.2007	Winter Storm Kyrill: floods	Germany, UK, Netherlands, et al
6 135	22	15.10.1987	Storm and floods in Europe	France, UK, Netherlands, et al
6 127	38	26.08.2004	Hurricane Frances	US, Bahamas
5 491	64	25.02.1990	Winter Storm Vivian	Europe
5 454	26	22.09.1999	Typhoon Bart/No 18	Japan
5 300	55	22.08.2011	Hurricane Irene, extensive flooding	United States, et al
5 155	-	04.09.2010	Earthquake (M _w 7.0), over 300 aftershocks	New Zealand
4 870	600	20.09.1998	Hurricane Georges: floods	US, Caribbean
4 577	41	05.06.2001	Tropical Storm Allison: floods	US
4 527	3 034	13.09.2004	Hurricane Jeanne: floods, landslides	US, Caribbean; Haiti, et al
4 288	45	06.09.2004	Typhoon Songda/No 18	Japan, South Korea
3 918	45	02.05.2003	Thunderstorms, tornadoes, hail	US
3 810	70	10.09.1999	Hurricane Floyd: floods	US, Bahamas, Columbia
3 697	59	01.10.1995	Hurricane Opal: floods	US, Mexico, Gulf of Mexico
3 648	6 425	17.01.1995	Great Hanshin earthquake (M 7.2) in Kobe	Japan
3 418	25	24.01.2009	Winter Storm Klaus, wind up to 170 km/h	France, Spain
3 240	45	27.12.1999	Winter Storm Martin	Spain, France, Switzerland
3 055	246	10.03.1993	Blizzard, tornadoes, floods	US, Canada, Mexico, Cuba
2 886	38	06.08.2002	Severe floods	UK, Spain, Germany, Austria, et al
2 840	64	27.02.2010	Winter Storm Xynthia, winds up to 160 km/h	France, Germany, Belgium, et al
no*	167	06.07.1988	Explosion on platform Piper Alpha	UK

Chart 1

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The strategic efficiency in international trade negotiations

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The countries with which we commercialize, are characterized by different customs and traditions that should be taken into account when doing business with them. The aim is to identify key cultural aspects of our customers, and how we should consider this in the negotiation of international trade. The information used to perform this work was obtained from books related to international business and from various articles published by universities, obtained from the Internet; so with it, we made charts, tables and graphics to organize the bibliography and information sources. Key cultural features that should be considered in the different countries which have trade relations are: proxemics, time, needs, interests, desires and goals. Much of the success of commercial businesses is in the proper management of the cultural aspects of countries with which it is marketed.

Business, Culture, ID Proxemics

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Introduction

International relations have the characteristic of evolving according to the scenario being lived in the world at the time, no matter how hard it might be to explain. This is part of globalization.

The globalization of today's world can be considered as a series of political, economic, cultural, social and ecological processes having an interrelation between the different countries even when they are distant from each other.

One of the main aspects in globalization is the culture of the countries, each of them having its own peculiarities. Culture is rarely taken into account within the processes of globalization, especially when it comes to business.

Justification

In Mexico the experiences with FTAs have shown a lack of preparation in negotiations, lack of knowledge of cultures, history, kinds of behavior, of Mexico itself and of another countries.

In Mexico as well as in the European Union and other parts of the world, people develop different behaviors, this is in large part due to the influence that exists within their culture, which is made by other factors such as the history of each country, language, religion, customs and modalities, as well as education among other things.

These aspects lead people to interpret and have a different vision of things and at the same time to acquire behaviors and values individually and collectively.

The behavior and values are transmitted over generations through education.

These cultures have evolved as times change and people adapt.

Currently in the world there is great mobility of people from one country to another, the exchange of goods and services, as well as the movement of capital.

With this freedom of movement that has occurred, a huge cultural Exchange has also been carried out, as people moving from one country to another bring their customs and habits with them, for example the way they dress and act, their food routines, and something very important, their religion; this is passed to others, although not necessarily adopted.

All these above factors should be taken up again for increased competitiveness, quality and productivity of each region of the world, based on attitudes, skills, behavior, religion, habits and other strengths that people may have, because it is important not to ignore the fact that you can not work in the same way in all parts of the world, and even less achieve successful international negotiation without knowing basic aspects of each culture.

Objectives**General Objective**

- Identify the key cultural aspects of the clients that should be considered in international trade negotiation.

Specific Objectives

- Knowing the different stages by which an international negotiation passes
- Define the characteristics of our partners at the time of negotiation

Methodology

The information used for the work was obtained from books related to International Business and from various articles published by Universities, obtained from the internet; Likewise, various tables, diagrams and charts to organize information from the bibliography and sources of information were developed.

Development**Culture Factor**

Culture can be seen as the set of distinctive spiritual, material, intellectual and emotional features that characterize a society or social group.

It includes not only arts and letters, but also ways of life, the fundamental rights of human beings, value systems, traditions and beliefs. Through it we discern values and make choices.⁶

Current systems of communication and transportation have created a fundamental phenomenon in international trade that makes it possible today to negotiate with people who until a few years ago would have seemed impossible to negotiate with.

This phenomenon of globalized communication is not only a question of language, but there are also a number of other aspects that make an effective intercommunication and the gestation of a relationship that is more adapted to the cultural values that may be affecting the emotions, reasoning and desire to approach.

Negotiation Factor

Every negotiation is a process of communication between two parties, whose aim is to reach an agreement, based on different needs and approaches.

It is about approaching positions up to an acceptable situation for both parties so as to enable them to create, maintain and develop a relationship. When negotiating parties are in different countries, we speak of international negotiation.

Negotiate is to use persuasive techniques rather than the use of power to get the biggest benefits out of the other party, although in international business there are situations in which the imbalance of power between the parties is so acute that the usual negotiation process is altered.⁷ Other aspects of the kind of attention demonstration, or at least reference that may be pleasing to our circumstantial partners is to be aware of the most basic aspects of their culture, as its national emblem, homeland badge, system of government, geography, history, religion, music and other data from its cultural, political and geographical environment.

⁶ Obregón Jiménez Edgar. Ambientes culturales que enfrentan las empresas, Universidad Autónoma de Tamaulipas, Facultad de comercio, administración y ciencias sociales.

⁷ García-Lomas Llamazares Olegario (2004). Global Marketing Strategies. Negociación internacional. Global Marketing Strategies, marketing y negociación internacional 2004.

The gestures, proxemics, intonation among other things, can contain much more information or create a better predisposition of the interlocutors.

Culture Classification

The classification of cultures Edward Hall proposed from the point of view of context is very appropriate for what we are discussing. For him, there are two groups.⁸

- "High context" cultures (CCA for its spanish abbreviation) are those where the context has more importance than the words. Attitudes and circumstances in which the negotiation takes place are more important than expressions themselves. Many countries in Asia, including Japan, Africa, Arab and Latin countries, correspond to this cultural kind
- The social position is critical and also the knowledge about it. Muchos países de Asia, Japón entre ellos
- Many countries in Asia, including Japan, Africa, Arab and Latin countries, correspond to this cultural kind, where business is slower, because they require a personal relationship that establishes trust between the parties.
- "Low context" cultures (CCB for its spanish abbreviation): They are those that use clear and specific verbal and nonverbal forms, with full grammatical expressions and little subjective interpretation.

- This type of communication is typical of Anglo-Saxon Western countries Businesses are faster because the details are analyzed quickly.

At the same time we may supplement this with the classification given by Mauricio Alice⁹ who drew upon the collectivism and individualism of cultures, which are listed.

Individualistic cultures	Intermediate cultures	Collectivist cultures
U.S. Australia Britain Canada Italy Denmark Sweden Ireland Norway Switzerland Germany Finland	Austria Israel Spain India Japan Argentina Iran	Brazil Turkey Greece Philippines Mexico Portugal Hong Kong Chile Thailand Peru Colombia Venezuela

Chart 1

Individualism and collectivism, distinguishes cultures that put the individual needs above the collective, of those cultures that prioritize the needs of the group over those of individuals.

In individualistic cultures, standards promote the interdependence of individuals by emphasizing social obligations. Members of individualistic and collectivistic cultures differ in many ways.¹⁰

⁸Hall, E.T. El lenguaje silencioso. Alianza Ed. Madrid. 1989.

⁹Alice, Mauricio: La cultura en la Negociación. En La Trama. Revista interdisciplinaria de mediación y resolución de conflictos. <http://www.apcpen.org.ar>

¹⁰Prince García Evangelina. Taller “Negociación Positiva para el Liderazgo Efectivo”. Estilos de negociación vinculados a marcos culturales. Universidad de Vigo.

For the Mexican businessman to understand the negotiation process in a better way, it is necessary to know the process which is divided into six stages.¹¹

- Initial stage: This stage consists in obtaining the most information about the counterparty in order to determine how you are going to negotiate, as well as the rigorous study of the offers and the topics that will be talked about as a way to rehearse the possible responses and objections that our counterparty may have and be able to answer them.
- Opening Stage: This is where both parties meet; it is very important to listen to our counterparty to discover what their goals and tactics of negotiation are.
- The beginning of this stage should be friendly and quiet but should not lose professionalism.
- Middle stage: This point is when the various offerings are presented. You have to know how to push the offers to the limit in order to learn their upper and lower margins and be able to make the best decision. It is preferable to allow our counterparty to start bidding.
- Proposal and counterproposal Stage: Both parties are approaching a point of agreement.

The middle stage serves to expose the offers and reach the stage of proposal and counterproposal with them already analyzed and ready to exchange counterproposals. The goal is not for a party to win and the other to lose (win-lose), the goal is for both parties to win (win-win) in order to establish lasting business relationships.

- Agreements Stage: It is easier to know how a negotiation is closed than when you have to close the negotiation. We have to convince the counterparty that we have reached the limit of our bargaining power, although a margin for maneuver might still remain.
- Follow-up phase: Many times we think that with the closure of the negotiation and signing of the contract, all is over. That is a very wrong approach and we should be on the lookout to check whether there is compliance with the stipulations, if the conditions in which it was negotiated will remain the same or a renegotiation will be necessary, before which we must not show ourselves rigid.

Characteristics of the negotiators ¹²

American Style

- The characteristics are historically rooted in the values of individualism and independence.

¹¹Rodríguez A. Impacto de la cultura en los negocios internacionales, un énfasis en los negocios con México. Daena: International Journal of GoodConscience. 2(2): 156-228 pp. Septiembre 2007.

¹² Rodríguez A. Impacto de la cultura en los negocios internacionales, un énfasis en los negocios con México. Daena: International Journal of GoodConscience. 2(2): 156-228 pp. Septiembre 2007.

However, these values create problems in negotiations due to the existence of situations of interdependence (Rugman and Hodgetts, 2000).

- The American businessmen generally prefer to handle negotiations by themselves, taking full responsibility for the decisions taken at the negotiating table.
- Informality in human relationships. The American preference for informality and equality in human relationships also reflects indifference toward the distinctions of social levels.
- Difficulty in mastering foreign languages. Americans often assume that the person in the foreign negotiating team with the best English speaking ability is the most intelligent and influential within the group. This is inappropriate because it can often lead to pay more attention to the wrong person.
- Complete authority in making decisions at the negotiations table.
- Focus on the persuasion stage.
- Reciprocal Trade of honest information. American negotiators hope to negotiate details with the other in a reciprocal manner.
- Solving sequential problems.
- Winning or losing the negotiation. The Americans have a competitive view, in the negotiation they expect a defined result, which will determine a winner and a loser.
- Avoidance of silence.
- Binding agreements. For Americans a contract constitutes an agreement explicitly written that is expected to be honored under any and all circumstances, "a deal is a deal."
- Inflexible negotiation style.

Japanese Style

- Status of relationship. The Japanese are uncomfortable when status distinctions do not exist or are not clear. No interpersonal equality is established.
- There is no equality when it comes to responsibility between buyer and seller.
- Long-term relationships. Business relationships are made for the rest of life and therefore are made slowly and carefully, in a socially prescribed manner.
- - The typical Japanese negotiation involves the required *aisatsu* (formal greeting), hospitality and a ceremonial gift with which begins a very long meeting. This serves to establish a harmonious relationship between the parties, that is very important to them.
- Maintaining harmony. To maintain superficial harmony, the Japanese avoid saying a direct "no" using other ways to express their negative.
- Decision making by agreement. On the one hand, the Japanese avoid saying "no" to maintain harmony.

On the other hand, it can also be difficult to get a "yes" because of its concept of decision making by consensus; a decision has to be accepted by all executives. This method has the disadvantage of delaying the decision making process, but offers an advantage of fast implementation, because the solution is supported by all stakeholders involved.

- Communication without words. The Japanese transmit the most important information through nonverbal channels such as tone of voice, eye contact, use of silence and body movements.
- Follow the main ideas. The Japanese do not change their ideas during the negotiation because decision-making by consensus involves many people who are not present at the negotiating table.

European style

It may vary in certain countries

- They are punctual and responsible, if an appointment is agreed upon there is no need for confirmation.
- A chivalrous treatment is usually given to women
- As for non-verbal communication, depending on the interlocutor, they might gesticulate a lot or not much. A direct and intense gaze is a sign of honesty and openness.
- Be direct. The reason for the visit, objectives, who's who must be explained in a brief but accurate manner. Too much rhetoric may backfire.

- The professional relationship is cold. Personal aspects such as origin and family are not considered. Formality is always required.
- Decision making is assigned the person in charge, who is not necessarily the boss.
- Although it is changing, the traditional management style is authoritarian, bureaucratic and compartmentalized.
- Due to the diversity of languages, it should be agreed in advance which one will be the official one. If both parties are not fluent in the same language, English is often used.

Conclusions

Mexico in the context of globalization, must develop efficient techniques to facilitate establishing lasting business relationships. So it is important for the study of international negotiations to not be overlooked as it is a very large topic in which the cultural aspect must be necessarily addressed to adapt to a new environment in a different country, without the need of the local country's culture causing any conflict because of the cultural shock.

Knowing the characteristics of our negotiating counterparties, the negotiation phases and the needs of the person you are dealing with is essential to determine if they fit the prototype of each country or region, because many times even if there are descriptions of most negotiators, many of them do not fit at all within such descriptions, which may hinder the negotiation.

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Digital gap in business

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The information and communication technologies have triggered a huge progress in the society, economy, health, government; however, there is a drawback for those who do not have access to them. The digital divide takes an important role in the economy development of a society or a country.

IT, Economic development, Economic growth.

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Introduction

Information technologies are important. because of all the services that it provides. for being an essential part of the recent changes in economy and society.

All these changes have increased the spacing (gap) of low-income social sectors compared to those with higher incomes and with possibilities and options of access to information.

Only a small percentage of the world population has benefited of the advantages of technology and only a few are those who have access to the full range of services it offers. This condition is known as the digital gap.

Access to information and knowledge has become an important tool for countries and social groups to evolve to higher levels of development.

That said, the digital gap needs to be measured not only in terms of the number of phones, number of computers and websites, but also in terms of options, availability and costs to the appropriate network access. training programs and education to optimize the use of existing infrastructure.

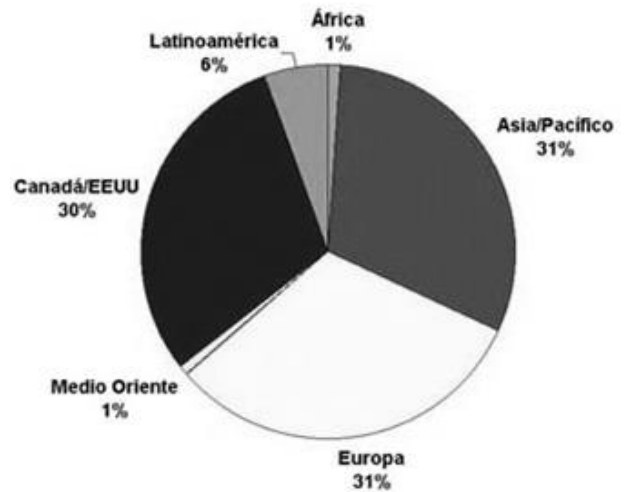
These programs should support the people in the application of the acquired knowledge to local needs that tend to improve the quality of life in their own context and both cultural and social environment.

With an academic purpose this article aims to provide an analytical perspective on the digital gap that currently exists in Mexico and how the development of the use of the internet served as a powerful two-way communication tool, and the impact caused by this tool compared to the digital divide in the BRICS and the connotation that it has in its development.

Access to information and knowledge for improving the quality of life is an encouragement and an opportunity for the poor and the developing countries to shrink the digital gap.

The design and implementation of "digital bridges" that allow overcoming the gap whose magnitude advances at the rapid pace of technology is necessary.

Cantidad de conectados en el Mundo: 605,60 millones



Graphic 1

Digital Gap in Mexico

After the industrial era, the technological age has brought huge advances, innovations, discoveries, developments with significant social impact. However, not all companies have been involved in these advancements, not all populations have been given access to them and therefore their benefits.

The digital gap determines the differences and limitations in access, coverage and use of information technologies between different states or countries. It may be understood that the digital gap is primarily focused on the technological part; however, has a significant socio-economic essence. It is a path based on sustainable development and technology adoption.

The digital gap deepens and becomes more present among developed countries and those that are developing. The further development and technological innovations widens the gap between them. Developed countries are in a position to adopt emerging technologies, thanks to a strategic plan based on driving economic, social, educational, health and government growth relying on information technologies .

This has brought a disadvantage between those who have access and those who live so asylee to information technologies. Rural areas are the most disadvantaged, as they have less coverage of these technologies and therefore less access. It is noteworthy that the digital gap does not focus exclusively on the lack of access.

It also includes the use of information technologies and its quality.

Impact of information technologies in Mexico

In the report by the World Economic Forum during the period 2007 - 2008, Mexico went from place 49 to 58 among 127 analyzed economies. In the period 2009 - 2010, Mexico fell to 78th and for the report from 2010 to 2011, Mexico remains in the same position 78 See Table 1.

One of the ways to transcend this Digital Distance is through knowledge societies. Which will boost growth by taking into account the participation of all individuals. (Later we will discuss what is being done in Mexico in relation to knowledge societies)

During 2008 it was highlighted "Of the 67 indicators that take into account the WEF in the" Networked Readiness Index "areas where there is a longer delay are: the quality of math and science, which are located at position 110 .

And the dependence on imports of information technology and the persistence of some tariff barriers that put in place 109, like the performance of the bureaucracy. At position 108 remained the performance of legislative bodies.

Country/Economy	HDI 2010-2011			HDI 2008-2010	
	Rank	Score	Rank within income group*	Rank	Score
Azerbaijan	70	3.79	UM 15	64	3.75
Turkey	71	3.79	UM 16	69	3.68
Macedonia, FYR	72	3.79	UM 17	73	3.64
Jamaica	73	3.78	UM 18	66	3.73
Egypt	74	3.76	LM 9	70	3.67
Kuwait	75	3.74	HI 48	76	3.62
Gambia, The	76	3.70	LO 1	77	3.61
Russian Federation	77	3.69	UM 19	80	3.58
Mexico	78	3.69	UM 20	78	3.61
Dominican Republic	79	3.62	UM 21	74	3.64
Senegal	80	3.61	LM 10	75	3.63
Kenya	81	3.60	LO 2	90	3.40
Namibia	82	3.58	UM 22	89	3.40
Morocco	83	3.57	LM 11	88	3.43
Cape Verde	84	3.57	LM 12	n/a	n/a
Mongolia	85	3.57	LM 13	94	3.36
Philippines	86	3.57	LM 14	85	3.51
Albania	87	3.56	UM 23	95	3.27
Pakistan	88	3.54	LM 15	87	3.44
Peru	89	3.54	UM 24	92	3.38
Ukraine	90	3.53	LM 16	82	3.53
Botswana	91	3.53	UM 25	86	3.47
El Salvador	92	3.52	LM 17	81	3.55
Serbia	93	3.52	UM 26	84	3.51
Guatemala	94	3.51	LM 18	83	3.53
Lebanon	95	3.49	UM 27	n/a	n/a
Argentina	96	3.47	UM 28	91	3.38
Moldova	97	3.45	LM 19	n/a	n/a
Georgia	98	3.45	LM 20	93	3.38
Ghana	99	3.44	LO 3	98	3.25
Guyana	100	3.43	LM 21	100	3.22
Iran, Islamic Rep.	101	3.41	UM 29	n/a	n/a
Zambia	102	3.36	LO 4	97	3.28
Honduras	103	3.34	LM 22	106	3.13
Nigeria	104	3.32	LM 23	99	3.25
Malawi	105	3.31	LO 5	119	3.01
Mozambique	106	3.29	LO 6	116	3.03
Uganda	107	3.26	LO 7	115	3.03

Chart 1

Differences and limitations on access to information technologies are transmitted to human development. This can be measured with some of the following indicators which can include: average schooling rate, life expectancy at birth, per capita GDP. See Table 2.

Clasificación según el IDH	Índice de Desarrollo Humano (IDH)	Esperanza de vida al nacer (años)	Años promedio de escolaridad (años)	Años esperados de escolarización (años)	
	Valor	2011	2011	2011*	
DESARROLLO HUMANO MUY ALTO					
1	Noruega	0,943	81,1	12,5	17,3
2	Australia	0,929	81,9	12,0	18,0
3	Países Bajos	0,910	80,7	11,5 ^b	16,8
4	Estados Unidos	0,910	79,5	12,4	16,0
5	Nueva Zelanda	0,908	80,7	12,5	18,0
6	Canadá	0,908	81,0	12,1 ^b	16,0
7	Irlanda	0,908	80,6	11,8	18,0
8	Liechtenstein	0,905	79,6	10,3 ^c	14,7
9	Alemania	0,905	80,4	12,2 ^b	15,9
10	Suecia	0,904	81,4	11,7 ^b	15,7
11	Suiza	0,903	82,3	11,0 ^b	15,6
12	Japón	0,901	83,4	11,5 ^b	15,1
13	Hong Kong, China (RAE)	0,899	82,8	10,0	15,7
14	Islandia	0,899	81,8	10,4	18,0
15	República de Corea	0,897	80,6	11,5 ^b	16,9
16	Dinamarca	0,895	79,8	11,4 ^b	16,9
17	Israel	0,889	81,6	11,9	15,5
18	Bélgica	0,886	80,0	10,9 ^b	16,1
19	Austria	0,885	80,9	10,9 ^b	15,3
20	Francia	0,884	81,5	10,5 ^b	16,1
21	Eslovenia	0,884	79,3	11,5 ^b	16,9
22	Finlandia	0,862	80,0	10,3	16,6
23	España	0,878	81,4	10,4 ^b	16,6
24	Italia	0,874	81,9	10,1 ^b	16,3
25	Luxemburgo	0,867	80,0	10,1	13,3
26	Singapur	0,866	81,1	8,8 ^b	14,4*
27	República Checa	0,865	77,7	12,3	15,6

Chart 2

In this Human Development Report, Mexico is located on the 57th of 187 countries with HDI of 0.770.

The penetration of the information technologies and communication can be measured based on their availability within the population. On the other hand we can see that due to the constant rise of these technologies there is a delay in which these are adopted. In Mexico in 2001, the availability of the internet in Mexican households was 6.2% and 9 years later in 2010, their availability was 22.2%. See Figure 1.

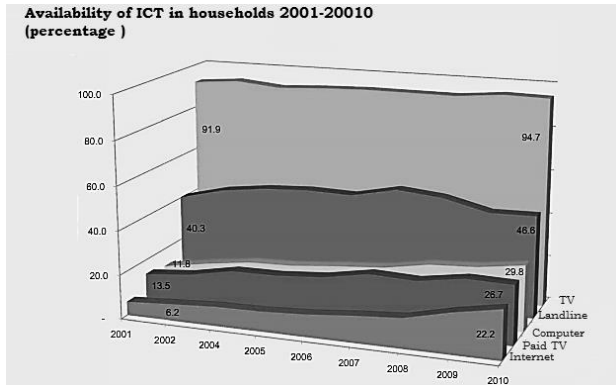
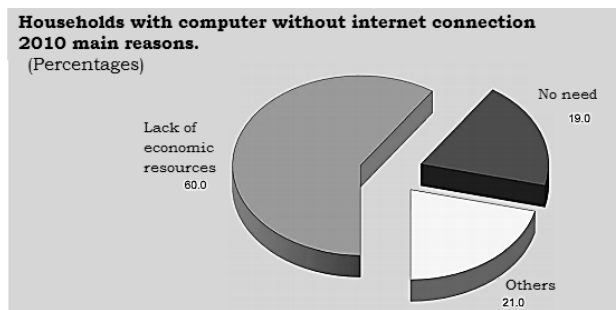


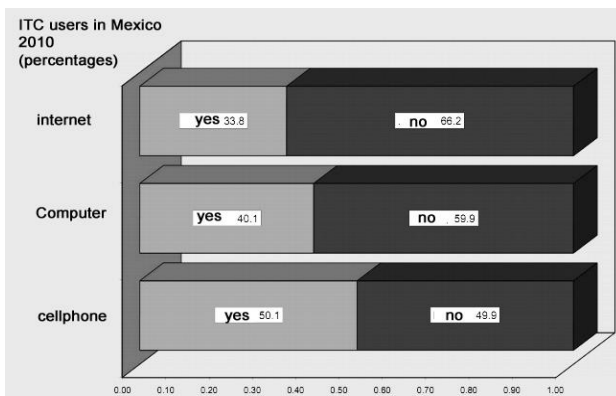
Figure 2

The penetration and use of technology will also be linked to an economic factor. 60% of Mexican households do not have computer due to lack of funds. See Figure 2.



Graphic 3

The use of ICT predominates in the young population, almost half of users who use the computer are between 12 and 24 years. After 59 years, existing users are 1 in 10. See Figure 3.



Graphic 4

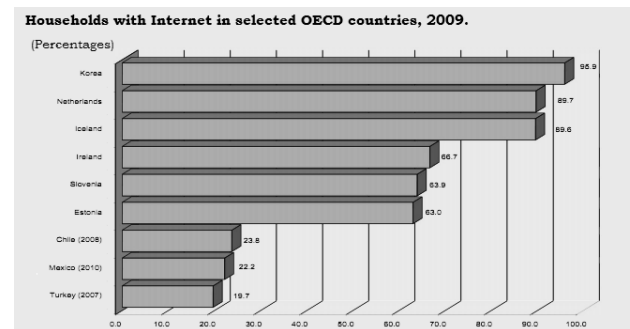
Additional to access and coverage, the use of information technologies is based on the skills / abilities of the person who uses them.

Taking this premise we analyze the degree of preparation and / or education. In Mexico out of 100 people aged 15 years and over 16.3% finish higher education.

4.8	No tienen ningún grado de escolaridad.
55.5	Tienen la educación básica terminada.
0.6	Cuentan con una carrera técnica o comercial con primaria terminada.
22.4	Finalizaron la educación media superior.
16.3	Concluyeron la educación superior.
0.4	No especificado.

Table 3

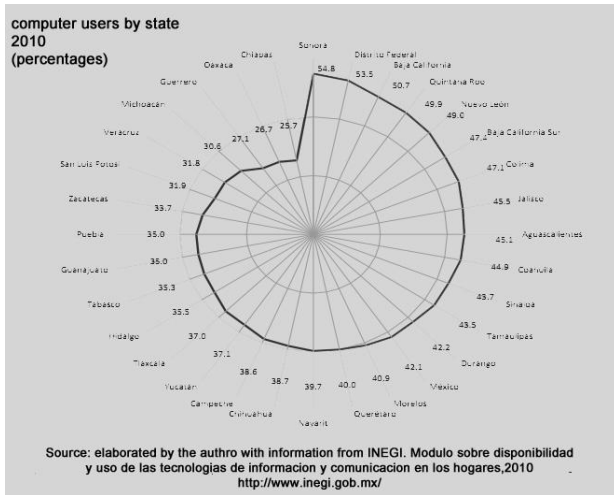
Internet penetration in Mexican homes is still far below the 50% of the population and 22.2% below Chile and big countries like the Netherlands, Korea and others.



Source: OECD, ICT database and Eurostat, Community Survey on ICT usage in households and by individuals, December

Graphic 5

There are large differences in coverage, access and use of information technologies in the country. This brings the distinctions between computer users by federal entity. Statistics of the computer users of the country are shown in the following chart.



Graphic 6

Regarding the contribution of GDP for research and development we see a very small percentage for this area as shown in the following table.

	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010
Country name					÷ 2006	÷ 2007
México					0,39	0,37
Micronesia (Estados Federados de)						
Mónaco						
Mongolia					0,21	0,23
Montenegro					1,24	1,10
Mozambique					0,53	

Table 4

The BRIC in Mexico

BRIC is a term used to refer to the combination concerning the economies of Brazil, Russia, India and China. The leaders of the BRIC countries held their first summit on June 16 in the Russian city of Yekaterinburg and the second on April 15, 2010 in the Brazilian city of Brasilia.

In the session held on April 14, 2011 in the city of Sanya, China. With that South Africa becomes a member, BRIC changes the name to BRICS.

Together in 2009 accounted for 95.5 percent of U.S.'s GDP, between 15 and 20 percent of world's GDP which means 2733 million people (1,300 million China, India 1,100, 190, Brazil, Russia 143) more than 40% of the world population and 25% of the planet's surface.

The four countries are holders of 40 percent gold and hard currency of the world; China alone has the largest reserves in the world in dollars. Russia is the main supplier of gas to Europe. And Brazil prepares to join the club of major oil producers in the world. In addition, China has the largest army in the world and Russia is the world's second nuclear power and the world's second largest manufacturer of military equipment and weapons, preceded only by the United States.



Figure 1

With the establishment of the BRIC as a way to build coordinating and promoting agreements and cooperation among its members, it is clear that the countries involved (the Federative Republic of Brazil, the Russian Federation, the Republic of India and the Republic China) are not willing to remain as mere spectators of the major world decisions. They have decided to coordinate and support to act decisively in construction, in particular new architecture international standards for financial institutions and, in general, a new more democratic world order.

Not only will, territory size or population gives them strength to it and makes them partners. Also the size of their financial reserves, strength and growth of their economies, military and energy capacity.

Impact of information technologies in BRICS

The rise of the BRICS and the new international order reflecting the geo-economic and geopolitical changes that reconfigure the world of the early twenty-first century and help explain the nature of capitalist power in general, but do not show the collapse, but only its relative decline of the power of United States in particular. These efforts and steps in a realignment and reorganization of world's power for which there is still U.S. for a while, but not as unipolar force.

In "Dreaming with BRICs: the path to 2050" essay is predicted that China and India will be the dominant global supplier of technology and services, while Brazil and Russia will become leaders as suppliers of raw materials.

Also, the door is left open to a potential situation in which cooperation between the four countries is given, for example Brazil and Russia together form the largest supplier of materials and food to the world today.

If this situation occurs, the BRIC could become a top economic and political bloc even superior to the current G8 (conformed by the G7 and Russia).

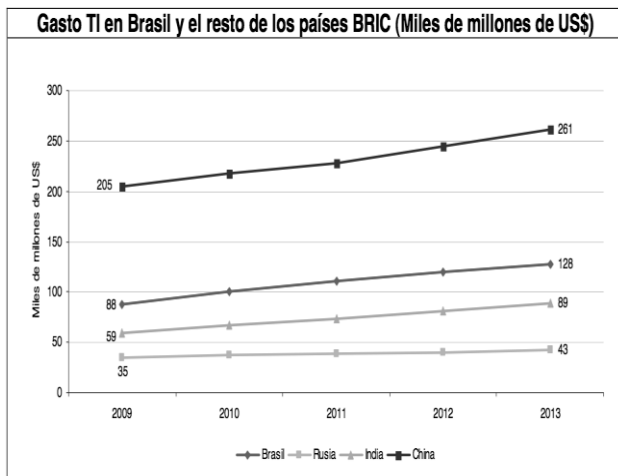
In these current times of global crisis where the sector of information technologies suffer the consequences of the recession. in the BRIC area market growth can even reach double digits according to the latest estimates by the European Information Technology Observatory (EITO). To quote some figures, the rate of growth of the Indian market will be in the end of this year by 10.5% and may be reached in the next 13%; China added 3.6% in 2009 and 5.4 in 2010; Brazil 5.2% this year and Russia will grow by 2.9%. What I would like to emphasize is that the ICT sector will involve the bulk of the revenue from these markets (both in terms of telecommunications products and services such as hardware and software). A good listener with a few words is enough.

According to Gartner, total spending on information technology in Brazil reached U.S. \$ 101.300 million, 9.6% of GDP. This rate is above the average of 6.1% of the BRIC countries (Brazil, Russia, India and China)

By the end of this year 2010 The Brazilian IT expense will double the Russians and exceed the total expenditure over India U.S. \$ 30,000 million . Brazil is now the tenth largest economy in the world and the second largest IT market among emerging economies after China.

The Brazilian IT expense is growing faster than the rest of the BRICs countries economies because of their increasingly dynamic at the level of public administrations, business corporations, SMEs and households segment.

This is indeed a big difference from the rest of the BRIC countries since India continued to concentrate its spending on the services sector, while China in large government projects.



Graphic 7

Mexico's analysis towards the BRICS

Mexico, October 27, 2011 -. During the last decade, the informality, the dependence on the United States and organized crime are key indicators that have lagged behind to Mexico versus the BRICS (Brazil, Russia, India, China and South Africa economies), says a study by the Mexican Institute for Competitiveness (IMCO).

The "International Competitiveness Index 2011", developed by the agency, said that the growth of these nations has far exceeded that recorded Mexico between 2001 and 2010.

As the country scored an average GDP growth rate of 2%, China filed 12%; India, 9%; Russia, 7%, while Brazil and South Africa, 4%.

On the indicator of organized crime, Mexico showed the lowest score against the BRIC countries actually it lost three positions in the Index in the 10 years reference.

With respect to the subscript of Achievement International Relations "BRIC perform better because it has more diversified in their exports and imports. While 80% of Mexican exports go to the United States. This involves risk, makes it highly dependent on the performance of the North American economy, "the study said. In informal economy, the country is below others, at position 43 in the ranking. To change this situation, the Institute recommended taking a series of measures, such as opening to competition areas reserved for the State, areas such as Pemex and Federal Electricity Commission.

The Competitiveness Index assesses 46 countries in 121 indicators, grouped into 10 factors. Mexico was put in place 32 of 46 countries in the 2011 Global Competitiveness Index, which occupies the same position for 4 years. The 10 most competitive countries, according to the index this year, were Switzerland, Sweden, Norway, Denmark, Finland, Netherlands, USA, Canada, Australia and France.

How to fight the digital gap?

The digital agenda is an essential pillar that will help reduce the digital gap in our country; public policies aimed at promoting economic growth based on sustainable development of society.

Knowledge is essential to the progress of societies; in Mexico are forming knowledge societies to promote growth, development, innovation, also to help build a bridge that can reach across Mexico and transcend the digital gap. Durango and Monterrey are generating these knowledge societies. Which are moving towards the technological era for the local population and influence to the states. On the other hand we see what is invested in research and development in Mexico's GDP. This does not provide enough for the country to progress in this area, which is vital to contribute to the growth of the country.

Conclusions

In Mexico, the digital gap is very evident. The penetration of the information technologies has not yet reached the majority of the Mexican population. Taking the example of computer users by state, we see a 54.8% score of users while Chiapas with 25.7%.

There are states that have realized the importance of information technologies as a foundation for growth and development of the state and the country. These have taken the responsibility to build a bridge that brings unequal coverage, access and use of ICTs through knowledge societies.

This path must be supported by current digital agenda and a realistic contribution of ICT to GDP. The percentage of research and development in 2007 was 0.37% compared to Israel which is a 4.76% in the same year.

If Israel we see now is a reference to growth, development and technological innovation. The reach of the internet in homes Mexico is 22.2% in 2010, Korea has a 95.9% in the same year.

The cost of access to this technology is also a drawback that must be analyzed to provide affordable access technology to the entire population, for example PLC take advantage of the current infrastructure of the electric network.

Besides the factors currently performing a delay in the development of ICT in reducing the digital gap that plagues Mexico, for example, as the lack of or insufficient security policy that makes greater involvement to the degree which is not considered in order to achieve a higher rate of alliances with other countries for the sake of growth and development of these parameters being at least the main causes of the recession of Mexico.

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Instructions for authors

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(Report Submission Date: Month, Day, and Year); accepted (Insert date of Acceptance: Use Only ECORFAN)

Abstract

Title

Objectives, methodology

Contribution

(150-200 words)

Keywords

Indicate (3-5) keywords in Times New Roman and Bold No.11

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† Researcher contributing as first author.

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Introduction

Text in Times New Roman No.12, single space.

General explanation of the subject and explain why it is important.

What is your added value with respect to other techniques?

Clearly focus each of its features

Clearly explain the problem to be solved and the central hypothesis.

Explanation of sections Article.

Development of headings and subheadings of the article with subsequent numbers

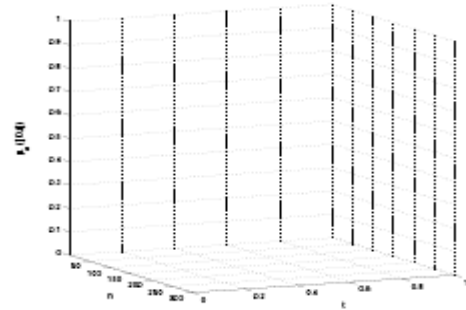
[Title No.12 in Times New Roman, single spaced and Bold]

Products in development No.12 Times New Roman, single spaced.

Including graphs, figures and tables-Editable

In the article content any graphic, table and figure should be editable formats that can change size, type and number of letter, for the purposes of edition, these must be high quality, not pixelated and should be noticeable even reducing image scale.

[Indicating the title at the bottom with No.10 and Times New Roman Bold]



Graphic 1 Title and Source (in italics).

Should not be images-everything must be editable.

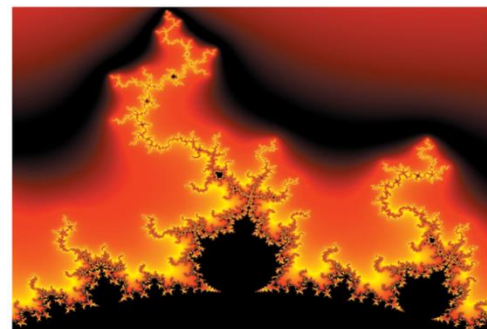


Figure 1 Title and Source (in italics).

Should not be images-everything must be editable.

Table 1 Title and Source (in italics).

Should not be images-everything must be editable.

Each article shall present separately in **3 folders**:
a) Figures, b) Charts and c) Tables in .JPG format, indicating the number and sequential Bold Title.

For the use of equations, noted as follows:

$$Y_{ij} = \alpha + \sum_{h=1}^r \beta_h X_{hij} + u_j + e_{ij} \quad (1)$$

They must be editable and number aligned on the right side.

Instructions for authors

Methodology

Develop give the meaning of the variables in linear writing and important is the comparison of the used criteria.

Results

The results shall be by section of the article.

Annexes

Tables and adequate sources thanks to indicate if they were funded by any institution, University or company.

Conclusions

Explain clearly the results and possibilities of improvement.

References

Using APA system, should **Not** be numbered, either bulleted, however, if necessary, will be because reference number or referred to in any of the article.

Data Sheet

Each article must submit your dates into a Word document (.docx):

Journal Name

Article title

Abstract

Keywords

Article sections, for example:

1. Introduction

2. Description of the method

3. Analysis from the regression demand curve

4. Results

5. Thanks

6. Conclusions

7. References

Author Name (s)

Email Correspondence to Author

References

Instructions for authors



Mexico, D.F. ____, ____ 20__

Originality Format

I understand and agree that the results are final dictamination so authors must sign before starting the peer review process to claim originality of the next work.

Article

Signature

Name

Instructions for authors



Mexico, D.F. ____, ____ 20 ____

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I understand and accept that the results of evaluation are inappealable. If my article is accepted for publication, I authorize ECORFAN to reproduce it in electronic data bases, reprints, anthologies or any other media in order to reach a wider audience.

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Optimization

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