

# PROBLEM SOLVING MODEL AND TEACHING CRITICAL THINKING

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## ABSTRACT

*The focus in our paper would be on creativity and Innovation management in organizations, e.x,schools. Model of intervention is a presented in aiming to establish a culture of organizational innovation by the internal development of individual and group creativity focusing on solving a problem. The model depend on management commitment also the talent people in the organization ( leaders or employees who are creative or get special abilities )as a result of their ability to defining a better organization.*

*Min Basadur's problem solving approach was followed in designing our models consisting of a problem findings, face finding, problem definition ,solution finding and discussion implementation.*

*Specific techniques and the procedures are used which will link creative people and management in order to initiate the process and tell the problems are defined. You should problem will define then developed possible solution and implement these decisions. John's formation system of the individual and the team created creativity into organizational innovation will established .*

## INTRODUCTION

In the framework of a knowledge base economy Innovation goes far behind the liner or chain linkage models that have long been used and the theory of innovation to clarify Innovation process in high-tech industries ( Strambach, 2002 ).

A clear definition of innovation maybe following,

The result of cumulative dynamic interaction and learning process involving many stockholders.

In organizational innovation, innovation seen as especially invited, social, interactive learning process that cannot be independently understood of its institutional and cultural context ( Cooke Heidenreich ,& Braczyk, 2004 ;Lusdvall , 1992; Freeman , 1998 ) .

Another definition of innovation Robert ,(1999) maintains that an innovation can seem as innovation if it is has implementation and value from the commercial

point of view it also important to measure the impact of innovation .

Many criteria, according to Ravichandran ( 2000: 263 )through which we can measure the impact of innovation activities and they all depend on:

- The profitability generated volum.
- The degree of departure from the presiding protect service or process.
- The usefulness extent of the innovation.
- The typology.

The interdisciplinary view of innovation systems ,as suggested by Strambach ,( 2002 ) , concerned with understanding the context in general of the generation, diffusion , adaptation and evaluation new knowledge which innovativeness determine. As clarified it follows that the focus is on non-technical forms of innovation. Edquist ( 1997 ) identified common characteristics of produce to innovation they can be included following,

1. Emphasize on the role of institution.
2. Learning and Innovation at the center.
3. Evolutionary and holistic perspective.

Technological and organizational change in a significant feature of system of innovation the increasing interdependence. Both organizational and technological innovation have become increasingly important these two combined with more diverse knowledge requirements which included not only technical know-how but also economic organizational and sociological knowledge and competencies .

Another reasons for this increased interest in non-technological innovation is related to the connection between the organizational Innovation and the corresponding learning capacity .

For maintaining and creating contact organizational learning process is more and more important, since the acceleration of change that is part of the globalization process.

Absorptive capacity on the part of the target audience is needed in order to discover whether Innovation is successfully diffused .

Absorptive capacity can be defined as ‘the ability of the firm to recognize the value of a new external information a simulated and apply it to commercial ends’ Cohen and Levinthal ( 199 0, 128 ) .

Innovation diffusion depending on specific innovation technology champions the time element to successful diffusion and the absorptive capacity of the adopter . Schnepf, Bhambri ,& Von Glinow (1999 ) define technology transfer and process whereby the knowledge is passed from one entity to another , which involves the dimension of documentation describing the technology the training (called software )to transmit to the knowledge and the transfer all the equipment component or role material (called hardware) . Gee ( 2006 ) technology transfer maintains in the application of technology to a new user or use . Technology transfer links that existing technology based on the innovation process to increase productivity .

The organization itself is the unit of innovation in organizational( Wolf , 1994 ) the outcome of the

Innovation may be processed protect or service but at any how The Innovation needs to be undertaken through the creative input of the individual and or the management .

## **LITERATURES REVIEW**

### **Innovation in organizational creativity**

Innovation became a basic driver for growth performance and valuation . In despite of the fact that there is no best practic solution to seed and cultivate innovation three building blocks in identify has been presented by( Barsh ,Capozz, and Davidson , 2008 ) for innovation :

1. Innovation type should be identify that can’t drive a growth on strategic objectives.
2. The formal agenda leadership meeting should be contain innovation in. .
3. Set performance material and target for innovation.
4. Selected managers turned into Innovation leaders.

This would be the way to build the basic strategies to achieve in an organization.

Many authors such as (Stein 1994 ) , describe creativity as a process that results in a novelty which is accepted as useful tenable and satisfying why a significant group of others to some point organization of idea process a products or procedures in you to the relevant unit of adoption designed to significantly benefit the individual the group organization or whites associety (West and Farah 1919) though this definition it’s still difficult to separate the idea from its implementation, especially when moving from individual to team model organizational level .

The process of implementation concerns innovation relying the mainly on organizational communication and power and as the product of that communication process Innovation appears connecting to what is perceived how’s the new useful by someone other than it’s originator also the putting to use of an idea ( Kanter , 1983 ) , in the domains of production, implementation devotion ,adoption or commercialization of creation . ( Kaufman, 1993 ; Spence, 1994 ) .

The construct creativity remains exclusive to their relationship between the creator and his product where nor even usefulness and originality are important but only the trying to do better connected to emotional and cognitive process taking place at the individual levels . ( Sousa , 2007 ) .

Related the problem definition to the activities and Innovation to decision implementation though this lost the step requires a series of problem definitions to carry out decision or an idea thereby making it difficult to separate these concepts at an organizational level . Moving from the individual level to the team are organizational level in fact, creatively and innovation for more and more difficult to separate in this case we must agree with ( Basadur, 1997 ) who said there is no differences between organizational creativity and innovation . In the movement to another level beside the individual we will use creativity and Innovation as synonymous towards giving the same meaning in order to simplify the discussion and we refer organizational creativity in the interventional model depicted in figure 1 as a system devoted to enhance creativity in organizations that use the definition for posed by Basadur.

## HYPOTHESIS

### Using Basadur's simplex model and creative problem solving

Basadur ( 1997 ,1999 ,2000 ) proposed a new model, from the creative problem solving CpS approach, which is, the Simplex model. It is at cycle process in the three distinct phases and eight steps, beaches tip there is a moment for active divergence in which groups or individuals produce as many idea or options they can find in a suitable climate in which judgment is differed to make possible for them the perception of a new relationship a mange facts . While divergence moment is going on everyone must make extended efforts not to stop too early before options have been completed.

The next step will carry on after the participant will select one or more options during active convergence. The vertical deferral of judgment is the last is called which allow the process to go on systematically through its eight steps and the three phases, it's helps that participant to differentiate between vague situation and will defining a problems .

## 1 . Problem definition

- **Problem finding:** identifying problems and opportunities for change or improve within or outside the organization is the first to save of problem finding and the first moment of active divergence judgment the serial is required and sustained until the participant cannot collect more relevant problems or changes chances than it is the time for active converge selecting the problems that will deserve further exploration.

- **Fact finding:** in order to gather many information as possible going to selecting problem the group differs judgment, always accepting all the data that is produced. The group can convert and select a few facts that are considered to deserve further expansion .

- **The definition of a problem:** ready formulating the fact selected into creative opportunities or challenges by the group will occur in the state then the more permission problem will be selected to carry on To The next step .

According to Basadur el al ( 19 94 ) it is a crucial step in which the skilled participants will really help the process by asking the right questions to be answered . Reframing the problems by evaporated maps and using the question “how might we.....?” are the most important question in the Simplex process .

## 2. Problem solving.

- Generating potential solutions

Participants in this estate are required to actively create as many potential solutions as possible to solve the selected problems or challenges.

- Potential solution evaluating

After developing the criteria and make them ready participant will evaluate the potential solutions for each problem and decide which one is most suitable to implemented.

### 3. Implementation of solution

- Action planning, the most adequate action will allowed to selecting by convergence skills.
- Gaining acceptance, to overcome resistance to innovation and change people needed in the process to assure its feasibility.
- Taking action: and this is Tiff we take simple specific and realistic action to addresses the fear of unknown by analyzing what may happen and then generating thoughts to coffee with fear of failure in attempting to turn it into advantage.

#### Using creative problem solving as proposed model of organizational innovation

When we prepare the organizational investigation of all information and the problem, the faces are , finding problem management interviews. The formal approach an understanding of how it works from the point of view of its employee the informal approach , (the infotrml approach) is required.

People used implicit theories to describe the organization because it is not feasible to ask each individual . Dealing with people who speaking in one way but act differently is what most research in an organizational context how to deal with . Episode series according to Argyris( 1999 ) reports ,differ from theory in use.

In designing a questionnaires we used Kelly's repertory grid method ( Kelly , 1963 ), to all of our calm the espoused ones. We used Kelly's method in designing the question or is for the participant in order to reduce the observers versus bias since this theory allowed people to vocalize their perceptions sometimes in a way they have never verbalized before.

By adopting organizationally questionnaire , we are able to spot strong and weak points in the organization though the questionaries' can address any organizational climate issue , it is preferable to make people answer the question of describe their line manager in order to identify creative leaders and their teams types of climatic ( D ' Amato &

Burke ,) 2008 can be used on variables analyzed if some type of organizational evaluation has already been made.

The leaders who developed the co-workers activities and abilities to innovate are more successful and innovative than the ones who have a good or creative ideas. ( Basadur ,2004 )

Creative people either managers or employees are committed to their work and organization so they may bring an important issue provided that top management value their work and ideas .

Generally the innovative and creative ones are "thinking outside of the box" ( Hartel et al , 2003 ) . They always suggest a new way to improve their work and business process which lead to the assumption that the more creative people have a deeper understanding of the organizational process being in a privilege position to identify define and figure out the relevant organizational problems.

### CONCLUSION

Problem solving models within Innovation can be used in many places with many issues. Our paper was about this model of organizational creativity in which we tries to provide useful contribution to organizational innovation in many steps using tools like questionaries' and many applications made ( Sousa & Monteriro , 2005 ; Sousa , 2007 ) .

Cognitive training method the development of critical and creative thinking abilities is the same of creative a problem solving training ( Isaksen , Drovel ,& Treffinger , 2000 ) , represented in the mental skills of analyzes ,data conceptualization, synthesis and evaluation ,as well as ,in the process of gathering information through direct observation or reflection.

It is not liner and complicated process through which we can developing organizational Innovation and creativity because of the many apps and downs which can only give rise to a cultur off Innovation with the management total commitment. The tools of creative problem solving have already demonstrated their usefulness in give solutions and helping organization to improve what remain to be improve is the value of choosing an organizing creative people in an organization in many ways maybe by giving

them time space knowledge and the opportunity to team up and direct their creativity to the organizational problems.

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