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Leading and Managing Change through Adaptors and Innovators

Guido Prato Previde
KAI Center - Italy
Paolo Rotondi
Bocconi Business School of Milan

Executive Summary

This study outlines an Italian experience with a large organization in the field of Health Care where major strategical and organizational changes have been carried out during the past 5 years. One of the aspects which has been studied is the relationship between leadership (cognitive) styles and change. The Adaption-Innovation concept and measure (Kirton, 1976, 1989) were applied to the top planning team and the operating team of the structure causing amazing results.

The cognitive profile of the leaders of the organizations reflects the kind of vision, mission and managerial decisions they possessed. When leading change, cognitive style has proven to be a strategical weapon and a resource, both at an individuai and at a team level. The management of change is in the particular case assumed to be a magical and scientific ability to deal with both the styles within departments, units and offices, in order to keep both the cognitive strategies alive and effective. Implications and application so these finding might be relevant for change management theory and practice.

About the Author: Guido Prato Previde has a medicai and psychological degree. He also does consulting in the field of organizational behaviour and "human qualities" for individuals and team development and organizational effectiveness. He is an Italian validator of the Adaption-Innovation model and Director of KAI Center Italy. Paolo Rotondi also has a medicai degree. He is an Assistant Professor in the area of the Public Sector at the Bocconi Business School of Milan.

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Introduction

Change is "permanent", an ancient greek (Heraclitus) philosopher said, and this assumption must be true since all events are irreversible both in nature and in social contexts, no matter what kind of change it is ("panta rei").

So managing change has always been man's great challenge, and that appears to be more true today than ever before, not only for individuals but also for the organizations (Senge, 1990). The pace of change has speeded up radically (Kanter, 1983, Toffer, 1980, Waterman, 1987), and managing change is a strategic factor for future development of any organization, and for its survival (Bennis & Nanus, 1986; Drucker, 1989; Handy, 1989; Morgan, 1988, 1993; Peters, 1987).

The "change management" challenge is therefore criticai for those managers and consultants who want to understand how to enhance organizational revitalization and renewal in a turbulent and complex environment. It is clear that on the individuallevel those who are not ready to move their minds and skills into novel areas and to novel ends will soon be out of the global market arena.

At the organizationallevel when individuals perceive a changing environment from a defensive perspective, it is more difficult for them to cope in a positive and proactive manner (Handy, 1989; Kotter, 1990; Tichy & Devanna, 1989). When change is viewed with confidence, "revolutionary" or "evolutionary" strategic actions can be adopted (Bennis, 1989; Bennis & Nanus, 1985; Collins & Porras, 1991; Nanus, 1993). Visionary leadership, therefore, views change as an indispensable tool to implement profound transformational processes.

Many studies have been carried out about the nature of change, the change environment, the climate for change, and the "how to" manage change through various strategic planning processes. In these studies the "human side" is less researched (Sayles, 1989). Greater focus needs to be given to the psychological "factors" related with the change process which characterize those subjects (individuals and teams) who are in the position of leading and managing through their problem solving and decision making mindset. In this sense, there are many intriguing management issues stili waiting for a scientific answer. For example, which kind of prablem solving and decision making approach is more Iikely to solve problems in the right way for the organization? Are there individuals more capable of managing change than others? Is the management of change an art or a science?

The following article iIlustrated the results of a study which could be considered a starting point to address the aforementioned issues. The Authors have studied a specific organizational change management process where major changes have been carried out by upper management and an operating team working together. Among other research and consultancy tools, the Adaption-

Innovation model and measure (Kirton, 1976, 1989; Prato Previde, 1984, 1991b) was applied to get a cognitive profile of those people "riding the waves of changes".

Background

The Adaption Innovation model (Kirton 1986; 1989) Iies in the cognitive domain. It is related to creative problem-solving and decision making with special reference to soci al and organizational change (Kirton, 1978c; 1980; Prato Previde 1984; 1991a).

The core of this model's theory base is that organizations have different strategies when approaching and tackling problems in order to create and manage change. Kirton's model has been originated from many studies and deep research in the field of organizational change processes; the major assumption is that personality and cognitive style of decision makers are clearly involved when problem solving and decision making, and will therefore influence behavioral outputs and solutions. These different styles, located on a unidimensional continuum of change ranging from the strategy of "doing better" to one of "doing differently" are named Adaption and Innovation.

Adaptors and Innovators are the kind of people who have respectively a preference for the adaptive solution or, conversely, for the innovative one.

The key construct of Kirton's theory, implies that:

(a) Adaptors Iike more structure than Innovators, but both need structure in order to think and act;

(b) Innovators need to have less of their structures consensually agreed than Adaptors, but both need a minimum of consensual agreement to be able to understand the input and to communicate the output.

It must be said that concepts such as intelligence, know how, competence and scope are here assumed as not connected with creative style.

Kirton stresses that Adaptors and Innovators present different strengths and weaknesses but both the styles are creative and even necessary when problem solving and decision making. And this has been demonstrated to be valid at a group level when problem solving is required. Generally speaking the Adaptive approach aims at using the existing paradigm and improving it, while the Innovative one aims more at challenging the more "traditional" solutions (those solutions connected with the paradigm) in order to create a “radically new" order.

The most relevant characteristics of Adaptors and Innovators (Kirton, 1989) are iIlustrated here below (Table 1):

Table 1:

The High ADAPTOR **in response to problems**	**The High INNOVATOR** **in response to problems**
Is characterised by precision reliability, conformity, methodicalness, prudence.	Is seen as undisciplined, thinking tangentially, approaching tasks form unsuspected angles.
Seeks solutions to problems in tried and understood ways.	Oftens queries the problem's basic assumptions; manipulates problems.
Reduces problems by improvement and greater efficiency, maintaining continuity, stability and group cohesion.	Is catalyst to settled groups, irreverent of their consensual views; is seen as abrasive, creating dissonance.
Challenges rules rarely, cautiously, usually when supported.	Oftens challenges rules, past customs, consensual views.
Produces a (manageable) few relevant sound safe ideas for prompt implementation.	Produces many ideas including those seen as irrelevant, unsound, risky.

Reproduced from M. J. Kirton, 1989

The KAI (Kirton Adaption-Innovation Inventory) measures the A-1 dimension. It consists of a 32 items inventory, from which it is possible to locate the individual's own cognitive style on the A-1 continuum, and to score the underlying qualities of Adaptors and Innovators. Adaptors and Innovators are located at the opposite ends of Kirton's measure and represent the tails of a population which is statistically distributed in accordance with a gaussian curve (Kirton, 1987, 1994). Less extreme styles are towards the middle of the continuum (theoretical range: 32-160; theoretical mean: 96).

Kirton's measure has demonstrated to possess excellent psychometric properties (Kirton, 1976, 1987, 1994), and this has been confirmed when the KAI was first translated and validated (N=835) into Italian (Prato Previde, 1984; Kirton & Prato Previde, 1995). In this sense, the KAI not only has confirmed the norms (Italian generai population mean=94.1; standard deviation=17.69; range=46-145) of the generai population and of the different subgroups, but also its reliability (alpha Cronbach index= 0.86). When factor-analyzed, the Italian KAI has show n the existence of the three subtraits originally carried out by Kirton in his study (Prato Previde, 1984, Kirton & Prato Previde, 1995).

It might be useful to remind briefly the meaning of these factorial components. The subscales are named "S.O. (Sufficiency for Originally), "E (Efficiency)", and

"R (Rule/Group Conformity)" and represent specific components of the overall A-I profile.

The first subtrait ("S.O.") refers to originality: strong adaptors prefer to produce and organize a sufficient number of original ideas which are solid and complete, while strong innovators do prefer to proliferate original ideas. "E" subtrait represents the attitude to cope with tasks in a precise and detailed way (in this sense adaptors are stable and reliable, innovators are less methodical). Finally, the subtrait "R" refers to the tendency to be creative within the rules and assumptions of the group (Adaptors) or creative alone (Innovators). The mean, the standard deviation and the range of the traits S. O, E, R are iIlustrated here below (Table 2); the data are taken from the Italian general population norms (Prato Previde, 1984).

Table 2: The KAI subtraits

	MEAN	STAND DEV	ADAPTIVE POLE	INNOVATIVE POLE
S.O.	**42**	**8.87**	**19**	**65**
E.	**18**	**5.79**	**7**	**35**
R.	**34**	**7.89**	**13**	**56**

Therefore, while Adaption-Innovation is a consistent way of categorizing (Kirton, 1994) human differences in thinking and behaving when creatively solving problems (Gryskiewicz, 1989), Adaptors and Innovators represent two cognitive styles, which can be measured on a graded continuum. The fundamental issue is that the A-I dimension is part of the domain of cognitive style, conceptually different from the domain of cognitive level and cognitive complexity, which is no way correlated to the measurement of cognitive level (Kirton, 1989). Moreover, the Adaption-Innovation dimension is an extraordinary powerful explanation of how change occurs or is resisted throughout an organization.

Sooner or later, in any group, where problem solving and decision making are key-activities, one of these two strategies will prevail and consequently be put into action (Kirton, 1984). Ttie outcome can, therefore, be either a new paradigm being created or slide modification of an existing process. Which of the two will be adopted, depends on many organizational factors related to structure, the cognitive culture, the type of establishment and the cognitive "direction" of the leadership (Vicere, 1992).

Through the sa me theoretical approach and measure, information on organizational climate (best called organizational culture) for change can be easily and effectively gathered. Furthermore, different typologies of change agents can be easily focused on with this approach (Kirton, 1978c; Kirton & McCathy, 1988; Prato Previde, 1984; Prato Previde & Massimini, 1984).

The implications of the theory and the application of the graded continuum are therefore varied in the domain of organizational change and behavior.

Relationships Between Leadership Styles and Change

Different (cognitive) styles of leadership will influence the perception of the need for environmental changes (Rickards, 1990), and produce in the end a completely different set of approaches and practices. This is clearly demonstrated in groups, but only assumed in large organization (Kubes & Spillerova, 1992; Lindsay, 1985; Prato Previde, 1991b; Prato Previde & Massimini, 1984; Vicere, 1992).

This study outlines an actual experience in a large organization aimed at demonstrating the results obtained using the Kirton A-1 model. It should be noted that the authors collaborated as long-term external consultants with the health care organization and dealt with various aspects of management issues.

Kirton's Adaption-Innovation model has been applied to a small team of leaders who have produced and conducted a radical change in a specific health care work environment through the implementation of their ideas.

The Directors of the Health Department in Ravenna (a middle size town in a centraI area of Italy) have introduced two major radical changes which have characterized the vision of services and of management systems since the early '90's.

The first change consisted of the introduction of the "new emergency system". The second change was the institution of budgeting for organizational units.

These two initiatives were started in the late 1980's and carried our during the early 90's. In this context they represent a major turning point in the systems delivery of health care. The change to emergency services and budgeting for organizational units involved radical rethinking. The Directors of the Ravenna LHU (Local Health Unit) established a "new system" where the emergency interventions no longer operated based on geographical and bureaucratical concepts, but on a more effective and market oriented approach (Borgonovi & Meneguzzo, 1985; Borgonovi & Zangrandi, 1988).

Before presenting the results obtained through the application of KAI to a '"radically changing organization", it might be useful to introduce the organizational structure and pIace it into a framework where the basic information is provided to let the reader understand the relevance of the changes in the context of the organizations framework.

"Ravenna Soccorso" (Emergency Operating Unit) first came into being in 1985. This new system (first major change) of organizing emergency interventions was introduced into an existing situation in which services were delivered by various

institutions. The Italian NHS covered ali kinds of hospital treatment and in part emergency interventions and emergency transport (Mengozzi, 1989). There were other emergency services covered by private and voluntary institutions, including the Red Cross and "Pubblica Assistenza". The relationship between these alternative systems were not clearly structured and often competitive (Paladino, 1989). This led to objectives regarding efficiency and effectiveness not always being obtained (Tulli, 1991).

The implementation of "Ravenna Soccorso" was an attempt to improve the existing situation regarding emergency services through an integrated system of available resources.

A new organisation was established to manage functionally all available human resources and means of transport pertaining to the various institutions. This required two major changes developing within the system; the first concerning the philosophy behind interventions for change and the second the philosophy behind management.

The key issue regarding interventions of Ravenna Soccorso moved towards a "stay and play" (stabilization of patients condition) approach, from the original and more traditional "Ioad and go" (putting the patient into the ambulance and rushing him to the nearest hospital) approach.

The chief "innovation" from a management perspective was the substitution of a hierarchical structure with the introduction of a co-ordinated matrix. Through functional management, this system groups together volunteers and employees coming from both the public and private sector. This change, otherwise impossible for the single organizations because of the excessive costs, was made possible through the collaboration of the various institutions. "Ravenna Soccorso" was a pioneer-experience for the Italian NHS. In fact, it was the second attempt to implement this kind of system in the country. The results obtained were excellent, and drove the Italian Ministry of Health to long discussions on the quality of emergency services, which finally led to a new reform (Sacchi, Rotondi & Zappi, 1992) law being passed in March 1992 (Iaw 118).

This law instituted a unique emergency number over the whole national territory (formally non existent). It also outlined the basic characteristics of the emergency system, taking inspiration from the Bologna and Ravenna Soccorso experiences (Lazzaro, 1993).

It must be emphasized, therefore, that the institution of "Ravenna Soccorso" from a managerial point of view has proven to be highly "innovative" not only for the LHU itself, but for the whole Italian NHS.

The second salient "innovation made in Ravenna was the introduction of a budgeting system. The existing situation in the Italian NHS was an authorization

system in regards to financial accounting. However, no management control function was imposed (Borgonovi & Meneguzzo, 1985). The former system made control over the use of resources in the various places of delivery rather problematic. Moreover, both the tasks of starting up actions aimed a rationalizing services and those regarding cost containment were difficult for the managers directly involved.

Among the many negative aspects of the existing system one of the most critical could be identified as the lack of responsibility given to the managers of th operative units regarding the use of resources. This created situations in which resources were often wasted and middle managers felt disoriented when face with management control functions.

1985 again marked a major breakthrough in regards to this significant aspect of management (in a period of cost containment) due to the fact that the Emilia Romagna Region in collaboration with the Bocconi University of Economics of Milan, began studying new approaches to this problem.

The main objective was the introduction of modem accounting systems in each organization, in order to control how resources were being used. The outcon of this relationship was the definition of some basic guidelines which later became official through a new regional law. This law suggest the establishment of responsibility centres and the implementation of budgeting systems in eat individuai operative unit. The aim of these changes was to improve efficiency and diminish spending.

To obtain the best results the following issues were fundamental both in the implementation and follow-up stages:

- the introduction of the DRG system in hospitals (diagnostic related groups system);
  the institution of cost control centres;
- the introduction of negotiation systems regarding resources on the basis the agreed objectives.

The financial innovations required radical changes. Only five out of forty-one local health units actually introduced these changes. Ravenna was one of first to put plans into action in 1992. This low percentage was due to the fact that this new system had great impact on management regarding both vision and practice. Senior registrars, who had never had to dea l with these managerial aspects before, were the main source of resistance to change. Cost control systems were a major source of resistance.

The crucial point that must be considered is the changes that took place in Ravenna in the late '80's. The changes were the outcome of pressure from a new director at Ravenna. Upper management had been discussing these

changes for a long time, and trying to determine whether or not they should be introduced. Very few examples were available to benchmark in Italy.

Upper management had more than a fair knowledge in the field of management, and were well above the average Italian managerial standards of the Public Sector.

The managing director came into the structure and triggered off a great process of change, offering a clear, "radical" vision. The rest of the team went along with his decisions partly because of the perceived need for a change, and partly due to this clear vision.

Thus, the "pioneer" group was driven by a strong need for radical change with a disposition for "innovation" (as defined by Kirton's theory) and had an innovative leader.

There was, obviously, some conflict within the top team, but it soon dissipated. Consequently, they were able to work together as a team and bring about those critical changes they had defined as their objectives. This group was administered the KAI only after these changes had been made. The whole initiative had already moved into the implementation phase in 1990.

The Results

The KAI scores of the people composing the very first top team are iIlustrated below (Table 3) :

Table 3: Results obtained trom the initial top team

x=111.75; st. Dev.=18.37; range=86-137

Results of the individuai key people are:

Name	Formal Position	KAI score	SO	E	R
Mr. N	Director	137	61	30	46
Mr. Z1	Vice-Director	117	52	25	40
Mr. P	Senior Assistant	86	42	10	34
Mr.Z2	Junior Assistant	107	46	27	34

The average KAI score of the initial top team (table 3) in Ravenna shows to be about one standard deviation above the mean of the Italian general population and of the overall managerial sub-group (Prato Previde, 1984; Kirton & Prato Previde, 1995).

The mean of the sub-scales too, is clearly oriented towards the innovative side of Kirton's continuum, in a very balanced and expected way, as it is illustrated below (table 4).

Table 4:

	Tot. KAI mean	st. dev.	S.O.	E	R
Initial Top Team	112	18.37	50	23	38
Generai Population	94	17.69	42	18	34
T otal managerial	98	15.1	45	18	35

The gap is even more relevant if one considers the results from recent application (Prato Previde unp. data, 1994) of the KAI to a small sample of Italian managers from the Public Sector (see figure 1).

The managing director, who is also the most innovative of the team, was used to play a role of strong orientation within the team towards objectives. In accordance with the Belbin model (Belbin, 1988) he could easily be defined as a "shaper". The deputy director plays a bridging and facilitating role within this group.The two assistants were playing, respectively, a monitoring/implenenting (the senior) and a team worker (the junior) function.

From the author's management perspectives, it was amazing to see how the initiative of this team was related to the style of the leader and to the whole style of the top team members. These people have created and managed a big organizational change generating new ideas and solutions belonging to their prevailing preferences.

Another interesting result arose a few months later (1992) following the initial administration of KAI. The KAI was administered to the operating unit in the same organization which had the task of putting into action the new vision and the new systems in the field of emergency ("Ravenna Soccorso": the first challenge).

The "qualities" of the components of the team were assessed in order to have a picture of the Operating Emergency Unit. An Assessment Center was set up for the 21 allied professionals of the team. A battery of tests and a training program were carried out which included the KAI.

Here are (Table 5) the averaged results of the 21 people in the team.

Table 5: Results trom the Operating Team:

KAI MEAN		(N=21) = 86.42		RANGE = 60 -110		STAND. DEV. = 15.39
S.O. MEAN		=40.95	"	=25 - 54	"	=8.47
E	MEAN	=15.09	"	=7 - 25	"	=4.63
R	MEAN	=30.57	"	= 18 - 45	"	=7.37

The clearly adaptive scores are in with the fact that these people have in their specific organization a professional task which needs to be carried out in accordance with an adaptive strategy. Processes have to be done precisely, in accordance with shared and consistent standards.

But, if one examines the KAI scores of the two coordinators, again one sees a surprisingly clear result. In fact, one of the two coordinators is an extreme innovator, while the other is a mild adaptor (see also Figure 1).

The two coordinators had not been consciously selected by management for their contrasting style, but this turned out to be of the utmost utility to the group as the adaptor's duties were related to internal issues of the institution (managing people, organizing, ...), while the innovator's dealt with marketing and external activities and acted as liaisons with the directors.

It can be assumed that these unplanned, but logical KAI distributions in both teams (upper management and the operations team) materially assisted the changes being successfully achieved with so little conflict.

A complete overview of the KAI profile of the structure is given below (Figure 1):

Cognitive Proflle of Planning and Operating Teams Compared with the Italian Norms

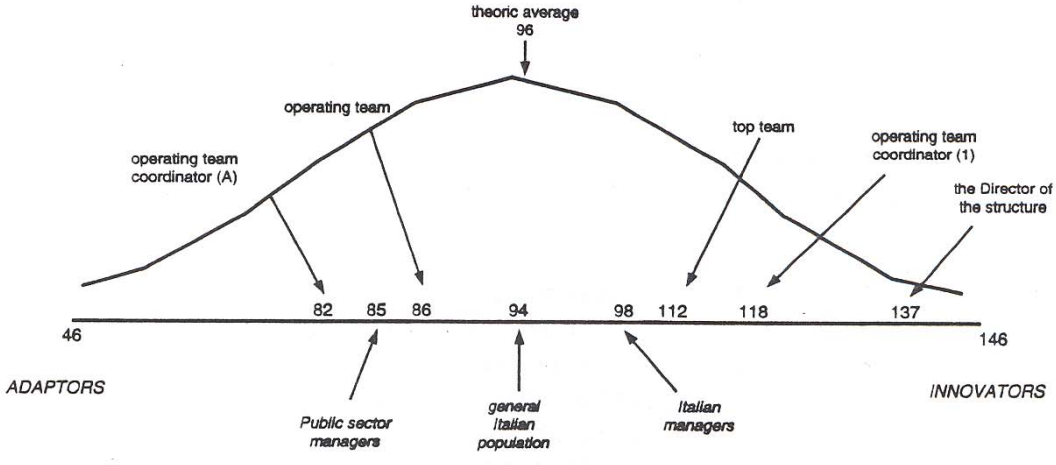

Figure 1

After the changes were firmly settled into the implementation phase (late 1992), the managing director left to play the same role in another structure and the deputy succeeded him.

The team by now was well established, still riding the enhanced changes, but with a particular attention to the implementing stage. Contemporarily, a certain amount of turnover in personnel occurred. Here are the scores of the team still directing the same structure. Mr. Z1, the Vice-Director of the previous team is now the managing director. The following results were obtained (Table 6):

Table 6: Results obtained from the top team three years later

x=101.03; st. devo = 17.87; range = 67 -117

Results of the key people are iIlustrated below :

Name	Formal Position	KAI score	SO	E	R
Mr.Z1	Director	117	52	25	40
Mr.Z2	Vice-Director	107	46	27	34
Mr.F	Assistant	100	36	22	42
Mr.M	Vice-Director	67	35	7	25

Upon a closer look as to how this team is composed and functions it can be found that:

administrative roles are now existing, and more adaptive assistants have been selected. Roles in the team have also changed; the new managing director who still is facilitating (the implementation ofthe change process) is able to cope with a second deputy who has an extreme adaptor profile and is playing a monitoring function. The team working function is now more distributed among the whole team.

Today the structure needs more resources for regulation and implementation of change. The original innovative oriented structure has now become mildly innovative (the mean of the directing team in 1993 without the two people playing the administrative roles has dropped to 101.03). However, if the scores of the two administrators are also considered, the KAI mean drops even lower (x=100.53; st. dev. =17.68; range=67-117).

It must be emphasized that a Public Body is being dealt with, and it should be remembered that in this sector the average mean is significantly lower than the mean of this organization (Hayward and Everet, 1993; Prato Previde, unpublished data, 1994). It would be of much interest to check the same structure within the next five or ten years!

Conclusions

The study demonstrates how the A-1 theory and measurement scale can be a useful tool in order to understand the kind of change people are willing to make in a large organization.

It has also been illustrated how the cognitive style has been a decisive factor determining the direction of change in a certain context and how it is important at an individual and at a team level.

Of course know-how, resources, status, and other variables are important, but the cognitive style of the top team is critical. It does not determine the "capacity" for change but the preference. In this case there was a critical need for change and for certain radical solution; the external environment had to be interpreted with its opportunity and constraints, in order to take decisions. The top team did that, not without conflict, but it happened! They looked more for opportunities, than for constraints, and they were also able to understand internal and external condition: they just managed major historical changes that now are part of the consolidated assumptions at a national level.

The top team was able to start-up changes through a shared vision (Collins & Porras, 1991; Nanus, 1993; Parker, 1990) of the future. Their vision can be considered a cognitive product of that team, while the decisions that have been taken are clearly coherent with a strongly innovative approach. In this case one could say that the component of visioning, which is essential to leadership, is largely based on a cognitive (style) dimension, using Kirton's model of adaptors and innovators.

This said, the success of the financial, cultural and organizational changes were clearly related with many factors, but above all competent management and specific circumstances. It cannot be said that there are good or bad visions, or that innovators have visions, while adaptors do not. Neither can it be concluded that having a vision is enough to get success, and this is in accordance with so many experiences and studies that have previously been mentioned.

The process of change within the team and throughout the organization, was conducted effectively by the Director and his Board. The whole process over the years was influenced by the experience and the intuitive grasp of the situation of the manager; while a common vision was shared, different strongly held view points were identified, used and developed, integrating the opposite approaches

of the "strategic team" and the "operating team" and making the original vision successfully implemented.

In this sense, the diverse cognitive style of the two coordinators of the implementing team proved highly effective in decision making processes and in communicating with the whole team.

In this case, team changes in the composition of the cognitive profile of the team occurred in a way that produced cognitive outputs which were coherent with the environmental needs and team aims. This is a confirmation of what was previously the result of theoretical speculation (Kirton, 1978; Prato Previde, 1984; Prato Previde & Massimini, 1984).

The Kirton Adaption-Innovation model may be a useful tool both for managers and for consultants in analyzing the organizations degree of adaptability to organizational change that may be necessary.

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